Avoira

Service Levels – Network Services

This document describes the Avoira Service Levels for Network Services. This document should be read in conjunction with the following -:

Avoira Terms and Conditions – Network Services

And

Avoira Terms and Conditions for the Supply of Goods and/or

Services

Index

For further information, or to request changes to your current service levels, please contact our sales support team 0161 763 2000

Network Service Levels ISDN & Analogue

These are the BT Openreach Service Levels from Avoira

Service Level	Description/SLA	Engineering Working Times
Level 1 Basic Analogue Lines (Residential) Only	End of next working day + 1 working Day	Monday – Friday 08:00 to 18:00
Level 2	End of Next Working Day	Monday – Saturday 08:00 – 18:00
Level 3	Reported by 13.00 fix same day Reported after 13.00 fix by 13.00 next day (Including Weekends & Bank Holidays)	Monday –Sunday (inc Bank Holiday) 07:00 –21:00 Mon-Fri 08:00-18:00 Sat-Sun
Level 4	6-Hour repair	Monday –Sunday (inc Bank Holiday) 24/7

Flexible Appointments Available

Please note that there is a £15.00 charge per appointment & missed appointments will be chargeable
Early Morning (07:00 – 08:00)
Evening (18:00 – 21:00)
Saturday Appointments with 2 slots (AM 08:00 – 13:00 & PM 13:00 – 18:00)

Pricing

Type of Line	Level 1 (Monthly Rental)	Level 2 (Monthly Rental)	Level 3 (Monthly Rental)	Level 4 (Monthly Rental)
Basic (Residential) Analogue per line	Free	£0.85	£5.45	£6.80
Premium (Business) Analogue Line per Line	N/A	Free	£4.65	£6.00
ISDN2 (per 2 channels)	N/A	Free	£4.65	£6.00
ISDN30 (per Channel)	N/A	Free	£3.10	£3.40

Temporarily Expedite Your Service **Level**
This service upgrades your service level for the duration of your fault

Feature	Price (per occasion)
Level 1 to Level 2	£100
Level 1 to Level 3	£625
Level 1 to Level 4	£785
Level 2 to Level 3	£550
Level 2 to Level 4	£700
Level 3 to Level 4	£200
Level 3 to Level 4 (ISDN30)	£550

All prices are excluding VAT

1. Network Service Broadband

Scope of Cover

Service Name	Hours of Cover			Period		
	0830 – 1700	0830 - 2200	24 Hrs	Mon - Fri	Mon - Sat	Mon - Sun
Standard Care	✓			✓		
Business care			✓			✓

Fault Classification	Description	Response time
All faults Standard Care	This is the default service level provided at no extra cost. For the reporting of faults, this care level operates during business hours only. Gamma will acknowledge receipt of a fault report logged by the customer and will clear the fault within 48 clock hours of receipt of the fault report if received by Gamma before 4pm on a working day. If an engineering visit to a site is required, then Gamma will respond during business hours.	As described
All faults Enhanced Care	This is a chargeable option and operates 24 hours a day, 7 days a week (including UK Public and Bank Holidays). Gamma will respond to a fault within 5 clock hours of receipt of the fault report and will clear the fault within 22 clock hours of receipt of the fault report. Please note that clock hours run during the time in which the fault is in Gamma's control. Where a fault is with the partner, the clock stops and only restarts when passed back to Gamma. Please refer to the separate SLA document for more details.	As described

- Standard Hardware replacement will be by courier only with a next working day despatch

2. Network Service EFM, FTTC and Private Circuits

Service Name	Hours of Cover			Period		
	0830 – 1700	0830 - 2200	24 Hrs	Mon - Fri	Mon - Sat	Mon - Sun
Standard Care	✓			✓		
Business Care			✓			✓

Fibre Ethernet 10,100,1000 Mb

Fault Classification	Description	Response time
Pririty1	6 clock hours (from a validated fault). Clock hours are calculated and are defined as the time between the Start Time and Stop Time, excluding Parked Time: Start Time: the time a fault has been validated and categorised as a Priority 1 fault Stop Time: the time a fault has been cleared Parked Time: the time during which the clearance of a fault is outside of SP control	As described
Priority 2	SP will resolve the fault within 1 working day from a validated fault.	As described
Priority 3	SP will resolve the fault within 3 working days from a validated fault.	As described

Copper Ethernet and FTTC

Fault Classification	Description	Response time
Pririty1	8 clock hours (from a validated fault). Clock hours are calculated and are defined as the time between the Start Time and Stop Time, excluding Parked Time: Start Time: the time a fault has been validated and categorised as a Priority 1 fault Stop Time: the time a fault has been cleared Parked Time: the time during which the clearance of a fault is outside of SP control	As described
Priority 2	SP will resolve the fault within 1 working day from a validated fault.	As described
Priority 3	SP will resolve the fault within 3 working days from a validated fault.	As described

Note: FTTC Ethernet fault response time begins from confirmation fault is not result of underlying WLR line. All faults should be reported via telephone to the appropriate Service Desk. The Service Desk will require examples to fully diagnose a fault. Examples should be as descriptive as possible, including time and date or affected calls, A and B party calling details.

3. Network Service Sip Channels

Service Availability

Service Availability is defined as the ability of a Service to perform its required function over a stated period of time. It is reported as the percentage of time that a Service is actually available for use by the Customer within agreed Service Hours. Availability is calculated as:
Total number of minutes in the measurement period – Unplanned Downtime x 100

Total number of minutes in the measurement period
Note: If a Service is partially available then the Unplanned Downtime shall be calculated in equal proportion i.e. if a service is 50% available then the unplanned downtime will be calculated as 50% x elapsed period of the incident.

Availability Measurement Period: 1 Calendar month. SIP Trunk Endpoint	Core(1)	Non-Core(2)
Standard Build	99.95%	99.50%
Resilient Build (4)	99.99%	99.50%

Notes related to Service Availability:
(1) Core functions are defined as Gamma Switching infrastructure, transmission equipment and core network, the service that supports call routing and termination.
(2) Non-Core functions include Gamma Support Systems, access to the portal and feature based services such as Call Divert.
(3) Service Credits: Service credits will be applicable should the level of core service availability (Note1) not meet the target monthly percentage, as per the table below. Service Credits applied to Monthly Channel rental charges only. Service credits would need to be requested by the Customer to Gamma, with evidence of services that you feel have been impacted. Any agreed service credits would be satisfied by the issue of a credit note to be deducted from the next scheduled payment to be made to Gamma.

Build Type	Target Availability	Measured Availability	Service Credit
Standard Build	99.95%	99.90%-99.94%	10%
99.5% - 99.89%		15%	
<99.5%		25%	
Resilient Build	99.99%	99.95%-99.98%	10%
99.75% - 99.94%		15%	
<99.75%		25%	

(4) A Resilient build SIP Trunking means a Gamma approved configuration such as dual SBCs in active/standby mode offering geographic diversity. For full details of the Resilient Build options and how to access these solutions, please refer to the SIP Trunking Service Description.
Please note the Service Availability and other measures with the SLA relate to the core SIP trunking service and does not include access or local CPE elements.

Fault Rectification

Subject to the fault processes detailed in the product Service Description and Gamma Customer Service Plan, the following definitions will be applied to faults raised on the SIP Trunking product: Severity

Fault Classification	Description	Resolve Time
Priority 1	Critical Fault - Loss of service -	4 clock hours
Priority 2	High - Loss of service - single reseller or service	8 clock hours
Priority 3	Medium - Disrupted service - multiple or single reseller or	3 working days
Priority 4	Low – Single number Destinations - QOS	7 working days

SIP Trunking Call Quality Performance

As a means of determining and measuring the call quality of the SIP Trunking service , Gamma measure the call quality of calls passing through the Gamma core IP network and Session Border Controllers (SBCs).
The performance is measured using Perceptual Evaluation of Speech Quality (PESQ) score that cover a scale from 1 (bad) to 5 (excellent) for call quality. The Gamma SIP Trunking Product supports the following codecs, G.711 and G.729 for external call termination.

The PESQ score targets for the supported CODECs for the Gamma SIP Trunking product are as follows: Codecs

	Mean Average PESQ Score	Period
G.711	4.1	One Calendar Month
G.729	3.7	One Calendar Month

The targets are measured from probes within the Gamma Network auto generating test calls every 10 minutes through the SIP Trunking network infrastructure. These performance measures apply to the performance provided within the core Gamma network.

4. Network Service Assured XX

Service Description and SLA V3.0

Introduction

Gamma provides its channel partners with a range of IP Telephony Services, from SIP Trunking to Hosted Solutions. These services are designed for use by SMEs where many are typically delivered over a broadband connection such as DSL. Partners can chose to deliver our services using a variety of DSL services including **Gamma Assured IP Services**.

Assured IP Services has been developed by Gamma, on its own data infrastructure, specifically to connect customers directly and privately to our IP Telephony platforms. By providing all the elements of the end-to-end IP Telephony solution – the router, the broadband line, the IP telephony service which may include the handsets – Gamma is able to provide a complete IP telephony package that partners can sell with confidence.

By having complete end-to-end control and visibility of the entire IP telephony solution we can not only provide a consistently high quality voice service, we are also able to offer the quality of support and service surround that is needed to support voice effectively. Our ability to monitor across the entire service – the internal and external router interfaces, the DSL line, our core network and our voice platforms – means we can provide the fastest possible resolution to service affecting faults if and when they happen.

Service Overview

The Gamma Assured IP Services are a family of DSL-based access services designed specifically to connect customers directly to the Gamma IP Telephony. The service is provided with a set of SLAs governing certain key features:

- Number of voice channels that the connection can support
- Latency, jitter and packet loss
- Service availability
- Fault repair times

The service is delivered over a dedicated and uncontended voice-only circuit, accessed via a Gamma provided and monitored Cisco router

Five service options are provided:

- **Assured 5** – guarantees up to 5 voice channels (@ G.729), delivered over ADSL 2+ Annex A *
- **Assured 10** – guarantees up to 10 voice channels (@ G.729), delivered over ADSL 2+ Annex A *
- **Assured 15** – guarantees up to 15 voice channels (@ G.729), delivered over ADSL 2+ Annex A or M
- **Assured 20** – guarantees up to 20 voice channels (@ G.729), delivered over ADSL 2+ Annex M
- **Assured 30** – guarantees up to 30 voice channels (@ G.729), delivered over ADSL 2+ Annex M

* Where ADSL 2+ is not available, the service will be delivered over Business ADSL Max

Both G.729 and G.711 codecs are supported; please see the later section below that sets out the number of concurrent G.711 calls supported for each product.

Service Highlights

There are a number of benefits for Partners if they sell Gamma's IP Telephony Services with Assured IP Services:

- **Provided with full accountability** – an end-to-end service supplied and managed by one company that gives you an assured service level for availability, time to fix, and voice quality;
- **Offers speedy fault resolution** – we deploy advanced monitoring & diagnostics across all service elements meaning we get to the cause of an issue fast;

We use the latest DSL access products to deliver your customer's voice service to our network and only use Cisco 800 series routers to connect customer sites. However, by far the most important aspect of the Gamma Assured IP Services is that you are buying an end-to-end service from a single and accountable supplier.

Technical Overview

Network Overview

Owing to the critical nature of voice and the inherent reliability of legacy voice services against which IP voice is benchmarked, the Gamma network has been engineered to a very high level of resilience. Resilience features include:

- Complete geographic diversity of access network interconnects, London and Manchester
- Dual fibre connections with complete physical separation through to the edge router line cards
- Dual edge routers at each site with fully meshed connections to the core network
- Full mesh between all core routers at site and between sites
- Full mesh between core network and Gamma IP Telephony platforms
- Fully meshed BGP network

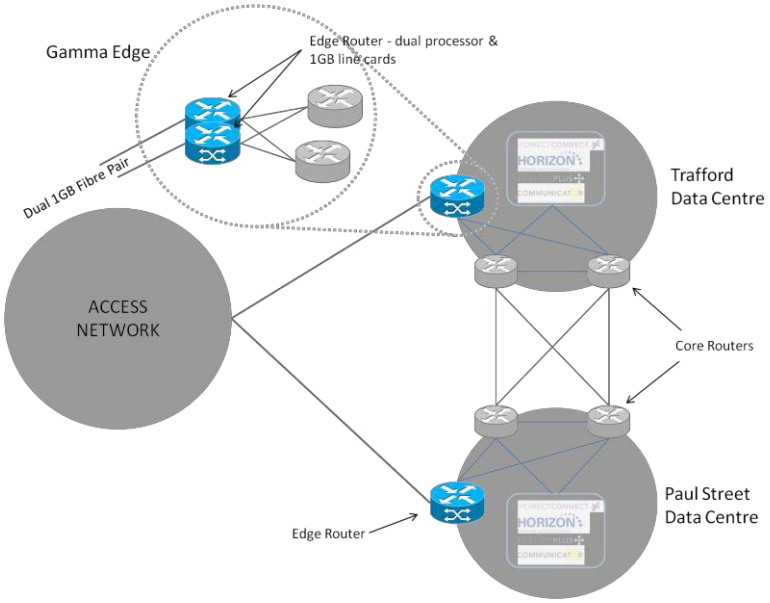

Figure 1: Gamma N+1 Resilient Network

Access Network

Gamma connects directly to BT Wholesale's WBMC access network[1], across which Gamma books dedicated bandwidth for its exclusive use. This network not only provides the latest and most advance DSL access products available on the market (WBC products), but also provides access to BT's IPStream network which allows Gamma to provide coverage even in more remote areas not yet covered by WBC.

All Assured products are provisioned using a set of access products that have the highest traffic priority across the access network. Once on the access network, preferential traffic weighting means that during the busiest periods **downstream traffic** will always get priority down to the customer connection.

The nature of ADSL technology means **upstream traffic** on the local loop (from the customer site and BT MSAN) is always considerably less than the downstream. However, once it hits the access network it utilises a fully symmetric path across to Gamma's network interconnects. Therefore this traffic stream will utilise an unimpeded path to the Gamma network.

QoS & Subscriber Management

QoS (Quality of Service) for voice traffic across the Gamma network is achieved using Gamma's intelligent network edge. All subscriber traffic / packets entering the edge of our network (upstream traffic) are separated into two categories: Standard Data packets & Voice packets. QoS policies are then applied which re-mark all ingress packets' DSCP fields received from the subscriber connections. These traffic flows are then classified by matching packets against policy based access-lists, created and managed by Gamma. All Standard Data traffic is serviced by the default egress queue, while Voice traffic destined to Gamma IP platforms is serviced (preferentially) by queues of a higher priority.

Downstream traffic is also classified, marked and queued in the same way. The overall effect is that Voice traffic to/from Gamma Voice Platforms will always transit across the network ahead of traffic from any standard data products.

Access Router

Customers connect their IP Telephony service using a Gamma provided router, exclusively the Cisco 887 VA-M. Each router provided by Gamma is dispatched to the customer (or an alternative delivery address) pre-configured and ready for service. The router is configured to support business quality voice traffic and central to this configuration is ensuring that the customer connection is not used to transmit any packets except for voice packets and the small amount of data associated with the monitoring and management tools used by Gamma. The router is also sent out with a generic configuration with regards to DHCP and default gateway address and with no specific port forwarding rules set up.

This configuration means that:

[1] Access network – includes local loop, BT MSAN/DLSAM and backhaul to Gamma network

1) Service restrictions apply – please see the relevant section below
2) The Partner (for IPDC connections only) may require a reconfiguration in order to support their customer's specific PBX installation. A post reconfiguration process is available to support this

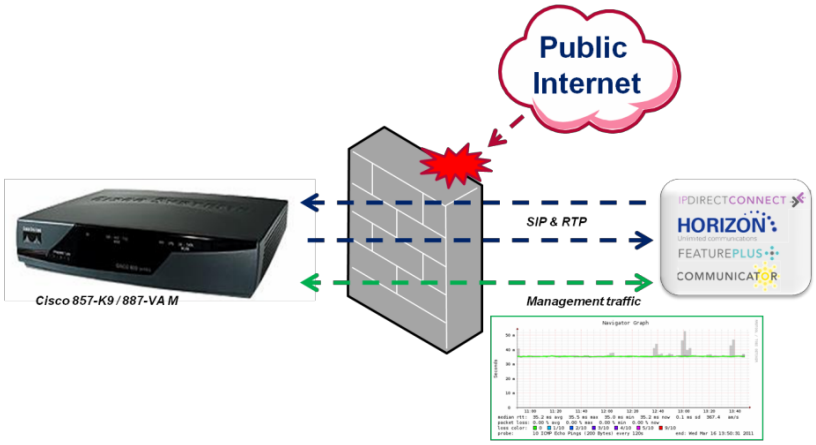

Figure 2: Assured IP Services Router Configuration

IP Addressing

All connections are provided with a single fixed IP public address and routers are set up for NAT. This is a default configuration that is appropriate for most Gamma IP Telephony services; however for some IPDC connections one or more additional public IP addresses are required on the LAN. In such circumstances the Partner, at point of order, can define the number of additional routed public IP addresses needed for the connection. These additional IP addresses are chargeable.

Service Restrictions

Gamma Assured IP Connections will not support the following configurations:

1) General access to the internet
2) SIP services provided by other operators
3) Site-to-site traffic (inter-PBX)
4) IP extensions for remote workers
5) 3rd party monitoring

External Access to Connection (IPDC Connections Only)

Gamma will only block inbound traffic to a customer connection; external access can be initiated from the customer CPE (the PBX). This allows the PBX (for example) to download firmware upgrades and alike from the manufacturer as required from time-to-time. The data transfer needed to support this sort of activity is rate limited so as to mitigate (although not guaranteed) the impact of such downloads on call quality**. But we strongly advise that firmware updates and alike take place out of business hours.**

Gamma will also allow external access from trusted IP addresses as provided from time-to-time by the Partner – this allows for remote maintenance and configuration of customer PBXs. Where such access is provided it is **considered non-standard** and Gamma cannot guarantee that the quality of the connection will be unaffected by such remote access sessions, despite rate limiting of this type of access that is in place. **As a result we strongly advise that such remote access takes place out of business hours.**

Router Access

Gamma provided routers cannot be accessed by any party other than Gamma technical support groups. Customer or third party access is never granted under any circumstance.

Customer CPE Security

Nothing that Gamma does with regards to security of the DSL connection, router and core network relieves Partners of the responsibility of ensuring that local CPE (more often than not a PBX) is secure. For example, a device connected locally to a PBX (e.g. a laptop) could transfer malware that could set up external access resulting in traffic generation to a level that brings down the customer's connection.

Equally where Gamma is providing a hosted solution to the customer, both the customer and Partner remain responsible for those security aspects out of Gamma's control. For example, credentials used to access call management portals that could be used to set up fraudulent calls over an Assured IP Services Connection.

Coverage

Coverage for Gamma Assured IP Services varies according to product type:

Product	Availability (Percentage of BT Access Lines) -approx.-
Assured 5	99.7%
Assured 10	99.7%
Assured 15	85%
Assured 20	50%
Assured 30	50%

Coverage does not equal availability. Assurance testing must first be conducted before a circuit is handed over as Assured.

Target Service Levels

Concurrent Voice Channels

Gamma's assured level of service will deliver an available number of concurrent channels according to the product ordered:

Product	Available G.729 Channels *	Available G.711 Channels *
Assured 5	5	2
Assured 10	10	4
Assured 15	15	6
Assured 20	20	8
Assured 30	30	12

* Subject to line conditions (determined by the distance from the exchange, state of the internal wiring and impact of external noise)

Round Trip Delay

The target level for Round Trip Delay (sometime known as Round Trip Latency) is <80ms.

Round Trip Delay is measured for packets sent from Gamma's core network to the customer router and then back again. 10 x 200 byte ICMP packets are sent every 2 minutes.

Jitter

The target level for Jitter is < ± 45ms.

In order for voice to be intelligible, consecutive voice packets must arrive at regular intervals. Jitter describes the degree of variability in packet arrivals, which can be caused by bursts of data traffic or just too much traffic on the line.

Packet Loss

The target level for Packet Loss is <2%.

Packet Loss is measured in terms of packet delivery, and is defined as the percentage of packets sent that reach their destination within a certain time. Packet loss is a common occurrence in data networks, but devices/applications are designed to simply request a retransmission of lost packets. Voice traffic can tolerate no more than a three percent loss of packets before callers experience disconcerting gaps in conversation

Service Availability

Gamma will provide a target service availability of 99.95% for its core network

The Service Availability relates to the service from the Gamma network edge to the Gamma IP Telephony platforms. The availability is measured over a 3 month period and excludes any planned or emergency maintenance windows.

Fault Repair Times

All faults surrounding Assured Access will be targeted to be rectified within 22 clock hours from the point that the issue is reported to and accepted by Gamma.

Please note that clock hours run during the time the fault is in Gamma's control. Where a fault is with the Partner the clock stops and only restarts when passed back to Gamma.

Monitoring

Gamma will use a number of tools to remotely monitor your customer's connections. These tools are used by Gamma technical staff to:

1) Sign off new circuits as Assured before handing them over to Partners
2) Help identify potential service issues
3) Diagnose and resolve reported service issues

These tools will not be made available to Partners. Partners will simply be asked to undertake simple 1st line diagnostics (reporting on the state of various service components – e.g. underlying PSTN line, wiring, router status, LAN connectivity and alike) before reporting the service issue to the Gamma support teams.

Support

In providing Gamma Assured IP Services to its Partners, Gamma is providing an end-to-end IP Telephony service. The Gamma TSC (Technical Service Centre) is the first point of contact for IP Telephony related faults, including when IP Telephony is provided with Assured IP Services.

Partners should carry out basic 1st line diagnostic procedures before passing on to the TSC and should identify the product as 'Assured' so that the SLA 'target time to repair' is activated. The TSC may pass the ticket to Managed Service Desk if they believe the issue stems from the Assured P Services circuit.

If the Partner is confident that service issue being experienced (e.g. there is no sync between the router and BT) then they should contact the Managed Servicer Desk directly for the most expedient route to rectifying the issue.

For speedy fault resolution resellers should ensure they have Gamma Accredited technical staff and have sufficient resources to meet the support demands of their user base.

Issues related to the Assured IP or IP Telephony services can be reported 24 hours per day, 7 days per week

5. Network Service Assured FTTC

The following SLA applies to the IP Telephony element of the Converged Broadband service. The details are as follows:

Round Trip Delay

The target level for Round Trip Delay (also known as Round Trip Latency) is <80ms.
Round Trip Delay is measured for packets sent from Gamma's core network to the customer router and then back again. 10 x 200 byte ICMP packets are sent every 2 minutes.

Jitter

The target level for Jitter is < ± 45ms.
In order for voice to be intelligible, consecutive voice packets must arrive at regular intervals. Jitter describes the degree of variability in packet arrivals, which can be caused by bursts of data traffic or just too much traffic on the line.

Packet Loss

The target level for Packet Loss is <2%.
Packet Loss is measured in terms of packet delivery, and is defined as the percentage of packets sent that reach the destination within a certain time. Packet loss is a common occurrence in data networks, but devices/applications are designed to simply request a retransmission of lost packets. Voice traffic can tolerate no more than a three percent loss of packets before callers experience disconcerting gaps in conversation

Service Availability

Gamma will provide a target service availability of 99.95% for its core network
The Service Availability relates to the service from the Gamma network edge to the Gamma IP Telephony platforms. The availability is measured over a 3 month period and excludes any planned or emergency maintenance windows.

Fault Repair Times

All faults surrounding Converged Broadband Access will be targeted to be rectified within **22 clock hours** from the point that the issue is reported to and accepted by Gamma.
Please note that clock hours run during the time the fault is in Gamma's control. Where a fault is with the Partner the clock stops and only restarts when passed back to Gamma.
Note: The repair target time applies to both IP Telephony and Broadband faults.

Monitoring

Gamma will use a number of tools to remotely monitor your customer's connections.

Broadband Faults

The Gamma portal will provide a number of functions in the management of Broadband faults within the Converged Broadband services. These are:
Line suitability checking (enter a CLI or postcode and find out what products can be supported)
Order placement
Order tracking (track an order, request data for multiple orders or for all orders)
Service inventory
Fault diagnostics & RADIUS Tools
Health check reporting
Usage reporting

Special Notice

Gamma does not offer a fully managed router service with Converged Broadband. The service is actively monitored 24/7 and we will accept some requests for router reconfiguration but this will be limited

6. Network Service Metronet

1 Definitions and Interpretation

1.1 Capitalised expressions shall have the meanings given in the General Terms and Conditions.

1.2 The following additional definitions shall apply in this Service Level Agreement.

ADSL: means third party ADSL products;

EFM: means Internet Services provided by the Company using third party Ethernet First Mile or BT's Etherway Copper product;

Fault: means an error or fault in the Equipment and/or Network, or other incident, which affects the Customer's ability to use the Services;

Internet Services: means the connectivity services provided by the Company as part of the Services;

Metronet AnywhereConnect: means the connectivity services provided by the Company as part of the Services using 3G cards;

Planned Works: means any scheduled construction or maintenance activities affecting the Network and/or Services previously identified by the Company to the Customer, or such additional works or activities as notified or agreed by the parties from time to time;

Third Party Fibre Services: means Internet Services provided by the Company using BT or other third party fibre-based circuits;

2 Service Levels

This Service Level Agreement sets out the Service Levels applicable to the provision of such Services.

Availability

The Internet Services shall be available for 99.95% of the time measured during each Year during the Term, excluding any unavailability or outage of the Services resulting from:

(a) Planned Works;

(b) Minor Faults (as defined in paragraph 3 below);

(c) Disruptions to the power supply of the Customer;

(d) An event of Force Majeure;

(e) Disruptions to the Services caused by the Customer and/or any of the Customer's software, hardware, services and/or system(s) which are not part of the Equipment; and/or

(f) Failure of the Customer to provide access in accordance with clause 5.1(c) of the General Terms and Conditions.

3 Repair Times

All Faults notified by the Customer to the Company in accordance with the Fault Management Process set out below (a Support Ticket) shall be categorised by the Company, acting reasonably given the nature of the Fault, in accordance with the following definitions and, upon request from the Customer, the Company shall notify the Customer of the categorisation of the Fault.

Fault	Fault description
Critical Fault	A fault which results in a substantial failure in the Customer's ability to use and receive the Services.
Minor Fault	A fault which is not a Critical Fault.

The target mean time to repair (Target MTTR) for Critical Faults is four (4) Business Hours from the time of notification from the Customer of the Critical Fault to the Network Operating Centre in accordance with the Fault Management Process set out below.

For EFM, the target mean time to repair (Target MTTR) for Critical Faults is seven (7) Business Hours from the time of notification from the Customer of the Critical Fault to the Network Operating Centre in accordance with the Fault Management Process set out below.

For Third Party Fibre Services, the target mean time to repair (Target MTTR) for Critical Faults is five (5) Business Hours from the time of notification from the Customer of the Critical Fault to the Network Operating Centre in accordance with the Fault Management Process set out below.

For ADSL, there is no target mean time to repair (Target MTTR). The Company will respond within four (4) Business Hours from the time of Notification from the Customer of the Critical Fault to the Network Operating Centre and will make reasonable endeavours to rectify the fault.

For Metronet AnywhereConnect (3G Data Services), there is no target mean time to repair (Target MTTR). The Company will respond within four (4) Business Hours from the time of notification from the Customer of the Critical Fault to the Network Operating Centre and will make reasonable endeavours to rectify the fault.

Where a repair requires the Company's engineer to ascend a mast and the Target MTTR is during darkness or severe inclement weather, the Company may suspend the Target MTTR for such period, as it considers necessary if in the reasonable judgement of the Company a potential health and safety hazard exists.

Where a permanent solution is not possible within the Target MTTR, the Company may provide a temporary solution to ensure that the Services are restored within the Target MTTR. Where the Fault requires a permanent solution which requires planned outage, the Company shall carry out such permanent solution as Planned Works and the time for carrying out such repair shall be agreed between the parties.

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4 Fault Management Process

The Customer will be responsible for monitoring the Services under this Service Level Agreement. If the Customer detects a Fault, it shall report the Fault to the Company as soon as practicable via the Network Operations Centre (details of which are set out below).
When reporting a Fault to the Company, the Customer must provide the following information:

(a) The Site at which the Fault has occurred;
(b) Details of the Fault and any supporting information;
(c) Confirmation and details of testing of the Customer's systems and associated equipment (other than the Equipment) that has been undertaken;
(d) Test results undertaken by the Customer in relation to the detected Fault;
(e) Any access requirements the Company may require in order to access the Site to carry out the repair;
(f) The availability of the Customer's personnel to assist the Company in connection with the repair of the Fault;
(g) Customer contact details.

The Customer acknowledges that the Company requires the information set out above in order to repair a Fault. Should the Customer fail to provide any of the information set out above, then the Target MTTR shall not commence until such information is provided.
Upon receipt of notification of a Fault from the Customer, the Company shall notify the Customer of the "Fault Reference Number" together with the categorisation of the Fault. The Fault Reference Number should be quoted on all subsequent communications regarding that Fault.

5 Support Ticket Closure

The Company shall notify the Customer once the Fault has been cleared following internal notification from its engineering staff that the Services have been restored for the Customer. The Customer shall notify the Company within thirty (30) minutes of receiving notification from the Company that the Fault has been cleared if the Customer disputes that the Fault has been cleared. If no such notification is received from the Customer within such thirty (30) minute period, the Support Ticket will be deemed to have been closed.

If a Fault has been cleared using a temporary solution, the Support Ticket shall be marked accordingly and the permanent solution shall be provided by the Company on a date to be agreed by the parties.

The parties will each record the following information on their respective fault logging systems when a Support Ticket is closed:

(a) Names and contact numbers of the parties' representatives at the closure of the Support Ticket;

(b) Restoration actions taken;

(c) Restoration time of the Fault and the Services.

6 Fault Escalation

Escalation of a Fault can be requested by the Customer at any time if:

(a) A Critical Fault is not repaired within the Target MTTR; or

(b) A Fault is particularly sensitive given the nature of the Customer's business and a repair is required within a shorter period than the Target MTTR.

To escalate a Fault, the Customer must notify the Company of its request for such escalation via the parties' respective helpdesks and the Company will respond to such request within twenty (20) minutes of receipt of the request. If the parties' respective helpdesk staff are unable to agree to escalate the Fault, a manager of the Customer shall contact the Company's Managing Director, James McCall, at james@metronet-uk.com or on 0161 822 2580 and if he is unable to reach a suitable resolution a director of the Customer shall contact the Company's Chief Executive Officer, Elliott Mueller at Elliott@metronet-uk.com or on 0161 822 2580 who shall seek to accommodate any reasonable requests of the Customer with regard to the Fault.

7 Maintenance and Planned Works

The Company shall be responsible for maintaining the Network up to the Points of Connection.

The Company shall use reasonable endeavours to ensure that maintenance and upgrade work to the Network is planned in advance (with the exception of emergency works or events outside the control of the Company) to minimise disruption to the Services and the Company shall provide at least 24 hours' notice prior to the commencement of any Planned Works that will affect the availability of the Services.

7. Network Service V/MPLS and Managed UK Leased Lines

Service Level Agreement – UK Managed Leased Lines

UK Managed Leased Lines
This Service Level Agreement (SLA) is provided in addition to our contractual obligations under the terms and conditions for a Vaioni Managed Leased Line and is limited in scope to wholly UK provided circuits with a contract length in excess of eleven months.

This document is part of the commitment that Vaioni provides to all customers and outlines the remedies available should Vaioni fail to meet our own high level of support and service.

Guarantees
Vaioni guarantees that the following minimum standards are met at all times.

Vaioni Network Backbone Availability
The Vaioni backbone has a 100% availability guarantee.
To claim if we fail to meet this guarantee, the following must be submitted to Vaioni:
Three date and time stamped ICMP traceroutes, taken at least one hour apart, within a four-hour window, from the customer LAN must be submitted showing unavailability within the Vaioni backbone.

Vaioni Network Latency
Vaioni guarantee to provide a maximum average round-trip of 20 milliseconds latency between any two routers on the Vaioni backbone measured over a one-hour period.
To claim if we fail to meet this guarantee, the following must be submitted to Vaioni:
Three date and time stamped ICMP traceroutes, taken at least one hour apart, within a four-hour window, from the customer LAN showing a latency problem within the Vaioni backbone.

Vaioni Support Performance
Vaioni undertakes to return calls made to the Duty Support Engineer outside Vaioni Business Hours within 1 hour.
If a fault is subsequently raised a remedy will be applied.

Customer Circuit Availability
Where the circuit from the customer premises to the Vaioni point of presence was ordered by Vaioni, we will offer a 100% (with a second connection as failover) or 99.96% (without a second connection as failover) availability guarantee from Vaioni to the customer connection point on the Vaioni provided Managed Ciena Switch or Cisco/MikroTik Router or CPE regardless of the provision by a third-party (e.g. BT), with the aim of 100% available guarantee at all times, irrespective of additional circuits.
This guarantee excludes problems caused by power disruption at the customer premises or any customer device and associated cabling. This clause does NOT apply to transit customers, customers with circuit backup services such as ISDN/ADSL or alternate/bonded leased lines or where customer premises hardware has not been provided by Vaioni.

To claim if we fail to meet this guarantee, the following must be submitted to Vaioni: The Vaioni customer fault reference.
A copy of the attached device running configuration.
A copy of the attached device SHOW VERSION (or non-Cisco equivalent) output.
A copy of the attached device SHOW INTERFACE (or non-Cisco equivalent) output for the interface facing Vaioni during the outage.

SLA & Performance

- SLA clock starts from confirmation of tail issue
- 5 hour MTTR (Mean Time to Repair) for Fibre
- 7 hour MTTR (Mean Time to Repair) for Copper EFM
- 7 hour MTTR (Mean Time to Repair) for GEA-FTTC
- 20 hour MTTR (Mean Time to Repair) for GEA-FTTP
- 24/7 support lines
- All services are wire speed

Customer Circuit Repair Time

Where a circuit from the customer premises to the Vaioni point of presence was ordered by Vaioni, we will offer a 5 hour return to service guarantee 24/7 for Fibre, 7 hour return to service guarantee 24/7 for copper EFM, 7 hour return to service guarantee 24/7 for GEA-FTTC and 20 hour return to service guarantee 24/7 for GEA-FTTP, regardless of the provision by a third-party (e.g. BT), in the event of a circuit failure. This guarantee excludes problems caused by power disruption at the customer premises or the customer CPE and associated cabling. This clause does NOT apply to transit customers.

CPE Repair Time

Where Vaioni supply, configure and install a Ciena Switch, Cisco/Mikrotik router, we will provide automatically a 2 hour response and 2hr fix 24/7 as standard.

Exclusions

In all cases scheduled maintenance, as notified to the customer 48 hours in advance and emergency maintenance where notified to the customer 4 hours in advance are both exempt from claims under this SLA.

Emergency maintenance carried out with less than 4 hour's notice may be exempt, should the impact of not carrying out the maintenance cause a breach of the SLA. Denial of Service attacks against the customer's service is also exempt from claim under this SLA.

Additional Information

Vaioni Group reserves the right to amend, modify or alter the thresholds and metrics measured by the SLA or change the level of remedy afforded to customers. Changes will be notified to the nominated contact at the customer organisation on a 30 day basis. A full, current copy of this SLA will be maintained online at http://www.vaioni.com/ with a version number and publication date included. For the avoidance of doubt the following terms have been used in this document and have the following meanings:

"Attached Device" is defined as being the piece(s) of hardware that connect directly to the Vaioni provided Customer Premises Switch / Router.
"Remedy" is a credit made to a customer's account upon the confirmation that a breach of this SLA has been made.

Vaioni will apply credit within 30 days of the confirmation of a breach and the customer is expected to continue to make payments to cover outstanding invoices until such time as the credit has been applied. At no stage will Vaioni make payments other than in the form of service credits.

“Traceroute” is a generic term for a number of different software tools capable of providing network path diagnostics.

Due to the nature of the protocol used (ICMP) and the priority applied to efficiently route packets within Vaioni’s network, instantaneous results from a particular router may indicate a breach of this SLA but repeated tests must be taken to eliminated expected performance changes due to load. Customers should also be aware that ICMP echo requests may be suppressed for network security reasons and other diagnostic measure may be requested in these instances. A breach of SLA will not be remedied should such a security measure be in place.

“Backbone” is the network owned and operated by Vaioni and includes all links, hardware and devices used to transmit packets within the facilities operated by Vaioni. For the avoidance of doubt, Border devices used to delineate the Backbone from customer premises equipment are always sited in facilities operated by Vaioni and the Backbone is defined as starting at the connected port on this device

Service level Agreement for V/MPLS Service

We will use reasonable endeavours to provide the Services throughout the term of the Contract in a manner which meets or exceeds the Service Levels set out in this section.
Service Credits shall not apply and, for the purposes of these Service Levels, the Services shall be deemed to be Available in respect of any period where the Supplier’s failure to meet the Service Levels results directly or indirectly from:

- Force Majeure;
- Any actions or inactions of the Customer (including, without limitation, requests for testing of the Service by the Customer although no Fault has been detected, requests for modifications, failure of Customer Provided Apparatus, failure by the Customer to provide access to Service Equipment, failure by the Customer to operate the Services in accordance with the Contract);
- Misuse of the Services contrary to the Contract;
- Any planned outage
- Any Fault that is not reported to the Supplier;
- Any reported period of non-Availability where the Supplier can find no Fault;
- Any Fault that is due to user error; and/or
- The Customer’s failure to provide accurate forecasts if required in accordance with the Contract.

Target Service Availability

For Ethernet VPN Circuits, the Supplier guarantees the circuit Availability for each Circuit to be at least 99.9% for a Service provided with a third party access circuit and 99.95% for a Service provided wholly on the Supplier Network, in each 12 month period following the Customer Execute Date and each anniversary thereof. For the purpose of calculating Availability, “Unavailable Time” means a period of time when there is a total break in transmission or where the bit error rate in each of ten consecutive seconds is worse than 1 x 10-3.

Service Repair Time

The Target Repair Time for Ethernet VPN Ethernet Circuits is 5 hours. Where the Ethernet VPN Circuit utilises a BT Shorthaul Data Service or where the Fault is caused by a fibre break, the Target Repair Time is 48 hours. In the event that the Supplier fails to repair a Fault within the specified Target Repair Time then Service Credits will be payable in accordance with Table 3 below:

Table 3

Hours past Target Repair Time	Service Credits as percentage of one month's Rental applicable to the affected Circuit
up to 2 hours	6%
2 to 3 hours	12%
2 to 3 hours	18%
2 to 3 hours	24%
2 to 3 hours	30%

Repair times for non-Service affecting faults will be agreed on a case by case basis. No Service Credits shall be payable for failure to repair non-Service affecting faults within the Target Repair Time.

Measurement of Repair Time will commence at the time the Customer or the Supplier raises a Remedy Fault ticket and will end when the Supplier confirms to the Customer that Service has been restored, or in the event that the Supplier is unable to contact the Customer, then from the time logged by the Supplier that Service is Available. Any period during which the Service is deemed Available pursuant to Paragraph 7 above shall not be included in the measurement of Repair Time.