SIP Trunks Voice Traffic Policy

Introduction

This document defines Gamma's accepted voice traffic profile, performance parameters for diallers and our governance for nuisance and malicious calls, for SIP endpoints connected to the Gamma Network.

Gamma reserves the right to limit or prevent traffic that breaches the guidelines in this policy or in the event any particular traffic presents a risk to the integrity of Gamma's network or product platforms. This policy is in line with standard Industry practice and other service providers involved in originating, transiting or terminating voice traffic may take similar action at their discretion.

In regards to nuisance and malicious calls there are two broad categories which are considered separately, however, both are as serious in their own right.

- Unwanted marketing calls as well as Silent & Abandoned Calls are the first category, referred to as Nuisance Calls,
- Malicious Calls, relating to calls with obscene content or that are deliberately designed to cause harm or offence. An extension of the latter is a deliberate denial of service attack on a call centre, colloquially referred to as a "Spam" over Internet Telephony ("SPIT") attack.

The scope of this policy are calls that, in some respect, transit Gamma's network.

Nuisance Calls

A Nuisance Call is one that is either unwanted or one that is "silent or abandoned" which means that a call centre is not following the regulations on availability of live operators etc.

Unwanted Calls

The Privacy and Electronic Communications (EC Directive) Regulations 2003[1] ("PECR"), prohibits organisations from making unsolicited live or automated direct marketing calls to Subscribers (business or residential) who have registered their number with the Telephone Preference Service ("TPS"). PECR also prohibits organisations from sending unsolicited direct marketing emails or SMS text messages to individual subscribers who have not consented to receiving such messages and/or whom have previously explicitly told them they do not want them.

On 26th May 2011, the Information Commissioner's Office ("ICO") gained powers to serve third party information notices on communications providers and to impose civil monetary penalties of up to £500,000 for the most serious breaches of PECR. New statutory guidance was published on 30 January 2012 and a number of companies have already been fined.

Silent and Abandoned Calls

The Office of Communications ("Ofcom") is responsible for the enforcement of a silent or abandoned call. This is where a predictive dialler makes more outbound calls than the centre has agents for and the recipient gets dead air; or an abandoned call, which is where the ringing stops because the number of available agents has been used, as it has been deemed to be an offence (misuse of a public electronic communications network[2]) under Section 127 of the Communications Act 2003[3] and has the power to fine up to £2m per offence. Section 127 offences also carry criminal liability. The exact rules are replicated herein under "Dialler Regulatory Standard"

1. http://www.legislation.gov.uk/uksi/2003/2426/contents/made
2. Ofcom published a statement on 20th December 2016, explaining the forms of misuse in detail – https://www.ofcom.org.uk/__data/assets/pdf_file/0024/96135/Persistent-Misuse-Policy-Statement.pdf
3. http://www.legislation.gov.uk/ukpga/2003/21/section/127

Dialler and CLI Standards

Dialler Regulatory Standard

Diallers or any "automatic call generation" service connected to the Gamma Network, must comply with the following standards:

- Ensuring an abandoned call rate (including a reasoned estimate of false positives) of no more than 3 per cent[4] of live calls per campaign or per call centre over any 24 hour period;
- Ensuring that people are not contacted within 72 hours of their receiving an abandoned call without the guaranteed presence of a live operator;
- Playing an automated message in the event of an abandoned call telling the person called on whose behalf the call was made and providing them with a number to dial to stop any future marketing calls from that organisation;
- Making valid and accurate calling-line identification ("CLI") information available to call recipients so they can identify who rang them via caller display or by dialling 1471 in the event of a silent call; and
- Ensuring that where a call has been identified by dialler equipment as being picked up by an answer machine, any repeat calls to that specific number within the same 24 hour period are only made with the guaranteed presence of a live operator.

This Standard is a verbatim replication of the Ofcom guidelines[5] and as such would be considered by Gamma to be a regulatory requirement to be adhered to by any signatory to our contracts.

Dialler Operational Standard

The Gamma Operational definition of Dialler Traffic is as follows:

This is traffic which typically has

- an Average Length of Call (“ALOC”) of under 30 seconds with
- an Answer Seize Ratio (“ASR”) less than 60%.
- see Appendix 1 for calls per second (“CPS”) to channels ratios expected for normal traffic profiles. Gamma SIP trunks depending on type are set to 2 CPS or 5 CPS as standard.

For clarity, this is the Gamma default position to ensure that we protect the network and all Gamma customers and exceptions can be considered by the Networks Director and Operations with an

1. Ofcom’s latest policy decision is that this is not a “safe harbour” figure, i.e. a volume below this will not exempt someone from investigation and enforcement, it is merely a prioritisation threshold for their work
2. http://stakeholders.ofcom.org.uk/consultations/silent-calls/statement/

appropriate business case; however, any traffic outside of this profile will automatically have remedial action considered.

Operational Standard

Gamma reserve the right to limit (through call gapping or other operational intervention as we see fit in our sole discretion) which we feel may endanger the rest of the network. Any (but not limited to) of the following traffic patterns are not allowed:-

1. Large amounts of call attempts hitting the same area or number type

No one geographic dialling code should exceed 5 CPS unless previously agreed. Large, unexpected and unmanaged spikes of traffic cause network monitoring fault alarms and should be avoided.

1. Time of Day

Dialler traffic will be the first type to be shed during any network faults or high traffic periods.

1. Call attempts to a large percentage of unallocated numbers.

ASRs below 40% will be deemed as suspect (e.g. Data cleansing activities) and would probably be a breach of the Regulatory Standard above. Immediate action will be taken to limit such traffic.

1. Each endpoint will have a defined calls per second limit.

Typically customers are set to 5 CPS to begin with. Higher CPS can be negotiated with Operations by engaging the pre-sales team on a case by case basis. Depending on the nature of the traffic bespoke solutions may need to be designed that may result in additional costs being passed to the customer.

The endpoint must control their traffic within the agreed limits. Sending too many calls will get a 486 response and uses unnecessary SBC processor resource. Appendix 1 outlines the default CPS limit based on channels allocated.

1. General Gamma Network Alerts

Gamma has a large range of network performance alerts. For example a sustained low ASR being sent to one Mobile Operator type will produce and alarm in the Gamma NOC.

False alarms can hide other network problems and diverts resource away from projects and product development. Therefore if a Dialler pattern is thought be causing alarms or red statuses on the NOC monitors remedial action will be taken.

Dialler Removal Process

It is quite common for customer endpoints to be provisioned as normal SIP and then used for this traffic. Gamma's Voice Quality of Service department runs daily reports which will quickly identify traffic of this nature. The customer will be asked to stop sending this traffic but Gamma reserve the right to reduce their capacity or turned off to protect the integrity of the network.

CLI Presentation

Gamma offers customers flexibility in what CLI they present6. The Customer Agreement7 that has to be signed prior to implementation contains a condensation of the CLI Presentation regulations8.

The two main points are:

- That the allocated entity for the number being presented has authorized its use for this purpose.
- The number being presented is not one to a revenue-sharing number that generates an excessive call charge. That means you cannot present 09 or 118 and that 070/076 are likely to be in breach.

Gamma's revenue assurance team will perform periodic audits of presentation CLIs across the network and take action to enforce these rules as required.

Additionally, some operators within some countries within the European Economic Area ("EEA") surcharge calls made from outside the EEA, and use the presentation and/or network CLI to differentiate. In the case of a malformed CLI, the default is to apply a surcharge which may be passed onto our customers. Care should be taken generally due to the rules, but should be especially taken when presenting a non-UK CLI.

- http://stakeholders.ofcom.org.uk/telecoms/policy/calling-line-id/caller-line-id/

Enterprise Contact Centre Solutions

There are particular customer types which require a mix of inbound and automated outbound calling. As most of the SIP trunk provisioning process is automated it is important that there is a pre-sales check before an Enterprise Contact Solution provisioned. Once more, a bespoke design maybe required.

To be clear:

- Automated diallers are acceptable upon agreed parameters where the overall voice solution is far larger than the dialler element. These will be based on the operational standard, but each requirement will need to be assessed on an individual basis.
- We would NOT support purely dialler solutions.
- Any request to increase CPS limits beyond the default levels of 2 and 5 CPS will require review and approval from presales.

Pre Sales Check

For this type of customer, or in general for any large volume customer there are special planning checks required. If more than 200 channels are required then this should be passed over for a Capacity check.

200 channels is the point where with normal traffic 5 calls per second may not be sufficient. The table in appendix 1 illustrates the Channels to CPS ratios that may be accepted through this process.

Information required includes:

- How many sold channels and peak channels expected;
- How many monthly inbound and outbound minutes expected;
- What particular calling pattern is expected on the outbound element?
- Time of day of campaigns,
- Peak calls per second CPS,
- Average length of call ALOC,
- Average call answer rate ASR.

Capacity Check

A request should be made to the Core Networks department requesting a capacity check on the SBCs this customer would normally be provisioned on. SBCs are added into the provisioning pool on a regular basis, however these fill up and a new large customer may take the SBC over its capacity planning rules.

The feedback will be either there is capacity, an alternative set of SBCs should be used, or that the proposed traffic type is not compatible with the Gamma network and the order should be refused.

For some large enterprise customers a separate set of SBCs may be allocated.

Outbound Traffic Policy

This follows the standards outlined in the section under Dialler and CLI Standards.

Traffic which typically has an Average Length of Call (“ALOC”) of under 30 seconds with an Answer Seize Ratio (“ASR”) less than 60% is not generally acceptable.

Inbound Traffic Policy

Large volume inbound campaigns may cause overload scenarios on the Gamma network and the PSTN in general. In this traffic direction the calls per second limit on each endpoint is not active. If this traffic is causing network alarms then Gamma will invoke network call gapping across the network elements and may also request BT and other CPs to invoke call gapping on the inbound numbers causing the issue. Call gapping levels will be set at a level which protects the network. In some cases this may be to stop all calls to this number.

If a large volume inbound campaign is planned then it should to flagged to the Gamma NOC. This will allow planning on protective call gapping levels and allow special monitoring to be put in place.

There are processes across the industry for dealing with these events with communications between BT and the main CPs.

Carrier Pre Select Traffic Policy

This follows the standards outlined in the section under Dialler and CLI Standards. Generally the technology used from PBXs using CPS over Q931/ISDN30 hold back the potential for high calls per second levels. There is no per endpoint calls per second limit on single Carrier Pre Select CLIs. If traffic patterns are causing network alarms then calls from this CLI will be barred under the rules outlined under Dialler Policy

Malicious Calls

These, like silent and abandoned calls, are also a Section 127 of the Communications Act 2003 offence and carry criminal liability. There are two broad categories;

- Spam over Internet Telephony (“SPIT”) which is the telephony equivalent of a Distributed Denial of Service (DDOS) attack on a website.
- Calls intended to cause annoyance or offence.

Obviously, a SPIT attack can contain content that falls into the latter category too. Both need handling in a slightly different way.

SPIT Attack

Such an attack could compromise Gamma's network integrity, therefore it is expected that the appropriate operational teams will take whatever steps necessary to guarantee the integrity of the network as they would in a failure state; once mitigated, it should be treated as any other attempt to hack or misuse our network with appropriate investigation and involvement of law enforcement.

Where reports of these are made, they should be directed to the Network Operations Centre.

Appendix 1 – CPS to Channel Ratios

Gamma provides, as a standard, 2 CPS on standard and 5 CPS on resilient Gamma SIP Trunks. However, channels and calls per second can be adjusted for an agreed business case. The table below provides an example of CPS limits depending on Channel Allocation, but bespoke arrangements can be agreed. A SIP 503 Response is returned if this limit is reached.

Anything over 200 channels and 5 CPS requires approval via pre sales and capacity check.

Channels	Calls/second limit	Channels	Calls/second limit
30	3	2500	26
50	3	3000	30
100	4	3500	35
200	5	4000	40
300	6	4500	45
400	7	5000	50
600	9	5500	55
800	11	6000	60
1000	13	6500	65
1300	16	7000	70
1650	18	7500	75
2000	21	8000	80

Note: On a normal network, 100 calls per second with a normal 120 second ALOC would hold up 12,000 channels and would expect to generate 100 million minutes per month.