# SCHEDULE 6.1 – SERVICE DESCRIPTION

# WHOLESALE BITSTREAM SERVICE (WBS)

# THE SERVICE

## The Wholesale Bitstream Service (**WBS**) is a service which enables the Access Seeker to provide high speed products and services to its End Users via Connections over a digital pathway across the Access Provider’s Network.

## The digital pathway consists of one or more Connections, involving one or more Access Links between End User Premises and one or more Aggregation Links.

## The WBS Service is available to Access Seekers holding an ISP Class License.

# DEFINITIONS

Capitalised terms not defined in this Service Description are defined in Schedule 8 - (Dictionary) of the Reference Offer. Terms defined in this Service Description are specific to it.

**Access Link** means the digital point-to-point communications between an End User Premises and the OLT nearest to that End User Premises.

**Aggregation Link** means the logical or physical link between an Aggregation Point and an Access Seeker’s Point of Presence (POP). An Access Seeker shall have the Access Provider establish at least one Aggregation Link before the implementation of a New Connection Request.

**Aggregation Point** means the point on the Access Provider’s Network where the Aggregation Link is connected.

**Access Provider Exchange** means an exchange which has OLTs installed at the time of the Service Order.

**Connection** means the digital pathway that provides one end-to-end connection between one specific End User Premises and the Access Seeker’s POP.

**End User Premises Equipment** means a modem, and/or router, or other equivalent technology, necessary to support the End User's ability to use a WBS Service. The End User Premises Equipment is provided by either the Access Provider or the Access Seeker, as the case may be..

**GPON** means a gigabit passive optical network, an access technology used by the Access Provider to provide a fibrebased Connection at a fixed location.

**IP** means Internet protocol.

**JUMBO** **frame** means an Ethernet frame with a payload greater than the standard MTU of 1,500 bytes.

**MTU** means a Maximum Transmission Unit.

**Network Boundary** means, for a fibre based Access Link, the ONT at the End User Premises.

**Non-Access Provider Equipment** means any End User Premises Equipment which is not supplied, supported, and maintained by the Access Provider.

**Non-residential** means an End User with a commercial registration (CR) or any official authority reference identification.

**Residential** means an End User with a valid CPR, and/or a valid GCC identification.

**OLT** means optical line terminal network equipment in the Access Provider Exchange used in the provision of a WBS Connection.

**ONT** means optical network terminal equipment in the End User Premises used in the provision of a WBS Connection. The ONT is supplied, supported and maintained by the Access Provider and the Access Provider reserves the right to change or replace the ONT at any given time.

**WBS OPERATIONS MANUAL** means Annex 3 of this Service Description.

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**VLAN** means the broadcast domain that is partitioned and isolated in the Access Provider’s Network at the data link layer (OSI layer 2).

# SERVICE TERMS

## The WBS Service shall be made available to any End User on the basis of a Service Order of an Access Seeker. The process for submitting a Service Order to the Access Provider by the Access Seeker is set out in the Operations Manual.

## The Access Seeker may not resell the WBS Service to another Licensed Operator.

## The WBS Service shall enable each Access Seeker to connect a minimum of three (3) VLANs to cover data, voice and IPTV. Access Seeker can opt for extra VLANs for services that can be mutually agreed by Access Seeker and Access Provider.

## Where an Access Seeker deploys multicasts in the Access Seeker’s core Network, the Access Seeker shall be able to use the WBS Service to pass multicast traffic over the Access Provider’s Network transparently.

## The WBS Service shall support MTU and JUMBO frames. Where required by an Access Seeker, the WBS Service shall support 1,700 byte frames.

## If the Access Provider terminates the WBS Service in its entirety, then each WBS Access Link will terminate.

## The Access Seeker shall be the unique point of contact and shall be responsible to its End User for all issues, including but not limited to issues related to the installation of the Access Provider ONT and of any required ancillary civil works, and any relevant Access Seeker equipment on the End User Premises.

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# NETWORK AVAILABILITY

## The Access Seeker acknowledges that where GPON fibre is available in line with the process set out in the Operations Manual, the Access Provider will only supply a fibre-based WBS Service. Where GPON fibre is not available, the Access Seeker may request that:

## a) the WBS Service is provided over existing copper cable, however a WBS Service over copper cable may be limited in terms of speed and bandwidth; and

## b) the Access Provider provides its roadmap for deploying GPON fibre in the relevant area.

* 1. Where the location in which the Access Seeker wishes the Service to be provided is not covered by the Access Provider’s roadmap as per 4.1(b), the Parties, subject to a feasibility study conducted by the Access Provider, may agree on an ad-hoc deployment of GPON fibre to this particular location charged on a time and materials basis. The Access Provider shall, upon request, provide the Authority with details of such ad-hoc arrangements.

## GPON fibre will be considered available where a fibre access cable has been dropped to the fibre distribution point nearest to that End User Premises and that End User Premises can be connected to the Network upon request within the timeframes provided for in Schedule 7 - (Service Levels) of the Reference Offer. For the avoidance of doubt, an End User Premises that can be connected to the Network means that the End User Premises is ready to receive the WBS Service from the Distribution Point to the designated and End User chosen point of the ONT, without the requirement of any installation and/or civil works, such as, but not limited to, additional lead-in piping, applicable conduits, etc.

## Subject to the fulfilment of the above requirements, and in the case of single tenant dwellings, the Access Provider will install the fibre free of charge to a maximum distance of 20 metres from the in-house Distribution Point (‘DP’) to the ONT. Any distance in excess of 20 metres will be subject to commercial charges available on request. For the avoidance of doubt, the installation of the fibre does not include any internal works or other civil works to accommodate such fibre.

End User Access

## For each Service Order the Access Seeker shall inform the End User that the installation and operation of the WBS Service may require changes to the placement of existing telecommunications devices or changes of equipment.

## Data transport using the WBS Service between an OLT and an Access Provider Aggregation Point, or MSAN equipment and an Access Provider Aggregation Point are available for the range of WBS products identified in Annex 1.

## Maximum attainable WBS speed shall be subject to the physical distribution of the bandwidth set out at Annex 1. Where WBS is provided over copper, the maximum attainable WBS speed may vary from the bandwidth set out at Annex 1.

## The Access Provider shall provide access to an online tool that identifies up-to-date accurate digital coverage maps for the areas in the Kingdom of Bahrain covered by the WBS Service and the Connection type (i.e., copper or fibre) to ensure that the right service is offered by the Access Seeker to the End User. This online tool should be updated at least on a monthly basis.

## The Access Provider is responsible to ensure that its Network has the required number of ports and Network elements to fulfill the Access Seekers’ requests in accordance with the Service Level Terms in Schedule 7 – (Service Levels) of the Reference Offer.

## On the completion of a Service Order, the Access Provider will ensure that the WBS Service is tested in accordance with ITU Y.1731 standard.

# MAINTENANCE

## The Access Provider shall provide Network maintenance and support services in accordance with the processes set out in the Operations Manual.

# EQUIPMENT

## The provision of a WBS Service or the implementation or transfer of the WBS Service does not include the provision of any cabling or any End User Premises Equipment. The Access Provider shall clearly define the demarcation point of its access Network and therefore of the WBS Service.

## The Access Seeker shall ensure that Non-Access Provider Equipment supplied by the Access Seeker for the purposes of a WBS Connection:

* + - 1. meets the specifications and requirements defined by relevant international telecommunications and engineering standards; and
      2. is equipment approved under Article 38 of the Law.

# CONNECTION

## The Access Provider shall connect the WBS Service by the relevant RFS Date. The Access Provider shall notify the Access Seeker when the Connection has been effected in accordance with the Service Order procedures set out in the Operations Manual.

# SERVICE ORDER PROCESS

## The Access Provider and the Access Seeker shall comply with the Service Order fulfilment and Assurance process set out in the Operations Manual.

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# WBS Change Request

## To initiate a change to an existing WBS Service used by the Access Seeker to supply a service to an End User, the Access Seeker shall provide the Access Provider with a properly completed WBS Change Request, in the format notified by the Access Provider from time to time, submitted by electronic mail (or other electronic format, which may include an online digital interface) to the address notified to the Access Seeker by the Access Provider, from time to time.

## The Access Provider shall respond to the WBS Change Request in accordance with the process detailed for Service Orders at paragraphs 8.6 to 8.8 inclusive.

## In addition to the rejection reasons set out at paragraph 8.7, the Access Provider may also reject a WBS Change Request if it is not submitted in accordance with paragraph 8.11.

## The Access Provider may in its sole discretion elect to accept any WBS Change Request notwithstanding that there is any defect in that WBS Change Request, if the Access Provider considers that such defect does not have a material effect on the Access Provider’s ability to process the WBS Change Request and provide the WBS Service.

# Reversal of a Service Order

## Within thirty (30) days of the successful completion of a WBS Service Order, the Access Seeker may make a request to the Access Provider to revert the configuration.

## On receipt of the Reversal Request, the Access Provider shall on the same Working Day: (a) process the Reversal Request; and (b) notify the new Access Seeker that the Reversal Request has been processed.

# CHARGES

## The Access Seeker shall pay to the Access Provider the relevant Charges set out in Schedule 3 - (Pricing) of the Reference Offer.

## All Charges and sums due from one party to the other under this Agreement are exclusive of VAT. Any VAT shall be charged in accordance with the relevant regulation in force at the time of making the taxable supply and shall be paid by the paying party following receipt from the billing party of a valid VAT invoice.

# RESPONSIBILITIES

## In respect of each Service Order submitted by the Access Seeker to the Access Provider, the Access Seeker shall ensure that:

1. the Access Seeker has a valid End User Consent;
2. the Access Seeker retains records of the End User Consent and the retention is in accordance with the reasonable and justified requirements notified to the Access Seeker by the Access Provider from time to time;
3. the Access Seeker has used its reasonable endeavors to ensure that the information in the Service Order is complete and correct;
4. the processing of each Service Order, at the time it is submitted, does not breach any party’s contractual or other rights (however, a valid End User Consent shall be deemed to be a valid notification to the Access Provider to terminate the relevant Access Provider services);
5. the Access Seeker has used its reasonable endeavors to provide the End User with sufficient information to make an informed choice about transferring their service, including informing the End User that:

##### the End User remains liable for the amount of any pre-existing charges and possible termination expenses; and

##### the Access Seeker has complied with any relevant legislation or other industry code of practice.

## The Access Seeker shall in respect of this WBS Service comply in all respects with its obligations under Article 78 of the Law and any regulation or decision issued by the Authority in relation to lawful access.

## The Access Seeker indemnifies the Access Provider, subject to the Access Provider using all reasonable endeavors to mitigate the effect of the occurrence of the indemnified event, in respect of any loss, liability or cost incurred by the Access Provider (including third party claims or claims by any End User) in connection with a breach by the Access Seeker of its obligations and warranties given under this Service Description.

# BILLING PERIOD

## The Billing Period in respect of the WBS Service shall be thirty (30) days. The Billing Period shall commence on the date of the first billing date of the Access Provider billing cycle after the Service Commencement Date and may include billing on a pro rata time basis for the period between the Service Order to the next billing cycle to ensure compatibility with the Access Provider’s billing cycle.

# AGGREGATION LINK

## Following a request from the Access Seeker, the Access Provider shall provide a 10Gbit/s WBS Service Aggregation Link at the Charges set out in Schedule 3 - (Pricing) of the Reference Offer.

## The initial aggregation of 1 Gbit/s can be provided for a maximum of two (2) geographically dispersed Access Seeker Points of Presence. In the event that the Access Seeker requests additional bandwidth, the Access Seeker will be required to procure the upgrade of 10 Gbit/s as set out in this Service Description and as priced in Schedule 3 – (Pricing) of the Reference Offer.

**ANNEX 1**

**WBS PRODUCT LIST**

WBS Services are defined for both residential End Users and Non-Residential End Users as shown in the tables below:

WBS Services are defined for both residential End Users and Non-Residential End Users as shown in the tables below:

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| --- | --- | --- | --- | --- |
| Residential | |  | Non-Residential | |
| Download Speed | Upload Speed |  | Download Speed | Upload Speed |
| Voice only 1.024Mbit/s | Voice only 512Kbit/s |  | Voice only 2.024Mbit/s | Voice only 512Kbit/s |
|  |  |  |  |  |
|  |  |  |  |  |
| 100Mbit/s | 50Mbit/s |  | 100Mbit/s | 20.048 Mbit/s |
| 150Mbit/s | 75Mbit/s |  |  |  |
| 250Mbit/s | 125Mbit/s |  | 250Mbit/s | 20.048Mbit/s |
| 500Mbit/s | 250Mbit/s |  | 500Mbit/s | 70.048Mbit/s |
| 1 Gbit/s | 500Mbit/s |  | 1 Gbit/s | 100.048Mbit/s |
|  |  |  |
|  |  |  |

|  |
| --- |
| Aggregation Link 1Gbit/s |
| Aggregation Link 10Gbit/s (on request) |
| Aggregation Link 100 Gbit/s (on request) |

**Copper**

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| Residential | |  | Non-Residential | |
| Download Speed | upload |  | Download Speed | Upload |
| Up to 16mbps | |  | | --- | | 2.048Mbit/s | |  | Up to 16mbps | 2.048Mbit/s |



|  |
| --- |
| Aggregation Link 1Gbit/s |
| Aggregation Link 10Gbit/s (on request) |

## **Voice**

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**ANNEX 2**

**WBS SERVICE – TECHNICAL DIAGRAM**



