**SCHEDULE 6.3 - SERVICE DESCRIPTION**

**MOBILE DATA SERVICE (MDS)**

1. THE SERVICE

###### Service Description

## The Data Service (‘**MDS**’) provides uncontended, symmetrical, dedicated point-to-point private leased circuit service within the Kingdom of Bahrain between an Access Seeker’s Core Mobile Site and a Wireless Radio Site.

## The Service is provided with a number of options regarding its technical characteristics. These are specified in Annex 1 of this Service Description.

## The MDS Service is available to Access Seekers holding an appropriate Mobile Individual Telecommunications License.

## The MDS Service provides the following service characteristics and these parameters are tested in the acceptance criteria during the testing validation of a new MDS connection:

### Round Trip Delay (Frame Transfer Delay): 5ms

### Jitter (Frame Delay Variations): < 5ms

### Frame Loss Ratio: 0%

# DEFINITIONS

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

**Core Mobile Site** means a location in the Kingdom of Bahrain owned or controlled by the Access Seeker which hosts equipment for mobile control functionality (i.e aggegates sites into platforms such as MSC, RNC, BSc or EPC, etc.) on its Mobile Network.

**Aggregation Link** means the connectivity established between a Point of Presence of the Access Seeker and the Access Provider access node.

**Connection** means an individual MDS Service as described in paragraph 1.

**Customer Premises Equipment or CPE** means the Equipment forming part of the MDS at the Wireless Radio Site more particularly specified under Annex 2 (Technical Characteristics).

**MDS Amended Service** means a MDS Service that is amended by a Change Request.

**MDS Operations Manual** means Annex 5 of this Schedule 6.3

**Minimum Service Period** means an applicable minimum period of twenty-four (24) calendar months for which the MDS Service shall be provided, such period commencing from the Service Commencement Date. except for the cases set out in paragraph 2.6 below for temporary Service(s).

**Project** means a Service Order comprising of fifteen (15) or more MDS circuits with a project plan and delivery schedule as agreed between the Access Seeker and Access Provider.

**Relocation** means geographically shifting the Service from one permanent physical area to another.

**Renewed Minimum Service Period** means an applicable minimum period of one (1) month for which the MDS Service shall be provided, such period commencing from the expiry of a Service Period.

**Service Period** means the Minimum Service Period or Renewed Minimum Service Period, and the Temporary Service Period, where applicable.

**Temporary Service Period:** means a period of a minimum of one (1) month and a maximum of three (3) months under which an Access Seeker may request a new MDS Service/Upgrade to an existing MDS Service for the following non-exhaustive list of events: any event, summit, expo, POC in the Kingdom of Bahrain.

**Wireless** **Radio** **Site**: notwithstanding Schedule 8 of the Reference Offer, Wireless Radio Site under this Schedule 6.3 means a location in the Kingdom of Bahrain owned or controlled by Access Seeker which is used to serve End-Users for mobile coverage through sectoral antennae.

1. TERMS

###### Use of Service

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

## 3.2 The MDS Service shall only be made available to connect an Access Seeker’s Core Mobile Site and Wireless Radio Site, and not any other residential or non-residential entity. The Access Seeker may not resell the MDS Service to another Licensed Operator. Additionally, the MDS Service shall only be used solely for the purpose of connecting Access Seekers sites for the purpose of transporting traffic related to mobile services (i.e. 2G/3G/4G/5G) Technologies

###### 3.3 Where the Access Provider reasonably suspects breach of paragraph 3.2 it may refer the matter as a complaint for investigation by the Regulator.

###### 3.4 Where the Regulator establishes after an investigation under paragraph 3.3 that the Access Seeker is not using the Service in accordance with this Service Description, the Access Provider without prejudice to any other rights and remedies under the Supply Terms may by immediate written notice suspend or terminate all or part of the MDS Service and the Access Seeker shall be liable to pay the Access Provider liquidated damages, calculated in accordance with the process set out in the MDS Operations Manual.

###### Supply of Service

###### 3.5 The provisions set out in clause(s) 3.5 to 3.8 shall apply only to a maximum of fifteen (15) MDS circuit Service Orders at a time from the Access Seeker as set out in the MDS Operations Manual. Any Service Orders made under a Project shall be supplied based on agreed terms between Access Provider and Access Seeker with agreed SLAs. The Access Seeker shall submit a Service Order to the Access Provider to request supply of the MDS Service in accordance with the Supply Terms and in the manner communicated by the Access Provider.

###### 3.6 The Service Level Terms shall apply to:

### New Connection – provide a new Connection as requested by the Access Seeker;

### Upgrade or Downgrade;

### Hot and Cold Migration – change the Wireless Radio Site address of an existing Connection, requiring disconnection and reconnection of the Connection end point, including “hot migration” which is when the Connection is not disrupted and “cold migration” which is when the Connection can be disrupted;

### Reconfiguration – reconfigure technical parameters of an existing Connection; and

### Cancellation – the Access Seeker requests the cessation of an existing Connection.

###### 3.7 Further information relating to the applicable Service Levels Terms and Service Level Penalties for the above is detailed in Schedule 7 - (Service Levels) of the Reference Offer

###### 3.8 The Access Seeker may opt for, and approach, the Access Provider for the provision of an MDS Service based on a Temporary Service Period. The Access Provider, upon assessment of the request for a MDS Temporary Service as delineated above, shall be entitled to waive the Minimum Service Period, and any other requirements corresponding to the Minimum Service Period on the Access Seeker for the purposes of this Temporary Service Period. The Parties acknowledge that a Temporary Service Period MDS Service will be charged separately to the charges set out in Schedule 3 (Pricing) of the Reference Offer and will be based on a time and materials calculation. Where there are multiple requests for different Access Seekers for the same event to be catered under a Temporary Service, the Access Provider will publish its proposal for the aforementioned event and make such proposal available on a non-discriminatory basis to all Access Seekers. Access Seekers must notify Access Provider of their intention to terminate the Temporary Service Period (i.e. downgrade/terminate the circuit/s, which were Installed/upgraded for this Temporary Service Period) by five working days prior to the end of the Temporary Service Period. Failure to notify BNET will result in a subscription for a further Minimum Service Period under this Schedule on the provisioned Bandwidth and charges.

###### 3.9 The Access Provider shall provide to the Access Seeker a monitoring tool, which shall enable the Access Seeker to monitor the Service against the following minimum parameters and other monitoring parameters in accordance with the technical parameters defined in the Joint Working Manual. This monitoring tool shall provide monitoring facilities twenty-four (24) hours a day, seven (7) days a week, three-hundred and sixty-five (365) days a year. The minimum parameters shall include:

### Link availability;

### Bandwidth Utilisation;

###### Amendment to the MDS Service

###### 3.10 The Access Seeker and Access Provider shall comply with the specific process set out for the Amendment to the MDS Service in the MDS Operations Manual. This shall cover scenarios whereby the Access Seeker requests an internal shift, Relocation, or an external shift. These processes shall be applicable to existing MDS Services only.

###### Access Seeker Obligations

###### 3.11 The Access Seeker shall make all necessary arrangements, including but not limited to providing any access permissions to its Core Mobile Site and/or Wireless Radio Site, and arrange for the required site surveys to the abovementioned sites. The Access Provider shall not be held responsible or liable for any delay in the Access Seeker failing to ascertain the abovementioned permissions/access. Any such delays arising due to the fault of the Access Seeker shall suspend any SLAs and/or apportioned Service Level Penalties.

###### 3.12 The Access Seeker shall provide the Access Provider with suitable space for, and access during Working Hours to, any Access Provider Equipment required to be located in any building in which the MDS Service is located within the control of the Access Seeker. If consent is required from a third party, the Access Seeker shall procure such consent. The Access Provider is not required to pay the Access Seeker for the preparation or use of, or access to, space provided pursuant to this sub-paragraph.

###### 3.13 When provisioning a Service Order requiring new Duct build, the Access Provider is responsible for construction of the Duct on public land up until the demarcation point being the boundary of the plot where the Wireless Radio Site is located. The Access Seeker is responsible for construction of the lead-in Duct or in-building Duct or conduit from the demarcation point to the Wireless Radio Site and/or aggregation Point of Presence.

###### 3.14 If the Access Provider’s Equipment requires electricity supply and electricity connection points, they shall be supplied, in the location specified by the Access Provider, by the Access Seeker at the Access Seeker’s expense according to the equipment specification. Such electricity shall be available at the same level of supply, protection and continuity as that available to the Access Seeker’s Equipment.

###### 3.15 The Access Seeker shall be solely responsible for any loss, theft or destruction of, or damage (reasonable wear and tear excepted) to the Access Provider’s Equipment required to be located in the building where the MDS Service is provided, which is within the control of the Access Seeker, occurring anytime and howsoever caused (unless caused by the Access Provider or its agents). Where additional underground infrastructure built on the main duct path in the street/road is required, no further charges shall be incurred by the Access Seeker as long the charges fall within fair and reasonable amounts and will be recovered through the MRC.

###### 3.17 In cases where the portion of civil works per fibre access is found to be exceeding the fair and reasonable boundaries, excess construction charges shall be applied on a time and material basis as defined in Schedule 3 (Pricing) of the Reference Offer subject to prior agreement between the Access Provider and the Access Seeker.

###### 3.18 The Access Seeker shall provide the Access Provider and any authorised employee, agent, affiliate or contractor of the Access Provider with all information and assistance that person may reasonably require to design, test, commission and maintain the MDS Service (which may include, without limitation, participation in testing procedures as and when reasonably requested by the Access Provider).

###### 3.19 The Access Seeker may require their agent to be present during the installation, testing or commissioning done by the Access Provider but not so as to affect the Service Commencement Date.

###### Maintenance and Support

###### 3.20 The Access Provider shall provide maintenance and support services in respect of the MDS Service in accordance with Schedule 7 - (Service Levels) of the Reference Offer.

###### Protection

###### 3.21 Two levels of protection are available in the MDS connections (Wireless Radio Site or Access Seeker’s Core Mobile Site), which are the: (i) Silver Protection Level; and (ii) Gold Protection Level as delineated in Annexes 2 and 4 of this Schedule 6.3 and for the additional charges of any of the requested protection level is defined in the Schedule 3. For the avoidance of doubt, availability of the protection shall mean that the feasibility will be required to provision the requested protection level and also the Access Seeker has obtained the premises approval from the landlord and any relevant government authority approvals.

1. CHARGES

###### 4.1 The Access Seeker shall pay to the Access Provider the relevant Charges determined in accordance with Schedule 3 - (Pricing) of this Reference Offer.

###### 4.2 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.

1. SERVICE LEVEL

###### 5.1 Subject to Clause 3.5 of this Schedule 6.3, the Access Provider shall provide the MDS Services in accordance with the Service Levels specific in Schedule 7 - (Service Levels) of the Reference Offer.

# ANNEX 1

# CIRCUIT SPEEDS, DEFINED INTERFACES, MEDIA AND TOPOLOGY

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Service element** | **Speed** | **Interface** | **Connector** | **Topology** | **Access** |
| Connection terminating at Wireless Radio Site or Core Mobile Site | 1 Gbit/s  2.5 Gbit/s  5 Gbit/s  10 Gbit/s | gigabit Ethernet 1000BASE-LX  gigabit Ethernet 10,000BASE- SX | SC/LC | Ethernet service point- to-point | Fibre |
| Aggregation Link terminating at the Core Mobile Site of the Access Seeker | 100 Gbit/s | gigabit Ethernet 1000BASE-LX  gigabit Ethernet 1000BASE-SX | SC/LC | Ethernet service point- to-point | Fibre |

# ANNEX 2

# Technical Characteristics

|  |  |  |
| --- | --- | --- |
| **Service Type** | **Service Attribute** | |
|  |  | Optical Access: |
| **Ethernet service point-to- point or Ethernet service point-to- multipoint (Pseudowire Ethernet tagged mode with port- based aggregation or virtual aggregation) providing guaranteed symmetrical bandwidth** | **Interface** | 1. GE:1000Base-SX, 1000base –LX. 2. 10GE:10G base –SR, 10G Base LR, 10G Base   –ZR,10GE LAN, 10GE WAN. |
| **Connector** | Fibre Access: Single mode LC |
| **Speed** | Please refer to ANNEX 1 |
| **Mode** | Duplex |
| **MAC Layer Supported** | Yes |
| **MAC Address Learning** | Yes |
| **Frame Size** | Min 1518 ,Max 9600 (Jumbo Frame),default 1700 |
| **Class of Service** | 100% Real-Time. No Over Utilisation |
| **Maximum Number of CE- VLANs** | 4096 |
| **Unicats Traffic Limit** | Yes |
| **Multicast Traffic Limit** | Yes |
| **Broadcast Traffic Limit** | Yes |
| **Protocol Treatment** | Spanning Tree Protocol (STP), Rapid Spanning Tree Protocol (RSTP), Multiple Spanning Tree Protocol (MSP) |
| Pause 802.3 |
|  |  | Link Aggregation Protocol (LACP) |
| (802.1AG),(802.1Q),(802.1D), (802.1P) |
|  |  |  |

*\* Frame sizes 64 bytes and 128 bytes are supported by the MDS service but may experience reduced performance.*

# Customer Premises Equipment (CPE) type:

The Access Provider, as a default, shall offer Huawei CPEs for the provision of the DS Service. The Access Provider may include multiple CPE options, to include CPE options which are available from alternative vendors. The Access Provider must apply the same Service Levels, and reserves the right to vary the CPE from time to time. Only one interface (based on the requirement as referred to in Annex 1 is dedicated as a demarcation interface at Wireless Radio Site for the MDS Service.

# Optional Levels of Protection available for the MDS Service:

The Access Provider provides below a summary of the various levels of protection available for the MDS service:

***(NOTE – for the purposes of this table, End User refers to the MNO Wireless Radio Site)***

The Access Provider may also consider a request from an Access Seeker for a full end-to-end physical path redundancy that requires delivery of a secondary Connection/Aggregation Link in a different lead-in Duct to the building, where this is reasonable. In such cases, the applicable Charges shall be determined in accordance with the provisions of this Service Description.

**1. Silver protection**

This protection type, provides the redundant MDS service level at Access connection or Aggregation connection over the same access fiber cable but two separate fiber pairs between BNET exchange to Wireless Radio Site or MNO’s Core Mobile Site with the following specifications of connectivity:

1.1 Same Access CPE

1.2 Same Access BNET Exchange

1.3 Same Access BNET Node

1.4 Same Client card at Access BNET Node with two interfaces

**2. Gold protection**

This protection type, provides the redundant MDS service level at Access connection or Aggregation connection over the two separate access fiber cable between BNET exchange to Wireless Radio Site or MNO’s Core Mobile Site with the following specifications of connectivity:

2.1 Same Access CPE

2.2 Same Access BNET Exchange

2.3 Same Access BNET Node

2.4 Separate Client cards at Access BNET Node with two separate interfaces

\*Access Seeker may request any of the above protection level at Wireless Radio Site or Mobile Core Site (Aggregation) and both protections are considered as separate requests.

# Annex 3

# Provisioning Validation Test

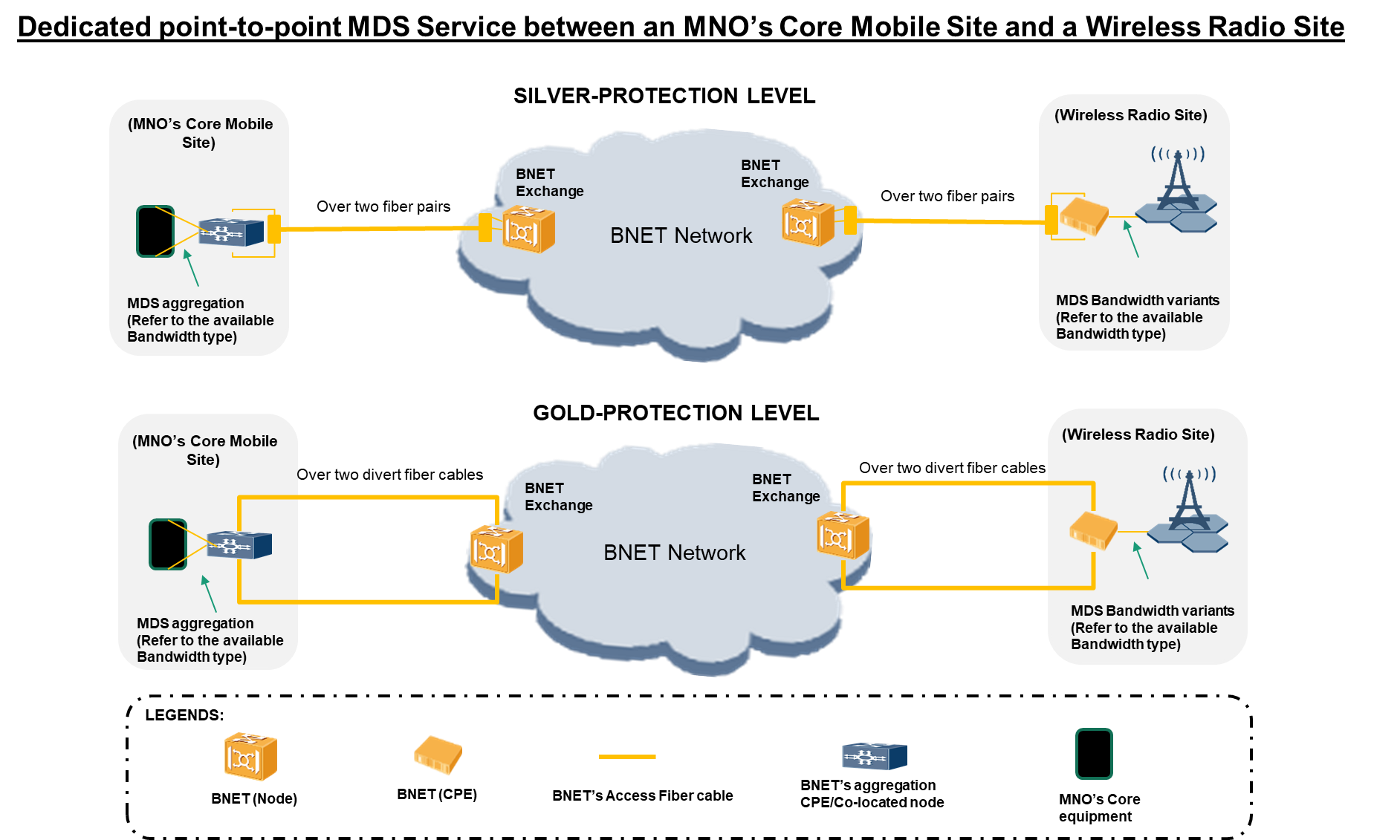
|  |  |
| --- | --- |
| **Provisioning Validation Test** | |
| **Testing Methodology** | ITU-T Y.1564 |
| **Testing Mode** | Layer 1-2 Loopback test. Tester simulates CPE |
| **Parameters tested** | Throughput, Frame loss |
| **Tester Speed Setting** | MDS Service Speed |
| **Tester Frame Size** | 64, 128, 256, 512, 1024,  1280, 1518 and 9,600 bytes |
| **Acceptance criteria** | Achieved throughput of 95% of MDS Service Speed with zero frame loss. |
| **Test Results** | Copy provided to the Access Seeker upon request at time of testing |

**ANNEX 4**

**MDS SERVICE DIAGRAMS**

**A screenshot of a computer

Description automatically generated with medium confidence**

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