

Ethernet Connect Global Service Schedule

Part B – Service Description

Section A The Service

1. STANDARD COMPONENTS OF THE SERVICE

BT will provide the Customer with the following Services in accordance with the details as set out in the Order:

1.1 Access Lines

BT will connect the Customer Sites to the BT Network using one of the following Ethernet Access Line options as set out in the applicable Order. Not all Ethernet Access Line options are available in each country.

- 1.1.1 **“Standard”**; a single physical connection between the BT POP and the Customer Site;
- 1.1.2 **“Standard Protected”**; a single physical connection between the BT POP and the Customer Site, but having a secondary path where the traffic will be automatically switched to if the primary path fails by the access line supplier's equipment;
- 1.1.3 **“Diverse”**; two physical connections between a single BT POP and the Customer Site. Diverse is presented to the Customer via two interfaces on separate NTEs. Each access can be a different bandwidth and the two bearers are diversely routed between the Customer and the single BT POP; or
- 1.1.4 **“Diverse+”**; two physical connections between two separate BT POP's and the Customer Site. Diverse+ is presented to the Customer via two interfaces on separate NTEs. Each access can be a different bandwidth and the two bearers are diversely routed between the Customer and each BT POP.

The Customer may select on the Order access speed of either 10Mbps, 100Mbps, 1Gbps, 10Gps or a sub-rate speed if available, Not all speeds are available in all locations.

1.2 Service Interface

The Service Interface is the point where the Access Line is connected to the BT Network (the **“Service Interface”**). The Service Interface is provided at speeds of 10Mbps, 100Mbps, 1Gbps and 10Gbps. The Access Line speed used may not exceed the Service Interface speed. The Customer may order only one of the following two types of Service Interface configurations at each Site.

- 1.2.1 **“VLAN Based”** in which multiple EVCs can route over the Service Interface. The EVCs are separated logically by VLAN tags in accordance with IEEE 802.1q, as specified in the IEEE 802.1q definition. The Customer Equipment must be capable of supporting this feature. The Customer can choose the VLAN identities (**“VLAN IDs”**) for each EVC or can request that these be allocated by BT. The total of the EVC bandwidth at a Site cannot exceed the Service Interface speed at that Site.
- 1.2.2 **“Port Based”** in which only a single EVC can route over the Service Interface. This configuration does not require the Customer Equipment to provide VLAN tags.

1.3 Ethernet Virtual Connection

The Customer must select on the Order on of the following Service configuration options:

- 1.3.1 **“E-Line”**: This allows the Service to be used to provide as Ethernet Private Line (“EPL” - single point to point connection) or an Ethernet Virtual Private Line (“EVPL” - hub and spoke arrangement) between Customer Sites; or
- 1.3.2 **“E-LAN”**: This allows the Service to be used to provide any-to any connectivity between Customer sites. EVCs connecting to an E-LAN must all be VLAN-Based or Port-Based only; there cannot be any mixing of VLAN-Based and Port based configurations.

The EVC Bandwidth does not assume a frame-size and therefore the Customer must be aware of the impact of maximum transmission unit ("MTU") frame-size upon throughput over a physical interface. The Customer has to take into consideration when ordering EVC Bandwidth, the protocol overheads of the layer 2 Ethernet Frame (preamble, inter-frame gap etc.) on Customer's data throughput. The layer 2 Ethernet frame protocol overheads reduce the amount of usable bandwidth that is available for layer 2 Customer data. The Customer data throughput will depend on the configuration of the Service (frame size) and the how the Customer data is being offered (shaping). The frame size of the maximum transmission unit depends on the selected configuration, the network domain(s) of the Service and access supplier limitations. The actual data throughput depends on the maximum transmission unit and Customer's own services attached to the underlying Ethernet protocol. In addition, 128kbps of bandwidth is reserved for BT management of the Service where the Service interface is 10Gbps and above, for Service interface speeds of 1Gbps and below 64 kbps is reserved.

1.4 Class of Service (Class or CoS)

Class of Service (CoS) is a means of providing differentiated service across a network which allows the Customer to prioritise its traffic across the Service. CoS is available on E-Line and E-LAN Services. The Customer must specify the CoS bandwidth required at the time of Order whereby the total ordered EVCs bandwidth cannot be greater than the bandwidth of either the Access line or the Service Interface (whichever is lower in bandwidth). Five (5) types of CoS are available:

- 1.4.1 High Class.** This CoS is for time-critical data traffic. The Customer must specify the amount of High Class traffic ("Contract Rate") required. There is no bursting capability for High Class traffic and any traffic above the Contract Rate will be dropped.
- 1.4.2 Medium Class (In-Contract).** This CoS is used for business critical data traffic. The Customer must specify the amount of Medium Class traffic ("In-Contract") bandwidth within an EVC. All this "In-Contract" bandwidth traffic will be carried.
- 1.4.3 Medium Class (Out-of-Contract).** This CoS is used for business critical data traffic. Traffic which has burst above the Medium Class In-Contract bandwidth will be marked as Out of Contract traffic. Out-of-contract traffic may be dropped if congestion occurs in the BT Network.
- 1.4.4 Low Class (In-Contract).** This CoS is used for standard business data traffic. The Customer must specify the amount of Low Class traffic ("In-Contract") bandwidth within an EVC. All this In-Contract bandwidth traffic will be carried.
- 1.4.5 Low Class (Out-of-Contract).** This CoS is used for standard business data traffic. Traffic which has burst above the Low Class In-Contract bandwidth will be marked as Out-of-Contract traffic. Out of contract traffic may be dropped if congestion occurs in the BT Network. The Customer must mark its traffic using the Ethernet priority bit (P-bit) using IEEE standard 802.1p prior to sending the traffic into the BT Network. The BT Network will then put the traffic into the selected CoS. Any traffic not identified as part of a CoS will be marked Low Class (Out-of-Contract).

1.5 Standard Performance Reports

Standard Performance Reports providing details about the Core Network Performance Service Levels as set out in Part A; being a) Round Trip delay, b) Packet Delivery and c) Jitter.

1.6 Proactive Incident Management

The Service is continuously monitored in real time.

2. SERVICE OPTIONS

BT will provide the Customer with any of the following options as set out in any applicable Order and in accordance with the details as set out in that Order:

2.1 Site to Site Performance Reports

Site to Site Performance Reports providing details about the Site to Site Network Performance Service Levels as set out in Part A; being a) Round Trip delay, b) Packet Delivery and c) Jitter.

3. SERVICE MANAGEMENT BOUNDARY

3.1 BT's responsibility to provide and manage the Service is physically and logically limited to the following service management boundary:

3.1.1 BT will provide and manage the Service up to the physical Ethernet interface on the Customer side of the BT NTE of the associated Access Line but excluding any additional extension of the cabling done by the Customer as set out in Part A, paragraph 3.2.

3.2 Paragraphs 3.1 constitutes the "**Service Management Boundary.**"

3.3 BT will have no responsibility for the Service outside the Service Management Boundary.

3.4 BT does not make any representations, whether express or implied, about whether the Service will operate in combination with any Customer Equipment or other equipment and software.

4. COMMISSIONING OF THE SERVICE

4.1 Before the Operational Service Date, BT will:

4.1.1 deliver and configure the Service. BT will install the NTE(s) at the Customer Sites to be exclusively used by BT to deliver the Service. No other equipment will be provided by BT;

4.1.2 conduct a series of standard tests on the Service to ensure that it is configured correctly; and

4.1.3 on the date that BT has completed the activities in this paragraph 4.1, confirm to the Customer that the Service is available for performance of any Acceptance Tests.

5. ACCEPTANCE TESTS

5.1 The Customer will carry out the Acceptance Tests for the Service within five (5) Business Days after receiving notice from BT ("**Acceptance Test Period**").

5.2 The Service is accepted by the Customer if the Customer confirms acceptance in writing during the Acceptance Test Period or is treated as being accepted by the Customer if the Customer does not provide BT with notice to the contrary by the end of the Acceptance Test Period.

5.3 Subject to paragraph 5.4, the Operational Service Date will be the earlier of the following:

5.3.1 the date that the Customer confirms or BT deems acceptance of the Service in writing in accordance with paragraph 5.2;

5.3.2 the date of the first day following the Acceptance Test Period; or

5.3.3 the date the Customer starts to use the Service.

5.4 If, during the Acceptance Test Period, the Customer provides BT notice that the Acceptance Tests have not been passed, BT will remedy the non-conformance without undue delay and provide the Customer notice that BT has remedied the non-conformance and inform the Customer of the Operational Service Date.

Section B Service Management

6. SERVICE MANAGEMENT

6.1 The Service Management Schedule as referred to in the Order will apply to this Service.