

Schedule 20

Additional terms for Optical Private Network Services

SERVICE DESCRIPTION

The Interoute Optical Private Network (OPN) Service comprises Protected and Unprotected OPN Sections carrying high capacity telecommunications traffic between agreed Interoute Network Terminating Points.

1. DEFINITIONS

“Circuit” means that part of the end-to-end connection between the Customer Premises that is carried on Interoute-owned network equipment monitored and managed by Interoute. The Circuit is delineated by Interoute Network Termination Points (i.e. On-Net to interoute).

“Committed Date” means the date assigned by Interoute for the delivery of each Layer of Circuits as further detailed in Appendix 1 of this Schedule.

“Core Network” Means the aggregation of Sections deployed at any specific time during the agreement but specifically excluding any local tails or further breakout from the network.

“Core Site” Means the meet me room in the sites identified as Core Sites in Appendix 1 of this Schedule

“Customer Service Centre” means Interoute’s fault management centre, which operates the Interoute Network Management System.

“Drop” means the ingress or egress of capacity onto/off the Core Network

“Initial Capacity” means the capacity requested at the time of the initial order as described in Appendix 1.

“Interoute Network Termination Points” means the point at which the Interoute Network terminates on the customer-facing side of the Interoute distribution frame at the Core Sites.

“Monthly Charge” means the monthly recurring charges (or where recurring charges are payable For a duration that is longer than a month, a pro-rata portion thereof);

“Network Distance” means the distance between the two Interoute Network Termination Points based on agreed routing measured in Kilometres (KMs). The Network Distance for each Section is set out in Appendix 1 of this Schedule.

“Network Management System” means Interoute’s network integrated fault management system.

“OPN Section” or “Section” means an aggregation of 10x10G (100G) Circuits provided between Interoute Network Termination Points on an end to end basis as either Unprotected or Protected.

“OPN Services” or “Service(s)” means capacity presented as OPN Sections or Circuits as further defined within this Schedule.

“Protected” means a service configured on ports and across network paths that have sufficient means of switching to either an alternate port or path in order in order to maintain or restore the Service in the event of a service interruption for the Service to be considered by

Schedule 20

Additional terms for Optical Private Network Services

Interoute to be protected. The “Protected Circuit Service Availability” Service Level shall apply to a Service identified as “Protected” in this Agreement

“**Subsequent Capacity**” means the nx100G Sections requested to be deployed at a time after the delivery of the initial Capacity

“**Unprotected**” means a service configured wholly or partly on unprotected ports and/or across an unprotected network path that has no means of switching to either an alternate port or path in order to maintain or restore the service in the event of a Service interruption. The “Unprotected Service Availability” Service Level shall apply to a Service identified as “Unprotected” in this Agreement.

Any other capitalised terms have the meaning set out in Schedule 1

2. OPTICAL PRIVATE NETWORK TERMS

The following terms and conditions shall apply when Interoute provides OPN Services to The Customer.

2.1. Service Overview

- a. Interoute will provide an Optical Private Network constructed as Unprotected or Protected OPN Section or Sections connecting the Core Sites.

3. CHARGES

3.1. Charges payable by The Customer

- a. Unless otherwise agreed between the Parties in the Purchase Order, Charges for the OPN Service will be invoiced in accordance with the terms specified in Appendix 2 of this Agreement
- b. In addition, any costs incurred by Interoute provisioning the Circuit beyond the Interoute Network Termination Points but within the same premises (i.e. patching) may be invoiced to The Customer on a cost plus basis.

4. SERVICE LEVELS AND SERVICE CREDITS.

- 4.1. The Optical Private Network is constructed in a series of OPN Sections. Interoute shall provide and maintain the OPN Sections in accordance with the Service Levels set out below. Interoute will provide The Customer with Service Credits for the failure to meet the following levels:

- Service Installation
- Service Availability (protected and unprotected) and
- Time to Repair.

4.2. Service Installation

Schedule 20

Additional terms for Optical Private Network Services

- a. Interoute will provide a Committed Date for the installation of OPN Sections. If Interoute fails to meet the Committed Date, The Customer will be entitled to a Service Credit in accordance with this Clause.
- b. If only part of an order is delayed, valid credits will be payable only in respect of those Sections that are not delivered by the Committed Date.
- c. Service Credits will be calculated per Section as follows:

Calendar Days Past the Committed Date	Service Credit as % of Per Section Non Recurring Charge
1-7 days	5%
8-14 days	10%
15-21 days	20%
22-28 days	40%
29 days and more	50%

4.3. Service Availability

An OPN Sections is “Available” (“Availability” has a corresponding meaning) when transmission of signals over the OPN Section occurs in both directions. The OPN Sections is “Unavailable” when signals cannot be transmitted over the OPN Section in either or both directions.

The following equation will be used to calculate Service Availability. References to hours are to the number of hours (rounded to nearest hour) in the applicable Monthly Review Period:

$\frac{(\text{Total hours per month} - \text{Total hours Unavailable per month})}{\text{Total hours per month}}$	x 100
--	-------

4.4. Protected OPN Section Availability

Interoute will use reasonable endeavours to ensure that all Protected Sections are available for 99.95% of the time.

Where Service Availability falls below 99.95% during any Monthly Review Period, The Customer will be entitled to Service Credits as follows:

Monthly Availability %	Service Credit as % Monthly Charge per affected Section
99.95 – 99.9	5%
99.89 - 99.7	10%
99.69 - 99.00	15%
98.9 - 98.5	20%
Less than 98,5	30%

Schedule 20

Additional terms for Optical Private Network Services

Where a Circuit is broken out or dropped at a premises not on the Core Network, the Availability SLA applies, however, rebates will be pro-rated by the amount of the capacity of the Circuit dropped.

4.5. Unprotected Section Service Availability

- a. Where a Section or number of Sections have been provided on an unprotected basis, each Section a Service Availability associated with it defined by the distance between the ingress and egress Network Terminating Points.
- b. The monthly target Service Availability (“A”) for Unprotected Sections having a Network Distance of (d) will be derived using the following equation :

$$A=100-(d/2000)$$

For the purpose of clarity the Section distances are provided in Appendix 1

Where alternate routing is used for a Section, the distance formula will be applied.

Where Service Availability falls below “A” during any Monthly Review Period, The Customer will be entitled to Service Credits as follows:

Service Availability during Monthly Review Period (Unprotected Sections)	Service Credit % Monthly Charge pro rated per Unprotected Section
A % to A - 0.5%	5%
A - 0.5% to A - 1.5%	10%
A - 1.51% to A - 3.5%	20%
<A - 3.5%	30%

- c. Where a Circuit is broken out or dropped or terminates at a premises not on the Core Network, the Availability SLA will vary according to the network distance formula, further, rebates will be pro-rated by the amount of the capacity of the circuit dropped.

4.6. Time to Repair Target

In the event that a Protected or Unprotected Section is unavailable, Interoute will use all reasonable endeavours to restore service within the Time to Repair target set out below:

Service Component	Time to Repair Target (Hours)
Protected Section	4 Hours
Unprotected Section	8 Hours

Schedule 2o

Additional terms for Optical Private Network Services

Where interroute fails to meet the time to repair target set out above, The Customer will be entitled to service credits on a per Protected Layer or Unprotected 100G Section basis as follows:

Full Working Hours past Time to Repair Target	Service Credit % Monthly Charge pro rated per affected Section
0-2	5%
2-4	10%
4-8	20%
8+	30%

Interoute will provide The Customer with progress updates every two (2) hours, unless otherwise agreed.

For the avoidance of doubt, Third Party Local Access connections since they are not under the direct control and ownership of Interoute are not deemed part of the OPN Service and this Schedule 2e does not provide Time to Repair Level for such connections.

Faults are considered to be repaired in the event of either a full or temporary repair being implemented, thus allowing continuity of Service.

Where the fault arises from any Third Party Local Access, Interoute shall endeavour to manage the resolution of the fault by the Third Party Local Access provider as soon as reasonably practicable.

5. LIMITATIONS ON SERVICE CREDITS

- 5.1. The Customer's sole and exclusive remedy for a cause of action that results in a deviation from the Service Levels is the Service Credits as set out above. The Customer agrees that the compensation provided represents a reasonable pre-estimate of all of its losses and Interoute shall have no further liability to The Customer for the failure to achieve the Service Levels..
- 5.2. Claims will be paid only against validated claims, provided The Customer has paid Interoute all sums due under the Agreement, any credit balance due to The Customer will be carried forward to the next billing period.
- 5.3. In the event that a Service Credit is due to The Customer, Interoute will issue a credit note upon The Customer's request. The Customer shall not be entitled to any Service Credits in respect of a claim unless and until Interoute has received notice of the claim in writing within twenty one (21) days of the end of the month for which a credit is requested. The Customer must submit a documented claim, setting out the reason for the claim and providing such evidence as shall be reasonably necessary to support the claim.
- 5.4. Service Credits will not be payable by Interoute to The Customer in relation to the Committed Date or the Service Availability for faults or disruptions to the Service caused by any of the following:

Schedule 20

Additional terms for Optical Private Network Services

- a. The fault or negligence of The Customer, its employees, agents or contractors;
 - b. The Customer failing to comply with the terms of this Agreement;
 - c. Any event of Force Majeure.
 - d. A failure by The Customer to give Interoute necessary access to any Equipment or The Customer equipment and/or Site after being requested to do so by Interoute;
 - e. Maintenance during any Planned Outage;
 - f. A fault in, or any other problem associated with, equipment connected on the Customer's side of the Interoute Network Termination Point or Interoute Demarcation Point. E.g. The Customer LAN;
 - g. Any outages or degradation to existing Service that may be the result of The Customer requested Service changes or upgrades or;
 - h. Any damage or disruption to subsea cables.
- 5.5. In respect of any Monthly Review Period the total amount of any service credit payable in relation to an SLA breach shall not exceed 50% of the Monthly Charge for the affected Layer for Protected services or Section of Unprotected services.

Service Credits are not applicable for more than one breach of any Service Level outlined in this Schedule 2 arising from the same occurrence.

6. FAULT REPORTING AND MANAGEMENT

6.1. Fault Handling

Any suspected faults should be reported to the Interoute Customer Service Centre using the procedures detailed in the Service Handover Document to be provided on the Ready for Service Date. When reporting a fault, The Customer should identify the affected Circuit or Section and provide details of the fault.

6.2. Fault Duration

All faults recorded by the Network Management System will be reconciled against the corresponding fault ticket raised by the Customer Service Centre. The exact fault duration will be calculated as the elapsed time between the fault being reported to the Customer Service Centre and the time when service is restored.

Schedule 20

Additional terms for Optical Private Network Services

Appendix 1 : Service Details

Topology	Section	Distance (Km)	Route	Core Sites	Initial Capacity	Intermediate Drop Sites	Committed Date
<i>Unprotected</i>	<i>London-Amsterdam</i>	<i>659</i>	<i>Via Ch Tunnel</i>	<i>Lon001 –Ams Koo</i>	<i>100Gb</i>	<i>RTM-Val</i>	

Where Layer ref differs, the SLA will start and end at the section level.

Address List

City	Code	Site Address	Site Type
London	Lon-001	Global Switch1, 240 East India Dock Road, London	Core Site
Amsterdam	Ams-Koo	I-21 POP, Koolhovenstraat 124/126, 1119 NH Schipol-Rijk	Core Site

Appendix2: Pricing

Section	Route	Core Sites	Initial Capacity	Initial Capacity NRC	Initial Capacity ARC	Subsequent 100G NRC	Subsequent 100G ARC
<i>London-Amsterdam</i>	<i>Via Ch Tunnel</i>	<i>Lon001 –Ams Koo</i>	<i>100Gb</i>				

Non recurring Charges to be invoiced 50% on signature 50% on RFS.

Annual Recurring Charges to be invoiced annually in advance.

Appendix3: Technical Details

10Gbit/s SR1 interface specification

Type	Specification
Client fibre type	Single Mode
Receiver input power	+0.5dBm to -11dBm
Receiver sensitivity	+0.5dBm to -11dBm
Receiver wavelength	1260nm to 1580nm
Transmitter output power	-6dBm to -1dBm
Transmitter wavelength	1290nm to 1330nm
Data rate	9.95Gbit/s to 11.1Gbit/s