



SCHEDULE 2
SERVICE REQUIREMENTS

Table of contents

Clause heading and number

Page number

1.	BACKGROUND	1
	PART A – SERVICE REQUIREMENTS	2
2.	GENERAL PRINCIPLES	2
3.	BROADBAND SERVICES	4
4.	WHOLESALE BROADBAND PRODUCTS AND SERVICES.....	5
5.	PARTNERSHIP WORKING	7
6.	DEMAND MANAGEMENT.....	8
7.	RETAIL SERVICE PROVIDER ENGAGEMENTS.....	9
	PART B – CONTRACT MANAGEMENT	11
1.	GENERAL PRINCIPLES	11
2.	BROADBAND SERVICES	11
3.	WHOLESALE BROADBAND PRODUCTS AND SERVICES.....	12
4.	OPEN ACCESS TO STATE FUNDED INFRASTRUCTURE	12
5.	RSP ENGAGEMENT	13
6.	DEMAND MANAGEMENT.....	13
7.	PARTNERSHIP WORKING	14
	PART C – REQUIREMENTS OF THE SUPPLIER SOLUTION.....	15
1.	REQUIREMENTS OF THE SUPPLIER SOLUTION.....	15

SCHEDULE 2 – SERVICE REQUIREMENTS

1. BACKGROUND

This schedule describes the Service Requirements in three parts:

Part A - Service Requirements:

- 1.1 Open Access Infrastructure
- 1.2 Broadband provision
- 1.3 County wide coverage
- 1.4 Wholesale services
- 1.5 Implementation
- 1.6 Partnership working
- 1.7 Demand Management
- 1.8 RSP Interactions
- 1.9 Public Service Network requirements
- 1.10 Sustainability.

Part B - Performance management.

Part C - Requirements of the Supplier Solution.

PART A – SERVICE REQUIREMENTS

2. GENERAL PRINCIPLES

2.1 Open Access Infrastructure

The Supplier shall ensure that the Wholesale Access Products can be used by multiple Retail Service Providers operating in the established wholesale broadband marketplace.

2.2 Broadband provision

The Supplier shall ensure the availability of Superfast Broadband services as described in this Schedule 2 (Service Requirements).

2.3 County wide coverage

2.3.1 The Supplier shall provide Wholesale Broadband Products and Services such that they enable End Users access to Superfast Broadband services as described in this Schedule 2 (Service Requirements) to 100% of End User Premises within the Intervention Area by the end of the Initial Deployment Period.

2.3.2 The parties acknowledge that the sole means for the Supplier to modify the obligation set out in paragraph 2.3.1 is pursuant to paragraph 4.23 of Schedule 4.1.

2.3.3 The Authority shall from time to time update the list of End User Premises (by post code) falling within the Intervention Area to reflect developments in the broadband market place and also new demand to include new housing developments and business parks. There shall be no updates to the Intervention Area for a period of 12 months from the Effective Date. Any subsequent updates shall be no more than every 3 months.

2.3.4 Where the Authority updates the list of End User Premises in accordance with Paragraph 2.3.3 then the Parties shall assess the impact of the change and where the consequences cannot be addressed solely by a change to the Project Plan without recourse to the Change Control Procedure then the Parties shall use their respective reasonable endeavours to address the consequences of the change in accordance with Clause 31.

2.4 Wholesale services

2.4.1 The Supplier shall offer a range of Wholesale Broadband Products and Services to the RSPs treating RSPs equally and without discriminating between RSPs. This shall include the Wholesale Broadband Products and Services, described in Wholesale Product Templates, to meet the requirements of this Contract as well as any additional Wholesale Broadband Products and Services that the Supplier may wish to provide.

2.5 Implementation

2.5.1 The Supplier Solution shall include an Implementation Plan to meet the requirements of schedule 4.1.

2.5.2 The Implementation Plan shall identify a standard deployment plan for the delivery of the Deployed Services to End User Premises not identified within the Exclusion Threshold ("**Standard Deployment Plan**") and the deployment for the delivery of Deployed Services to End User Premises identified within the Exclusion Threshold ("**In Fill**").

Deployment Plan"). For the avoidance of doubt, the Supplier shall provide Superfast Broadband services to End User Premises whether identified in the Standard Deployment Plan or the In Fill Deployment Plan.

2.5.3 The Initial Deployment Period shall be defined by the Implementation Plan and shall represent the period during which the Supplier shall deploy the Deployed Services to End User Premises whether in the Standard Deployment Plan or the In Fill Deployment Plan.

2.6 Partnership working

2.6.1 The Supplier shall work with the Authority to establish a joint co-located project team (known as the Joint Operation Centre) in Surrey for the Initial Deployment Period so as to co-ordinate and plan the infrastructure build for the Network, the required Demand Stimulation activity, the enactment of the Marketing and Communication Plan and associated community engagement.

2.7 Demand Management

2.7.1 The parties acknowledge that the stimulation of End User demand for Superfast Broadband services is key to the success of the deployment of the Network. The Supplier will therefore work with the Authority to stimulate and manage demand for Superfast Broadband services.

2.7.2 The Supplier's responsibilities for End User Demand Stimulation include:

- (a) data collection, data quality and provision and maintenance of underlying data systems;
- (b) RSP engagement;
- (c) the creation of a marketing and communications strategy and the creation and regular updating of the annual Marketing and Communications Plan;
- (d) carry out the marketing and communication activities identified as being the responsibility of the Supplier in the Marketing and Communications Plan;
- (e) reporting.

2.7.3 The Authority's responsibilities for End User Demand Stimulation include:

- (a) community engagement;
- (b) relationships with stakeholders;
- (c) business End User representative engagements, such as Chambers of Commerce and local business representatives;
- (d) carry out the marketing and communication activities identified as being the responsibility of the Authority in the Marketing and Communications Plan.

2.7.4 The Supplier and the Authority will jointly be responsible for End User and Demand Stimulation activities such as:

- (a) marketing and communications activities identified as joint activities within the Marketing and Communications Plan
- (b) participation in the Joint Operations Centre activities.

2.8 RSP Interactions

- 2.8.1 The Authority recognises that the Supplier operates in a wider telecommunications service provision marketplace beyond Surrey, and expects it to deliver appropriate services to Retail Service Provider customers now and in the future and to maintain well developed and maintained communications channels ensuring that faults and issues with communications service provision are monitored and managed and resolved in accordance with Good Industry Practice including the provision of OSS/BSS processes and feedback and communications channels.
- 2.8.2 The Authority acknowledges that contractual relationships with Retail Service Providers are the responsibility of the Supplier and does not expect, except as set out in this Agreement, to engage directly with RSPs.
- 2.8.3 To avoid doubt the costs and revenues associated with Retail Service Provider contractual relationships are borne and received by the Supplier other than calculated in accordance with the Gain Share Mechanism.
- 2.8.4 The Supplier shall proactively market the availability of the Network to RSPs in order to encourage RSPs to provide broadband services to End Users over the Network. The Supplier shall ensure that it enables Open Access to all RSPs and does prevent nor prejudice (neither technically nor commercially) any RSP from access to the Network and the provision of services to End Users over the Network.
- 2.9 Public Service and Community Network requirements
- 2.9.1 The Supplier shall be capable of maintaining the separation, bandwidth and integrity of wholesale traffic if the Network is used by any RSP to provide a Public Service Network or Enterprise Network, subject to non-duplication and other conditions stated in the State Aid Terms.
- 2.9.2 The Supplier shall ensure that for Public Service Networks, traffic separation practices and security on individual data streams are implemented in accordance with the Public Service Networks specifications and guidance as published by the Cabinet Office and/or CESG (Communications Electronic Security Group) as updated and amended from time to time.
- 2.10 Sustainability
- The Supplier shall as a minimum:
- 2.10.1 roll out Deployed Services which are sustainable and comply with or exceed the UK Government sustainability targets, including SOGE and 'Greening Government ICT';
- 2.10.2 ensure compliance with relevant environmental legislation; and
- 2.10.3 in association with the Authority develop, implement and operate the Supplier's plans to meet the Authority's targets, as agreed with the Supplier, for sustainability when developing the Supplier Solution.

3. **BROADBAND SERVICES**

- 3.1 The Network and Deployed Services must be capable of delivering Superfast Broadband services to all End User Premises in the Intervention Area.
- 3.2 At the Commencement Date Superfast Broadband refers to broadband connectivity services with the characteristics set out in paragraph 3.3. The parties acknowledge that during the Term, the parties may agree (through the agreement of a Contract Change) that the definition of Superfast Broadband may need

updating by reference to developments in the market for such services and/or regulatory policy of the European Commission and/or Ofcom.

- 3.3 Superfast Broadband services shall operate at:
 - 3.3.1 a Headline Rate of not less than 24Mbps download and 5Mbps upload; and
 - 3.3.2 a Committed Rate of not less than 15 Mbps download.
- 3.4 The Service Requirement set out in this paragraph may be met by phasing or structuring the Network Deployment so as to match Take-up provided that at all times Deployed Services are performed to meet or exceed the performance requirements stated in Part B.

4. **WHOLESALE BROADBAND PRODUCTS AND SERVICES**

- 4.1 The Supplier shall offer the following minimum Wholesale Broadband Products and Services:
 - 4.1.1 Superfast Broadband services. As at the Commencement Date, they shall be as defined in paragraph 3.3 of this schedule 2 and the associated Wholesale Product Template;
 - 4.1.2 High Speed, being a broadband service that does not meet the criteria for a Superfast Broadband service but provides End Users with a step change in speed and performance compared to that which they experience under the prevailing market conditions and can be offered to Retail Service Providers at a lower price point than Superfast Broadband services; and
 - 4.1.3 an Asymmetric service anticipated to deliver services to users who require a broadband service with a Headline Rate of not less than 100Mbps download and 30Mbps upload.
- 4.2 The Wholesale Broadband Products and Services shall be described using the Wholesale Products Template.
- 4.3 The coverage and availability of the Wholesale Broadband Products and Services shall be set in the Implementation Plan such that, subject to Paragraph 4.23 of Schedule 4.1, Superfast Broadband services and high speed broadband services shall be available in 100% of the Intervention Area by the end of the Initial Deployment Period and an asymmetric service shall be available for End Users to order on an as required basis and in any event available to no less than 50% of the Intervention Area.
- 4.4 The Wholesale Product Template shall set out the Supplier's range of Wholesale Broadband Products and Services which will be available to the Retail Service Providers, including the access products set out at paragraph 4.7.1.
- 4.5 Wholesale Broadband Products and Services shall support Retail Service Providers in gaining Take-up, although it is excepted that Retail Service Providers can chose to deliver services to End Users in a range of commercial methods which may in themselves affect Take-up aside from the existence or quality of the Wholesale Broadband Products and Services.
- 4.6 The Supplier shall develop and configure new or existing Wholesale Broadband 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.
- 4.7 State Aid compliance and Open Access requirements

4.7.1 The Supplier shall meet the following minimum access requirements for the Term in order to comply with the State Aid Terms:

- (a) Active layer: The Supplier shall offer Wholesale Broadband Products and Services suitable to allow communication providers, including mobile communication providers to obtain effective bit stream access to the Supplier Solution (whether access or backhaul components) on commercially acceptable terms and consistent with the State Aid Terms in regard to its commitments to Open Access. The Supplier shall document (as part of the Supplier Solution) how multiple communication providers can use the Supplier Solution and how capacity is managed between multiple communications providers.
- (b) Physical assets: The Supplier shall offer Wholesale Broadband Products and Services suitable to allow communication providers, including mobile communication providers to obtain effective access to various physical assets on commercially acceptable terms and consistent with the State Aid Terms, in regard to its commitments to Open Access. This obligation shall, as a minimum, apply to all infrastructure assets that have been subsidised by State aid. The Supplier shall document (as part of the Supplier Solution) how multiple communication providers can use the physical assets and how capacity is managed between multiple communications providers.
- (c) Duct space: In the event of State aid funding for NGA broadband being used to build new, or augment existing, duct the Supplier will consider potential future demand for duct space, by itself and from alternative operators, and will design the size of the duct accordingly in order to minimise the likelihood of further duct enhancements being required.
- (d) Additional unbundling: The Supplier shall also provide other forms of wholesale access if and to the extent Ofcom has mandated it as a regulatory remedy pursuant to a full market review in the product and geographic markets where the subsidised infrastructure is situated. Other forms of access may include (without limitation) dark fibre access or splitter access, if required. If Ofcom mandates other forms of wholesale access in this way ("**Additional Wholesale Access Products**"), the Supplier shall provide such access on all existing and future infrastructure in receipt of public subsidy under the State Aid Terms. At the Effective Date of this Contract it is anticipated that Ofcom would provide that:
 - (i) all reasonable costs of providing the Additional Wholesale Access Products would be met by access seekers;
 - (ii) Additional Wholesale Access Products shall be used for the primary purpose of supplying broadband services; and
 - (iii) the availability of the Additional Wholesale Access Products in the area covered by the subsidised infrastructure would be required in Ofcom's reasonable opinion to deliver sustainable competition in broadband services.

The Additional Wholesale Access Products requirements set out in this paragraph 4.7.1 shall continue for as long as the Ofcom remedy is in place. The Supplier shall document (technically, operationally, and commercially) how different unbundled access products could be provided with the Supplier Solution architecture.

5. **PARTNERSHIP WORKING**

- 5.1 The Supplier will support and contribute to the establishment of a Joint Operation Centre:
 - 5.1.1 The Joint Operation Centre shall operate at the Authority's premises (or some other premises nominated by the Authority) and such premises shall be provided at the Authority's cost.
 - 5.1.2 The Supplier shall be responsible for its own costs incurred in respect of the operation of the Joint Operation Centre including providing the levels of resourcing as described in the Implementation Plan, Project Model and Supplier Solution.
 - 5.1.3 The Joint Operation Centre will be in place for the entire Initial Deployment Period unless the Authority notifies the Supplier of the requirement to close the Joint Operation Centre prior to the end of the Initial Deployment Period or the parties agree to extend the operation of the Joint Operation Centre beyond the end of the Initial Deployment Period.
- 5.2 The Supplier shall work with the Authority through the Joint Operation Centre to develop and document (within 90 days from the Commencement Date) an agreed set of processes to cover operations, not limited to:
 - 5.2.1 Monitoring and reporting of the Standard Deployment and progress of the Standard Deployment Plan;
 - 5.2.2 Monitoring and reporting of the In Fill Deployment and progress of the In Fill Deployment Plan;
 - 5.2.3 Updating the Implementation Plan to build capability and undertake the deployment in a different order with no material impact on Milestone Dates and Milestone Payments. Any such changes shall be processed as a Contract Change;
 - 5.2.4 ensuring the Supplier is meeting its obligation to provide the design and associated costs for In Fill Deployments in accordance with the In Fill Deployment Plan;
 - 5.2.5 the manner in which the Authority approves funding in respect of In Fill Deployments in accordance with the governance processes set out in schedule 6.1;
 - 5.2.6 the manner in which the Authority allocates funding in respect of In Fill Deployments either as payments made as new Milestone Payments or as part of existing Milestone Payments;
 - 5.2.7 A process to move End User Premises between the Standard Deployment Plan, the In Fill Deployment Plan without compromise to the overall Project Model and Implementation Plan in accordance with the principles set out in schedule 4.1.
 - 5.2.8 Update to the Demand Stimulation activities, including updating the Marketing and Communication Plan; and
 - 5.2.9 Community engagements.

6. DEMAND MANAGEMENT

6.1 The Supplier shall provide Demand Stimulation in conjunction with its Retail Service Providers and the Authority to drive Take-up, and as a minimum:

6.1.1 the Supplier shall produce and with the support of the Authority enact a detailed Marketing and Communication Plan which supports the maximum Take-up during the Term. As a minimum the Supplier's Marketing and Communication Plan shall include:

- (a) clearly outlined marketing objectives;
- (b) the proposed marketing approach and strategy;
- (c) an annual Marketing and Communication Plan setting out as a minimum:
 - (i) identification of the Authority's obligations and activities in respect of Demand Stimulation;
 - (ii) identification and classification of target audiences;
 - (iii) key messages for target audience groups;
 - (iv) prioritisation of target audience groups;
 - (v) proposed communications channels (examples: web, newspaper, radio, local community presentations, brochures, etc.) to be used for each target audience group;
 - (vi) a list of marketing activities proposed for each calendar year of the Contract;
 - (vii) any other related matters required by the Authority from time to time which shall be prepared with reference to the Deployed Services.
- (d) white label generic unbranded marketing to encourage maximum business and residential Take-up;
- (e) the provision of marketing resources to support Take-up; and

6.1.2 the Supplier shall provide reports on the adoption by RSPs of Wholesale Broadband Products and Services in accordance with Schedule 6.4 (Reports) in order to enable monitoring of the success of the Marketing and Communication Plan.

6.2 Data and systems

6.2.1 From a specific date identified in the Implementation Plan, the Supplier will offer a web based postcode search facility to all potential End Users and the Authority to be accessed over a standard internet connection. As a minimum, this tool will provide the following functionality to all End Users:

- (a) Postcode validation;
- (b) For valid postcodes, indicate the services currently available, the services to be available under this Contract and the time at which such services will be (a) available for order and (b) available for installation;

- (c) Record an interest to be kept informed of service availability updates and other general marketing information, preferences for receiving such notifications (to include email, sms, mail and phone), to record the necessary contact details and to distribute the requested information as appropriate and not less than one communication every 3 months;
- (d) An appropriate level of user interface design and supporting help to allow use by End Users;
- (e) An appropriate level of underlying process design to protect against automated attempts to access high volumes of data or denial of service attacks through the open interface (i.e. multiple repeated postcode searches from a single IP address);
- (f) An area of secure functionality to include standard and ad-hoc reporting and data extraction to allow the Supplier to support the needs of the Joint Operation Centre; and
- (g) operate in compliance with the Data Protection Legislation.

6.2.2 The Supplier shall provide additional data and supporting systems regarding End User Take-up, available RSPs, products, lead times, complaints, fault resolution and associated reporting.

6.2.3 The Supplier shall work with and support the Authority in community engagement through existing channels and the Joint Operation Centre.

7. RETAIL SERVICE PROVIDER ENGAGEMENTS

- 7.1 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).
- 7.2 The Supplier shall provide a Lead-to-Cash Process to support Retail Service Providers which, as a minimum, shall include the following:
 - 7.2.1 order entry;
 - 7.2.2 order fulfilment such as line testing;
 - 7.2.3 distribution;
 - 7.2.4 billing and invoicing; and
 - 7.2.5 buyer payment/collection.
- 7.3 The Supplier Solution shall include capabilities so as to be able to service MACDs.
- 7.4 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 achieve functions/performance levels that are equivalent to or better than those provided for the purpose of such standards.
- 7.5 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:
 - (a) maintaining network inventory (including both physical and logical);

- (b) providing communications providers with location-based, capacity management information for all offered products on subsidised infrastructure;
- (c) provisioning services;
- (d) configuring network components;
- (e) monitoring and managing faults;
- (f) trouble-ticketing; and
- (g) service assurance.

- 7.6 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 Deployed Services. 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.
- 7.7 The Supplier shall operate a BSS, which as a minimum shall include the following business to business (B2B) processes:
- 7.7.1 RSP contact service;
 - 7.7.2 customer relationship management;
 - 7.7.3 order management;
 - 7.7.4 order fulfilment;
 - 7.7.5 service activation; and
 - 7.7.6 billing and invoicing.
- 7.8 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 the requirements for the Deployed Services .
- 7.9 The Supplier shall operate a service management model to address disputes with and complaints from Retail Service Providers.
- 7.10 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.

PART B – CONTRACT MANAGEMENT

1. GENERAL PRINCIPLES

- 1.1 This Part B is designed to provide assurance to the Authority that Deployed Services have been delivered in accordance with the provisions of this Contract.
- 1.2 Upon delivery of the Milestone Payment Claim by the Supplier to the Authority in accordance with schedule 5.1, the Supplier shall also deliver to the Authority a report summarising the Supplier's performance against the contract management metrics set out in this Part B ("**Contract Management Report**").
- 1.3 The Contract Management Report shall detail the status of the Supplier's compliance with each of the performance metrics described in Part B of this schedule 2 under the headings of:
 - 1.3.1 Broadband Services;
 - 1.3.2 Wholesale Broadband Products and Services;
 - 1.3.3 RSP Engagement;
 - 1.3.4 Demand Management; and
 - 1.3.5 Partnership working.
- 1.4 Where any of the performance metrics set out in paragraph 1.3 above are found to be below the standards defined in this Part B, the Authority reserves the right to withhold from the relevant Milestone Payment(s) some or all of the Retention (Service) Amount until such a time as the standards set out in this Part B are met.
- 1.5 The parties acknowledge and agree that the sum forming the Retention (Service) Amount is not intended to be commensurate with the losses suffered by the Authority as a result of the Supplier's performance and therefore the Authority may determine whether all or part of the Retention (Service) Amount is withheld having regard to all relevant circumstances and not acting unreasonably.
- 1.6 This Retention (Service) Amount shall be paid in full to the Supplier within 30 days of the standards set out in this Part B being met.
- 1.7 Where in the opinion of the Authority the Supplier's performance requires monitoring, the Remedial Plan Process shall be followed.

2. BROADBAND SERVICES

- 2.1 Steady state behaviour
 - 2.1.1 The Supplier shall provide Wholesale Broadband Products and Services that are fit for their purpose and of satisfactory quality.
 - 2.1.2 The Supplier will engage with RSPs proactively to investigate and resolve persistent faults (being a single line with multiple fault reports or multiple fault reports within a single geographic area or multiple fault reports relating to the services of a single RSP).
 - 2.1.3 The Supplier shall provide the regular reports set out in Schedule 6.4 including access line level SLA reporting of data rates and overall line performance as part of the Contract Management Report .
- 2.2 If a Contract Management Report shows that more than 10% of access lines fell below the stated SLA during the applicable reporting period then the Authority may notify the Supplier that it requires the Supplier to comply with the Remedial Plan

Process and that it will retain the Retention (Service) Amount in accordance with paragraph 1.4 of this Part B.

2.3 In the event that the Authority receives a complaint from an End User, the Authority may require the Supplier to undertake detailed fault analysis relating to a relevant End User connection and the Supplier shall provide the Authority with such analysis within 10 days of the Authority's request (but not so that the Supplier is required to respond to more than 20 such requests in any calendar year) showing to the Authority's reasonable satisfaction that either:

2.3.1 the relevant End User connection is functioning normally to deliver Superfast Broadband services;

2.3.2 the relevant fault is the responsibility of the RSP and the Supplier can demonstrate:

(a) that the relevant Wholesale Broadband Products and Services provided by the Supplier are meeting the requirements of this Contract; and

(b) that appropriate remedial actions are being undertaken.

(c) the Deployed Services are not meeting the requirements of this Contract (in which event the Supplier shall follow the Remedial Plan Process in respect of such matters and that the Authority will retain the Retention (Service) Amount in accordance with paragraph 1.4 of this Part B.

2.4 To avoid doubt the Supplier is responsible for delivery of Wholesale Broadband Products and Services and the Authority will not engage in fault resolution at line level.

2.5 The Supplier shall confirm in the Contract Management Report that it is and will continue to deliver Deployed Services in accordance with the In Fill Deployment Plan within the Exclusion Threshold Financial Cap.

3. **WHOLESALE BROADBAND PRODUCTS AND SERVICES**

3.1 There is no Contract Management remedy for failure to make available the Wholesale Broadband Products and Services in the Intervention Area as Testing will identify such failures and result in Milestone Payments not being payable.

4. **OPEN ACCESS TO STATE FUNDED INFRASTRUCTURE**

4.1 The Contract Management Report shall identify whether the Supplier considers that it has met its Open Access obligations as set out in this Schedule 2 and shall detail any requests for access to the Network Infrastructure and whether such requests were fulfilled.

4.2 Upon receipt of the Contract Management Report, the Authority may require the Supplier, in respect of requests for access to the Network Infrastructure which were not fulfilled, to show to the Authority's reasonable satisfaction (supported by reasonable evidence and within 10 days of the Authority's request) that either:

4.2.1 it is in fact meeting the Open Access requirements; or

4.2.2 that it has put in place a plan to ensure that the Deployed Services meet the Open Access requirements in accordance with the Remedial Plan Process.

4.3 The Authority shall be entitled to withhold the Retention (Service) Amount in the event that the Supplier fails to respond to the Authority's request to demonstrate compliance with the Open Access requirements or during the period in which the

Supplier is carrying out the Remedial Plan Process in accordance with paragraph 4.2.2

- 4.4 The Supplier Solution shall at all times meet or exceed the following Service Levels:
- 4.4.1 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.
- 4.4.2 The Supplier Solution shall enable the Retail Service Providers to provide End Users with order, installation and availability service levels, including as a minimum a provisioning order installation timescale of 90% of all orders completed in five (5) Working Days, unless otherwise agreed with the RSP and to be calculated on a monthly basis.
- 4.5 In order to enable the Retail Service Providers to support the End User experience, the Supplier shall back up the achievement of the Service Levels set out in paragraph 4.4 with appropriate service credits or similar mechanisms to compensate the Retail Service Providers in the event that the Supplier fails to achieve any of the Minimum Service Requirements.

5. RSP ENGAGEMENT

- 5.1 The Contract Management Report shall identify whether the Supplier considers that it has met its obligations as set out in this Schedule 2 in respect of engagement with RPS and their ability to access the Network and shall detail any requests for access to the Network and whether such requests were fulfilled.
- 5.2 Upon receipt of the Contract Management Report, the Authority may require the Supplier, in respect of requests for access to the Network which were not fulfilled, to show to the Authority's reasonable satisfaction (supported by reasonable evidence and within 10 days of the Authority's request) that either:
- 5.2.1 it is in fact meeting its obligations in respect of engagement with RSPs and access to the Network; or
 - 5.2.2 that it has put in place a plan to ensure that the requirements in respect of engagement with RSPs and access to the Network in accordance with the Remedial Plan Process.
- 5.3 The Authority shall be entitled to withhold the Retention (Service) Amount in the event that the Supplier fails to respond to the Authority's request to demonstrate compliance with the RSP engagement requirements or during the period in which the Supplier is carrying out the Remedial Plan Process in accordance with paragraph 5.2.2.

6. DEMAND MANAGEMENT

- 6.1 Marketing and Communication Plan
- 6.1.1 Performance Metric: Activities in the Marketing and Communications Plan ("**Marketing Activities**").
 - 6.1.2 Measure: All Marketing Activities within the quarter completed as documented in the Marketing and Communications Plan to the satisfaction of the Authority ("**Marketing Activities Completed**").

6.1.3 Remedy: The Authority may withhold the Retention (Service) Amount in the event that any Marketing Activities are not documented in the Contract Management Report as being Marketing Activities Completed.

6.2 Demand recording and reporting

6.2.1 Performance Metric: Demand Management Data and Systems ("**Demand Management Data Activities**").

6.2.2 Measure: Data captured and associated system and reports and Demand Management Data Activities are delivered by the Supplier as proposed in the Implementation Plan ("**Demand Management Data Activities Completed**").

6.2.3 Remedy: The Authority may withhold the Retention (Service) Amount in the event that any Demand Management Data Activities are not documented in the Contract Management Report as being Demand Management Data Activities Completed.

7. **PARTNERSHIP WORKING**

7.1.1 Performance Metric: Joint Operation Centre and associated activities ("**JOC Activities**").

7.1.2 Measure: Report to indicate compliance with JOC Activities including staff levels against proposed attendance at governance meetings and other obligations within schedule 6.1 completed ("**JOC Activities Completed**").

7.1.3 Remedy: The Authority may withhold the Retention (Service) Amount in the event that any JOC Activities are not documented in the Contract Management Report as being JOC Activities Completed.

PART C – REQUIREMENTS OF THE SUPPLIER SOLUTION

1. REQUIREMENTS OF THE SUPPLIER SOLUTION

- 1.1 The Supplier Solution shall be an open access network which supports the UK's broadband policy objectives by providing Retail Service Providers the Wholesale Broadband Products and Services that can support Take-up.
- 1.2 The Supplier Solution shall provide wholesale access network services from Handover Points to End User termination points, supporting the provision of Wholesale Broadband Products and Services in the Intervention Area.
- 1.3 The Supplier shall implement, operate and maintain the Supplier Solution to provide Wholesale Broadband Products and Services at charges which allow Retail Service Providers to provide affordable superfast and standard broadband services to End Users.
- 1.4 The Supplier Solution shall provide:
 - 1.4.1 integrated network access and data transport components to End User Premises that comply with the relevant NICC 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; and
 - 1.4.2 integrated network access and data transport components to Handover Points that comply with the relevant NICC interconnect 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.
- 1.5 The Supplier shall mitigate and minimise, in accordance with Good Industry Practice, the number of single points of failure within the Network.
- 1.6 The Supplier Solution shall be capable of enabling Symmetrical services for RSPs.
- 1.7 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 further creation of infrastructure assets, including for example in the course of delivering publically-funded mobile infrastructure projects.
- 1.8 The Solution Components shall have a lifespan and an upgrade path for the term of the relevant Call Off Contract.
- 1.9 The Solution Components, including data transport components, shall be upgradable so as to support increasing access line speeds throughout the term of the relevant Call Off Contract.
- 1.10 The Solution Components when configured together shall be capable of providing Wholesale Broadband Products and Services that underpin the broadband products and services offered by Retail Service Providers in the marketplace as at the Effective Date of this Framework Agreement.
- 1.11 The Solutions Components shall support the following ALA (as defined in ALA ND 1644) classes of service:
 - 1.11.1 (except satellite based access Solution Components) Class A Real time, delay sensitive, applications (e.g. voice);

- 1.11.2 (except satellite based access Solution Components) Class B Streaming applications (e.g. video);
- 1.11.3 Class C Internet Data; and
- 1.11.4 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 1530 recommendations will be used as a guideline.

- 1.12 Throughout the term of the relevant Call Off Contract the Supplier shall ensure all Solution Components comply with the applicable Codes and Standards or achieve function/performance levels that are equivalent to or better than those provided for in terms of the purpose of such Codes and Standards including:
 - 1.12.1 All Solution Components whether independent or integrated as part of the Supplier Solution shall comply with all relevant ITU, IETF, NICC, Broadband- Forum (BBF), and IEEE standards appropriate to achieving a high quality data transport infrastructure capable of achieving the Minimum Service Requirements;
 - 1.12.2 All non-fixed line Solution Components (including radio, satellite or mobile broadband) shall comply with all relevant IEEE, ITU-T or 3GPP standards for the delivery of the data transport infrastructure. Solution Components using radio spectrum shall have the relevant certificates proving the right to use; and
 - 1.12.3 All Ethernet based Solution Components shall, as part of a Supplier Solution, comply with the relevant NICC - ALA profiles and NICC B2B specifications.
- 1.13 The Solution Components shall independently, and as part of a Supplier Solution, be capable of meeting the requirements of the acceptance criteria detailed in the Test Strategy. These shall include, at a minimum:
 - 1.13.1 interoperability tests;
 - 1.13.2 operations tests, including end to end testing of BSS, OSS and Network;
 - 1.13.3 performance tests;
 - 1.13.4 operations readiness tests, including monitoring, failovers; and
 - 1.13.5 other relevant technology-specific tests.
- 1.14 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.

APPENDIX 1- WHOLESALE PRODUCT TEMPLATE

Wholesale Product Template Notes

Note 1: FTTP

FTTP product options, as of 18 May 2012, are shown below.
The FTTP product portfolio is expected to be refreshed and realigned with FTTC in 2012.

<u>Variant</u>	<u>PIR (Down / Up)</u>	<u>CIR (Down / Up)</u>	<u>Connection £ Ex Vat</u>	<u>Annual Rental £ Ex Vat</u>	<u>Notes</u>
FTTP 40/2	40 / 2	15 / 2	80.00	82.80	
FTTP 40/10	40 / 10	15 / 10	80.00	88.80	
FTTP 40/15	40 / 15	15 / 15	80.00	119.40	
FTTP 80 / 20	80 / 20	30 / 20	80.00	119.40	Operative 11/6/12
FTTP 100/15	100 / 15	30 / 15	80.00	154.80	
FTTP 110/15	110 / 15	40 / 15	80.00	157.80	
FTTP 100/30	100 / 30	30 / 30	80.00	436.32	
FTTP 330/20	330 / 20	40 / 20	80.00	295.32	Operative 11/6/12
FTTP 330/30	330 / 30	40 / 30	80.00	619.32	Operative 11/6/12

FTTP Peak Information Rate (PIR) definition

The downstream Peak Information Rate (PIR) is the maximum throughput at which data will be sent. The ability to receive the peak rates on any individual line will be influenced by the number of active customers on the same Passive Optical Network (PON) concurrently. The downstream throughput will include a small element of bandwidth to support traffic management.

Prioritisation Rate (PR) downstream definition for FTTP (BT equivalent of CIR)

Within the overall Peak Information Rate (PIR), we also apply a downstream Prioritisation Rate (PR) from 15 – 40 Mb/s downstream (N.B. BT's own definition of the Committed Information Rate, CIR) which is product specific. When a user sends traffic at an instantaneous rate above this rate, we may discard it if there's congestion on the network.

We expect that even in congested circumstances, each GEA data port will receive, at least, the PR.

Optionally, traffic can be marked as either "can drop" or "should not drop" using 802.1p markings as described in the Suppliers Information Notes (SIN) which BT provides or makes available to its' CP customers. Where frames are marked as "should not drop" in the Customer Virtual Local Area Network (CVLAN), can drop and unmarked frames will always be dropped from that CVLAN first. The Communications Provider (CP) use of frame marking for one end user customer has no impact at all on traffic for other end user.

Note 2: FTTC

FTTC product options, as of 18 May 2012, are shown below.

<u>Variant</u>	<u>PIR (Down / Up)</u>	<u>CIR (Down / Up)</u>	<u>Connection £ Ex Vat</u>	<u>Annual Rental £ Ex Vat</u>	<u>Notes</u>
FTTC 40/2	40 / 2	15 / N/A	80.00	82.80	
FTTC 40/10	40 / 10	15 / N/A	80.00	88.80	
FTTC 80 / 20	80 / 20	30 / N/A	80.00	119.40	

FTTC Peak Information Rate (PIR) definition

The PIR is the maximum line speed (up to) the routing of the line via the fibre cab and copper D side that can be supported, allowing for cross talk on the line.

Prioritisation Rate (PR) downstream definition for FTTC (BT equivalent of CIR)

Within the overall Peak Information Rate (PIR), we also apply a downstream Prioritisation Rate (PR) from 15 – 30 Mb/s downstream (N.B. BT's own definition of the Committed Information Rate, CIR) which is product specific. When a user sends traffic at an instantaneous rate above this rate, we may discard it if there's congestion on the network.

We expect that even in congested circumstances, each GEA data port will receive the lower of the PR or their current line rate.

Optionally, traffic can be marked as either “can drop” or “should not drop” using 802.1p markings as described in the Suppliers Information Notes (SIN) which BT provides or makes available to its’ CP customers. Where frames are marked as “should not drop” in the Customer Virtual Local Area Network (CVLAN), can drop and unmarked frames will always be dropped from that CVLAN first. The Communications Provider (CP) use of frame marking for one end user customer has no impact at all on traffic for other end user.

Prioritised Rate (PR) upstream for FTTC (BT equivalent of CIR)

At present, BT does not publish a prioritised rate for FTTC. However, it could be reasonably expected that the upstream prioritised rate would match the maximum attainable upstream sync speed.

Note 3: Jitter, Packet loss and Latency measures

BT does not measure jitter, packet loss and latency. However, the Authority may wish to refer to the Ofcom’s report on broadband speeds from November 2011, and published in February 2012. In particular, information which the Authority may consider relevant can be found on pages 44, 47, 55 and 58.

http://stakeholders.ofcom.org.uk/binaries/research/broadband-research/Fixed_bb_speeds_Nov_2011.pdf

Dynamic Line Management

Openreach has a policy of Dynamic Line Management (DLM) which relates to target latency and jitter. Openreach utilises DLM (3 policy levels) to manage line performance and thus maintain a target balance of speed and stability. This technology allows us to amend the key variables of a line, capping and error protection. By altering these characteristics individually we can adjust line performance to meet the target stability requirements.

We can provide a potentially higher latency with the Stable policy level in DLM which allows the CPs to offer an even more assured level of stability, by providing increased error protection (which may give higher latency) and allowing the line to work at a lower speed than the standard policy option would permit. The Standard policy aims to strike a good balance between speed and stability by keeping the line working with only a few eroded seconds and retrains each day. Finally, the Speed policy offers higher line rates at the expense of higher allowable eroded seconds and retrains each day.

Initially, and depending on the product chosen, the line is set on wide-open profiles, allowing downstream speeds of up to 80Mbit/s and upstream speeds of up to 20Mbit/s. DLM will then continue to monitor the performance of the line against the chosen policy for that line. When a line is less stable than required by the selected policy, DLM applies error protection and rate capping to improve stability. When the line is more stable than required by the selected policy, DLM reduces error protection and increases rate caps to ensure the line operates at the best performance.

DLM operates on a daily basis making its decisions using data collected from the network.

We offer the CPs a choice of 3 DLM policies with GEA product:

- Standard (the default setting): Aims to keep the line working with only a few eroded seconds and retrains each day.
- Stable: Allows CPs to offer an even more assured level of stability, by providing increased error protection (which may give higher latency) and allowing the line to work at a lower speed than the Standard option would permit.
- Speed: Lets CPs offer a higher line rate, by allowing the line to have a lower stability target than the Standard profile.

Notes 4: Proactive fault management and Acceptance rates

Proactive fault monitoring

Our 24/7 Access Operations Centre (AOC) monitors the GEA product performance over the network and proactively manage the restoration of any network element. Real-time alarms for issues such as power or line card failures alert us to take immediate action. This should enable us to identify and resolve most issues before they start to affect end user customer service.

Please note that we would link any fault reports CPs raise caused by a proactively identified network failure to the proactive service restoration activity, and then close them in the normal way when the fault is cleared. Standard GEA Service Level Agreements (SLAs) would apply to these reports.

Fault acceptance rates

We'll accept speed faults and perform additional diagnostics if the:

- 15-40Mbit/s peak downstream PIR, the downstream speed drops below 15Mbit/s
- 2-15Mbit/s peak downstream PIR, the downstream speed drops below 2Mbit/s.
- 2Mbit/s peak upstream product the upstream speed drops below 4% of the downstream PIR or 128kbit/s, whichever is higher
- 10Mbit/s peak upstream product the upstream speed drops below 22.5% of the downstream PIR or 2Mbit/s, whichever is higher
- 15Mbit/s peak upstream product the upstream speed drops below 22.5% of the downstream PIR or 2Mbit/s, whichever is higher
- Maximum to minimum downstream speed over 14 days has fallen by more than 25%
- Number of failed retrains exceeds three in a 15 minute period
- Number of retrains in any 24-hour period of the past 14 days exceeds six, unless the customer has caused the retrain by disconnecting the active NTE from the power supply.

Notes 5: Repair Service Care Levels

Openreach products have four Service Care levels. GEA products automatically come with Service Care Level 2 as standard. Communications Providers have the option of upgrading to a higher Service Care Level if required.

<u>Variant</u>	<u>Clear time</u>	<u>Definition of Working Hours</u>	<u>Incremental rental price £ Ex Vat</u>
<u>Option 2</u>	<u>By 2359 Next Working Day</u>	<u>Monday to Saturday, excluding Public and Bank Holidays</u>	<u>N/A</u>
<u>Option 3</u>	<ul style="list-style-type: none"><u>Report by 1300, Clear by 2359 same day</u><u>Report after 1300, Clear by 1259 next day</u>	<u>Seven days a week, including Public and Bank Holidays</u>	<u>£37.20</u>
<u>Option 4</u>	<u>Clear within 6 hours</u>	<u>Any time of day, any day of the year</u>	<u>£48.00</u>

Note 6: Provision timescales

GEA provision is carried out from Monday to Friday between 8am and 6pm, excluding Public and Bank Holidays. If this does not provide enough flexibility, then Communications Providers have the option of upgrading to a Flexible Appointment Slot.

<u>Variant</u>	<u>Time period</u>	<u>Fixed charge £ Ex Vat</u>
<u>Early Morning Flexible Appointment</u>	<u>7am – 8am, Monday to Friday</u>	<u>12.50</u>
<u>Evening Flexible Appointment</u>	<u>6pm – 9pm, Monday to Friday</u>	<u>12.50</u>
<u>Saturday Appointment</u>	<u>8am – 6pm, Saturday</u>	<u>12.50</u>

APPENDIX 2- STATE AID TERMS