

**London Grid for Learning
Network Services Agreement**

**Schedule:
SERVICE LEVEL AGREEMENT v14022011**

LGfL Information Assurance Obligations

LGfL Information Assurance obligations are set out in the LGfL Information Security Policy. These include commitments to the HMG Security Policy Framework.

PART A

The provisions of this Part A applies in respect of every Service covered in Part B of this Schedule. Part A and the relevant service levels for each Service set out in Part B shall be read in conjunction with each other.

1. Definitions

In addition to the definitions set out in the Network Services Agreement:

1.1 “Excused Outage” means any Service downtime directly caused by:

- (a) elements of the Service User’s network or system, or any part of it supplied by The Service User; or
- (b) a fault in, or any problem associated with equipment connected on the Service User’s Network side of the LGfL Network termination point; or
- (c) Your acts or omissions; or
- (d) Your breach of the Agreement; or
- (e) Your failure or delay in complying with LGfL reasonable instructions; or
- (f) Your refusal to allow LGfL employees, agents or sub-contractors to enter into Your premises to diagnose or remedy any Fault; or
- (g) A Force Majeure event; or
- (h) An act or omission of any third party which is beyond LGfL reasonable control which shall include, without limitation, fibre cutting; or

For the avoidance of doubt, “The Service User” and “Your” in this **section** shall include Your employees, sub-contractors, Service Users and nominated representatives.

1.2 “Planned Outage” means any Service downtime:

- (a) scheduled by LGfL to carry out any preventative maintenance or upgrades to the Service or Communications Network; or
- (b) caused by any services requested or approved by The Service User including without limitation, network redesign or reconfiguration.

1.3 “Fault” means a Service outage/downtime or a fault relating to the Service.

- 1.4 **“Service Level”** means the service level(s) set out in this Schedule.
- 1.5 **“London PSN Network”** means the network being developed by the LGfL
- 1.6 **“Circuit”** shall mean the physical connection over which the Service is provided
- 1.7 **“Outage Time”** means the sum total time of all Faults on a Service during the relevant calendar month.
- 1.8 **Recurring Monthly Charges** shall mean the pro rated monthly Charge by LGfL for the provision of the associated Circuit.
- 1.9 **“Authorised Individuals”** means the nominated Site based personnel, allowed to report all levels of support requirements.
- 1.10 **“Remedy Trouble Ticket”** means LGfL uniquely identified Fault reference number.
- 1.11 **“Types”** means the different variants of the LGfL’s sites, edge or core.
- 1.12 **“CE”** means customer edge router or layer-3 switch i.e., the router or layer-3 switch on Your premises.
- 1.13 **“PE”** means provider edge router i.e., the router at the edge of LGfL core network.
- 1.14 Not used
- 1.15 **“Network Outage Time”** means the total of the Outage Duration during which a Site is unable to transmit or receive data to or from other Sites via the Service in a calendar month. Such measurements are made based on the CE Device and associated tail circuit relating to the Service.
- 1.16 **“CE Device”** means a router or layer-3 switch on Your Site which is maintained and managed by LGfL under the Agreement. For the avoidance of doubt, such a router may be owned by The Service User or by LGfL.

2. **Fault Reporting Procedures**

- 2.1 The Service User shall comply with a Fault reporting format as advised by LGfL from time to time for the reporting of any Faults. Such reporting format shall include, amongst other things:

- (a) Your site name;
- (b) Your unique site number
- (c) Call record number;
- (d) Details of Fault site;
- (e) Name of reporting individual;
- (f) Time of outage commencement;
- (g) Time of report;
- (h) Nature and details of Fault;

(i) Contact details – telephone and facsimile numbers,

- 2.2** All Faults are to be reported to the LGfL by your nominated point of contact at the relevant service desk.
- 2.3** The Service User shall, as soon as possible after the Effective Date and throughout the term of the Agreement, identify to LGfL the individuals who shall have the authority to report Faults. Any replacement Authorised Individuals shall be notified to LGfL in writing. The Service User warrant that such individuals shall have sufficient knowledge to understand the nature of any Faults to be able to assist LGfL in assessing such Faults. We will not acknowledge or attend to any Fault reports made by any person other than those made by an Authorised Individual. The name of this identified individual should be same to all relevant support groups provided by LGfL.
- 2.4** Where required by LGfL, the Authorised Individual shall provide LGfL service desk a named contact and telephone number at the time the Fault is reported to enable LGfL to advise on progress being made to restore the Fault and to enable testing to take place.
- 2.5** Following the Fault report, The Service User will be required to quote the Fault reference number given at the time the Fault was initially reported in all contact or correspondence.
- 2.6** The LGfL recognise that the target time commences the moment it receives a reported Fault from The Service User. The recorded time will end once the resolution details have been returned to The Service User. The clock may be stopped and an appointment scheduled if a Service User prefers to arrange an actual time for engineering attendance.
- 2.7** We operate using the following internal escalation procedure so that appropriate resources can be applied in case of problems which are not resolved within the relevant restoration time.

Fault Escalation Path

Escalation Level	Escalated To		Time Elapsed
	LGfL	The Service User	
1	Senior Technical Consultant		By target time for priority +2 hours
2	Senior Technical Consultant		By target time for priority +4 hours
3	Operations Manager		By target time for priority +8 hours
4	CEO		By target time for priority +16 hours

- 2.8** The Service User shall for the purposes of physical access, provide LGfL with full and continuous access to its network for diagnostic and fault rectification purposes during contracted hours and shall not unreasonably refuse to agree reasonable scheduled down time that may be necessary to restore the Service. This is all subject to any security accreditation limitations, during the fault management process.

3. Availability Exclusions

Unavailability of each element of the Service as a result of any of the following events shall not be deemed as network Outage Time:

- (a) an Excused Outage; or
- (b) a Planned Outage; or

Where The Service User has resilience built into the Service, a Fault on a Circuit will not be counted for the purposes of Service Availability, if Service is still available at that Site.

The LGfL will however, deal with regular intermittent outages of short duration in the same way as other Faults where possible.

4. Planned Outage

Except in an emergency or in circumstances beyond LGfL control, We will use reasonable endeavours to give The Service User not less than 10 Working Days notice of any Planned Outage for Edge sites and not less than 20 Working Days notice for Core site Circuits. These 'Types' will be determined within the LGfL's site database.

Such notice will include:

- a. A brief description of the Planned Outage;
- b. Date and time of the Planned Outage;
- c. Estimated duration of the Planned Outage.

Such notice will be given by way of letter e-mail or telephone call. However, in the case of an emergency, for example if the service or network is under threat and remedial action needs to be taken urgently to restore or protect the network or service, The LGfL may give The Service User a shorter notice by way of a telephone call.

5. Service Availability Targets

- 5.1** The Service Availability (defined below) target per Site depends on the level of resilience deployed and is set out in each relevant part of Part B depending on the Service.

The target Service availability across the LGfL core network is 99.99% per calendar month under normal operating conditions.

Such target availability of 99.99% is for Your information only and shall not in any manner represent LGfL undertaking or warranty or obligation in respect of the performance of the Service.

5.2 Subject to this **section 5, “Service Availability”** is calculated as follows:

(24 hours x days in a calendar month) – Network Outage Time (defined below) x 100

24 hours x days in a calendar month

5.3 Measurement:

(a) Service Availability is measured from 00:01 on the 1st day to 24:00 on the last day of each calendar month.

(b) Network Outage Time is based on the records made by the network management system at LGfL Technical Support Centre. The Service User acknowledges and agrees that such record shall represent the final and agreed Network Outage Time. Reports on Service Availability are produced upon Your request only by prior agreement and not more than once a month.

6.0 Fault Restoration

6.1 We will use reasonable endeavours to respond within the time set out in the relevant parts of Part B. The time shall commence when the relevant Fault has been recorded at LGfL Technical Support Centre or from the time We are aware of such a Fault (“**Fault Notice**”). Such service is available 24 hours x 7 days

6.2 Where, in LGfL opinion, it is necessary to carry out a site visit, We may visit the relevant site(s) at Your premises or other premises at which the CE device (s) is/are located to carry out any Fault diagnosis or repair.

6.3 Where, in LGfL opinion, it is necessary to carry out a site visit, We may visit the relevant site(s) at Your premises or other premises at which the CE device (s) is/are located to carry out any Fault diagnosis or repair.

6.4 We may charge and The Service User shall pay LGfL for any diagnosis, repair, restoration or remedial work carried out by LGfL as a result of an Excused Outage. This is reflected within the Service Catalogue.

7.0 Escalation

Management Fault Escalation Levels

Escalation Level	Escalated To		Time Elapsed
	LGfL	The Service User	
1	Senior Technical Consultant		By target time for priority +2 hours
2	Senior Technical Consultant		By target time for priority +4 hours
3	Operations Manager		By target time for priority +8 hours
4	CEO		By target time for priority +16 hours

8.0 LGfL Management Statistics

8.1 The Service User agree that the management statistics as provided by the Performance Management software are for management purposes only and are not covered by this Service Level Agreement. We will use reasonable effort to restore the statistics on the performance management platform as soon as possible after a Fault has been notified by The Service User to LGfL Technical Support Centre. However, The Service User acknowledge that the details of traffic passed during any outage on performance management platform will be lost and may not be restored. For the avoidance of doubt, We shall not be liable for any such loss.

9. Changes to the Service

9.1 Without prejudice to or limiting any change control provisions in the Agreement, if The Service User require any changes to the Service, The Service User must utilise the Change Control Procedure.

PART B

Service – Edge Circuits

SERVICE LEVELS SPECIFICALLY RELATING TO ON-NET FIBRE CIRCUITS

1.0 not used

2.0 Service Level

2.1 We will use all reasonable endeavours to meet the Service Level relating to on-net fibre.

3.0 Performance Targets

We offer The Service User two distinct sets of performance targets in line with the circuit type deployed.

The following performance targets apply to all On-Net Circuits

	Packet Loss (%)	Latency (ms)	Jitter (ms)
Real-time 1	0.05	35	7
Real-time 2	0.1	65	10
Application 1 – 4	0.2	120	
Standard	0.2	250	

Class of Service (8 Class Model)

Class of service can be selected depending on what types of traffic need to be sent over the IPVPN. Up to eight classes of traffic are supported, which are Real Time 1 & 2, Customer Control, Application 1-4 and Standard.

Real Time 1 & 2

A minimum bandwidth together with minimum loss, delay and jitter needs to be provided. Real Time traffic in excess of that specified by the customer will be policed i.e. dropped, to guarantee service quality for voice/video calls already established. Within the customer domain, a Call Admission Control method, and some form of bandwidth reservation protocol is also desirable for control of the voice traffic. This is required in the event that voice traffic exceeds the amount of bandwidth that has been allocated in the Voice Class of Service, as excess (out of contract) voice traffic would be dropped, irrespective of which voice call this traffic belongs to. Bandwidth reservation and call admission controls help prevent this situation through policing the bandwidth allocation and ensuring that the existing calls that are in progress are protected from the effects of over subscription of this bandwidth.

As a general rule, we allow between 50% and 70% of CE to PE link bandwidth to be committed to this type of traffic.

Customer Control

This is intended for signalling and control data in support of Your multi-media voice and video transactions. It is separately specified from the RealTime 1 & 2 classes it is supporting to ensure calls already established are not impacted by; signalling traffic, which by its nature can be difficult to predict.

Application 1-4

These classes are intended for other types of traffic that require preferential treatment. By allowing up to four Application classes to be specified, minimum bandwidths can be assigned to up to four specific applications or groups of applications. Traffic received in excess of the bandwidth specified will be supported as long as there is vacant bandwidth in other classes, beyond which it is queued and then randomly dropped.

Standard Data

This traffic requires no special preferential treatment and would typically be e-mail and Internet type traffic. A minimum bandwidth of 20% must be provided for this class. Excess traffic will use any vacant bandwidth in the other classes, or otherwise queued and randomly dropped

- 2.1** The above targets are for a one-way trip from CE to CE. Performance metrics are only recorded by the Performance Management reporting system for those CE to CE routes between Sites. The LGfL has requested end to end performance to be measured. Performance against the above targets will be reported as the average value for a one-way trip against each reported CE to CE route during a calendar month. Performance of circuits based on BT Megastream Ethernet or DSL are excluded from the provisions of this Service Level Agreement.
- 2.2** The impact of packet loss on voice quality is dependent on the voice codec used. Low speed circuits may need to be tested for voice suitability on a per Service User basis.
- 2.3** Not more than 50% of any circuit can normally be used for voice traffic. The Service User are responsible for exercising call control on the VoIP traffic so that only the designed number of calls is sent and that these calls do not exceed the number of calls designed to go over the CE to PE link.

In terms of the network We will supply to The Service User, We recommend an upper limit of 70% real time traffic for CE to PE links and for switch to switch Core WAN links.

- 2.4** For the avoidance of doubt, Excused Outages and Planned Outages are excluded from the calculation of the performance targets.

3. Service Availability Matrix

- 3.1** The following target Service Availability figures apply:

Site connection type	Target Availability
Single Access Circuit	99.95%
Single Access Circuit with xDSL or ISDN backup on same CE device	99.95%
Single Access Circuit with xDSL or ISDN backup on different CE devices	99.95%
Dual Access Circuits, dual CEs to separate PE Routers (PoP's)	99.99%
Dual Access Circuits, dual CEs to separate PE Routers with planned diversity of the access circuit	99.995%

4.0 Fault Response and Restoration

- 4.1 The LGfL will use reasonable endeavours to respond to a Fault within 4 hours from the Fault Notice for a non ADSL Fault.
- 4.2 The LGfL will use reasonable endeavours to restore the Fault within 6 hours from the Fault Notice.

SERVICE LEVELS SPECIFICALLY RELATING TO OFF-NET FIBRE CIRCUITS

1.0 Product Description

For the Off-Net Fibre solution, We will utilise the BT Wholesale Extension Services, which is a high speed, permanently connected, point-to-point data circuit that is available 24 hours a day, 365 days per year.

2.0 Service Level

- 2.1 The LGfL will use all reasonable endeavours to meet the Service Level relating to off-net fibre.

3.0 Service Availability Matrix

- 3.1 The following target Service Availability figures apply:

Site connection type	Target Availability
Single Access Circuit	99.90%
Single Access Circuit with xDSL or ISDN backup on same CE device	99.90%
Dual Access Circuits, dual CEs to separate PE Routers (PoP's)	99.99%

4.0 Fault Response and Restoration

- 4.1 The LGfL will use reasonable endeavours to respond to a Fault within 4 hours from the Fault Notice for a non ADSL Fault.

- 4.2 The LGfL will use reasonable endeavours to restore the Fault within 6 hours from the Fault Notice.

SERVICE LEVELS SPECIFICALLY FOR OFF-NET COPPER CIRCUITS

1.0 Product Description

We will be utilising the LLU product to access the Off-Net Copper Sites.

The standard LLU (Local Loop Unbundling) solution is based around the BT Openreach LCU offering, which is the unbundling of BT exchanges to provide EFM (Ethernet in the First Mile) connectivity to Service User Sites, as a highly cost effective alternative to fibre-based point to point LAN interconnect services.

LGfL solution is based on the ability to “enable” Openreach Exchanges and deploy technology within them that will provide services to Schools that are connected to the enabled exchange.

2.0 Service Level

- 2.1 We will use all reasonable endeavours to meet the Service Level relating to off-net copper.

3.0 Service Availability Targets

- 3.1 The Service Availability (defined below) target per Site depends on the level of resilience deployed.

3.2 Service Availability Matrix

Site connection type	Target Availability
Single Access Circuit	99.50%
Dual Access Circuits, dual CEs to separate PE Routers (PoP's)	99.90%

4.0 Fault Response and Restoration

- 4.1 The LGfL will use reasonable endeavours to respond to a Fault within 4 hours from the Fault Notice.
- 4.2 The LGfL will use its reasonable endeavours to restore the Fault within 20 hours from the Fault Notice.
- 4.3 The Service User acknowledge and accept that clearance of any network problems may require LGfL representatives and those of BT or BT’s respective subcontractors to attend network Site(s). In any instances where

We may request access to a network Site but The Service User are not be able to grant or facilitate it, then the elapsed time between LGfL request for access and the point at which access is provided shall not be considered as part of an Outage.

5.0 Delivery of Network Connections

5.1 The Service User acknowledge that BT shall deliver the network connections to each network Site and in the course of doing so may require assistance in finding the network Site and / or determining where the NTP (Network Termination Point) of the network connection is to be positioned. The Service User shall assign a nominated representative for each network Site who shall be available on the telephone number provided at all times during the appointment period. The Service User accept that if BT is not provided with the assistance in the above matters, the BT installation engineer may abandon the appointment and levy a charge for engineering time. The Service User agree to take all reasonable steps to ensure that no appointments are abandoned through the action / inaction of Your employees, agents, or its Service Users.

6.0 Network Connection presentation

6.1 At a network Site a network connection terminated on a BT wall socket shall be presented on terminals (2) two and (5) five. The Service User agree not to alter or re-arrange or allow alteration or rearrangement of such wiring in any way. Furthermore, The Service User agree to pay LGfL, within fourteen days of invoice, any charges levied by BT for the reinstatement of the original wiring configuration, whether or not such reinstatement was requested by The Service User.