



# Regulation of VoIP Services

Statement and publication of statutory notifications  
under section 48(1) of the Communications Act 2003  
modifying General Conditions 14 and 18

Statement

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## Section 1

# Executive Summary

## Introduction

- 1.1 Voice over IP (VoIP) services continue to have a greater and greater impact on the UK communications sector. Over the last year, a range of new services has been launched and uptake has increased significantly. In time, VoIP services have the potential to offer significant new benefits to consumers, including more competition and choice, lower prices and new services such as second lines and nomadic services.

## Regulatory aims and proposals

- 1.2 To ensure that appropriate regulation keeps up with these developments, Ofcom published a consultation document<sup>1</sup> entitled *New Voice Services: A consultation and interim guidance* on 6 September 2004 (the “2004 consultation”). That document set out Ofcom’s proposals for the regulatory framework for VoIP services to help ensure that consumers’ interests could be best met. The proposals reflected both the constraints of relevant European Community directives and also the relative infancy of the market.
- 1.3 On 22 February 2006, Ofcom published a further consultation document<sup>2</sup> entitled *Regulation of VoIP Services: Statement and further consultation* (the “2006 consultation”). This consultation document set out Ofcom’s revised proposals, taking into account both the responses received during the initial consultation period and also developments that had taken place in VoIP services since 2004. The proposals were designed to be consistent with Ofcom’s regulatory objectives in relation to VoIP and to further the interests of citizens and consumers. In particular, we identified three such objectives as central to achieving this:
- enabling innovation in a technological neutral way;
  - ensuring consumers are well informed; and
  - ensuring maximum availability of emergency services access.
- 1.4 In addressing those objectives, Ofcom made the following two main regulatory proposals in its 2006 consultation:
- to modify General Condition<sup>3</sup> 14 (“GC 14”) requiring providers of Public Electronic Communication Services (to the extent it comprises the conveyance of speech, music or sounds) to comply with a code of practice (i.e. the Code on the provision by Service Providers of consumer information to Domestic and Small Business Customers for the provision of Services (“the Code”); and
  - to modify the definition of a ‘Publicly Available Telephone Service’ (“PATs”) for the purposes of General Condition 18 (“GC 18”) so that only services available to the public for originating and receiving national and international calls and access

<sup>1</sup> [http://www.ofcom.org.uk/consult/condocs/new\\_voice/new\\_voice/nvs.pdf](http://www.ofcom.org.uk/consult/condocs/new_voice/new_voice/nvs.pdf)

<sup>2</sup> <http://www.ofcom.org.uk/consult/condocs/voipregulation/voipregulation.pdf>

<sup>3</sup> [http://www.ofcom.org.uk/telecoms/loi/g\\_a\\_regime/gce/cvoggc.pdf](http://www.ofcom.org.uk/telecoms/loi/g_a_regime/gce/cvoggc.pdf)

to emergency services through a normal telephone number have the right to number portability under GC 18, with the only exception of Public Electronic Communications Services for only receiving calls.

- 1.5 In addition, the 2006 consultation set out a number of additional measures that are relevant to the application of the General Conditions of Entitlement<sup>4</sup> ("GCs") to providers of VoIP services, including:
- the discontinuance of Ofcom's interim forbearance policy as set out in the 2004 consultation. This policy meant that Ofcom would forbear from enforcing obligations in the GCs applying to providers of PATS, so as to reduce any potential disincentive for VoIP providers offering access to emergency services to their customers;
  - the withdrawal of the Essential Requirement Guidelines<sup>5</sup> (and instead applying the 'reasonably practicable' test set out in General Condition 3 ("GC 3") on a case-by-case basis); and
  - the publication of draft guidance on the application of PATS obligations in the GCs to VoIP service providers to ensure that they meet their obligations.

## Responses to the consultation and our conclusions

- 1.6 We received nearly 50 detailed and useful responses to the 2006 consultation. Overall, there was broad support for our proposals, although there were some notable disagreements with particular elements.
- 1.7 After considering stakeholders' responses to the 2006 consultation and further developments in the market, Ofcom has concluded that it is appropriate to make the modifications to GC 14 and GC 18. The statutory notification regarding the modification to GC 14 is set out in Annex 1 of this document, and the deadline for compliance with the Code is 29 May 2007, i.e. two months from the date of publication, i.e. 29 March 2007. The statutory notification regarding the modification to GC 18 is set out in Annex 4 of this document, and will come into effect on the date of publication, i.e. on 29 March 2007. However, it is to be noted that in light of certain consultation responses in respect of GC 14, Ofcom has made some minor modifications to its original proposal. Those modifications include:
- Making it clear that labels to inform consumers of the capability to call emergency services may be either in the form of a physical label or on a computer screen to ensure that the requirement is reasonable and proportionate;
  - Extending the Code to require point of signature acknowledgement that access to emergency services is not possible in the case of a power cut to ensure well informed consumers;
  - Developing a more detailed approach to enforcing the Code; and
  - Extending the deadline for compliance with the Code from one month to two months from the date of publication, i.e. 29 March 2007.

<sup>4</sup> A consolidated version of the GCs as at 19 December 2006 (including annotations) can be accessed at: [http://www.ofcom.org.uk/telecoms/loi/g\\_a\\_regime/gce/cvogc.pdf](http://www.ofcom.org.uk/telecoms/loi/g_a_regime/gce/cvogc.pdf)

<sup>5</sup> See document entitled *Guidelines on the essential requirements for network security and integrity*, published by Ofcom on 9 October 2002; [http://www.ofcom.org.uk/static/archive/ofcom/publications/ind\\_guidelines/guid1002.pdf](http://www.ofcom.org.uk/static/archive/ofcom/publications/ind_guidelines/guid1002.pdf), referred to throughout the rest of this document as the 'Essential Requirements Guidelines'.

- 1.8 This statement explains Ofcom's reasons for reaching these decisions and how it expects providers of VoIP services to comply with obligations applicable to them. In addition, this document also outlines Ofcom's current thinking on a number of other issues that are relevant to providers of VoIP services, such as naked DSL, net neutrality, approach to regulation of nomadic services and the European Framework Review. Although Ofcom is not proposing any such additional regulation at this stage, we believe it is important and useful for stakeholders to be aware of Ofcom's emerging views in these areas.
- 1.9 Ofcom continues to see VoIP services as an important element in the overall communications market. As the market develops further, we intend to continue to review and adapt regulation to ensure that citizens and consumers continue to benefit to gain the full benefits from VoIP developments.

### **Further consultation on mandating access to emergency services**

- 1.10 In response to the 2006 consultation, a number of stakeholders expressed strong views about Ofcom's proposed regulation being insufficient to ensure an adequately high level of access to emergency services. In particular, they considered that the lack of emergency services access on VoIP services would lead to delays in consumers and citizens successfully connecting to the emergency services and that this would result in serious consumer detriment.
- 1.11 We have completed initial research that suggests that there is potential for detriment. Therefore, we will consult on whether, and if so how, certain VoIP services should be required to offer emergency services access. In assessing the need for any new requirement, we will continue to carefully consider the impact of such regulation on market entry, innovation and competition. This consultation will take place this summer.

## Section 2

# Background and market developments

## Introduction

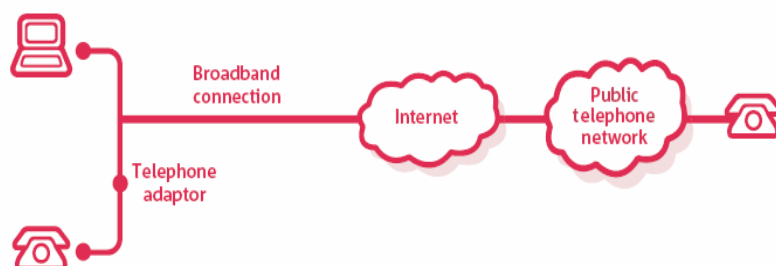
- 2.1 This Section provides background information by explaining in broad terms what is meant by VoIP services. It also provides a broad overview of the developments of the provision of VoIP services to date. It also introduces the remainder of this document by summarising Ofcom's two previous consultations in relation to the regulation of VoIP services as well as the role, scope and outline of this document.

## Background

### Meaning of VoIP services

- 2.2 VoIP services typically use a broadband connection<sup>6</sup> to provide voice call services using VoIP<sup>7</sup> technology from either a personal computer ("PC") and dedicated handset/headset or a traditional telephone handset using an adaptor. Such technology and devices are required to convert speech from one end into a digital signal that travels over the Internet and then converts it back to speech at the other end.
- 2.3 Also, VoIP services are not restricted to fixed locations as some of them may be nomadic services, such as where access to Internet is available wirelessly at, for example, airports or cafes. For the purposes of illustration, however, Figure 1 below shows diagrammatically how VoIP services work from a fixed location.

Figure 1: VoIP service



## Market developments

- 2.4 Over the last five years, VoIP services have begun to have an increasing impact on the UK communications market. In time, VoIP services have the potential to deliver significant consumer benefits through reducing the cost of delivering existing services, enabling new and innovative services and increasing competition. However, VoIP services are still developing, relative to established technology, and the future developments of these services and technology is, at present, not fully clear.
- 2.5 In September 2004, in response to the early developments, Ofcom took a number of steps in the 2004 consultation that affected providers of VoIP services. In particular:

<sup>6</sup> Theoretically, any Internet connection could be used including dial-up, but dial-up is not believed to be widely used to provide VoIP services

<sup>7</sup> Throughout the rest of this document, references to VoIP should be read as including Voice over Broadband (VoB).

- we introduced an interim forbearance policy position to allow providers of VoIP services to enter the market and offer emergency services access without having to meet all the regulatory requirements associated with PATS;
  - we made initial proposals in respect of the appropriate substance and framework for consumer information in relation to VoIP services moving forwards; and
  - we made geographic number ranges and a new 056 number range available for use of VoIP services<sup>8</sup>.
- 2.6 Following the 2004 consultation, VoIP services continued to develop both in terms of range and number of providers and service/equipment propositions leading to a greater number of consumers taking up these services. Some of those key developments are described below.
- 2.7 In the period between September 2004 and the 2006 consultation, Ofcom noted that there were a wide and increasing number and variety of VoIP service propositions in the marketplace, including:
- PC-based services that allow calls from one PC to another (such as Skype and Google Talk), commonly referred to as PC-to-PC services<sup>9</sup>;
  - services marketed as secondary line services that allow calls to and from traditional telephone numbers (such as Tesco and Skype In/Out); some of these services include emergency services access and some do not;
  - other services that are marketed as replacements for traditional Public Switched Telephony Network ("PSTN") based call services; typically, the PSTN line remains in place and the VoIP service is then used only for calls; and
  - services targeted for nomadic and mobile use have also begun to enter the market: Voice over Wireless ("VoWLAN") services are being developed<sup>10</sup> and other services are being deployed which rely on wireless access solutions using licensed radio spectrum.
- 2.8 These services are based on a variety of software/equipment, including adaptors that support standard telephones, adaptors with dedicated headsets/handsets, PC based software solutions with software based phone functions, 3G smartphones and Personal Digital Assistants ("PDA")/Wi-Fi/WiMax devices with software clients.
- 2.9 These services are being offered by a range of providers. In some cases, they are bundled with Internet access services and in others as stand-alone services.
- 2.10 No single combination of equipment, features or business model has yet emerged to lead the market and Ofcom expects that this diversity is likely to remain for some time as users access services in a variety of different ways. However, although VoIP service providers are making a wider range of services with new features available to consumers, the core capability to enable voice calls between users remains a key feature common to all such voice services.

<sup>8</sup> [http://www.ofcom.org.uk/consult/condocs/vob/nvs\\_statement.pdf](http://www.ofcom.org.uk/consult/condocs/vob/nvs_statement.pdf)

<sup>9</sup> A more detailed description of PC-to-PC services is set out in section 3 of the September 2004 consultation document.

<sup>10</sup> These services rely on the Unlicensed Mobile Access ("UMA") network of public Wireless Fidelity ("Wi-Fi") and Worldwide Interoperability for Microwave Access ("WiMax") base stations combined with PDA/Wi-Fi end-user devices



- 2.11 In the 2006 consultation Ofcom noted that basic awareness of VoIP services was around 50%<sup>11</sup>; that a recent Ofcom survey had suggested that an additional 3 million customers were considering purchasing/using VoIP services in the subsequent 6 months<sup>12</sup> and that some forecasts suggested that by the end of 2007 there would be about 3 million PC-to-PC VoIP services users and over 1 million who use VoIP services to call to/from PSTN numbers<sup>13</sup>. As of the end of 2006, basic awareness of VoIP services has risen to 60%, with about 10% currently using VoIP services and another 3% having used VoIP services in the past but not currently doing so<sup>14</sup>. Also uptake in other countries suggest high growth in the UK may be likely, although the effectiveness of CPS as a means for competitors to offer call services is likely to have reduced penetration of VOIP in the UK when compared to these other countries.
- 2.12 Next generation networks (“NGNs”) (such as BT’s 21st Century Network) are also increasingly relevant to VoIP services with NGN deployment now having started in earnest. The emergence of NGNs, which are IP-based multi-service networks, are driving much of the change in the way voice services are delivered. These networks permit a variety of different services, including voice, to be carried over a common transport network. The resulting economies of scope reduce costs.
- 2.13 In addition to market and technology changes, there have also been a number of developments in the regulatory area and wider policy debate that had some bearing on our approach to regulation of VoIP services. In particular:
- after discussion with Commission services (DG Information Society) and further internal legal review, Ofcom concluded that, where a VoIP service does meet all the ‘gating criteria’ of the PATS definition<sup>15</sup>, it automatically becomes (and must be regulated as) a PATS, which clarification was also made more recently by the Commission’s Expert Group on Emergency Access in a response dated 23 May 2006 to the 2006 consultation — this matter affected the future viability of Ofcom’s interim forbearance policy set out in the 2004 consultation;
  - in response to one of the key recommendations in the 2004 consultation, a group of providers developed a code of practice for VoIP service providers setting out the information that should be provided to purchasers and users of VoIP services<sup>16</sup>;
  - VoIP service providers in the UK had also expressed a general desire for increased clarity of the regulatory framework and have also voiced concerns over other barriers to the development of their services, such as difficulty in gaining number portability and suspected blocking or degrading of VoIP calls by operators and/or Internet service providers (“ISPs”).

## Ofcom’s 2006 consultation

- 2.14 Against this backdrop, the 2006 consultation proposed a number of measures to ensure that, so far as it is possible to do so, regulation is well-adapted to changing market conditions.

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<sup>11</sup> Of total population. Source: Ofcom Research 2005

<sup>12</sup> Source: Ofcom Research 2005

<sup>13</sup> Analysys report (Retail VoIP in Western Europe: forecasts 2005-2010)

<sup>14</sup> Of total population. Source: Ofcom Research 2006

<sup>15</sup> The four gating criteria are: (i) a service available to the public (that is to say, a public electronic communications service); (ii) for originating and receiving national and international calls; (iii) access to emergency services; and (iv) through a number or numbers in a national or international telephone numbering plan.

<sup>16</sup> This refers to the draft code of practice developed by the New Voice Services Working Group (“NVSWG”).

- 2.15 The key regulatory proposals, which are summarised in Section 1 of this document, are seeking to address three central policy aims identified by Ofcom—(i) ensuring consumers are well informed; (ii) enabling innovation in a technologically neutral way; and (iii) ensuring maximum availability of access to emergency services—to ensure that VoIP services being delivered to further the interests of citizens and consumers.
- 2.16 In addition, Ofcom set out in its 2006 consultation the additional measures relevant to the application of the GCs to providers of VoIP services, including:
- the discontinuance of Ofcom’s interim forbearance policy as set out in the 2004 consultation on the publication of today’s statement;
  - the withdrawal of the Essential Requirement Guidelines (and instead applying the ‘reasonably practicable’ test set out in GC 3 on a case-by-case basis); and
  - the publication of draft guidance on the application of PATS obligations in the GCs to VoIP service providers to ensure that they meet their obligations.
- 2.17 We also raised a number of other issues in the 2006 consultation, where we were not proposing particular regulation – for instance, in relation to naked DSL, blocking of VoIP calls and application of regulation to nomadic services. The purpose of this discussion was to understand stakeholders concerns to help Ofcom identify any potential issues for its future consideration.

### The role, scope and outline of this document

- 2.18 This document takes the form of a Statement to conclude on issues raised with stakeholders in the 2006 consultation. In particular, it explains Ofcom’s reasons for its decisions to modify GC 14 and 18, as set out in the statutory notifications under section 48(1) of the Communications Act 2003 (the “Act”) published in this document: see Annexes 1 and 4 of this document.
- 2.19 In addition, we set out the responses to the other issues raised in the 2006 consultation as well as how Ofcom plans, at present, to approach these issues going forward.
- 2.20 Specifically, the structure of the remainder of this document is as follows:
- **Section 3** (Overall regulatory approach to VoIP services) sets out Ofcom’s views on responses to the 2006 consultation on our key policy aims. It also outlines that we will shortly consult on whether (and, if so, how) certain VoIP services should be required to offer emergency services access, which issue has been raised in consultation responses.
  - **Section 4** (Application of the General Conditions) outlines how certain elements of the General Conditions apply to services such as VoIP services. In particular, it includes:
    - responses received on Ofcom’s decision to discontinue its interim forbearance policy, as previously announced in the 2006 consultation;
    - responses received on Ofcom’s decision to withdraw the Essential Requirements Guidelines, as previously announced in the 2006 consultation;

- responses received on Ofcom's proposed guidance on the application of certain PATS obligations to VoIP service providers, together with Ofcom's views for adopting the guidance (which is set out in Annex 4 to this document);
  - Ofcom's approach to network providers who carry third-party PATS services;
  - Ofcom's approach to nomadic services in longer term;
  - forthcoming review of general conditions; and
  - Ofcom's continued contribution to the European Commission's 2006 review of the relevant Community directives.
- **Section 5** (Number portability) sets out the implications flowing from Ofcom's decision to discontinue its previous interim forbearance policy in relation to number portability, together with our views on responses to the 2006 consultation, including on our proposed modification to GC 18.5 concerning the definition of PATS as to number portability rights, including the effect of, and Ofcom's reasons for making, the modification set out at Annex 4 as well as Ofcom's impact assessment for that modification.
  - **Section 6** (Ensuring well informed consumers) outlines our conclusion in relation to the Code, the modification to GC 14 and the impact assessment for this.
  - **Section 7** (Enforcement, monitoring and review) outlines the responses to the other issues we raised in the 2006 consultation and our planned approach to them in relation to the programme of systematic activities Ofcom had begun to ensure that we both keep abreast of market developments and take appropriate remedial action to meet our objectives.
  - **Section 8** (Other issues) sets out Ofcom's views on responses to the 2006 consultation on the following issues that may also affect the provision of VoIP services:
    - VoIP in the ex ante framework;
    - naked DSL;
    - blocking of VoIP calls;
    - routing/termination;
    - crime detection/prevention;
    - SPAM;
    - extraterritoriality of VoIP service providers; and
    - privacy and encryption.

## Section 3

# Policy aims in regulating VoIP services

## Introduction

- 3.1 Since the 2004 consultation, Ofcom has acknowledged that VoIP technology could deliver substantial benefits to consumers in terms of lower prices and in terms of the innovative services that might be delivered via the technology. In particular, Ofcom recognises these potential benefits and wishes to ensure that regulation does not deter entry or otherwise act against consumers' interests. There are, however, key differences in the delivery mechanism and the manner in which services are delivered via VoIP technology and traditional technologies and these differences might mean that certain features, functionality and capabilities that are associated with traditional telephony services, might not be available via services provided over VoIP technology. It should be recognised, however, that there are also certain features, functionality and capabilities of VoIP technology that are not available via traditional services.
- 3.2 On the other hand, the potential limitations of VoIP technology suggest that certain regulation might be required to protect consumers' interests. This is, of course, one of Ofcom's key duties under the Act and is therefore our primary consideration in formulating regulation of services delivered via VoIP technology.
- 3.3 It is against this backdrop that Ofcom needs to consider the most appropriate regulatory approach to ensure that the benefits of VoIP technology are realised, whilst balancing this against the desire to ensure that there are adequate consumer protection measures in place. This presents some challenges. But they are not polar positions. Providers of services delivered via technology need to ensure that their customers receive the best possible service because it is possible, in the longer-term, that voice services markets will converge and therefore competition for customers will be strong.
- 3.4 This Section sets out Ofcom's views on responses to the 2006 consultation on our key policy aims. Before doing so, it is appropriate to put these aims in regulating VoIP services in their context of the existing regulatory framework.

## The regulatory framework

- 3.5 In 2002, a package of European Community directives was adopted to establish a harmonised framework for the regulation of electronic communications services ("ECSs"), electronic communications networks ("ECNs"), associated facilities and associated services. These directives entered into force on 24 April 2004 and member states were required to apply their domestic law transposing the directives from 25 July 2003.
- 3.6 That harmonised framework also established certain rights of end-users and corresponding obligations on undertakings providing publicly available ECSs and ECNs. Such regulation derives mainly (but not exclusively) from certain provisions in the Universal Service Directive<sup>17</sup> ("USD"). In particular, the USD requires, in effect, that in the UK Ofcom ensures that certain matters (such as network integrity, emergency calls and planning, metering and billing, and number portability) are

<sup>17</sup> Directive 2002/22/EC of the European Parliament and of the Council of 7 March 2002.

regulated to protect the interests and rights of end-users (or, as the case may be, 'subscribers') of ECSs.

3.7 As a result of these Community obligations, Ofcom<sup>18</sup> imposed domestic regulation in the form of (among others) the GCs, which were set under section 45 of the Act and came into effect in July 2003. These sector-specific regulatory requirements include GCs imposing certain rules such as:

- the requirement of taking all reasonably practicable steps to the greatest extent possible for the proper and effective functioning of a public telephone network, including uninterrupted access to emergency organisations as part of any PATS offered at fixed locations (GC 3 implementing Article 23 of the USD);
- the requirement to provide access to emergency organisations by using the emergency call numbers "112" and "999", including to the extent technically feasible, making caller location information available for such calls (GC 4 implementing Article 26 of the USD);
- the requirement to establish or comply with approved codes of practice and dispute resolution procedures for the benefit of domestic and small business customers (GC 14 implementing Article 34 of the USD); and
- the requirement to provide number portability on request (GC 18 implementing Article 30 of the USD).

3.8 In terms of how that regulation applies to specific communications providers, it is to be noted that one of the effects of that harmonised framework is that the provision of all ECSs and ECNs is generally authorised and the system of explicit decisions or any other administrative acts (such as licences) by national regulatory authorities prior to being allowed to provide ECSs and ECNs has been abolished. Therefore, in the UK, the licensing regime under the Telecommunications Act 1984 has been replaced by the so-called 'general authorisation' regime. Thus, everyone is 'generally authorised' to provide ECSs and ECNs in the UK.

3.9 However, although the general authorisation enables all providers of ECSs and ECNs to enter the market as they wish, they may have to comply with certain obligations. In other words, the regulatory framework (with certain exceptions<sup>19</sup>) does not generally seek to harmonise regulation across the Community so as to require the provision of particular services (such as VoIP services). But, where providers decide commercially to provide them, certain regulation may apply to them, such as the requirements in the GCs set out above.

3.10 Importantly, it is to be emphasised that the GCs apply to anyone who is providing an ECS or ECN, or a particular description of an ECN or ECS, as specified in the specific GC in question. Therefore, it is the responsibility of each and every provider to comply with relevant GC obligations upon provision of a particular service as no individual notification or designation will be given to it by Ofcom that these obligations apply to it. Failure to comply with such obligations is subject to enforcement action by Ofcom under the procedures set out in the Act.

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<sup>18</sup> In relation to transposing domestic regulation imposed by the Director General of Telecommunications prior to the end of December 2003, such regulation is to have effect as if it had been done by or in relation to Ofcom (section 408(5) of the Act).

<sup>19</sup> Individual providers may, however, be subject to additional obligations, such as SMP conditions (imposed as a result of a finding of Significant Market Power), access related conditions or conditions imposed as a consequence of a provider being designated as a universal service provider. Any provider which is subject to these additional conditions will have been notified individually when the conditions were imposed. Such additional obligations are not relevant as such to matters considered in this document.

- 3.11 Accordingly, a provider must consider carefully whether, on the facts in each case, it falls within the definition of a “Communications Provider” in respect of a GC, which term is defined separately for each and every GC. It is to be noted that some of these GCs apply to each and every person (normally, a company) providing ECSs or ECNs, whereas other GCs apply only to a narrower category of persons – for example, those who are providing PATS (or, as the case may be, a provider of a Public Telephone Network or PTN).
- 3.12 As already explained in Section 2 of this document, Ofcom has concluded that the USD (and therefore also the corresponding GCs) is to be interpreted so that a person is providing PATS if, and only if, all of the following core elements (the ‘gating criteria’) are satisfied:
- ‘a service available to the public’;
  - ‘for originating and receiving national and international calls and’;
  - ‘access to emergency services’;
  - ‘through a number or numbers in a national or international telephone numbering plan’.
- 3.13 That interpretation (which, as also noted in Section 2, is supported by the Commission’s Expert Group on Emergency Access) leads to the conclusion that where a VoIP service meets all the ‘gating criteria’ of the PATS definition, it automatically becomes (and must be regulated as) a PATS. This is an important observation, particularly as we have received a consultation response from one respondent suggesting the contrary. Fuller details of the regulatory framework and its application to VoIP services are set out in the guidance published at Annex 5 to this document.
- 3.14 Furthermore, as explained in Section 4 of this document, the European Commission is currently undertaking a review of the regulatory framework. On 27 October 2006, Ofcom and the DTI responded on behalf of the United Kingdom and Ofcom has since also contributed to the responses of the European Regulators Group (“ERG”)<sup>20</sup>. As part of this review, Ofcom has sought to input into the review ensuring that, so far as is possible, the directives and the Recommendation on relevant product and services markets are appropriate for the longer term development of VoIP services and NGNs.

### The 2006 consultation

- 3.15 The 2006 consultation explained that VoIP services could deliver substantial benefits for consumers, such as:
- lower network costs, lower user prices and new pricing structures;
  - new features, such as the ability to have a second line with no new line rental, unified messaging, conferencing, video and personalised call handling;
  - greater choice of innovative and differentiated services as entry barriers fall and competition in the voice market increases; and

<sup>20</sup> <http://www.dti.gov.uk/files/file35579.pdf>

- more competition in broadband as ISPs will be able to offer consumers more compelling propositions combining voice with Internet access.
- 3.16 Ofcom explained that consumers are likely to benefit most when new technology can be adopted quickly and its development is not hindered by regulation. Nevertheless, Ofcom recognised that consumer protection measures might also need to be implemented to minimise any potential consumer detriment. Notably, there is a tension between considerations and therefore Ofcom seeks, so far as is possible, to balance them in applying the regulatory framework.
- 3.17 In the 2006 consultation, Ofcom set out three objectives that it considered should particularly be taken into account in formulating policy in relation to VoIP services. The objectives built on the top level aims that were set out in the 2004 consultation and were:
- i) enabling innovation in a technological neutral way;
  - ii) ensuring consumers are well informed; and
  - iii) ensuring maximum availability of emergency services access.
- 3.18 Ofcom asked for respondents' views on whether its focus in developing VoIP policy in accordance with these three objectives was appropriate.

## Respondents' views

### Overview

- 3.19 Ofcom invited respondents to the 2006 consultation to comments on Ofcom's objectives:

*Question 1: Given recent developments, do you agree that Ofcom's focus should be on the following three objectives in developing our policy for VoIP services, namely (in so far as is possible) (i) enabling innovation in a technological neutral way, (ii) ensuring consumers are well informed, and (iii) ensuring maximum availability of 999 services?*

- 3.20 Respondents had contrasting views on the appropriateness or importance of the three objectives. A number of respondents believed that emergency services access should not be compromised and should, therefore, be mandatory. In contrast, other stakeholders suggested that services delivered via VoIP technology needed to be allowed to develop and that a co-regulatory approach would best achieve a suitable level of emergency services access.
- 3.21 On technology neutrality, most respondents agreed that regulation should be applied in a technology neutral way. There were, however, divisions between them in terms of what this meant in practice. A number suggested that the interim forbearance policy was not inconsistent with the objective of technology neutrality. Others had the diametrically opposite view.
- 3.22 On consumer information, there was fairly commonly held belief that consumer information was a key priority. There was not, however, a consensus as to whether consumer information requirements should be enforceable via regulation or whether self-regulation would ensure that consumers were sufficiently well-informed. That

said, the majority of respondents considered that the consumer information requirements should be mandatory.

- 3.23 For the sake of clarity, Ofcom has set out below respondents' more detailed views under separate sub-headings in relation to each objective. It should be noted, however, that a number of respondents agreed that the objectives were appropriate and did not comment any further.
- 3.24 Ofcom's comments are also split by objective and are set out from paragraph 3.52 onwards.

### **(i) Enabling innovation in a technologically neutral way**

- 3.25 The majority of respondents welcomed the emphasis on technological neutrality and that it was therefore appropriate for this to be one of Ofcom's objectives.
- 3.26 One respondent explained that regulation had to be applied in a technologically neutral way and this was why the interim forbearance policy had to be brought to an end. The policy was not consistent with the idea of technological neutrality as it favoured services delivered via VoIP technology over services delivered via traditional technologies. These broad sentiments were echoed by other respondents. One respondent stated that sustainable development meant that the playing field had to be technology neutral. Again, others stated that regulation should not unduly advantage one technology over another and should be technically neutral. Regulation that was not biased would drive innovation. Another respondent commented that, as technology evolves, the regulatory framework will need to be adapted to ensure that it is appropriate for new services as well as traditional services.
- 3.27 A number of other respondents agreed that regulation should be applied in a technologically neutral way and this meant that Ofcom's objectives should apply to voice services more generally. Voice should be regulated in an even handed manner and not in terms of the platforms used to deliver the services. To do otherwise would be inconsistent with Ofcom's policy aims and statutory duties. A truly technologically neutral approach would require Ofcom to apply regulation by market.
- 3.28 One respondent suggested that regulatory forbearance should continue for services that were not intended to be substitutes for traditional PATS and nor would consumers treat them as such. For instance, PC-to-PC services and PC-to-PSTN services are unlikely to be direct substitutes for traditional services. Others also commented that secondary lines need not be treated in the same way as services that were a substitute for traditional services. Other respondents stated that regulatory forbearance had benefited consumers and that it was unclear that ending this policy would be in their best interests.
- 3.29 A common theme in other responses was that unnecessary regulation might stifle innovation and that applying the same regulatory rules across technologies might do just this. One respondent suggested that Ofcom should be "helping to deliver" innovation and believed that a self-regulatory approach was the best means of achieving this.
- 3.30 A number of respondents commented on the phrasing of the objective itself. One respondent suggested that Ofcom should focus on "enabling innovation and promoting competition". Technology neutrality would flow from this. Another stated



that Ofcom should be “seeking to ensure that regulation is technology neutral”. The market would innovate to meet consumers’ needs.

## **(ii) Ensuring consumers are well informed**

- 3.31 Respondents agreed broadly that consumers’ choices should be made on an informed basis and that this meant, in particular, that they needed to be aware that, even if available, emergency services access might fail in certain circumstances. A number of respondents stated, however, that being provided with information at the point of sale, in pre-sales literature or users’ handbooks might not be adequate to protect consumers because the true value of emergency services access is not appreciated until it is needed.
- 3.32 One respondent stated that Ofcom needed to ensure that there was limited potential for consumer harm. They stated that good consumer information might not prevent consumer harm. This was broadly the view of some other respondents as well. One stated that being well informed was not a substitute for the provision of the service in the first place. Another echoed these sentiments and added that labelling of end-user equipment to ensure user awareness of capabilities would not be adequate to protect consumers even if it could be guaranteed that labels would not be removed.
- 3.33 A number of respondents agreed that it was sufficiently important for consumers to be well informed should a service not be able to guarantee access emergency services. One stated that it was essential that consumers were made aware of the potential for emergency services access to fail and they should be informed of the circumstances under which failure would be possible.
- 3.34 Others commented that all consumers need to be well informed about the availability of services and therefore any regulatory rules in relation to consumer information should apply to services conveyed via all technologies. They suggested that mobile technology and DECT handsets might also fail and yet there was no requirement to highlight the potential deficiencies of these technologies. These comments were echoed by other respondents. A number stated that differences between or limitations of services conveyed over traditional technologies and those conveyed via VoIP should be highlighted. It should be done, however, in a balanced manner that recognises the benefits of VoIP technology. For instance, VoIP technology might offer access to emergency services at times when traditional services do not because of network overloading.
- 3.35 One respondent was fully supportive of the need to ensure that consumers are well informed and, because of this, the industry had produced a voluntary code of practice in conjunction with Ofcom and consumer groups and this requires, amongst other things, that consumers should be informed under which circumstances emergency services access might fail. A co-regulatory approach in relation to consumer information was supported by another respondent.
- 3.36 A number of other respondents stated that consumer information in relation to the potential for emergency services access to fail was important where the service was marketed as a replacement for a consumer’s primary access service. It was not necessary for secondary lines to provide emergency services access and therefore consumers need not be forewarned.

**(iii) Ensuring maximum availability of emergency services access**

- 3.37 Respondents broadly agreed that easy access to emergency services was critical. They did not, however, necessarily agree on the best means of maximising availability or that Ofcom's objective should be to ensure that "maximum availability" of emergency services access.
- 3.38 Organisations concerned with public safety were the chief proponents of mandatory access to emergency services. One respondent stated that market forces could not determine the appropriate level of emergency services access. Two others stated that access to emergency services needed to be provided as a basic minimum. Others made similar observations. One stated that new services should provide equivalent resilience to traditional services whilst another stated that the benefits of emergency services access and accurate location information should not be lost or reduced as a result of changes in technology.
- 3.39 Consumer groups were similarly minded. One respondent pointed out that the consequences of lack of emergency services access could be serious whereas another stated that labelling was insufficient to ensure that consumers were well-informed as the user might not be the original purchaser of the service and therefore would not necessarily have prior knowledge of its functionality.
- 3.40 One respondent stated that "maximum availability" of emergency services access was somewhat ambiguous and could be interpreted in any number of ways. It suggested that emergency services access should be "strongly encouraged". Another respondent suggested that the objective should be to ensure "optimal" or "widespread" availability of emergency services access whereas one other stated that "high levels" of emergency services access might be more appropriate. They added that emergency services access was an essential requirement. The "optimal" provision of emergency services access was also referred to in another response. It was suggested that the maximum availability of emergency services might not be the most advantageous or appropriate solution. Ofcom's goal should be the optimal availability of emergency services access on a "society-wide" basis.
- 3.41 One respondent referred to the "pivotal" importance of emergency services access. It was suggested, however, that Ofcom should work with the industry to ensure that there is maximum availability of emergency services. It stated that it needs to be recognised that location information might not be possible in all circumstances or pinpointed with any degree of accuracy. Another respondent agreed that the location information needed to be accurate to ensure that it was useful to the emergency services. One respondent stated that mobile services offered emergency services access and location information and therefore they were a suitable alternative to traditional fixed services for emergency situations.
- 3.42 A common theme in other responses was that the linkage of emergency services access to other requirements might bring about a reduction in the provision of emergency services access. They suggested that VoIP providers might choose to bar emergency services access altogether to avoid the costs that they would otherwise incur in adhering to the commercial and regulatory requirements of providing PATS. This was broadly the view of some other respondents as well. They suggested that "best efforts" provision of emergency services combined with consumer information requirements might be more conducive to the widespread provision of emergency services access.

- 3.43 One respondent stated that the short-term loss of certain services might be outweighed by long-term consumer benefits.
- 3.44 A number of respondents suggested that it was not necessary to ensure the maximum availability of emergency services access in all circumstances and via all telephony services. Two respondents suggested that businesses may have other arrangements for handling emergency situations and may not wish to provide emergency services access via every Direct Dial In (DDI) channel. One of these also queried whether Ofcom had any evidence that suggests that subscribers might choose to 'free ride' and access emergency services access via other consumers' services.
- 3.45 Others suggested that all services need not be treated in the same way. They argued that services that were not intended to be a substitute for the end-user's traditional fixed service should not be required to provide emergency services access. In these cases, the VoIP service was incremental to the end-user's primary service. Another respondent had similar views. They suggested that services that look and feel like a traditional telephony service should provide emergency services access whereas others need not.
- 3.46 A number of respondents stated that the capabilities of VoIP technology should be recognised. They stated that the inherent resilience of the internet means that services delivered via VoIP technology might continue to work in the event that traditional networks fail.
- 3.47 One suggested that the emphasis seemingly placed on regulation of services delivered via VoIP technology suggested that there was a regulatory bias in favour of the status quo.
- 3.48 Others made more general comments in relation to the provision of emergency services access. One respondent stated that Ofcom needed to make it clear that emergency services access included access to "112" and, possibly, "101" as well. Another stated that conversational quality needs to be assured.

### **Other issues**

- 3.49 A number of respondents made additional comments that were not specifically in response to any of the proposed objectives. One respondent stated that its perception of the 2006 consultation was that Ofcom had shown a certain mistrust of services delivered via VoIP technology. It stated that Ofcom had concentrated on the negative aspects of services using VoIP technology and was not willing to rely on general consumer protection legislation and self-regulation to achieve its objectives.
- 3.50 Others suggested that there should be additional objectives. One respondent suggested that one of Ofcom's objectives should be to minimise barriers to switching. Another respondent referred to one aspect of the switching process which works against consumers. At present, as there is no standardisation of equipment, consumers might need to buy new equipment to utilise another provider's service.
- 3.51 One other respondent stated that Ofcom needs to consider the rights of the hearing impaired. VoIP technology offers additional opportunities for the hearing impaired in terms of text services and videophones and Ofcom should therefore ensure that services are provided on an inclusive basis.

## Ofcom's views

- 3.52 The three objectives set out in the 2006 consultation were not listed in order of their relative importance. Ofcom did not attach particular weights to them. Additionally, as explained in the 2006 consultation, the three objectives set out therein built on the top level aims set out in the 2004 consultation. The three objectives were consistent with the top level aims and together with those aims captured the key issues that Ofcom believed that it needed to consider in formulating policy.

### (i) Enabling innovation in a technologically neutral way

- 3.53 As explained in the 2006 consultation, Ofcom considers that regulation should avoid special treatment of one technology over another. Ofcom explained that the regulatory framework should not prevent different business models from entering the market. Respondents' views have not altered Ofcom's opinion on the importance of this objective.
- 3.54 As regards responses concerning the continued application of Ofcom's interim forbearance policy, Ofcom's views are set out in Section 4 of this document. However, given Ofcom's discontinuance of its previous interim forbearance policy, the issue as regards a service intending to be a direct replacement for the primary PATS service or not is of no relevance to the application of the GCs. Nor, therefore, does Ofcom consider that it can or should differentiate between voice services accessed via a personal computer or those accessed via a telephone handset.
- 3.55 In terms of the objective, Ofcom explained in paragraph 3.4 of the 2006 consultation that it was important to ensure that regulation of services delivered via VoIP technology did not create barriers that might limit the development of such services. Ofcom also needs to ensure, however, that the regulatory regime is not disproportionately advantageous to services delivered via VoIP technology to the detriment of services delivered via other technologies. So far as practicable, there needs to be a level playing field for technologies that deliver services that are comparable. For these reasons, Ofcom does not consider that changing the objective would add any real value.

### (ii) Ensuring consumers are well informed

- 3.56 Ofcom considers that consumers need to understand the features and capabilities of services delivered via VoIP technology and, in particular, they must be aware of the circumstances under which emergency services access might not be available. This will not, however, ensure that consumers will have access to emergency services in all circumstances. Moreover, services that are not PATS might not offer emergency services access at all. There is therefore a potential for consumer detriment. Ofcom considers that this can be mitigated to some extent by ensuring that consumers are well informed. This was most respondents' view as well.
- 3.57 Ofcom believes that, as VoIP services are sufficiently different to other voice services in that the service may be reliant on the continuation of external power supply and a broadband connection, it is reasonable to expect VoIP providers to supply additional consumer information. There are over 60 million mobile service subscriptions in the UK and Ofcom believe that the circumstances under which emergency services access might not be available due to coverage limitations are commonly known. Ofcom does not believe that the capabilities of VoIP technology are common knowledge. Ofcom's research indicates that about three in four users of services using VoIP technology that did not offer emergency services access thought that the

service provided emergency services access or did not know either way<sup>21</sup>. Ofcom considers therefore that, in the absence of information relating to the capabilities of the service (especially with regards to emergency services access), consumers might not be aware that a service might not be able to guarantee emergency services access in all cases.

- 3.58 Ofcom recognises that VoIP services might be used as, or marketed as, an incremental service to an end-user's primary connection. Ofcom does not believe, however, that it would be appropriate to differentiate between services offered as a primary or secondary connection as it could not be guaranteed that services would be utilised by end-users in such a manner. There would be no certainty at the point of sale that the service was not a direct replacement for the primary connection or that the consumer would appreciate the differences in the availability of emergency services access. Moreover, enforcement of a two-tier regime would be problematic.
- 3.59 In terms of the draft code of practice developed by the New Voice Services Working Group ("NVSWG"), Ofcom considers that the NVSWG's work was key to the development of a code which would ensure that consumers' information needs were met. The NVSWG's aim was to define best practice and establish a minimum set of consumer information requirements. The Code set out at Annex 1 is based on the Group's draft. Ofcom considers, however, that the Code, as refined, needs to be mandatory and apply to all providers of services delivered via VoIP technology to ensure that consumers are well-informed. This is explained further in Section 6.

### **(iii) Ensuring maximum availability of emergency services access**

- 3.60 Ofcom considers that a maximum availability of emergency services (incorporating both 999 and 112) is of paramount importance. The quality of emergency services access cannot, however, be guaranteed in all circumstances because services delivered via VoIP technology are reliant, in general, on the provision of services that are not always controlled by the VoIP provider. VoIP services typically need a broadband connection and, unless supplementary line-powering equipment is being provided, external power supply. The failure of either of these would mean that emergency services access, or any other services for that matter, could not be accessed by a customer.
- 3.61 The provision of supplementary line-powering is likely to increase the costs of the provision of VoIP services. The additional costs of the line-powering equipment might, potentially, make services delivered via VoIP technology less attractive to consumers. Both the technical constraints and the additional costs of line-powering equipment may delay the rollout of VoIP services and, therefore, limit consumer choice. Also, importantly, VoIP services might potentially benefit vulnerable groups in society because they are capable of offering alternative means of contacting emergency services (e.g. text or videophone).
- 3.62 In terms of current regulation, until such time as Ofcom has imposed any requirements on other providers (which do not provide emergency services access and therefore do not satisfy all the gating criteria referred to in paragraph 3.12 above), there is no requirement, at present, imposed on non-PATS providers to offer emergency services access. In the meantime, however, Ofcom considers it appropriate to achieve this policy objective that those providers captured by the new code referred to in Annex 1 to this document should provide clear and readily

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<sup>21</sup> Ofcom research

accessible information that the service does not provide access to emergency services (see Section 6 of this document).

- 3.63 Ofcom acknowledges that, as explained in a number of responses, certain VoIP providers might decide that they will not provide emergency services access altogether to avoid the costs that they would otherwise incur in adhering to the commercial and regulatory requirements of providing PATS. This, however, would be a commercial choice. On the other hand, non-PATS providers would not benefit from the rights of PATS providers, such as the more wide-ranging right to number portability that applies to customers of PATS providers (see Section 5 of this document).
- 3.64 In terms of location information, Ofcom agrees that it should be kept up-to-date. In the absence of location information, the emergency services might not be able to trace the caller's location and therefore provide the required assistance. Ofcom does not consider that it is appropriate for "nomadic" services to be excluded from the Code because reliable location information might not be available. For these reasons, the Code requires service providers (where they have reasonable expectation that, or have been informed that, the service is to be accessed from several locations) to recommend to users that they register and update their location information whenever they access the service from a new location (see section 12 of the Code).
- 3.65 With regard to the suggestions that the phrase "ensuring maximum availability" is ambiguous and that the objective should be restated so as to read that emergency services access should be "strongly encouraged", Ofcom agrees that "high levels" or "widespread" availability of emergency services access could be used equally to express the intent behind the objective. However, Ofcom considers that the explanation provided in paragraphs 3.6 and 3.7 of the 2006 consultation was clear on this point. Indeed, Ofcom specifically encompassed the high levels of emergency services access currently enjoyed from fixed voice services under this objective to "maximise" availability. Ofcom explained that the reliability of emergency services access and the ability of these services to provide reliable location information was an important feature of telephone services and that these benefits should not be lost or reduced as a result of changes in services or technologies. Ofcom also explained why there was a potential for a sub-optimal level of provision to society as a whole. For these reasons, Ofcom does not consider that it would be appropriate to change the objective as suggested.

## Other issues

- 3.66 In terms of respondents' other comments, Ofcom recognises that VoIP technology will bring benefits to society. Indeed, Ofcom explained in paragraph 3.2 of the 2006 consultation that VoIP technology might transform the provision of voice services and also listed some of the benefits that might be delivered (which have been noted again at paragraph 3.15). The main focus of the 2006 consultation was, however, on the regulatory regime that should apply to services delivered via VoIP technology immediately following Ofcom's discontinuance of its interim forbearance policy.
- 3.67 On switching, Ofcom agrees that ease of switching is critical for consumers to enjoy the benefits of innovation and competition. This is implicit in our aim to enable innovation through avoiding creation and/or removing barriers to the development of VoIP services. Ofcom considers that – even if it had the powers to do so – it would be premature and inappropriate at this stage of market development to set prescriptive standards for consumer equipment, network quality and audio quality.

- 3.68 In terms of the potential benefits of VoIP technology, Ofcom agrees that services provided via VoIP technology and other related IP-based services offer new opportunities for disabled and vulnerable users. However, Ofcom considers that, at this stage in the market development, it is not appropriate to require services delivered via IP technology to offer services beyond the requirements already required by regulation (for instance, under GC 15).

### Ensuring access to emergency services going forward

- 3.69 In the 2006 consultation, Ofcom outlined a number of challenges that it considered the market faced in ensuring maximum availability of emergency services access. There were two inter-linked factors resulting from the regulatory framework that could work against this aim.
- 3.70 The first issue, as explained above, is that the regulatory framework has the potential to create a disincentive for providers to offer emergency services access. This is because, as explained above, emergency services access is one of the four gating criteria that in combination would mean that the service offered would be regulated as PATS. Providers offering services might choose to bar access to emergency services to avoid the additional commercial costs and regulatory obligations that apply to PATS providers.
- 3.71 The second related issue was that certain PATS obligations (e.g. GC 3 and GC 4) have, in Ofcom's understanding, been drafted with PSTN technology in mind and largely on the basis that the service provider would also be the provider of the access network and so would be able to control end-to-end network integrity. This creates uncertainty for VoIP providers so further increasing the disincentive to provide emergency services access.
- 3.72 The 2006 consultation proposals sought to address this issue through reducing the disincentives to offer emergency services access through a number of mechanisms including: restricting the more wide-ranging number portability rights afforded to customers of PATS providers (which, by definition, offer emergency services access); requiring all operators to provide information on their service features; and, providing guidance (contained in Annex 6 of the 2006 consultation) on how VoIP service providers could meet PATS obligations. Ofcom considered that this approach combined with strong consumer preference for services with emergency services access and the fact that most services were being used as secondary lines (which meant that existing services with emergency services access were not being substituted) would ensure good continued provision of emergency services access.
- 3.73 However, after considering the responses, Ofcom considers that it should review the issue of how to ensure maximum availability of emergency services access in the long term. There are a number of developments that Ofcom currently believes together warrant a reassessment of this issue. They include:
- since the 2006 consultation, there has been a rapid increase in growth of VoIP services thus increasing the potential for consumer detriment. Most recent survey data suggested that there approximately 18% of those who have access to the Internet at home have used VoIP services<sup>22</sup>;
  - a) VoIP service providers do not appear generally to be offering emergency services access, despite Ofcom's original intention behind its interim forbearance policy

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<sup>22</sup> Ofcom Communications Tracking Survey 2006.

and the incentives set out in the 2004 consultation that were intended to encourage emergency services access; and

- b) there appears to remain a large degree of confusion about the availability of emergency services access from VoIP phones and this could lead to delay in consumers successfully contacting the emergency services. Ofcom's research indicates that about three in four users of services using VoIP technology that did not offer emergency services access thought that the service provided emergency services access or did not know either way.

3.74 Therefore, it seems to Ofcom that ensuring access to emergency services may be a crucial issue moving forwards and one which requires further consideration. For these reasons, Ofcom intends to consult further on access to emergency services (and in particular, on whether (and, if so, how) certain VoIP services should be required to offer emergency services access). At present, Ofcom expects that such consultation will commence this summer. For now, however, Ofcom considers that the Code set out at Annex 1 to this document establishes the requirements that shall apply to providers of Public Electronic Communication Services (to the extent it comprises the conveyance of speech, music or sounds), including those offering services via VoIP technology. In addition, Ofcom intends to monitor whether it should make further proposals to amend that code, should Ofcom's review of emergency services access suggest that it is necessary to do so.



## Section 4

# Application of the General Conditions

## Introduction

- 4.1 VoIP services differ from traditional PSTN voice services. They offer different features and, in many cases, services might be delivered over infrastructure over which the VoIP service provider has limited control. This raises a number of issues for providers of VoIP services and the underlying network providers. Indeed, a number of the issues that stem from the disengagement between the service and the network over which it is provided were addressed in the 2006 consultation. Ofcom expects, at present, to consider whether the application of relevant GCs needs to be reassessed, to the extent it is possible to do so (particularly taking into account the present Community law requirements in the regulatory regime), in its forthcoming review.
- 4.2 In the meantime, Ofcom sets out in this Section how the issues it raised in the 2006 consultation may apply to VoIP service providers as the regulation currently stands. Specifically, the structure of this Section is as follows:
- the sub-section headed *Discontinuance of interim forbearance policy* restates that the discontinuance of Ofcom's interim forbearance policy as introduced in the 2004 consultation, which means that with effect from the publication of this document all providers of PATS (including any VoIP services constituting PATS) will be subject to immediate enforcement action by Ofcom in terms of complying with relevant GCs;
  - the sub-section headed *Withdrawal of the Essential Requirement Guidelines* clarifies that, following Ofcom's withdrawal of the Essential Requirements Guidelines, it will instead apply the 'reasonably practicable' test set out in GC 3 on a case-by-case basis, including to any VoIP services subject to the requirements in GC 3;
  - the sub-section headed *Guidance on application of PATS obligations to VoIP providers* deals with Ofcom's guidance on the application of certain PATS obligations to VoIP service providers, together with Ofcom's views for adopting the guidance (which is set out in Annex 5 to this document), particularly with regard GC 3 and GC 4;
  - the sub-section headed *Proposed approach for network providers who carry third-party PATS services* sets out Ofcom's approach for infrastructure (network) providers who carry third party PATS VoIP services;
  - the sub-section headed *Approach to nomadic services in longer term* sets out Ofcom's anticipated approach to deal with nomadic services which are expected to dominate in the future;
  - the sub-section headed *Ofcom's review of the General Conditions* explains how VoIP services are expected to be taken into account by Ofcom when it reviews the GCs; and

- the sub-section headed *Ofcom's input into the Commission's review of the regulatory framework* deals with Ofcom's plans to input into the Commission's ongoing review of the regulatory framework.

## Discontinuance of interim forbearance policy

### Background

- 4.3 In September 2004, Ofcom adopted an interim forbearance policy in relation to the regulation of VoIP services. Ofcom recognised that a balance needed to be struck between the wish to create an environment in which VoIP services could flourish and the need to ensure consumers were properly informed about the capabilities and limitations of these new services. Ofcom considered that consumers needed to be able to make informed choices and take advantage of these new services.
- 4.4 This interim policy meant that, amongst other things, VoIP service providers could provide access to emergency services without having to meet all of the associated PATS obligations. Ofcom's view was that requirements to meet PATS obligations might present a barrier to the provision of VoIP services and therefore VoIP service providers might choose not to offer emergency services access. Ofcom therefore decided that, until such time it had had a full opportunity to consider the matter, it was better to apply that policy in respect of those VoIP services offering emergency services access – albeit that they might not be entirely reliable – than discourage VoIP service providers not to provide such access at all.
- 4.5 As explained in the 2006 consultation, Ofcom then concluded that it could not continue with its interim forbearance policy as it would be inconsistent with the regulatory framework. In particular, as already explained in Section 3 of this document, Ofcom concluded that:
- where a VoIP service meets all of the gating criteria set out in Article 2(c) of the USD, it automatically becomes a PATS and the provider of VoIP services would have to be regulated by reference to relevant PATS obligations imposed under domestic laws, implementing the requirements of the USD; and
  - where a VoIP service does not meet all of the PATS gating criteria, it cannot be considered to be a PATS.
- 4.6 Ofcom did not seek views on its decision to end the interim forbearance policy because it would, as a matter of law, be inconsistent with the regulatory framework for the interim forbearance policy to continue. Nonetheless, a number of respondents commented on the ending of the interim policy.

### Respondents' views

- 4.7 In Section 3 of this document, we have already summarised respondents' views concerning the continued application of Ofcom's interim forbearance in relation to the requirement to regulate, so far as is practicable, in a technologically neutral way. This is because that objective is related to the ending of the interim forbearance policy.
- 4.8 In short, as seen from Section 3, respondents' views were mixed. A number suggested that the interim forbearance policy should continue because the foundations of services delivered via VoIP technology had been laid against this backdrop. They stated that the ending of the policy might weaken the impact of services delivered via VoIP technology and reduce investment and innovation. On

the other hand, other respondents considered that interim forbearance policy was at odds with a technologically neutral approach to regulation which was one of Ofcom's key policy objective in this context.

- 4.9 One industry group disagreed with Ofcom's interpretation that any service satisfying the gating criteria (as set out in paragraph 3.12 of this document) of the PATS definition in the USD.
- 4.10 In Ofcom's understanding, the group essentially maintains that view on the basis that a complaint from a PATS provider objecting to Ofcom not enforcing PATS obligations against VoIP service providers would not succeed for the following main reasons:
- there would be no discrimination against PATS providers if non-PATS providers are *required* to offer emergency services access: "[a]ll providers still have the choice whether or not to provide "publicly available telephony services" and those that do not neither enjoy the rights, nor bear the obligations, that are associated with PATS";
  - since Ofcom is currently reviewing the GCs, it is within its gift to add a requirement to provide emergency services access to the conditions which apply to ECS providers;
  - it is extremely unlikely in the group's view that the European Commission would take infraction proceedings against the UK, even if it took the view that the provision of all the gating criteria (including emergency services access) automatically categorised a provider as PATS because Ofcom's public safety objective could arguably override such legal nuances and the Commission rarely takes enforcement action for inaccurate transposition at such a detailed level and, if it were minded to do so, it would issue a notice of its intentions first, giving Ofcom the opportunity to comply.
- 4.11 In this context, the group also refers to the 36<sup>th</sup> recital of the USD's preamble stating that the USD is not intended to attach a quality of service standard to emergency services access as such.

### **Ofcom's view**

- 4.12 For reasons already set out in this document (see, in particular, paragraphs 3.12 to 3.13), Ofcom has concluded that the USD (and therefore also the corresponding GCs) is to be interpreted so that a person is providing PATS if, and only if, all of the gating criteria are satisfied. We have also noted that that interpretation (which is supported by the Commission's Expert Group on Emergency Access) leads to the conclusion that where a VoIP service does meet all the 'gating criteria' of the PATS definition, it automatically becomes (and must be regulated as) a PATS.
- 4.13 In light of that conclusion, it follows, as a matter of law, that customers of PATS would have potential rights under the relevant GCs against their respective providers. In particular, where those rights (and corresponding obligations on providers) are established to secure compliance with Community, Ofcom considers that it cannot forbear from enforcing the relevant PATS obligations.
- 4.14 Ofcom notes the industry group's comment that it is open to Ofcom to impose a requirement on ECS providers to provide emergency services access in its forthcoming review of the GCs by way of a consumer protection measure. However, Ofcom considers that this is not a relevant consideration as regards the application of

*current* regulation. Nor does Ofcom consider that the group's speculation about the taking of any infraction proceedings by the Commission against the UK is a relevant consideration.

- 4.15 As regards the industry group's comment about the 36<sup>th</sup> recital, it is unclear to Ofcom whether and, if so, how it considers that this would affect this matter. That recital elaborates on the provisions of Article 26 of the USD, which are implemented in the UK by GC 4. So far as PATS providers are concerned, they must ensure that end-users can access at no charge emergency organisations by using the emergency call numbers "112" and "999". For the avoidance of doubt, Ofcom does not consider that this obligation in itself imposes a requirement on ECS providers to provide emergency services access. Rather, in Ofcom's understanding, the harmonising objective across the Community is that, where a provider chooses to make available PATS (and thus satisfies the said gating criteria, including access to emergency services), it would then be subject to that access obligation in GC 4.

## **Withdrawal of the Essential Requirement Guidelines**

### **Background**

- 4.16 In 1998, Oftel published guidelines on the network security and integrity requirements in Condition 20 of licences granted to public telecommunications operators under the Telecommunications Act 1984, along with criteria for the restriction of network access on the grounds of network integrity or security. These guidelines are commonly referred to as the Essential Requirements Guidelines.
- 4.17 Following the 2004 consultation on the future application of the Essential Requirement Guidelines, Ofcom withdrew them for reasons explained in the 2006 consultation. In particular, Ofcom stated that the Essential Requirement Guidelines were outdated and, going forward, it would instead apply a 'reasonably practicable' test on a case-by-case basis.
- 4.18 Given that Ofcom withdrew the Guidelines after considering responses to the 2004 consultation on our proposal to do so, we did not invite any views on this decision in the 2006 consultation. Nonetheless, a number of respondents commented on this matter.

### **Respondents' views**

- 4.19 One respondent agreed that the Essential Requirement Guidelines were outdated and PSTN-centric. They added that Ofcom must, however, exercise caution in its application of the 'reasonably practicable' test. A number of other respondents supported the proposal to use the test. Another respondent suggested that providers would need guidance in relation to network integrity and the interpretation of the test, whereas a further respondent stated that it disagreed with the withdrawal of the Essential Requirement Guidelines. It stated that Ofcom proposed to introduce VoIP-specific guidelines and the withdrawal of the Essential Requirement Guidelines was not consistent with this approach. VoIP providers would know how GC 3 would be applied, whereas others would not. It was suggested that Ofcom could ask NICC to produce technologically neutral guidelines.
- 4.20 In terms of a specific part of the Essential Requirement Guidelines, one respondent commented that the Essential Requirement Guidelines gave certain exemptions for multi-line sites (for instance in relation to line powering) and assumed that the exemption would remain notwithstanding the withdrawal of them.

## Ofcom's view

- 4.21 As explained in the 2006 consultation, the Cabinet Office has been working with industry to produce a set of guidelines intended to establish best practice for the maintenance of network resilience. Ofcom considers that these guidelines will provide a useful common reference point to the steps a network provider could take to ensure continuity of service.
- 4.22 In terms of the 'reasonably practicable' test, Ofcom would clearly need to apply this appropriately. The withdrawal of the Essential Requirement Guidelines was never intended to make it more difficult for network providers to comply with GC 3. Instead, Ofcom explained that, when the Essential Requirement Guidelines were developed, providers of call origination would usually have been expected to control the access network as well. They would therefore have control over the integrity of the access part of the network. For some time, however, services have been provided independently of the access network and therefore the Essential Requirement Guidelines no longer remained appropriate for all communications providers as, amongst other things, they did not recognise the potential differences between the network and service provider.
- 4.23 For multi-line sites, Ofcom considers that it is unlikely that an approach to line powering that was previously permitted under the Essential Requirement Guidelines (e.g. as set out in paragraph B.8 of the Essential Requirement Guidelines) would following the withdrawal of the guidelines be considered as a breach of GC 3. Nevertheless, Ofcom would approach each circumstance on a case-by-case basis (see also Ofcom's views with regard to the "reasonably practicable" test, see paragraph 4.44).

## Guidance on application of PATS obligations to VoIP providers

### Background

- 4.24 Services providers offering services via VoIP technology have previously expressed uncertainty as to how they would be able to meet obligations associated with PATS. For this reason, Ofcom drew up *draft Guidelines on the application of PATS obligations to VoIP service providers* (the "draft Guidelines") and included them at Annex 6 to the 2006 consultation. The draft Guidelines were aimed at clarifying certain issues. In particular, Ofcom explained how it might investigate compliance with certain PATS obligations (particularly GC 3 and GC 4) and the type of considerations that Ofcom would be likely to take into account.
- 4.25 Views were sought on the draft Guidelines more generally and also on specific parts of them.

### Respondents' views in general

*Question 29: Do you have any other comments on the proposed approach to investigating the application of the GCs applicable to providers of PATS in the context of VoIP?*

- 4.26 Respondents were generally supportive of Ofcom's wish to provide clarity on how compliance with GC 3 and GC 4 might be assessed. They recognised that this would help to ensure compliance with the GCs and was a sensible approach. One respondent suggested, however, that the guidelines were drafted in a PSTN-centric way and therefore were not necessarily relevant for VoIP services.

- 4.27 A number of other respondents suggested that the introduction of the draft Guidelines coupled with the withdrawal of the Essential Requirement Guidelines meant that Ofcom was treating differing technologies unequally. There was no commensurate guidance to the draft Guidelines for providers of ECNs and PTNs on how to comply with GC 3 and GC 4. One respondent stated that the draft Guidelines should have been drafted in a technologically neutral way. As they were not, Ofcom's approach was inconsistent with the regulatory framework and technology neutrality. Another respondent stated that the draft Guidelines should apply to all communications providers. One respondent stated that the regulatory regimes will need to be aligned once there is functional equivalence.
- 4.28 On other matters, a number of respondents suggested that it would not be possible to negotiate service level agreements ("SLAs") with all of the possible underlying network providers over which services might be delivered. Another respondent suggested that Ofcom needed to clarify further the basis of the risk assessments that it expected communications providers to carry out and could, perhaps, seek submissions from communications providers on how and what they intend to do in terms of their risk assessment. In effect, Ofcom would be confirming in advance whether the arrangements put in place were sufficient to ensure compliance with GC 3 and GC 4.
- 4.29 Another respondent questioned whether the draft Guidelines applied to services delivered via VoIP technology, Voice over Broadband ("VoB") services or both.

### **Ofcom's view**

- 4.30 As explained in the 2006 consultation, the general approach taken in presenting the draft Guidelines was not to set out a particular technical approach that might be taken, but to encourage in particular adoption of a formal risk assessment methodology and to set out what could be considered best practice. Such an assessment would consider the most likely failure modes of the service and identify whatever steps might reasonably be taken to mitigate the risks associated with these failure modes. The aim is to promote a responsible approach to network integrity issues, but without specifying the precise solution.
- 4.31 The draft Guidelines were in no way meant to be prescriptive or exhaustive and will, in any case, be subject to periodic review as technology evolves. The specific measures set out in the draft Guidelines were not mandatory and therefore adherence to them would not in itself be sufficient to demonstrate compliance with, for example, GC 3. Ofcom explained, however, that all communications providers providing emergency services access can reasonably be expected to carry out a formal risk assessment for that service.
- 4.32 In the event of a dispute or complaint made under GC 3 against a communications provider, Ofcom explained that the communications provider should be able to set out the steps that it had taken to meet the 'reasonably practicable' test laid out in GC 3. However, Ofcom would consider each case individually. In particular, Ofcom may take into account the technology used to provide the service and this might mean that a service provider using VoIP technology to deliver services would not necessarily be expected to offer an equivalent level of resilience as network and service providers who control the underlying network infrastructure.
- 4.33 In summary, therefore, the purpose of the Guidelines is to provide certain clarity of a general nature, particularly to assist providers delivering services via VoIP technology to meet PATS obligations following the discontinuance of the forbearance

policy. In particular, given the discussion in the 2004 consultation as to what service would in principle constitute PATS, Ofcom considers that its clarification on this concept would be particularly helpful to such providers. That said, Ofcom would expect all communications providers that are subject to the requirements of GC 3 and GC 4 to, for instance, carry out a formal risk assessment exercise in meeting their obligations under GC 3. In other words, although the guidance was particularly given to address those specific characteristics of VoIP that are not necessarily present for PSTN services, the Guidelines also provide guidance to all communications providers. Additionally, the regulatory obligations, such as the 'reasonably practicable' test set out in GC 3, do not differ between different technologies and regulation is therefore technologically neutral.

- 4.34 In terms of ensuring that each communications provider meets the requirements of GC 3 and GC 4, Ofcom does not consider that it should positively confirm in advance whether or not the procedures and measures put in place by each communications provider would meet the requirements of these particular GCs. Compliance with the GCs is a matter for each communications provider taking into account the factual circumstances. The draft Guidelines were, however, intended to offer assistance, so far as is possible, to communications providers and therefore give them greater clarity as to how Ofcom might choose to assess compliance.
  
- 4.35 On SLAs, Ofcom explained that they could be a useful way to ensure network integrity and reliability. Ofcom recognises, however, that it might not be reasonably practicable for PATS providers to negotiate SLAs with all of the underlying network providers that may deliver the service. SLAs are just one factor that Ofcom would need to consider in assessing compliance with GC 3.
  
- 4.36 In terms of the applicability of the draft Guidelines, Ofcom has used VoIP, VoB and new voice services interchangeably overtime and this might have led to a certain amount of confusion. Ofcom considers that the draft Guidelines apply equally to all services of a technically equivalent nature. For instance, services that might be nominally classed as VoIP, VoB or new voice services might have similar characteristics in that they might not be able to guarantee that they are 'always-on'. However, as explained above, other communications providers should also ensure network integrity and resilience and therefore the Guidelines might help to achieve that.

## **Overview of more detailed responses**

- 4.37 Ofcom set out a number of questions in the draft Guidelines regarding the detail set out therein. Respondents' views and responses to these are described below.
  
- 4.38 There were a number of themes that recurred through the responses. One was that the guidance should include aspects on conversational quality. Ofcom considers that it is premature to set such guidance. The other was, recognising the need for on-going cooperation and dialogue, that Ofcom and/or the NICC should facilitate industry working groups on the issues raised in the guidance. Ofcom intends to continue to work with relevant stakeholders including communications providers, government, manufacturers and NICC to facilitate the development of best practice. In view of the responses to the 2006 consultation, we expect to monitor areas where we might have a greater role to play.

## Meaning of legal terms and concepts

- 4.39 The draft Guidelines provided guidance on the meaning of certain terms and legal concepts that are relevant to determining the application of certain obligations and also set out which of the GCs applied to providers of PATS, PTNs, providers of public available ECNs and ECSs and providers of ECNs and ECSs. They were not definitive.

### Respondents' views

*Question 30: Do you have any comments on Ofcom's views on the meaning of above-mentioned terms and legal concepts?*

- 4.40 One respondent suggested that it would be helpful for Ofcom to further clarify what "reasonably practicable" means in practice. It suggested essentially that services delivered via VoIP technology might fail, even if they were provided on a best endeavours basis.
- 4.41 A number of respondents questioned whether Ofcom should attempt to interpret legal concepts that have not been tested publicly. One commented that the discussion of whether a service is "publicly available" or not was not based on statutory interpretation or case law. This respondent suggested that Ofcom should consider issues on a case-by-case basis. It also argued that the draft Guidelines did not aid interpretation of the relevant provisions. Another respondent stated that, since the Commission had not provided guidance on these concepts, it was inappropriate for Ofcom to do so. Additionally, several respondents considered that the overall concepts were inappropriate.
- 4.42 Two others commented that the regulatory framework would need tweaking to reflect the differences between services delivered via VoIP technology and traditional services. The term 'fixed location' is not sustainable.
- 4.43 On other matters, one respondent commented that Ofcom need not have included the revenue test set out in paragraph A6.45 of the draft Guidelines to establish whether a service was publicly available or not. They suggested that Ofcom needed to clarify that the substantial proportion of revenue figure related to that particular service rather than all group services. Also, it considered that it was not necessary for Ofcom to put a figure to 'substantial proportion'.

### Ofcom's view

- 4.44 On the "reasonably practicable" test, Ofcom does not consider that it can provide further guidance on what this might require in particular cases. The Guidelines are nonetheless intended to provide certain general assistance as to how Ofcom might assess compliance, bearing always in mind more generally that:
- the word "reasonably" imports an objective test, but the onus is on the relevant communications provider to establish that "all reasonably practicable steps to maintain, to the greatest extent possible" have been taken to secure compliance with the applicable obligations in GC 3; and
  - while "reasonably practicable" is in isolation a somewhat less strict standard as compared to simply what is "practicable", the relevant communications providers must show that not only that *all* such steps have been taken but also that they have so been taken "to the greatest extent possible".



- 4.45 In terms of the value of discussion on the legal terms and concepts, Ofcom's view is that the guidance is a useful tool for communications providers and helps them to understand their obligations. Ofcom should reiterate, however, that the Guidelines do not constitute or replace formal regulation. The concepts and legal definitions derive from the Act and, where the principle of consistent interpretation of Community law applies, interpreted as far as possible in light of the regulatory framework provision it seeks to implement.
- 4.46 Ofcom confirms that 'substantial proportion' of revenues refers to the particular services and not all group revenues and it clarifies that the revenue figure used was indicative only.

### **Ensuring network integrity**

- 4.47 The 2006 consultation noted that services delivered via VoIP technology are dependent on a number of elements each of which could potentially fail. The draft Guidelines set out the various steps that PATS service providers delivering services via VoIP technology could take to alleviate potential service failures and ensure service reliability and performance. Ofcom explained, however, that the steps set out in the draft Guidelines were not mandatory as such. That said, in discharging its burden of proof, the communications provider in question may particularly be asked by Ofcom why it chose not to take any of the suggested steps.
- 4.48 The draft Guidelines further noted that VoIP service providers are reliant on the capabilities of the underlying network infrastructure used to deliver the service and this could therefore present problems in meeting the requirements of GC 3.
- 4.49 The draft Guidelines stated that nomadicity presented additional problems beyond those set out above in respect of ensuring network integrity in that the user may use multiple access networks and this could make it difficult to put in place SLAs with all potential access networks.

### **Respondents' views**

*Question 31: Are there any other steps that a VoIP service provider could consider in respect of the IP network layer and service application layers to ensure network integrity?*

*Question 32: Are there any other steps that a VoIP service provider could consider in respect of parts of the underlying network that they do not control?*

*Question 33: What additional steps could a VoIP service provider take to support nomadic users with regard to maintaining network integrity?*

- 4.50 A number of respondents explained that service providers providing services via VoIP technology cannot control or guarantee service reliability for calls other than those that remain on-net. They might not control all layers of the network or know who the underlying provider is for any given call. One respondent explained that the service and connectivity are decoupled in packet based NGNs.
- 4.51 For these reasons, one respondent suggested that network providers should be prevented from degrading services (sometimes referred to as 'network neutrality'). Another respondent stated that PTNs should be solely responsible for network integrity. They both commented that GC 3 should be amended to reflect this

suggested change in responsibility and suggested that SLAs would be difficult to put in place.

- 4.52 One respondent, however, stated that the risk assessment was the best means of ensuring network integrity and that compliance with GC 3 should be based on the steps taken to ensure compliance. Service providers that had taken all possible precautions should have been seen to take all 'reasonably practicable' steps to ensure effective functioning of the network.
- 4.53 In terms of the list of measures that could be taken which were set out in the draft Guidelines, most respondents considered that the list was appropriate and comprehensive, although there were various comments regarding what was the 'best' approach to achieve network integrity. There were, however, other suggestions as to how network integrity could be improved. Suggestions included:
- guaranteeing high accessibility of the node;
  - ensuring adequate bandwidth to the Internet;
  - utilisation of industry-standard equipment;
  - utilisation of multiple Internet providers; and
  - utilisation of the newest and most robust equipment.
- 4.54 One respondent stated, however, that service providers need to decide the best means of ensuring network reliability and it was inappropriate to manage them. Another respondent suggested, quite simply, that an industry-wide meeting would be a useful means of proceeding.
- 4.55 In terms of nomadicity, many respondents suggested that, in such cases, the service provider would have limited knowledge of the underlying network provider in comparison to utilisation of the service at the user's main location. Another respondent suggested that Ofcom should support the ITU's international transmission plan.
- 4.56 One respondent suggested, however, that access network providers have an incentive to ensure network quality.

#### Ofcom's view

- 4.57 Ofcom recognises that VoIP service providers cannot necessarily guarantee network or service reliability for calls that do not remain on-net. It also accepts that there has been a de-coupling between services and networks for certain services and therefore the service provider might not be aware of the underlying access network provider in all circumstances. It is for these reasons that Ofcom considers that, at present, it should not propose to impose a mandatory requirement on a VOIP provider to enter into SLAs.
- 4.58 Nonetheless, Ofcom considers that SLAs might help to improve network integrity and therefore would consider the steps taken to secure SLAs in assessing compliance with GC 3. In terms of network neutrality, this takes several forms the most common of which is to prevent access providers from discriminating in the provision of service quality or prioritise one application or one application provider's traffic over another.

However, at present, Ofcom does not consider that this is a problem in the UK. Section 8 discusses this issue in more detail.

- 4.59 On other issues, Ofcom recognises that the list of measures that service providers might adopt to ensure network integrity was not comprehensive and notes respondents' comments.
- 4.60 In the absence of any evidence of competition or consumer concerns, Ofcom does not believe that it is appropriate for it to intervene in the setting standards for peering between interconnected networks as there are already a number of standards bodies with which industry can and does engage. For the time being, Ofcom considers that these existing processes are the appropriate place for discussions regarding standards. Additionally, it is worth highlighting that, in the area of NGN interconnection, NGNuk<sup>23</sup> has been set up to address the technical and commercial issues related to interconnection.

### **Powering of CPE**

- 4.61 The draft Guidelines set out various options that service providers might choose to use to ensure continuous supply in the event of a power outage which would otherwise interrupt service. Ofcom explained that, for PSTN services, continuity of service is ensured through line powering which provides powering from the exchange. PSTN services are not reliant therefore on external power supply. Ofcom explained, however, that it would not require line powering for VoIP CPE because this is not currently viable. Nonetheless, Ofcom explained that it would examine any steps taken to ensure continuity of service in carrying out an investigation under GC 3.

### **Respondents' views**

*Question 34: Do respondents consider whether other options to ensure continuity in the case of a power outage are appropriate?*

- 4.62 Respondents agreed generally that line powering would not be a proportionate or appropriate response to the potential failure of VoIP CPE as a result of power outages. Two respondents stated that there is widespread use of back-up batteries in terminal equipment. Others stated that there were not equivalent requirements in relation to DECT handsets or PBXs which could equally be affected by power outages.
- 4.63 One respondent suggested that a 'fail safe' provision is provided so that an analogue phone plugged directly into the CPE routes to the analogue line associated with the broadband connection.
- 4.64 Another respondent suggested that power over Ethernet might provide a solution.
- 4.65 One respondent, however, stated that every effort should be made to ensure that emergency services access remained available and that the costs of implementation of back-up power supply should not be a factor.

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<sup>23</sup> An independent NGN industry body established with a view to creating an improved framework for industry engagement regarding the development of NGNs in the UK, [www.ngnuk.org.uk](http://www.ngnuk.org.uk)

### Ofcom's view

- 4.66 Ofcom confirms it does not expect service providers to provide line powering to VoIP CPE. Nonetheless, Ofcom would consider the provisions that have been made to ensure continuity of service in the event of a power outage affecting the service.
- 4.67 Ofcom considers that, as a matter of good practice, fail-safe provisions should be provided, wherever practical. Ofcom also notes that the fail-safe proposal would only be possible where a VoIP service is being provided as a second line into a home which also has an analogue line.
- 4.68 In terms of power over Ethernet, Ofcom understands that it is not today feasible over most broadband connections. Additionally, with regard to residential consumers, the ultimate source of power would still be the domestic supply, which would not therefore solve the problem of power cuts. Furthermore, a provider using the high-frequency part of an exchange line to provide a broadband service cannot use that to provide DC power.
- 4.69 More generally, as explained in the Code (see Annex 1), Ofcom expects service providers to ensure that consumers are aware of the potential failure of the service due to power outages and all that this entails.

### **Providing location information**

- 4.70 The draft Guidelines explained that GC 4 requires, to the extent technically feasible, PTNs to make caller location information available to emergency services. Emergency location information is important to the emergency services, since it allows them to target any response to the right location. The same information also aids in crime prevention and detection. Providing such location information for a VoIP service is more difficult than for a PSTN service, since the location is not linked to the Calling Line Identity ("CLI").

### Respondents' views

*Question 35: What other steps could be taken to provide reliable location to assist the emergency services in their work?*

*Question 36: What other steps could be taken to provide reliable location to assist the emergency services in their work in the case of nomadic users?*

*Question 37: In addition to participating in the NICC working group on providing location in IP networks and 112 expert group, what other steps should Ofcom take?*

- 4.71 A number of respondents stated that location information should be provided irrespective of the costs and the regulatory framework should ensure that emergency services access is available in all circumstances. One respondent stated that voice communication was not in itself sufficient because the caller might not be able to identify where they are and this is why location information is vital.
- 4.72 Many others recognised, however, that there were significant obstacles in developing reliable technical solutions to resolve the problem of identifying location, although several pointed out there were potential solutions, including GPS and RFID. Many operators considered that the industry should work together to accelerate the development of a solution. NICC is addressing the issue of how to develop a more robust solution as are other standards bodies. One respondent suggested that NICC

should be tasked with resolving issues more rapidly. Another respondent suggested that Ofcom should consider commissioning technical research and development.

- 4.73 One respondent suggested, without further elaboration, that technical solutions will be forthcoming and that these will resolve the nomadicity issue.
- 4.74 Other respondents highlighted 'non-technical' approaches that should be used to provide location information such as:
- customers manually registering location at certain points including sign-up, periodic prompts and/or on device start-up;
  - use of a VoIP flag (to indicate to the emergency organisation that the call is from a VoIP service in which case the location information might not be reliable); and
  - smoothing the interface between operators and the emergency organisations, for example in registering data and in reverse direction tracing.
- 4.75 It was also pointed out that VoIP service providers interconnected with emergency services access operators provided by BT and C&W (i.e. the two operators that run emergency services call centres) are able to exchange a file which would include a VoIP flag indicating the location is to be confirmed before emergency assistance is dispatched.
- 4.76 There were a number of responses suggesting that Ofcom should consider technical research in this area and also that it should work more closely with manufacturers and standard bodies, such as ATIS, ETSI, IETF and 3GPP.

#### Ofcom's view

- 4.77 Ofcom's view is that it is too early at this stage for Ofcom to be prescriptive on these issues. Ofcom would encourage industry to work together and with NICC in the first instance.

### **Proposed approach for network providers who carry third-party PATS services**

#### **Background**

- 4.78 Ofcom explained in the 2006 consultation that a number of infrastructure network providers, generally those that offered Internet access, had raised concerns in respect of the application of GC 3 and their obligations under it. Their concern was that they might attract additional obligations associated with PTN providers as a result of a third party independently offering a PATS service over their network. This concern arises because a PTN, for the purposes of the GCs, is defined as an ECN which is used to provide PATS. Such communications providers could therefore be subject to PATS requirements, even though they had not intended that their network and Internet access service would be used for the purpose of providing PATS and/or they were not even aware that their network was being used to provide PATS service.
- 4.79 The 2004 consultation set out Ofcom's view that, in practical terms, it would be up to providers of PATS to take the initiative to inform the relevant network provider (over which the former's PATS are being provided) and take reasonable steps to develop an appropriate SLA. In the 2006 consultation, Ofcom stated that its current view was that it may not be reasonably practical for a PATS provider to negotiate SLAs with

the range of network providers that are used to deliver their service. However, Ofcom stated it would encourage PATS providers and network providers to develop SLAs if as part of their risk assessment addressing service reliability they see the need to address possible concerns in this area.

## Respondents' views

*Question 2: Do respondents agree with this approach for the interaction between network providers and PATS providers?*

- 4.80 A number of respondents reiterated the concern that it would not be feasible to negotiate SLAs with all communications providers who control network access and therefore it would be difficult to meet the GC 3 requirements. Others stated that the supplier of the retail service needs to ensure compliance with the GCs. There were also those that suggested that a minimum set of standards should be met and that Ofcom should monitor the situation and facilitate discussions to ensure that SLAs are put in place to ensure network integrity.
- 4.81 The responses to this question and a related one on the need for SLAs by VoIP providers who are PATS raised a similar set of issues regarding how network integrity should be delivered. VoIP service providers argued that the onus to ensure network integrity should be on those that control network access and also that they should not discriminate or charge for this capability (as part of their argument for 'network neutrality'). Access providers took the opposite view that the initiative and responsibility to agree an SLA to ensure network integrity should rest with the VoIP service provider and, in the extreme, the VoIP service provider should be obliged to have an SLA in order to meet the network integrity requirements.

## Ofcom's view

- 4.82 As described in the Guidelines, we believe that, at this stage, it is inappropriate to be prescriptive about the approach that should be taken, since it will depend on the circumstances. Instead, it is appropriate to apply the 'reasonably practicable' test set out in GC 3 on a case-by-case basis. Ofcom encourages PATS providers to consider developing SLAs as part of their risk assessment should they have concerns about network integrity and reliability and be uncertain whether or not they were compliant with the requirements of GC 3.

## Approach to nomadic services in longer term

### Background

- 4.83 In the 2006 consultation, Ofcom stated that VoIP services will become increasingly nomadic in their nature, particularly with the increase in fixed mobile converged services, such as BT Fusion and roll-out of Wi-Fi hotspots. Potentially, therefore, many voice customers served over an NGN might be classed as nomadic users for the purposes of GC 3 and, as such, those services may not be subject to the requirements in relation to access to emergency services, which apply to PATS (or, as the case may be, PTNs) provided at fixed locations.

## Respondents' views

*Question 3: Do you agree that the limitation of GC 3 obligation to providers of service at a 'fixed location' is not sustainable in the long term? What views do you have on how this may be addressed?*

- 4.84 Respondents agreed that the concept of fixed location will not remain sustainable and that this needs addressing. One respondent explained that network integrity tests need to be converged over time. They stated that the test for fixed locations should not, however, be compromised and therefore the two will differ until technical solutions enable them to be equivalent. Others suggested that network integrity tests should not compromise innovation, something that could result from these tests being too stringent.
- 4.85 A number of respondents stated that the GCs should be amended to ensure that they capture service provision at fixed locations or elsewhere and should apply equivalently. One respondent added that a user should be required to give their location and not their billing address.

### Ofcom's view

- 4.86 Many VoIP services are marketed and used as nomadic services. Ofcom considers that services provided at a contractually agreed location which is fixed in its nature (such as the end user's residential home or business) would be a service provided at a fixed location. However, there is often nothing to prevent a user technically from connecting to the service from another location (such as a Wi-Fi hotspot or Internet café). Ofcom remains of the view that the network integrity requirements in Article 23 of the USD (as transposed in GC 3) would not be relevant when the service is used in locations which were not fixed in their nature.
- 4.87 This position is not, however, satisfactory in the long-term as services are increasingly used on the move. Ofcom needs to consider this matter further and intends to do so in its forthcoming review of the GCs. Additionally, it will contribute to the Commission's ongoing review of the regulatory framework.

### Ofcom's review of the General Conditions

#### Background

- 4.88 The 2006 consultation referred to Ofcom's forthcoming review of the General Conditions. One of the main drivers for the review is developments in communications technology, in particular the growth of services using IP. The review will consider how conditions relating to the provision of networks and services are to remain applicable in the world of IP technology and effectively protect consumers' interests. In particular, it will consider whether any further changes to the regulation in relation to VoIP services should be proposed.

#### Respondents' views

*Question 4: In light of the other measures proposed in this document, are there particular issues in relation to VoIP services that should be addressed in this review?*

- 4.89 Several stakeholders agreed that a review of the GCs was useful, timely and appropriate. Respondents raised a number of areas for consideration by Ofcom when it reviews the GCs. The key ones are described below:
- Some VoIP service providers articulated the argument that any review should address the issue that access providers should be obliged to provide SLAs including availability targets for their service. Some also indicated concerns about

VoIP blocking and suggested that the review should consider imposing an obligation on infrastructure network providers to ensure open access.

- A number of public safety interest groups and consumers suggested that all VoIP service providers should be required to provide emergency services access and to conform with GC 3.
- A network infrastructure provider responded that nomadic VoIP use has an impact on access to emergency services and provision of location when used internationally.
- A manufacturer suggested that the review should assess whether VoIP service providers should measure and provide a metric on the (conversational) quality of their voice service. A consumer interest group favoured a mandatory requirement on all providers to provide video capabilities.
- A network infrastructure provider suggested that the review should aim to provide clarity on whether VoIP service providers have to populate the BT emergency service database with their subscriber details to meet the requirements of GC 4.
- Several respondents, including industry trade associations, asked that VoIP service providers should be excluded from the requirement to produce a printed directory as required under GC 8.
- An infrastructure network provider asked whether VoIP service providers currently provide services for disabled and vulnerable consumers in accordance with GC 15. A mobile operator requested revocation of the requirement to provide text relay in favour of new technology.
- A number of infrastructure and VoIP providers made comments on the use of numbers as required by GC 17. In particular, the consumer requirement for a non-geographic numbering range which has the same tariff as geographic numbers was raised. A mobile operator raised the concern that NGNs will also use Uniform Resource Identifiers (URIs) instead of traditional numbers.
- An infrastructure network provider requested that any reform of the GCs should be consistent with Community legislation to allow VoIP service providers to build pan-European services.

### **Ofcom's view**

- 4.90 Ofcom welcomes respondents' preliminary contributions to its review of the GCs. The issues raised will be considered as part of the review.
- 4.91 On the issue raised regarding the consumer requirement for a non-geographic numbering range which has the same tariff as geographic numbers, Ofcom notes that it has already responded to this requirement by opening the 03 number range for 'UK wide' services with calls charged at the same rate as calls to geographic (01 and 02) telephone numbers.
- 4.92 With regard to the suggestion that all VoIP service providers should be required to provide emergency services access and to conform with GC 3, as explained in Section 3 (see paragraphs 3.69 – 3.74), Ofcom intends to consult further on access to emergency services this summer.



## Ofcom's input into the Commission's review of the regulatory framework

### Background

- 4.93 Some of the challenges that are associated with meeting Ofcom's policy objectives in respect of VoIP services derive from the regulatory framework, rather than by UK regulation, including the applicability of nomadic services and the inter-play between the obligations of PATS providers and the underlying network providers.

### Respondents' views

*Question 5: Are there particular issues in relation to VoIP services that should be addressed in this review?*

- 4.94 During the ongoing review of the regulatory framework, several respondents proposed that the European Commission should revisit the definition of PATS to remove the provision of emergency access as a gating criteria for PATS obligations and the need to include definitions for the terms fixed, mobile and nomadic. Revisions to the USD (including Article 23) were also proposed, including recognition that a provider of PATS may not be the owner or have control of the associated underlying access network or line. One respondent argued that regulation should only apply to those VoIP services marketed as a substitute for PSTN. Also, two respondents considered that Article 29 of the USD needs to be revised in light of commercial and technological development.

### Ofcom's view

- 4.95 Ofcom and the DTI responded, on behalf the UK, and Ofcom has also contributed to the responses of the European Regulators Group ("ERG"). The latest phase of consultations closed on 27 October 2006 and both the UK and ERG responses can be downloaded from the European Commission's web page<sup>24</sup>. In particular, Ofcom has input into the review to ensure that the regulatory framework (including the Commission's Recommendation on relevant product and services markets) are appropriate for the longer term development of VoIP services and NGNs. Ofcom will also continue to contribute to the work of the ERG in seeking to ensure a more consistent approach throughout the European Union.
- 4.96 In addition, Ofcom continues working with other European regulators through the ERG to establish greater consistency in regulatory approach to services that have a pan-European potential and a significant cross-border dimension, such as VoIP services.
- 4.97 Last October, the ERG published its report on VoIP and Consumer Issues<sup>25</sup> which concluded that, in relation to the requirements concerning emergency services and numbering and number portability, there was a wide variety of regulatory approaches within the ERG Member States. Despite certain degrees of variance regarding the means – stemming from different legal cultures and nuances in the transposition of the regulatory framework – approaches taken by individual Member States were converging. The report also showed that, in relation to the requirements concerning quality of service, there is wide variance in the approaches taken by the different NRAs. In its 2007 work plan ERG is planning to work to develop a refined common approach to regulation of VoIP services. In co-operation with its ERG colleagues,

<sup>24</sup> [http://ec.europa.eu/index\\_en.htm](http://ec.europa.eu/index_en.htm)

<sup>25</sup> [http://erg.eu.int/doc/publications/erg\\_06\\_39\\_report\\_voip\\_cons\\_aspects.pdf](http://erg.eu.int/doc/publications/erg_06_39_report_voip_cons_aspects.pdf)

Ofcom will address these issues further during 2007, particularly seeking to overcome barriers to the internal market. Ofcom will also continue to contribute the work of the ERG on IP interconnection, which will include taking stock of carry over activities on IP-interconnection.

## Section 5

# Number Portability

## Introduction

- 5.1 In Section 5 of the 2006 consultation, Ofcom set out certain measures that it was taking in respect of number portability
- 5.2 After our consideration of the responses to that consultation, this Section deal with two main issues, namely:
- the implications flowing from Ofcom's decision to discontinue its previous interim forbearance policy in relation to number portability; and
  - the modification Ofcom has made to GC 18.5 concerning the definition of PATS.
- 5.3 Specifically, the structure of this Section is as follows:
- the sub-section headed *Implications on ending the previous interim forbearance policy* sets out the immediate implications flowing from Ofcom's decision to discontinue its previous interim forbearance policy in relation to number portability;
  - the sub-section headed *Modification of the PATS definition in GC 18* sets out the modification to GC 18.5 as proposed in the 2006 consultation;
  - the sub-section headed *Impact assessment on modification of General Condition 18.5* presents Ofcom's assessment of the likely impact of implementing that proposal as set out in the 2006 consultation;
  - the sub-section headed *Responses to the consultation and impact assessment* sets out the responses received by Ofcom on that proposal;
  - the sub-section headed *Ofcom's views* sets out Ofcom's conclusions and views on those consultation responses; and
  - the sub-section headed *Tests set out under the Act for modifying GC 18* sets out Ofcom's assessment as to how the modification satisfies the relevant statutory tests for making modifications to the GCs.

## Implications on ending the previous interim forbearance policy

- 5.4 For reasons already explained in Section 4 of this document, Ofcom explained in the 2006 consultation that it had concluded that it could no longer continue with its interim forbearance policy as it would be inconsistent with the regulatory framework. In particular, Ofcom considered that the discontinuance of the interim forbearance policy with respect to number portability will help to ensure that the relevant end-user (subscriber) interests are adequately protected in line with Article 30 of the USD.
- 5.5 As part of that policy, Ofcom clarified in its 2004 consultation how number portability rights would be affected during the interim period when that policy would be applied. Essentially, that policy meant that number portability rights would be restricted to

those providers who, being PATS, complied with the relevant PATS obligations in the GCs.

5.6 However, we explained in the 2006 consultation that the discontinuance of the interim forbearance policy with respect to number portability would take effect first on the publication of today's statement but from this date Ofcom noted that each and every communications provider would be required to:

- provide number portability as soon as it is reasonably practicable on reasonable terms, including charges, to any of its Subscribers who so requests where the service in question falls within the meaning of a PATS (as modified: see Annex 4 to this document), in accordance with that provider's obligations under GC 18.1; thus, this obligation applies to both VoIP and non-VoIP service providers who provide PATS to their Subscribers;
- pursuant to a request from another communications provider, provide portability (as defined in GC 18) (other than paging portability) as soon as it is reasonably practicable in relation to a request from another communications provider on reasonable terms in accordance with that provider's obligations under GC 18.2 and irrespective of whether (or not) the other communications provider complies with relevant GCs other than GC 18; and
- provide portability in accordance with the above-mentioned obligations under GC 18.2 without, prior to providing such portability, requesting proof (or written confirmation) from the other provider that he actually provides PATS; as further explained in the guidelines at Annex 6 of the 2006 consultation.

5.7 Accordingly, all such providers will now be subject to immediate enforcement action by Ofcom in securing compliance with the above-mentioned requirements.

### **Modification of the PATS definition in GC 18**

5.8 In 2003, as explained in the 2004 and 2006 consultations, the Director General of Telecommunications (the "Director") inserted into GC 18 a definition of PATS which was a different definition to that used for other GCs dealing with PATS obligations. The reason for this was, in essence, because the standard definition of PATS (as set out in the USD) does not, on the face of it, in itself provide for the porting of non-geographic services which do not include the ability to make calls, such as freephone services that are, by their nature, 'receive-only' services<sup>26</sup>.

5.9 Ofcom noted that the Director had justified this different definition of PATS for the purposes of GC 18 on the basis that it was clearly not the intention of the USD to exclude such services from rights to number portability, given that Article 30(1)(b) of the USD expressly provided for subscribers' rights to be ensured in relation to number portability for non-geographic numbers (which term, by its own definition in Article 2(f) of the USD, includes mobile, freephone and premium rate numbers).

5.10 However, Ofcom further noted that, in every other regard, the Director intended that GC 18 should reflect Article 30 of the USD, including the overarching policy that the rights afforded to subscribers should be tied to PATS, that is to say, a service which is available to the public; for originating and receiving national and international calls and emergency services access through a number or numbers in a national or

<sup>26</sup> For instance, a freephone service would not be classified as PATS (using the four gating criteria model) since it does not provide outgoing calls or access to emergency service

international telephone numbering plan. It was in this light that Ofcom set out its interim policy in respect of number portability in the 2004 consultation. In that consultation, Ofcom recognised, however, that it would seek steps to resolve the tension over the definition of PATS given in GC 18.5 and to ensure the continued provision of portability for receive-only non-geographic numbers.

- 5.11 Therefore, in the 2006 consultation, Ofcom consulted on its proposal to modify GC 18 so as to substitute the definition of PATS at GC 18.5 which read:

“Publicly Available Telephone Service” means a service made available to the public for originating and receiving, or only receiving, national and international telephone calls through a number or numbers in a national or international telephone numbering plan;

for the following new definition of PATS:

“Publicly Available Telephone Service”:

(a) in relation to a service to be used with a Telephone Number for receiving calls only under the contract between the person and the provider in question, means a Public Electronic Communications Service for only receiving national and international telephone calls through a number or numbers in a national or international telephone numbering plan.

(b) in relation to a service to be used with a Telephone Number for originating and receiving calls and access to Emergency Organisations under the contract between the person and the provider in question, has the meaning ascribed to it under paragraph 1 of Part 1 of this Schedule;

- 5.12 The proposed amendment was thus aimed at resolving the tension that had arisen unintentionally by the Director’s implementation of Article 30 of the USD in 2003.

## **Impact assessment on modification of General Condition 18.5**

### **Overview**

- 5.13 The analysis presented in this sub-section, when read also with the rest of this document, represents an impact assessment in accordance with section 7 of the Act. In making the following assessment, we have considered all comments received during the consultation period as well as taken into account our guidelines<sup>27</sup> entitled *Better Policy Making*, which were published on 21 July 2005.
- 5.14 By way of introduction, impact assessments provide a valuable way of assessing different options for regulation and showing why the preferred option was chosen. They form part of best practice policy-making and are commonly used by other regulators. This is reflected in section 7 of the Act, which generally means we have to carry out such assessments where our proposals would be likely to have a significant effect on businesses or the general public, or where there is a major change in Ofcom’s activities.

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<sup>27</sup> [http://www.ofcom.org.uk/consult/policy\\_making/guidelines.pdf](http://www.ofcom.org.uk/consult/policy_making/guidelines.pdf)

- 5.15 We have already referred in this document to Ofcom's principal duty in carrying out its functions, which is to further the interests of citizens in relation to communications matters, and to further the interests of consumers in relevant markets, where appropriate by promoting competition. We have also referred to Ofcom's additional statutory duties for the purposes of fulfilling community obligations. In relation to the modification discussed above, Ofcom has considered and acted in accordance with all of the relevant requirements in the Act and, in particular, its duty to further both the interest of citizens and consumers in relevant markets, where appropriate by promoting competition.
- 5.16 In the 2006 consultation, Ofcom considered that, in light of the above, there were two broad options to resolving the above-mentioned tension concerning the PATS definition in GC 18. First, Ofcom could simply maintain the *status quo*, so that the PATS definition remains as it is, that is to say to do nothing in respect of the PATS definition. We refer to this alternative as “**Option 1**” below. Secondly, and in the alternative, Ofcom could modify the PATS definition for the purposes of GC 18 as set out above. This is referred to as “**Option 2**”, which was the preferred option in our consultation.
- 5.17 For reasons set out below following our consideration of the consultation responses, we remain of the view and have decided that:
- making changes to the wording of the PATS definition in GC 18.5 is both desirable and necessary to provide legal certainty; and
  - the specific wording proposed under Option 2 is the most appropriate in ensuring that GC 18 aligns with the underlying policy objectives.
- 5.18 We set out below our assessment of each of these two alternative options. In particular, we set out the costs and benefits identified flowing from the impacts which each option is likely to have. We also assess the key risks associated with each option. In light of that assessment, we finally set out our further assessment as to how the modification satisfies the relevant statutory tests for making modifications to the GCs. Taken together, these assessments explain the effect of, and Ofcom's reasons for making, the modification set out at Annex 4.

## Option 1: ‘Do nothing’

### Costs

- 5.19 In the 2006 consultation, Ofcom stated that the main cost of not making the proposed modification to the PATS definition in GC 18 (as it currently stands) was that the maintenance of it was likely to give rise to legal uncertainty in terms of how Ofcom would interpret, apply and enforce the regulation in question.
- 5.20 In particular, such uncertainty could possibly arise from the situation where a subscriber seeks to transfer a geographic number from their existing provider to another provider. This point could be illustrated in further detail by taking the example where a subscriber requests number portability of a geographic number from a PATS provider to (say) a provider of VoIP services, which is not providing emergency services access. In such a case, it is possible that the provider of VoIP services may seek to rely on the current definition of PATS for the purposes of GC 18.5, which (as discussed above) was intended to deal with number portability in respect of services using non-geographic numbers and geographic inbound-only numbers. As seen above, that definition excludes any reference to emergency services access. In this

case, the PATS provider from whom the subscriber wishes to transfer the geographic number in question could be advised that, by reference to express terms of GC 18, it could not refuse portability of the geographic number to the VoIP service provider simply on the ground that the VoIP service provider does not provide emergency services access as, strictly speaking, the VoIP service could satisfy the current definition of PATS as used in GC 18.5.

- 5.21 This example shows that the cost of maintaining the status quo is the risk that some providers might rely on the current definition of PATS in GC 18 in their commercial dealings with other providers to argue that they are not required to provide emergency services access to qualify as PATS. This would appear to open the possibility of providers of certain services (such as VoIP services) not providing emergency services access, yet believing or claiming that they are to be treated as PATS providers for all purposes under GC 18. Their incentive to be considered as PATS providers in respect of GC 18 is that they are then able to offer number portability to their subscribers.
- 5.22 This scenario, however, is clearly at odds with the policy intention of ensuring that, except in relation to a service to be used with a non-geographic number and inbound-only geographic numbers, number portability rights are restricted to those services meeting the four PATS gating criteria (which includes emergency services access). In other words, where a provider's service constitutes PATS by satisfying all the above-mentioned gating criteria, the provider in question must comply with all relevant PATS obligations but, at the same time, benefiting ultimately from the ability to request portability from another PATS provider under GC 18 to gain custom.
- 5.23 The main practical adverse implication of a regime that may be more open to the possibility of VoIP service providers being granted number portability (where they are not offering emergency services access) is that it makes these providers more attractive to consumers, relative to the case where these providers are unable to port in numbers. In other words this could reduce the incentive to offer emergency services access. This follows from the fact that the ability to take their phone number with them when switching providers is a key attraction to consumers. Put another way, the lack of ability to port their number represents a barrier to switching for consumers. This reflects the value that consumers place on their existing number<sup>28</sup>. The net impact is a greater than otherwise uptake of VoIP services which do not offer emergency services access. One potential consequence of the availability of voice services without emergency services access is that consumers/operators may 'free-ride' by purchasing/offering a low cost service with no or limited emergency services access, whilst relying on customers of a other networks for emergency calls if the need arises. To the extent this is a prevalent factor, this could over time compromise the provision of networks with emergency services access.
- 5.24 The above presents a qualitative discussion of the potential costs of maintaining the status quo. These costs appear to be potentially considerable. However, the quantification of these costs is not straightforward, since these costs relate to the competitive disadvantage experienced by providers due to the ongoing uncertainty of whether services are legitimately PATS.

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<sup>28</sup> Research carried out for Ofcom's *Strategic Review of Numbering* suggests that consumers on average place a value of at least £6 on avoiding a change to their number.

## Benefits

- 5.25 In the 2006 consultation, Ofcom stated that the benefits of maintaining the status quo appeared limited to the general benefit derived from not imposing changes to an existing framework. This would obviate any need to communicate changes to industry stakeholders. One might argue that the intention of the regulatory framework is sufficiently clear such that formalising it in the GCs is unnecessarily regulatory.
- 5.26 It could be argued that a further benefit is the reduced burden to offer emergency services access as a result of the legal ambiguities the entry barriers for VoIP services are lowered. Where VoIP service providers are offering number portability, they will offer a more attractive proposition to consumers, especially in the case of second lines. The absence of emergency services access reduces the cost and hence price of these services, thus further enhancing the appeal to consumers.

## Risks

- 5.27 In the 2006 consultation, Ofcom stated that the risks of maintaining the status quo appeared to revolve around the high probability that the inconsistency in the definitions will continue to engender unnecessary uncertainty for all providers (including PSTN and VoIP) of what comprises their regulatory rights and obligations.

## **Option 2: Modify the definition of PATS**

### Costs

- 5.28 In the 2006 consultation, Ofcom stated that the costs of this option appeared quite contained. The change would not impose any material costs on providers of PATS (including VoIP services), and would only amount to a nominal administrative cost to Ofcom.
- 5.29 Providers of VoIP services would potentially lose the competitive advantage over traditional operators resulting from the legal inconsistency. That is, VoIP service providers could no longer offer number portability as an attraction to consumers where they are in addition not offering emergency services access, this raises entry barriers for these providers. However, this is arguably not a legitimate cost of public policy; it is better seen as an alleviation of a competitive distortion.

### Benefits

- 5.30 In the 2006 consultation, Ofcom stated that the benefits of this option would arise principally from the considerable enhancement of clarity and consistency of relevant definitions, and formally bringing the GCs into line with the express intention of public policy. More specifically, the proposed change to the PATS definition in GC 18 would mean that all parties are clear on the position as regards providers' ability to port in geographic numbers where these numbers do not provide emergency services access.
- 5.31 As explained above, the current definition of PATS in GC 18 introduces unnecessary uncertainty in how this applies in the context of NP. The proposed modification alleviates this uncertainty. With these changes, it should be clear that the provision of number portability for geographic numbers requires the provision of emergency services access. That is, VoIP service providers will not be able to invoke the GC 18 definition of PATS as a basis for claiming that they have the right to port in geographic numbers even where they do not provide emergency services access.



The proposed changes make clear that the exemption in respect of the requirement to provide emergency services access in order to qualify as PATS applies only to non-geographic numbers, as well as to geographic receive-only numbers.

- 5.32 This clarification of the legal standing of VoIP service providers in respect of their number portability rights results in the matching of the legal regime to common sense policy. Where VoIP service providers are not providing emergency services access, it would amount to a competitive non-neutrality to have a regime which allowed them to port in geographic numbers when, at the same time, traditional voice providers are required to offer emergency services access before qualifying for number portability. It is important to recognise that, against the obligations, a major incentive to become PATS is the ability to offer number portability to subscribers. Were it the case that VoIP service providers could enjoy the benefits of offering number portability without incurring one of the major costs of PATS – i.e. good quality emergency services access – the point of the incentive-based system to become PATS is undermined. In the case of non-geographic and receive-only geographic numbers however, the relevance of emergency services access is negligible.
- 5.33 Thus, the main benefit of the proposals is to align the legal regime with broad policy aims. In absence of these proposals, uncertainty would remain as to the conditions under which number portability and emergency services access is a right and an obligation, respectively.
- 5.34 Further, the clarification addresses the potentially harmful consequences of maintaining the inconsistency in the definition of PATS. In the absence of the clarification, it is possible that VoIP service providers may claim to be PATS where they do not offer emergency services access, and represent to consumers that they are a substitute for traditional voice services. This raises serious consumer protection, as consumers may not be aware of the lesser quality of emergency services access on VoIP devices.
- 5.35 In addition, as discussed above, the clarification of the inconsistency means that it is less likely that voice services with number portability but without emergency services access will be offered in the market. As a result, the free-rider problem – where consumers rely on good quality emergency services access purchased by others – is less likely to be present, and hence the investment in services with emergency services access is not threatened.

## Risks

- 5.36 In the 2006 consultation, Ofcom stated that the risks arising from making the clarification to the definitions were likely to be low. One possible risk might be that the clarification is unnecessary, in the sense that all market players are clear under the current regime. However, Ofcom considers, as argued above, that there is sufficient uncertainty to justify the proposal.
- 5.37 Another potential risk is that the proposal somehow acts to unnecessarily stifle the development of the VoIP services market. In the absence of this clarification, it is possible that VoIP market players might enjoy the benefits of the easier access to number portability. As discussed, in the absence of the clarification, VoIP players may benefit from being able to offer number portability for geographic numbers, whilst also not offering emergency services access. This both makes VoIP services more attractive and lowers barriers to entry.

- 5.38 Ofcom does not consider, however, that this risk is a material one. The VoIP services market is expected to flourish over the next few years due to a range of factors. In any event, Ofcom does not believe that the VoIP market should be able to develop artificially via exploiting a legal loophole.

### Ofcom's provisional conclusion in the 2006 consultation

- 5.39 In the 2006 consultation, Ofcom considered that Option 1 was likely to be associated with immaterial benefits and some costs arising from the continuance of the inconsistency and that in contrast, the modifications to the definition of PATS (as under Option 2) were likely to give rise to minimal costs and relatively substantial benefits.
- 5.40 Therefore, in that light, Ofcom proposed in the 2006 consultation that Option 2 represented the more sound regulatory decision.

## **Responses to the consultation and impact assessment**

### **Overview**

- 5.41 In the 2006 consultation, Ofcom invited consultation responses on its proposed modification. In particular, it asked the following question:

*Question 6: Do you have any comments on Ofcom's proposed modification to the PATS definition in GC 18?*

- 5.42 Several respondents supported Ofcom's proposal to modify GC 18.5 and to link rights to number portability to PATS and therefore compliance with other PATS-related general conditions, such as emergency services access.
- 5.43 However, several respondents disagreed with Ofcom's proposed policy, proposed modification or both. The issues raised by the respondents disagreeing with Ofcom's proposal can be grouped under the following sub-headings (which we will address, in turn, below):
- the principle of Ofcom's policy;
  - the use of number portability as an incentive for providers to offer PATS services;
  - the drafting of the proposed modification; and
  - the number portability processes.

### **The principle of Ofcom's policy**

- 5.44 A few respondents disagreed with Ofcom's fundamental policy approach.
- 5.45 One respondent – a VoIP service provider – stated that Ofcom's proposals and the impact assessment were based on what it described as a new notion of "competitive neutrality", which it stated appeared to be designed to discriminate in favour of providers of PATS in the context of number portability. This respondent stated that the impact assessment was biased in supporting a particular policy direction, which is harmful to UK consumers, explicitly favours incumbent providers and stifles the development of certain types of VoIP services.

- 5.46 The primary concern of this respondent was its view that no provision or other suggestion can be found in the regulatory framework, which would justify the exclusion of customers of products or services other than PATS from the right to port their numbers (out or in). That is, it states the regulatory framework merely creates an explicit right for customers of PATS, not a prohibition or restriction for customers of other products or services to benefit from number portability. The respondent also noted that customers of non-PATS services, for instance services using classic non-geographic numbers, have been entitled to number portability for many years.
- 5.47 Another respondent – also a VoIP service provider – raised the same issue, i.e. that number portability is a consumer right. This respondent stated that Ofcom's principal duty in carrying out its functions as prescribed by the Act is to further the interests of citizens in relation to communications matters and to further the interests of consumers by promoting competition. This respondent stated that regulation should be developed in such a way to ensure there is no discrimination in portability rights and obligations between different network platforms and that consumer choice is not restricted by denying the right of all consumers to retain their telephone numbers when switching providers regardless of whether or not the services in question are PATS or non-PATS. The respondent stated that on the basis of technological neutrality, it believed that the rights and obligations relating to number portability should be consumer driven and not restricted by the type of service offered by communications providers.
- 5.48 This respondent also stated that it seemed implicit in Ofcom's proposed policy that a PATS provider should not provide number portability to non-PATS providers and there is an implication that number portability should not be provided between non-PATS providers.
- 5.49 This point was echoed by another respondent who stated that Ofcom was misinterpreting GC 18 and failing to comply with Article 30 of the USD. This respondent argued that the rationale of Article 30 was to give subscribers of PATS a right against their provider, not principally to give providers of PATS a right against other providers. Therefore, in denying a right to number portability of a VoIP service, this respondent stated that Ofcom was, in fact, denying number portability to PATS subscribers.
- 5.50 This respondent went on to state that there is already no reason why two providers cannot strike a commercial number portability agreement, even if the recipient provider is non-PATS. Therefore, this respondent stated that Ofcom should go further than the USD and modify the definition of "Subscriber" to include subscribers to ECS and modify the definitions of "Number Portability" and "Portability" to remove the reference to subscribers of PATS only.
- 5.51 Another respondent acknowledged the current regulatory framework and agreed that, certainly in the short-term, number portability "rights" and "obligations" would continue to reside with PATS defined services. However, they expressed concern that Ofcom's policy gave the impression that providers are not free to negotiate portability between ECS and ECS, PATS and ECS, and vice versa if they choose to do so. This respondent also supported the extension of number portability "rights" and "obligations" to the provision of all services, subject to the condition that no asymmetry exists in regulatory obligations and/or requirements between service providers.
- 5.52 This respondent also stated that safeguards should be put in place to ensure that a PATS provider cannot choose to allow number portability to its own non-PATS

service, whilst systematically refusing number portability to other non-PATS services. This would not only be discriminatory, but would lead to consumer confusion with regards their number portability rights.

- 5.53 Several respondents stated that, according to the USD, number portability is a “right” of PATS users; this is not in any way a prohibition on non-PATS users or service providers to voluntarily provide or agree with other telecommunications industry members to provide number portability to their customers (via agreed processes).
- 5.54 Two respondents raised issues relating to inter-platform portability, e.g. to, from or within fixed-mobile convergent (“FMC”) services. These respondents stated that this raised issues relating to number ranges, portability procedures and appropriate termination rates.

### **The use of number portability as an incentive for providers to offer PATS services**

- 5.55 Several respondents commented on Ofcom’s aim of incentivising emergency services access by linking number portability rights to providing PATS.
- 5.56 One respondent noted that it supported Ofcom’s proposal on the basis that it could strengthen the incentive on providers to provide emergency services access, but stated that it did not consider this incentive sufficient to ensure emergency services access.
- 5.57 A communications provider stated that rights and obligations with regard to emergency access provision, numbering, number portability and directory inclusion should be addressed via separate and decoupled obligations particular to each policy area.
- 5.58 Another communications provider disagreed with the policy approach of using number portability as an incentive to encourage emergency services access, noting situations where such access is not an essential part of the service to be provided (e.g. many business services). It stated that adding the requirement for PATS before allowing portability would discourage innovation in such services.
- 5.59 Another respondent stated that – while understanding Ofcom was keen to provide an incentive to VoIP providers to offer access to emergency services – it believed that taking a pragmatic approach to the application of GC 3 and other conditions applying to PATS would itself provide VoIP operators with the confidence to provide access to emergency services.
- 5.60 Another respondent stated that they did not believe increasing the provision of access to emergency services should be achieved by denying the right to number portability not only to subscribers of VoIP ECS, but also to subscribers of PATS who wish to switch to a VoIP ECS.
- 5.61 One respondent stated that its experience of number portability, especially in a non-geographic context, suggests that, whilst the majority of providers see number portability as a benefit, there are likely to be a residual number of providers who would wish to offer emergency services access but not to incur the costs of number portability.
- 5.62 Therefore, an unintended consequence of Ofcom’s proposals may be that companies who may wish to provide access to emergency services, or do so already under the

forbearance policy, will reconfigure their service so that it no longer qualifies as a PATS service. This would work against Ofcom's objective of ensuring maximum access to emergency services.

### The drafting of the proposed modification

- 5.63 Some respondents stated that, while they agreed with the policy aims of Ofcom, they considered the proposed modification would not deliver these aims.
- 5.64 One respondent stated that both the original definition and the proposed modification link portability to provision of inbound national and international service. However, as 09 is not available from overseas, in reality 09 numbers would not be portable if a strict interpretation of the regulatory condition was applied.
- 5.65 The same respondent noted the reference to "telephone numbers in a national or international numbering plan" and stated that from a numbering perspective Ofcom has jurisdiction only over the UK national telephony numbering plan. They stated that they did not believe that Ofcom had jurisdiction in relation to portability of other international numbers if used in the UK, e.g. Universal Freephone (00800), European Telephony Numbering Space (003883), codes assigned directly by ITU for Networks (e.g. C&W has 008822), Inmarsat codes if used on UK terminals (00970 etc).
- 5.66 Several respondents stated that VoIP service providers should not be able to rely on provisions intended for 08 to demand number portability without being PATS and expressed a concern that the proposed modification may not deliver this. For instance, a provider offering inbound and outbound as two separate contractual services would still be able to demand number portability for the inbound service without offering PATS on the outbound.
- 5.67 A number of respondents – including both traditional network operators and VoIP service providers – stated that the proposed drafting appeared to allow a VoIP service provider to use distinct and separate number blocks for inbound and outbound services, choosing not to meet the PATS obligations in respect of any outbound service, but nonetheless able to qualify for portability by virtue of using a non-geographic number to terminate inbound services regardless of whether emergency calling was offered.
- 5.68 One respondent stated that it believed that the proposed wording of the GC 18 definition of PATS would not assist Ofcom in meeting its policy objectives, of maximising access to the Emergency Services and promoting number portability. Therefore, this respondent suggested some specific changes to the wording of the definition as set out immediately below (the respondent's deletions are shown with struck through text, their insertions underlined):

"Publicly Available Telephone Service":

(a) in relation to a service to be used with a Special Services or Premium Rate Services Telephone Number means a Public Electronic Communications Service for only receiving ~~national and international~~ telephone calls through a number or numbers in a national or international telephone numbering plan.

(b) in relation to a service to be used with a Telephone Number other than a Special Services or Premium Rate Services, Telephone

Number has the meaning ascribed to it under paragraph 1 of Part 1 of this Schedule;

- 5.69 This respondent suggested that, by introducing a new definition of “Special Services or Premium Rate Services Telephone Number” and deleting the reference national and international telephone calls, this change would capture non-geographic services for the purpose of number portability, whilst not extending number portability rights to providers that split their offering into separate outbound and inbound services.

### **The number portability processes**

- 5.70 One respondent stated that it did not accept Ofcom’s statement that “[t]he costs of this option [i.e. Option 2] appear quite contained”, nor that “[t]he change would not impose any material costs on providers of PATS”. This respondent believed it will see a considerable increase in parties requesting porting and therefore a material increase in set-up costs which can not be recovered.
- 5.71 Another respondent stated it believed some of the proposals will take longer to implement than Ofcom currently anticipates. Whilst it agreed that the Code (see Annex 1) is an appropriate way to promote consumer awareness of VoIP services, it considered that it would be more likely to take three months than one month to implement them properly. Similarly changes to Geographic Number Portability arrangements mean that some of the scenarios to import and export numbers across and between VoIP services are technically extremely challenging and likely to have delays in implementation.
- 5.72 One respondent stated that it strongly disagreed with the downgrading of the Number Portability Functional Specification. It stated that new operators, be they VoIP or not, may wish to use different solutions and methodologies for setting up portability agreements and the lack of a legally enforceable standard set of methodologies will inevitably result in many more disputes, which will require resources from industry and the regulator and slow down the number portability process.
- 5.73 There were a number of comments that related to Ofcom’s proposal that operator must provide portability without ‘requesting proof (or written confirmation) from the other provider that he actually provides PATS’ (see paragraph 5.5 of the 2006 consultation). One respondent stated that, while it accepted that setting unnecessary requirements before enabling switching would have a detrimental effect on competition, it believed that Ofcom’s policy was impractical and short sighted, and also likely to lead to further disputes. This respondent also stated that, given the association of PATS with emergency service provision, it did not believe that requiring proof or written confirmation that a service provider provides PATS, before entering into a portability agreement, was unreasonable.
- 5.74 Another respondent – a mobile operator – stated that it agreed with Ofcom’s proposed modification, but also wanted to draw Ofcom’s attention to what it described as the incipient problem of incorrect network or presentation CLI being delivered, particularly by VoIP service providers, and to enable number portability and other network operations to function correctly it requested that Ofcom requires the provision of ‘honest’ CLI.

## Ofcom's views

### The principle of Ofcom's policy

- 5.75 The majority of the issues raised under this heading relate to more general issues regarding number portability. For example, whether number portability rights should be extended to all ECSs; whether there should be inter-platform portability; whether all consumers are entitled to portability regardless of the service they are consuming, etc.
- 5.76 Ofcom also notes that Article 30 of the USD clearly provides the right of number portability to subscribers of PATS (including mobile services) with regard to geographic and non-geographic numbers. However, the USD does not extend this right to all ECSs, although this option may be open to the Member States where, in light of specific national circumstances, it is appropriate to do so.
- 5.77 Additionally, Ofcom notes that the issue in question is whether the modification to the wording is justified, given the underlying policy objective. Therefore, these general concerns are not germane to the question of whether Ofcom's changes to the wording of GC 18 are appropriate, but they rather go to wider issues. Ofcom considers that, while these wider issues may also form part of the discussions surrounding the European Commission's review of regulatory framework, they are not matters that are appropriate to address in this specific context.
- 5.78 However, Ofcom agrees with the respondents that noted that, although number portability is a "right" only for PATS subscribers, this does not prohibit commercial agreements between communications providers to provide portability.

### The use of number portability as an incentive for providers to offer PATS services

- 5.79 In relation to the points raised about the nature of the linkage of number portability to emergency services access, Ofcom considers that this point may have been misunderstood by some respondents.
- 5.80 First, Ofcom's primary intention in modifying the definition of PATS in GC 18.5 is to resolve the tension that had arisen unintentionally by the Director's implementation of Article 30 of the USD in 2003, while ensuring the continued provision of portability for receive-only non-geographic numbers. Indeed, Ofcom has specifically noted in its impact assessment that "the benefits ... arise principally from the considerable enhancement of clarity and consistency of relevant definitions". That is, to clarify that providers are entitled to NP under GC 18 only for:
- services that constitute PATS by satisfying the four PATS gating criteria (which includes emergency services access); and
  - receive-only non-geographic numbers services.
- 5.81 However, Ofcom also noted that an additional benefit of the modification to the PATS definition at GC18.5 would be that, in general, subscribers of providers wanting to benefit from the right to NP under GC18 may generally only do so by meeting the four PATS gating criteria (including emergency services access) in relation to the service in question. Therefore, Ofcom noted that the modification may act as an incentive for the provision of emergency services access.

- 5.82 Second, GC 18 does not prevent a communications provider offering number portability. However, unless the service meets the PATS gating criteria (including offering access to emergency services), it will not be subject to regulatory requirements enforceable to ensure the right to number portability, except in relation to a service to be used with a telephone number for receiving calls only. In other words, the provider from which the customer is switching would not be obliged to port that consumer's number to the VoIP service provider, unless the latter meets the PATS gating criteria (including emergency services access), except where the number is one in which emergency services access is irrelevant (because it is receive-only).
- 5.83 However, Ofcom acknowledges that this modification may not lead to all providers of VoIP services providing emergency services access. Therefore, as explained in Section 3 of this document, Ofcom plans to consult on the question of whether it is necessary to formally require access to emergency services.

### **The drafting of the proposed modification**

- 5.84 Ofcom notes the concerns raised by respondents with regard to the proposed drafting of the definition of PATS in GC 18. In particular, Ofcom notes the concern raised by several respondents that a provider could circumvent the intention of the modification by offering service on two numbers – an outbound service on a new number which does not offer emergency services access, inbound on an imported number (i.e. to ensure continuity of the inbound telephone number). Ofcom appreciates that this potential concern exists, at least in theory. However, Ofcom does not believe this to be a significant risk.
- 5.85 In addition, Ofcom would consider carefully whether any such attempt by a provider deliberately carrying out such a move to frustrate regulation may be subject to enforcement action. Indeed, Ofcom would consider the facts and circumstances of each case to ascertain whether any breach of the GCs have taken place, for example by analysing whether the provision of two such services should, in fact, be treated as one, so as to satisfy the definition of PATS, if (say) objectively Ofcom considers that there is sufficient nexus between the two service contracts.
- 5.86 With regard to the alternative drafting proposed by one respondent, Ofcom considers that this alternative drafting is unnecessary. Ofcom considers that its original amendments are sufficient to fulfil the policy intentions of a considerable enhancement of clarity and consistency.

### **The number portability processes**

- 5.87 Ofcom notes some providers' concerns with regard to potential costs of implementation, the timetable for implementation and the impact on existing systems and processes. However, Ofcom considers that its view as set out in the 2006 consultation remains valid, i.e. that the costs of the implementation appear quite contained and that the change would not impose any material costs on providers of PATS (including VoIP services) and would amount only to a nominal administrative cost to Ofcom.
- 5.88 With regard to the comments referring to the removal of the reference to the Functional Specification in GC 18, Ofcom notes that this was implemented following our consultation on *Number Portability and Technology Neutrality*<sup>29</sup> published on 3

<sup>29</sup> <http://www.ofcom.org.uk/consult/condocs/numport/np.pdf>



November 2005 and the subsequent statement *Number Portability and Technology Neutrality - Modification to the Number Portability General Condition and the National Telephone Numbering Plan*<sup>30</sup> published on 30 March 2006. The intention of this change was that, by not enforcing observance of the porting arrangements set out in the functional specification, flexibility was to be provided to develop new and more effective porting arrangements.

## Tests set out under the Act for modifying GC 18

- 5.89 The modification to the definition of PATS in GC 18 constitutes a modification to GC 18 itself. In modifying conditions (such as GCs), Ofcom is required to meet various tests set out in the Act. These tests and Ofcom's assessment of how they are met in respect of the modification to GC 18 are set out below.
- 5.90 The main test under the Act is that Ofcom must not modify the GC 18, unless Ofcom is satisfied that this modification satisfies the test set out in section 47(2) of the Act.
- 5.91 The test in section 47(2) is that the modification is:
- objectively justifiable in relation to the networks, services, facilities, apparatus or directories to which it relates;
  - not such as to discriminate unduly against particular persons or against a particular description of persons;
  - proportionate to what modification is intended to achieve; and
  - in relation to what it is intended to achieve, transparent.
- 5.92 Ofcom considers that the modification to GC 18 as set out above satisfies this test. The reasons for this view are set out below.
- 5.93 The modification is objectively justifiable because it ultimately relates to the need to ensure that effective competition develops between all types of PATS providers to the benefit and protection of consumers. In particular, it resolves the tension that arose unintentionally by the Director's implementation of Article 30 of the USD in 2003, while ensuring the continued provision of portability for receive-only non-geographic numbers. It also indirectly addresses unintended potential incentives of providers of services (such as VoIP services) by them not offering emergency services access. This is because the terms of GC 18 allowed voice service providers to take advantage of number portability in the case of geographic numbers, while at the same time such providers having no obligations under the other GCs which apply to certain other PATS providers. In this way, Ofcom seeks by this modification to ensure that GC 18 itself more closely reflect the aims of the consumer protection measures set out in Chapter IV of the USD, which also includes PATS obligations such as uninterrupted emergency services access (Article 23), on the one hand, and number portability (Article 30), on the other hand.
- 5.94 It does not unduly discriminate against particular persons or against a particular description of persons in that the respective proposed definition of PATS, depending on whether the service in question is to be used with a geographic or a non-geographic number, applies to all persons providing such service.

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<sup>30</sup> [http://www.ofcom.org.uk/consult/condocs/numport/mod/mod\\_statement.pdf](http://www.ofcom.org.uk/consult/condocs/numport/mod/mod_statement.pdf)

- 5.95 It is also proportionate to what the proposed modification is intended to achieve in that, in light of the impact assessment set out above, it is necessary to ultimately ensure effective competition as well as consumer benefits and protection, but is not unduly burdensome on the providers to which the respective PATS definitions apply.
- 5.96 Further, it is transparent in that it is clear in its intention to ensure when number portability rights and obligations apply under GC 18 to services that constitute PATS in relation to services used with geographic or a non-geographic numbers, respectively.
- 5.97 In addition, Ofcom considers that its modification is consistent with its principal duty in carrying out its functions as set out in section 3 of the Act. In particular, it considers that the modification will further the interests of citizens in relation to communications matters and consumers in relevant markets for reasons set out above, particularly in the impact assessment.
- 5.98 Ofcom has also considered its additional duties for the purpose of fulfilling the Community obligations set out in section 4 of the Act. In particular, Ofcom considers that, by making this modification, it would be acting in accordance with the first Community requirement to promote competition in the provision of electronic communications networks and services and in relation to the provision and making available of services and facilities that are provided or made available in association with the provision of those networks and services.

## Section 6

# Ensuring well informed consumers

## Introduction

- 6.1 Because VoIP services may differ from traditional voice services – in terms of the features they provide and what they are able to do technically – they may not meet consumer expectations of what a telephone service provides, unless choice is underpinned by an understanding of what is on offer.
- 6.2 In September 2004, Ofcom published “New voice services, a consultation and interim guidance”. We discussed the various challenges posed by new voice services (NVS) such as VoIP and consulted on the appropriate framework for a consumer information policy.
- 6.3 Virtually all respondents to the 2004 consultation agreed with Ofcom’s initial view that where a service differs from a traditional telephone service in terms of service reliability and available features and therefore may not meet consumer expectations of what a telephone service provides, consumers should be informed about these differences - this would enable them to make decisions about what services to buy and how to use them. In particular, respondents agreed that consumers need to be fully aware if access to emergency services is provided and, if it is, whether the level of reliability of emergency services access meets consumer expectations. These respondents favoured Ofcom’s initial proposals to develop an industry code as a means for ensuring appropriate information is delivered to consumers.
- 6.4 During 2005, Ofcom facilitated an industry working group (known as the NVS Working Group) to discuss what information should be highlighted to consumers of VoIP services, define best practice and draw up a set of minimum consumer information requirements. Following eight months of regular meetings, detailed discussions and engagement with consumer groups, the NVS Working Group agreed and presented to Ofcom a draft code, specifying the type of information providers would be required to give their customers on various aspects of their service.
- 6.5 In February 2006 we published “Regulation of VoIP services, a statement and further consultation”. In this, we set out an approach for ensuring consumers are well informed about VoIP services and sought comments from stakeholders on the proposed Code. Ofcom’s proposed code differed slightly from the version developed and presented by the NVSWG. As well as seeking feedback on the detailed requirements of the Code, Ofcom consulted on an amendment to GC 14 which would make compliance with the Code mandatory for all providers of voice services.
- 6.6 The remainder of this section considers:
- stakeholders’ comments on the proposed draft Code and Ofcom’s response;
  - the changes being made to the Code following the consultation;
  - a summary of the requirements of the Code; and
  - the status of the Code.
- 6.7 Ofcom’s plans for enforcement, monitoring and review are set out in Section 7.

## Stakeholders' comments on the draft Code and Ofcom's response

### *Question 7: Do you agree with the proposed application of the code?*

- 6.8 The majority of respondents to the consultation agreed with Ofcom's proposed application of the draft Code.
- 6.9 The Code applies to all providers of PECS providing voice services (as opposed to data only services) offered at both fixed and nomadic locations. It applies to services offered to residential and small business customers, but excludes services delivered to large businesses.
- 6.10 It is important to make clear that the Code applies to the service being offered, not to the equipment being used e.g. a fixed handset, DECT phone or Personal Digital Assistant (PDA). Applying the Code according to the equipment being used would not be effective: service providers cannot control the type of equipment consumers choose to access their service from and it is likely that, as equipment develops over time, distinctions will blur.
- 6.11 A number of respondents to the consultation thought that the deadline for compliance with the proposed Code was too short and needed to be extended from 1 month after publication of this statement (as originally proposed by Ofcom in the consultation) to 3 months. Ofcom understands that industry needs to be given adequate opportunity to put in place new policies and procedures that ensure they provide the correct information to consumers, in compliance with the Code. This is particularly true for smaller providers and those who have not been involved in the development of the Code. Equally, Ofcom has given considerable notice of its proposals. Moreover, we believe that processes to enhance consumer information - and in turn protection - need to be established at the earliest opportunity. We are therefore extending the deadline for compliance with the Code to two months after the date of publication, i.e. two months from 29 March 2007.
- 6.12 A small number of stakeholders expressed concern that the proposed Code was overly prescriptive. Ofcom agrees that the Code must retain enough flexibility to be applied to different types of services in a variety of different purchasing scenarios (online, over the telephone and face to face). We intend to balance this requirement for flexibility with the need to ensure the obligations are clear and unambiguous – both so that industry has clarity and so Ofcom has the means to enforce compliance. We believe that the way the Code is drafted achieves this.
- 6.13 We agree with those respondents who said that the requirements of the Code should be subject to regular review. This will help ensure the various aspects about which providers are required to inform their customers remain in line with current consumer expectations, which are likely to change over time. We will invite industry, consumer and government representatives to form a new Ofcom-led VoIP working group to carry out these reviews. Additionally, we will continue to monitor consumers' understanding through market research to determine how effective the Code is in informing consumers (see Section 7).
- 6.14 Anyone interested in taking part in this VoIP working group should register their interest by e-mailing [vee.lam@ofcom.org.uk](mailto:vee.lam@ofcom.org.uk).
- 6.15 As set out in Section 3, Ofcom is proposing to consult on whether to mandate certain services to provide access to the emergency services. If, as a result of this consultation process, Ofcom decides to introduce such a requirement on certain

communications providers, we envisage that the Code will continue to play an important role in terms of ensuring customers are well-informed about emergency services access reliability and other service features. We will revisit the Code as appropriate.

*Question 8: Do you agree with the proposed approach for informing consumers that services may cease to function if the broadband connection fails or there is a power cut or failure?*

- 6.16 The majority of stakeholders agreed with Ofcom's proposals for informing customers about service reliability prior to subscribing to the service, in terms and conditions and in any user guide.
- 6.17 The proposed draft Code included suggested text for informing consumers about service reliability, which could be adapted to the specific requirements of service providers. The suggested text used the term 'Data Network' to describe a customer's broadband connection. Ofcom agrees with those respondents who said that the term 'Data Network' is unlikely to be familiar to most consumers and could therefore be confusing. We therefore propose to use the term 'Broadband Connection' instead. We define 'Broadband Connection' as the Domestic or Small Business Customer's high speed Internet connection.

*Question 9: Do you agree with the proposed approach for informing customers where access to emergency calls is not available?*

- 6.18 There was widespread support for Ofcom's proposals to require providers of services that do not offer access to the emergency services to supply information in the form of an announcement and number unobtainable tone (where a call to the emergency services is attempted) and to seek positive acknowledgment from the customer at point of signature. This included some suggested words for such an announcement.
- 6.19 However some stakeholders argued that a message simply saying 'emergency services access is not available' would not be helpful in an emergency situation. We agree that the announcement should, in addition, direct people to possible alternative points of access, such as a traditional landline or mobile phone. We have amended the suggested wording for an announcement contained in the Code to reflect this. The amended announcement is:

"Calls to Emergency Services cannot be made from this handset; please hang up and redial from an alternative telephone service such as a traditional landline or mobile phone."

- 6.20 Several respondents expressed doubts about the potential effectiveness of labels, arguing that consumers would not use them; they would be removed; or they would be an unnecessary addition to the other proposed information requirements (in particular the requirement to obtain positive acknowledgment, see below). Whilst Ofcom accepts that the provision and use of labels is not without difficulty, we consider they perform an essential function in terms of informing potential users of a service – and not just the purchaser – that the service will not provide access to the emergency services. Labels also address the time lag between purchase and the time when emergency services access is needed, reducing the anxiety caused by confusion in an emergency situation.

- 6.21 We make it clear in the Code that all purchasers of VoIP services without access to the emergency services must be given the choice whether to receive labels indicating this, as part of the sales process. We recognise that it is the responsibility of the customer – and not the communications provider – to ensure that labels are attached to their equipment.
- 6.22 We also make it explicit in the Code that service providers can choose to provide labels to their customers in two distinct formats:
- ‘hard labels’ – physical labels included in a provider’s ‘welcome pack’ (or equivalent) or downloadable which can be stuck to the consumer’s VoIP equipment; and/or
  - ‘soft labels’ – electronic labels where the consumer is accessing the service using equipment where the information can be displayed on-screen.

*Question 10: Do you agree with the proposed approach for informing consumers that access to emergency calls may cease to function if the Data Network fails or there is a power cut/failure?*

- 6.23 Respondents generally agreed with Ofcom’s proposals for informing consumers that access to the emergency services may cease to function prior to subscribing to the service (during the ‘sales process’), in terms and conditions and in any user guide.
- 6.24 Consistent with our proposals on labels indicating that no access to the emergency services is available (see paragraphs 6.18 – 6.22) we make it clear in the Code that all purchasers of services offering access to emergency services, which may cease to function if the broadband connection fails and/or there is a power cut, must be given the choice whether to receive labels indicating this, as part of the sales process. We also make it clear that labels can be physical (‘hard’) or electronic (‘soft’) (see paragraph 6.22).

*Question 11: Should the code be extended to point of signature acknowledgement in respect of reliability of access to emergency calls?*

- 6.25 In the consultation, Ofcom sought feedback on extending the Code to point of signature acknowledgment in respect of reliability of access to the emergency services. A large number of respondents favoured this extension, whilst others argued it would be too onerous on providers to administer.
- 6.26 In our view, extending the Code in this way does not dilute messages about no access to the emergency services: Ofcom believes it is vital that customers understand the various circumstances in which they may not be able to make a call to the emergency services – whether this is because the facility is not provided or is temporarily unavailable. As set out in Section 3, Ofcom’s market research shows there is currently a great deal of consumer confusion amongst VoIP users about their ability to call the emergency services and therefore more needs to be done to make this information clear.
- 6.27 On balance, it is our view that extending the Code to point of signature acknowledgment in respect of reliability of access to the emergency services will enable consumers to make more informed decisions about the services they are buying and how they decide to use them, without the obligations being too onerous on providers.

- 6.28 Ofcom has therefore amended the Code to reflect this and will include the following suggested text for consumers to positively acknowledge:

"I understand that this service allows calls to the emergency services numbers 999 and 112. However I understand that calls will fail if there is a power cut [and/or] my broadband connection fails."

- 6.29 To ensure consistency, Ofcom considers that point of signature acknowledgement should also be obtained where emergency services access is not available at all. Ofcom has added suggested text for consumers to positively acknowledge that this is the case.
- 6.30 However we would advise – as best practice – that providers consider the needs of international users – text referring to '999' and '112' may only be relevant to some users and should be adapted accordingly.

*Question 12: Do you agree with the proposed approach to location information providers where the service does provide access to emergency calls? In particular, do you believe that subscribers should be required to register their main location prior to activation of the service?*

- 6.31 There was general agreement amongst respondents that location information is very important. By reducing the time it takes to confirm the location of the caller, assistance can be sent more quickly to emergency calls. Assistance can also be provided in cases where the caller is unable to speak (because of a disability or because they are intimidated by an intruder) or does not know where they are.
- 6.32 Most respondents agreed that subscribers should be required to register their fixed location address prior to activation of the service. Indeed, in many cases this would automatically be done for billing purposes. However many opposed extending this requirement to nomadic usage, arguing that if users were prevented from accessing a service until they registered an address each time they used the service from a different location, they would be encouraged to provide false information.
- 6.33 As such, Ofcom has amended the Code so that providers offering access to the emergency services are required to get their users to register their main location prior to activation of the service. The Code will recommend that providers get their users to update this information if using the service from a different location, but this will not be a mandatory requirement of the Code.

*Question 13: Do you agree with the proposed approach to informing consumers where services do not provide emergency location information?*

- 6.34 A large majority of respondents agreed with Ofcom's proposals for requiring providers of services that offer access to emergency services – but who do not offer any location information to the emergency services operators – to inform their customers of this during the sales process, within terms and conditions of use, in any user guide and additionally at point of signature.
- 6.35 A small minority of stakeholders argued that delivery of this aspect of information should be recommended best practice but not mandatory. As set out above, we believe that it is vital that consumers understand the various circumstances in which

they may or may not be able to make a call to the emergency services and therefore provision of this information should be mandatory.

- 6.36 Unlike in the US and in Germany, location information is not necessary to make an emergency services call, because the UK has national (not regional) emergency operators. Its value to UK consumers is when the user may not know where they are, or may not be able to speak. Location information also has an additional 'externality' benefit in that it acts as a deterrent to hoax callers, the cost of which we all end up paying for.
- 6.37 However, it is our understanding that the majority of providers offering access to emergency services will in any case automatically provide location information to the emergency service operators. BT currently makes the provision of location information a condition of its emergency operator service, as set out in its interconnection schedule. This means that VoIP providers offering access to the emergency services are required to – and therefore already do – provide location information.
- 6.38 Ofcom considers that it is important that service providers inform their customers that location information is not provided during the sales process, at the point of signature, within the terms and conditions of use, and in any user guide.

*Question 14: Do you agree with the proposed approach to informing customers where services do not provide number portability?*

- 6.39 In the consultation, Ofcom proposed that if a provider does not offer its customers the ability to take their number with them if they choose to switch to another provider, customers must be informed of this during the sales process, in the provider's basic consumer code of practice (GC 14), within terms and conditions of use and in any user guide.
- 6.40 The majority of respondents agreed with Ofcom's proposals. However one respondent questioned whether it would be appropriate to include information about a specific type of service in a provider's basic consumer code (under GC 14) given that this code potentially applies to a whole range of products and services offered by the provider (and not just VoIP). Ofcom agrees – the purpose of the basic consumer code is to provide consumers with information about an organisations' complaints process as well as clear and up to date information on prices and tariffs. For this reason, we have amended the Code to remove this requirement.
- 6.41 More generally, however, we acknowledge that there are limitations to how well providers are able to inform their users about the availability of number portability. GC 18 requires all PATS providers to provide number portability but only to subscribers of PATS and only to providers of PATS. As set out in the consultation, in practice this means that customers of non-PATS may not be able to take their number with them if they choose to switch provider. However it also means that even customers of PATS may not be able to take their number with them should they choose to switch to a non-PATS provider. Ultimately, this means that no service – not even a service classed as PATS – can guarantee absolutely that a consumer can take their number with them to a new service.
- 6.42 Ofcom considers it is essential that customers are informed about their number portability rights before signing up to a service: number portability enables consumers to change provider without having to suffer the potential inconvenience and costs of a new telephone number. Whilst we appreciate that no provider can



absolutely guarantee a customer can take their number with them if they choose to switch, we consider that the requirement for providers who do not offer their customers any option to port their number, to inform their users of this, should therefore remain. We will keep this under review as part of the proposed Ofcom-led VoIP working group (see 6.13)

*Question 15: Do you agree with the proposed approach to informing consumers about the types of facilities that might not be available, but which they have come to expect from a telephone service?*

- 6.43 The majority of respondents to the consultation agreed with Ofcom's proposals that information describing the service made available by a provider to prospective customers during the sales process must make it clear if any of the following features are not available by means of the service:
- Access to a directory enquiry facility;
  - Access to Operator Assistance services;
  - Calling Line Identification (CLI) facilities;
  - Provision of a Directory on request;
  - Special measures for end users with disabilities; and
  - Non itemisation of numbers on bills which are made from a Subscriber's telephone which are free of charge.
- 6.44 The purpose of this requirement is to ensure that consumer expectations are met.
- 6.45 Ofcom accepts that the list of features will need to be kept under review to ensure it is consistent with customer expectations and does not unnecessarily include legacy facilities that are rarely used and not 'expected' by customers. We propose to use the new Ofcom-led VoIP working group (see 6.13) to carry out these reviews and will continue to monitor customers' awareness and understanding through market research to ensure that the Code's requirements are relevant and up to date.

### Summary of changes to the code of practice

- 6.46 In response to stakeholders' comments, we have made the following material changes to the Code, as set out in detail above:

#### Paragraph 1

- 6.46.1 Deleted the word "Switched" to show that the PATS service referred to is delivered over the "Public Telephone Network".

#### Paragraphs 5, 7, 8, 11 and 11(a).

- 6.46.2 Replaced the term 'Data Network' with 'Broadband Connection' throughout.

#### Paragraph 7

- 6.46.3 Amended the service reliability information that service providers should give to their customers during the sales process, within their terms and conditions, and in any user guide as follows:

“IMPORTANT INFORMATION: If your Broadband Connection fails, your voice service will also fail. Your service may cease to function if there is a power cut or failure. These failures may be caused by reasons outside our control.”

Paragraph 10(b)

- 6.46.4 Inserted new text below paragraph 10(b) in relation to point of signature recognition to maintain consistency with paragraph 11(b) as follows:

“I understand that this service does not allow calls to the emergency services numbers 999 and 112.”

Paragraphs 10(e)

- 6.46.5 Made it clear that the labels that the customer may wish to receive during the sales process informing them that emergency calls cannot be made can be physical (‘hard’) or electronic (‘soft’).

Paragraph 10(f)

- 6.46.6 Amended the network announcement providers not offering emergency calls must play if an emergency services call is attempted to make it clear that access should be attempted via other means:

“Calls to Emergency Services cannot be made from this handset; please hang up and call from an alternative telephone service, such as a traditional landline or mobile phone.”

Paragraph 11(b)

- 6.46.7 Extended the Code to include a requirement to obtain point of signature acknowledgement from a customer that access to emergency services may not be possible if a broadband connection fails and/or there is a power cut and provided an example of the type of wording that may be used as follows:

“I understand that this service allows calls to the emergency services numbers 999 and 112. However I understand that calls will fail if there is a power cut or my broadband connection fails.”

- 6.46.8 Inserted a new paragraph 11(c) through which Ofcom can seek evidence from service providers in relation to their efforts to ensure that customers are aware that their service might fail and therefore they would not be able to contact the emergency services. This to ensure consistency with paragraph 10(c).

- 6.46.9 Inserted a new paragraph 11(d) which states that during the sales process the customer must be given a choice as to whether they wish to receive labels free of charge which forewarn them that the service could fail and

therefore emergency calls may not be available and that these can be physical ('hard') or electronic ('soft').

#### Paragraphs 12(a) and 12(b)

- 6.46.10 Required providers offering access to the emergency services to ensure that their users register their main location prior to activation of the service and recommend that users update this information whenever they use the service from a different location.

#### Paragraph 13

- 6.46.11 Removed the requirement to inform consumers about number portability restrictions in a providers' basic consumer code of practice.

#### Definitions

- 6.46.12 Defined the term Broadband Connection.
- 6.46.13 Extended the definition of Sales Process to include leaflets and marketing material but made it clear that this does not extend to advertisements.

### **A summary of the requirements of the Code**

- 6.47 This table summarises the requirements of the Code and the point at which information must be provided to the consumer.

	<b>Sales process</b>	<b>T+Cs / User guide</b>	<b>Labels</b>	<b>Network announcement / NUT</b>	<b>Positive acknowledgment</b>
Service will fail if broadband connection fails or there is a power cut	✓	✓			
No access to emergency services	✓	✓	✓	✓	✓
Calls to emergency services will fail if broadband connection fails or there is a power cut	✓	✓	✓		✓
Emergency location information is limited	✓	✓			✓
Numbers cannot be ported	✓	✓			
No - DQ/operator assistance/CLI facility/provision of directories/compliance with GC15/itemisation of numbers on bills	✓				
No access to specified	✓				

numbers					
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- 6.48 Annex 2 describes how the proposed Code requirements might apply in different sales scenarios including online, telephone and face-to-face.

### Status of the Code

*Question 16: Do you agree with Ofcom's view that all aspects of the code of practice should be mandatory?*

- 6.49 In the February 2006 consultation we concluded (based on earlier responses to the September 2004 consultation and subsequent market research) that industry should not be left to self-regulate the provision of customer information at this stage of the market's development, particularly in relation to information about access to emergency services. We argued that in the absence of an obligation, certain providers may choose not to provide appropriate information and therefore customers would not be informed. Another risk of self-regulation would be that the burden of customer protection may fall on some players, while other companies misuse the flexibility and rely on information provided by others or cause consumer detriment. This would result in a distortion of competition.
- 6.50 In the February 2006 consultation we consulted on a Notification of modifications to GC 14 which would make compliance with the Code mandatory and asked stakeholders whether this should apply to all aspects of the Code.
- 6.51 Respondents were divided on how the Code should be enforced. The majority favoured mandatory compliance. However some respondents argued that only those requirements relating to information on access to the emergency services should be mandatory and the remaining requirements should be self-regulatory. A small number of respondents believed that all aspects of the Code should be self regulatory.
- 6.52 The outcome that Ofcom is looking for is well-informed consumers. We have – and we will continue – to look at self-regulation as a means to achieve this. However, as we highlighted in the February 2006 consultation, there are a number of factors we believe suggest that self-regulation may not, at this stage, deliver this outcome in this area.
- 6.53 Ofcom's market research shows that significant numbers of consumers are currently confused and misinformed about the capabilities and features of VoIP. Ofcom's research indicates that about three in four users of services using VoIP technology that did not offer emergency services access thought that the service provided emergency services access or did not know either way<sup>31</sup>. Whilst we are hopeful that the majority of providers will start to supply the correct information to their customers, we believe that customers need to be protected from any less responsible players who do not comply – and we therefore require the regulatory powers to enforce compliance. This is not only to ensure consumer protection, but also to ensure that the VoIP industry is not damaged by the actions of less responsible players.
- 6.54 Finally, even where Ofcom has discretion to leave matters to other regulatory mechanisms to achieve its policy objectives, we are likely to consider the

<sup>31</sup> Ofcom research

appropriateness of such mechanisms and organisations by taking into account a number of factors on a case-by-case basis. In the context of self- or co- regulation, these factors might include capability (in terms of the resources, funding etc), independence, near universal participation, an effective and credible enforcement mechanism and sanctions, and a track record of delivering this. At this stage, we do not believe the VoIP industry has demonstrated that appropriate mechanisms are in place for self-regulation to be effective.

- 6.55 We have consulted widely on whether the requirements would present a disproportionate burden on the industry. Stakeholders have indicated that, whilst there would be some cost involved, it would be a proportionate and justifiable requirement (this is reflected in the Impact Assessment included in the February 2006 consultation and set out below).
- 6.56 Some stakeholders have suggested to Ofcom that because the cost of compliance could be high for some providers, that self-regulation is more appropriate. We strongly disagree. In our view, for self-regulation to be effective, it would need to deliver the desired outcome of universal consumer information and therefore any costs would be broadly no different to those that might be incurred as a result of regulation. If self-regulation resulted in service providers choosing not to provide the consumer information that Ofcom considers desirable, then self-regulation would have achieved a sub-optimal outcome in that consumers would not be well-informed. It is true to some extent that self-regulation can be more flexible to changing circumstances. For this reason, we will keep the Code under review to ensure that it continues to be proportionate.
- 6.57 We recognise that there is a trade-off between the introduction of regulatory obligations (e.g. to protect consumers) on the one hand, and the impact on market entry, innovation and competition, on the other. And as an industry grows that trade-off is likely to shift – VoIP in the last 12 months has experienced significant growth, although it is not yet mature.
- 6.58 Once the Code has been implemented, if we see high levels of compliance across all of industry, plus low levels of consumer harm, increased levels of consumer awareness and understanding, with services meeting consumer expectations, we may then consider reducing regulation. We envisage that the new Ofcom-led VoIP working group (see paragraphs 6.13 – 6.14), which will keep the scope of the Code under review, will provide a valuable opportunity for considering whether over time it remains necessary for the requirements to be mandatory. We believe this is a much more flexible approach than the blunt instrument of a sunset clause where the requirements would terminate after a specific date, unless further action was taken to extend them.
- 6.59 More generally, it is of relevance to note that Ofcom is planning to review its approach to self and co-regulation later this year. Ofcom will consider the future prospects and scope for co- and self-regulation in light of experience and VoIP will be a factor. In addition, we will need to take account of any modifications to the GCs.
- 6.60 Ofcom's modification to GC 14, which makes compliance with the Code mandatory, is annexed to this statement (see Annex 1).

### **UK's approach compared to other countries**

- 6.61 Overall the UK approach has and continues to be comparatively light touch in that, for example, VoIP providers can obtain geographic numbers and in terms of the

features that they are required to provide. A natural and necessary consequence to allowing different business models is to ensure that consumers are well informed.

- 6.62 We are aware that elsewhere in Europe – the Czech Republic, Ireland, Finland, Hungary, Switzerland, Slovenia, Belgium, Spain and Norway – customer information has to be provided and many other European countries are considering it too.
- 6.63 In Ireland, there are already requirements for VoIP services not providing access to emergency services, to supply stickers indicating that calls to emergency services cannot be made. In addition, providers which do offer access to emergency services are required to encourage customers to register their current address information so that this information may be passed to the emergency services.
- 6.64 Other countries are less specific about how the information should be provided and consequently information is supplied in terms and conditions. We believe that this would be unacceptable in the UK and it is essential that key information – particularly on access to the emergency services – is prominent. We have consulted widely on this issue and almost all stakeholders agreed that prominence is key to ensuring consumers are well-informed.
- 6.65 We are also aware that other European countries are now looking to put in place a more prescriptive approach.

### **Impact assessment**

- 6.66 In the February 2006 consultation we included an impact assessment of modifying GC 14. We considered whether this option represented the most appropriate course of action for Ofcom to address the issue, in light of other options including that of doing nothing.

### **Aim of the modification to General Condition 14**

- 6.67 Ofcom's principal duty in carrying out its functions, as set out in section 3(1) of the Act, is to further the interests of citizens in relation to communications matters, and to further the interests of consumers in relevant markets, where appropriate by promoting competition. Section 4 of the Act sets out Ofcom's duties for the purposes of fulfilling community obligations. In relation to the proposals set out in the February consultation, we considered all the requirements in those sections and, in particular, our duty to further both the interest of citizens and consumers in relevant markets, where appropriate by promoting competition (see 6.91 for further consideration).
- 6.68 The general issue relevant to this context is the fact that some types of voice services, typically VoIP services, do not offer the full range of services commonly associated with voice services/products. As a result, in the absence of regulation, consumers may not be fully informed of these differences.
- 6.69 The modifications to GC 14, described previously and in the impact assessment, attempt to address this issue. Essentially, these changes relate to the necessity for providers to inform their customers where their products/services may not meet customers' expectations. For example, the change to GC 14 creates an obligation for the provider to inform Domestic and Small Business Customers if the service may cease to function if the broadband connection fails or there is power failure.

## Options

6.70 In the consultation, we included two main regulatory options available to Ofcom following on from the September 2004 consultation:

- Do nothing – in effect allowing the industry to self-regulate; and
- Make modifications to GC 14 – Ofcom mandating the proposed code

### Option 1 – Do nothing

6.71 We identified that the major costs of not making any policy change with respect to consumer information and protection related to the likely adverse impact on consumers arising as a result of their not having full information about the services they are consuming.

6.72 In the absence of policy intervention, providers are under a much less constraining obligation to provide customers with vital information about their services. In particular, under self-regulation, such providers are not under a legally enforceable regime in respect of conveying certain important information about their services, as compared to a regime of formal regulation. This means that compliance with a desired level of information being propagated is likely to be sub-optimal.

6.73 This adverse impact takes a variety of forms, dependent on the type of information in question that is missing. In the case of the customer not being informed that the service they are consuming does not provide directory assistance, the customer suffers a welfare loss associated with not being able to make use of that service when it could have reasonably been expected to be provided.

6.74 A more concerning situation is where a customer is not made aware that the service does not provide access to emergency calls. The costs of this can of course be very serious. In an emergency situation, the unaware customer would be surprised to discover if their phone does not provide access to emergency calls. In such cases the time lost contacting the emergency services could be critical.

6.75 There is an argument that VoIP service providers would convey important information to customers if it was in their best interests. However, this assumes that all providers would comply with any agreed code. In order to save compliance costs, some providers may have an incentive to depart from the code. This imposes a negative externality on those providers which are complying with any code, since the value of complying with regulations will be mitigated by the deviation of a few providers. Also, this would place an unequal burden on certain providers and distort competition.

6.76 The main benefit of reliance on self-regulation is that it saves on the costs of regulation. These benefits are better understood as the costs of Option 2, and are discussed below.

6.77 The biggest risk associated with the policy option of self-regulation is that providers do not: (a) come to agree on an industry code of practice; and, (b) that compliance, being voluntary, to any code is not sufficiently widespread to assuage concerns about lack of important information to customers about the providers' products and services.

### Option 2: modifications to GC 14

- 6.78 In the consultation we identified the major costs arising under this option as the cost of compliance with regulations. Compliance with these provisions will entail some costs for providers. These costs essentially relate to the creation and communication of information about services to customers, such as labelling.
- 6.79 Information provided to Ofcom by one provider suggested that compliance with labelling requirements would cost about £1 per customer.
- 6.80 In respect of the impact on competition, it could be argued that these provisions impose an unreasonable compliance burden on VoIP service providers, and thus undermine the development of this sector. However, the information which must be provided to customers relate only to the departures from norms associated with those particular services. Therefore, these costs are not truly asymmetric, since the customer is only being made aware of how their service differs from what they might expect. Further, the information is of considerable importance from the perspective of consumer protection.
- 6.81 The major benefit of making modifications to General Condition 14 is that it provides the highest possible assurance of universal compliance with a consumer protection regime. The rectification of incomplete information in any market is generally a desirable objective. It is particularly so in the case of the provision of consumer information about communication products and services, due to the nature of the circumstances under which these services are used and relied upon.
- 6.82 As discussed above, the costs of a customer not being fully informed of the features of the services to which they subscribe could be very high. Where a customer is under the impression, by virtue of the look and feel of the phone handset, that access to emergency calls is guaranteed, the consequences of not connecting to emergency services in the event of an emergency are of course potentially very significant. For example, where a customer's house is on fire or where a householder suffers a sudden life-threatening medical episode, any unnecessary delay of the fire brigade or ambulance could have very serious consequences.
- 6.83 The key notion underpinning the modifications made to GC 14 is that the customer should always be fully informed about the features that are associated with their service and those that are not. By enshrining this form of consumer protection within the GCs, Ofcom is attempting to ensure that customers are made fully aware of how the products/services to which they subscribe differ from standard basic telephony services.
- 6.84 Importantly, the degree of compliance under formal regulation is likely to be significantly higher as compared to self-regulation. Providers will be incentivised to comply with these regulations in order to avoid regulatory action should they fail to do so.
- 6.85 Thus the purpose of the proposed modifications to GC 14 is not only to maximise the amount of information made available to customers, but also to achieve the highest possible assurance that these provisions will be adhered to by all providers.
- 6.86 Qualitatively, these benefits can be understood as the expected alleviation of consumer detriment (including saved lives) which would result from a sole reliance on self-regulation. These benefits are difficult to quantify. It is not clear, however, that conducting such an exercise would be proportionate in this case.



- 6.87 The key advantage of regulation over self-regulation is the lower risks that it entails, due to the imposition of consumer protection within the General Conditions.
- 6.88 In terms of the risks specific to this policy option, it could be argued that it poses unnecessary compliance costs on some providers, thus impairing the development of this sector. However, Ofcom considers that this information is not only vital from a consumer protection point of view, but is indeed likely to be beneficial to the growth of VoIP services. This is because provision of this information will promote trust in these services. Customers will also have a better understanding of these products/services, and thus be in a better position to make a well-informed decision as to whether to consider these services as a substitute or complement to traditional voice services.
- 6.89 Introducing regulatory change via the General Conditions is likely to bring considerable incremental net benefits over and above those achievable under self-regulation. On the benefits side, this reflects the greater likelihood and comprehensiveness of consumer protection measures arising under a regulatory regime, along with the relatively low costs (e.g. £1 per customer) of complying with these measures (though of course this figure could become a more significant burden on providers' as subscriber numbers grow although average costs would presumably decrease).
- 6.90 Therefore, Ofcom considers option 2 is the most appropriate decision, and has made the modifications to GC 14 as detailed above.

### **Tests set out under the Communications Act 2004**

- 6.91 In modifying the GCs, Ofcom is required to meet various tests set out in the Act. These tests and Ofcom's assessment of how these are met in connection with the modification to GC 14 are set out below.

### **Section 3 – Ofcom's general duties**

- 6.92 Section 3(1) of the Act sets out the principal duty of Ofcom:
- To further the interests of citizens in relation to communications matters; and
  - To further the interests of consumers in relevant markets, where appropriate by promoting competition.
- 6.93 Ofcom is required by this section to carry out its functions in line with this duty.
- 6.94 Ofcom considers that its decision to require providers to comply with the Code to facilitate customer choice and adequately protect customers falls within the scope of section 3 of the Act.
- 6.95 This is because Ofcom considers that the balance of evidence and responses to the September 2004 and February 2006 consultations support the position that customers must be adequately informed about the services they subscribe to, in particular where services may not offer access to emergency calls, and that measures to require providers to inform their customers are therefore required.
- 6.96 Ofcom considers that because VoIP services may differ from traditional voice services they may not meet customer expectations unless choice is underpinned by an understanding of the services on offer. In particular, it is a widely held assumption

that all fixed phone lines in the UK provide access to emergency calls and therefore consumers have an expectation that a phone line will provide them with access to emergency calls. Ofcom considers that the requirement set out in this document will ensure that consumers are protected and that it would provide a greater incentive on providers to improve performance and follow best practice in this area.

6.97 Ofcom has also considered when carrying out its functions, amongst other things, the requirements in section 3(2) of the Act to secure the availability throughout the UK of a wide range of electronic communications services and section 3(4) of the Act, namely that in performing its duties Ofcom must also have regard to such of the following as appears to be relevant in the circumstances, in particular:

- the desirability of promoting competition in relevant markets;
- the desirability of promoting and facilitating the development and use of effective forms of regulation;
- the desirability of encouraging investment and innovation in relevant markets; and
- the opinions of customers in relevant markets and of members of the public generally.

6.98 Ofcom considers that the requirement set out in this statement meets the above criteria. In particular, Ofcom is supporting innovation by enabling a wide range of services to be delivered to customers. Requiring providers to make sure their customers are fully informed about the services they are buying will help drive innovation and choice and will therefore be beneficial to competition.

6.99 We also consider that the requirement should have the effect that all providers of voice PECS would be subject to the same rules and that this should also help promote competition. All providers of voice PECS will be required to ensure Domestic and Small Business Customers are provided with information about any feature and/or limitation in their service that differs from a PATS.

#### Section 4 – European Community requirements for regulation

6.100 Section 4 of the Act requires Ofcom to act in accordance with the six European Community requirements for regulation. In summary these requirements are to:

- Promote competition in the provision of electronic communications networks and services, associated facilities and the supply of directories;
- Contribute to the development of the European internal market;
- Promote the interests of all persons who are citizens of the European Union;
- Not favour one form of or means of providing electronic communications networks or services, i.e. to be technologically neutral;
- Encourage the provision of network access and service interoperability for the purpose of securing;
- Efficient and sustainable competition; and

- The maximum benefit for customers of Communications providers; and
- Encourage compliance with certain standards in order to facilitate service interoperability and secure freedom of choice for the customers of communications providers.

6.101 For the reasons set out above, and in particular, that it would provide greater incentives for providers to meet customer expectations by ensuring choice is underpinned by an understanding of the services on offer, Ofcom believes that its decision will meet these requirements.

#### Section 47 – Test for setting or modifying conditions

6.102 As set out under 47(1) of the Act, in modifying a condition, Ofcom must be satisfied that the test set out under 47(2) has been met. The test is that the modification is:

- Objectively justifiable in relation to the networks, services, facilities, apparatus or directories to which it relates;
- Not unduly discriminatory against particular persons or against a particular description of persons;
- Proportionate to what it is intended to achieve; and
- Transparent in relation to what it is intended to achieve.

#### Objectively justifiable in relation to the networks, services, facilities, apparatus or directories to which it relates

6.103 Ofcom considers that the modifications are objectively justifiable and a critical element of our overall approach to the regulation of voice PECS. Where services have the potential to differ from a traditional telephone service - and therefore may not meet their customers' expectations – customers must be informed about these differences in order to enable them to make decisions about what services to buy and how to use them. In particular customers need to be fully aware if access to emergency calls is provided and, if it is, whether the level of reliability meets consumer expectations.

6.104 Ofcom therefore considers that the Code will provide enhanced protection for their customers and ensure that providers have incentives to follow best practice in this area.

#### Not unduly discriminatory against particular persons or against a particular description of persons

6.105 Ofcom considers that the requirements are not unduly discriminatory. This is because it will apply equally to all providers of voice PECS. Providers offering data services are not covered because the same consumer expectations described above (for example the expectation to be able to call emergency services and directory enquiries) do not exist.

#### Proportionate to what it is intended to achieve

6.106 The modifications are proportionate on the grounds that it is the least onerous solution to achieving Ofcom's three key objectives – namely, allowing innovation in

the development of VoIP services, ensuring reasonable consumer information and encouraging the availability of access to the emergency services. Introducing regulatory change via the General Conditions is likely to bring considerable benefits over and above those achievable under self-regulation. These benefits include increased consumer protection, along with the relatively low cost of complying with these measures. The risk of self-regulation is that the burden of consumer protection may fall on some key players, while other providers abuse the flexibility and rely on information provided by others or cause consumer detriment.

Transparent in relation to what it is intended to achieve

- 6.107 Ofcom is satisfied that the modifications are transparent insofar as the nature and obligations are clearly set out in this document.

## Section 7

# Enforcement, monitoring and review

7.1 In the February 2006 consultation we set out a programme of systematic activities to ensure that we keep abreast of market developments and take appropriate remedial action to meet our objectives. The key elements of this programme were:

- consumer education;
- proactive enforcement;
- market research; and
- ensuring a high level of availability of access to the emergency services.

*Question 17: Do you consider that the overall programme of activities is appropriate?*

7.2 Stakeholders broadly supported Ofcom's proposed programme of activity and made detailed comments on each of the key elements we identified, as described below.

## Consumer education

*Question 18: In light of Ofcom's Consumer Policy Review, are there other consumer education measures that Ofcom should consider?*

7.3 In the consultation we proposed a number of ways to help educate consumers about VoIP services. This included the publication of a VoIP consumer report – offering consumers advice on what to look for when subscribing to a VoIP service – the development of Ofcom's online Consumer Advice Portal and consideration of further initiatives, such as working with industry and intermediaries, to ensure information is delivered.

7.4 A small number of stakeholders responding to the consultation suggested that Ofcom needed to do more in terms of educating disabled users about VoIP and more generally about access to the emergency services, location information and fraud. Several stakeholders suggested that the market was best placed to educate consumers whilst others advocated the use of third party websites and Ofcom working together with consumer bodies. In addition, a handful of respondents suggested that a kite mark or 'traffic light' system should be introduced to identify different types of service standards.

7.5 Ofcom is clear that the code of practice alone cannot ensure all consumers are informed about the potential and limitations of VoIP services. Indeed only those consumers who have made a decision to sign up to a VoIP service – or who use a VoIP service purchased by a family member or colleague – will benefit from the information required by the Code. Ofcom believes there is a more generic benefit to competition and consumer protection (as set out in the statement *Ofcom's Consumer Policy*, published 8 December 2006<sup>32</sup>) for all consumers to be aware of and understand new types of services.

<sup>32</sup> <http://www.ofcom.org.uk/consult/condocs/ocp/statement/statement.pdf>

7.6 We are therefore pursuing the following initiatives aimed at educating consumers about VoIP services, specifically:

- Ofcom has developed a consumer advice portal [www.ofcom.org.uk](http://www.ofcom.org.uk). The portal provides information and advice on all communications services. This includes advice on the different types of VoIP services available and what to ask your provider if you are considering a VoIP service.
- We have produced an updated version of our VoIP consumer report (originally published alongside the February 2006 consultation). We are considering producing this information in fact sheet form to share with intermediaries such as the media, consumer groups, journalists and MPs.
- Ofcom is reviewing and re-launching its accreditation scheme for price comparison websites (previously known as the 'Ofcom PASS'). It is our intention to extend accreditation to price comparisons for a wide variety of services including bundled products, international roaming and VoIP. A key objective is to raise awareness of accredited providers to enable consumers to make informed decisions about the services they are subscribing to (see *Accreditation scheme for price comparison calculators*, published 8 December 2006<sup>33</sup>).
- we will continue to explore opportunities to work with consumer groups and the media to enhance consumer awareness and understanding of VoIP.

7.7 At this stage we do not consider the development of a new kite-mark or traffic light system would be an effective solution. Administering such a scheme would be extremely resource intensive and would require a high level of consumer awareness for it to be effective. We believe this would be difficult to achieve. There are numerous kite mark schemes currently operating in consumer markets: introducing a further scheme may in fact lead to greater consumer confusion.

## Proactive enforcement

*Question 19: Do you have comments on this proposed enforcement approach?*

7.8 We hope to achieve a high level of compliance with the new requirements. As set out in the consultation, we will be taking a highly proactive approach to increase our understanding of the obligations, promote and monitor compliance and if necessary take enforcement action. Stakeholders responding to this issue supported our approach.

7.9 If evidence suggests that providers are not complying with the requirements, Ofcom may act swiftly to instigate compliance procedures. Where Ofcom determines there are reasonable grounds for believing a condition has been contravened, it can issue a provider with a notification under Section 94 of the Communications Act ('the Act'). A section 94 notification will set out the steps that Ofcom believes a provider should take to ensure that it becomes compliant with the condition, along with the consequences of the breach that Ofcom believes should be remedied. Failure to fully comply with a section 94 notification will lead Ofcom to consider issuing an enforcement notification under section 95 of the Act and/or imposing a penalty under section 96 of the Act. Penalties may be as much as 10% of the provider's relevant turnover. Under section 100 of the Act, Ofcom ultimately has the power to suspend a

<sup>33</sup> <http://www.ofcom.org.uk/consult/condocs/ocp/statement/pricescheme/pricescheme.pdf>

provider's right to provide electronic communications services where the provider consistently fails to comply with conditions.

- 7.10 As set out above, the Code will come into force 2 months after publication on 29 March 2006. From this date, Ofcom will actively enforce compliance with the code.
- 7.11 Some stakeholders suggested that Ofcom should create a list of VoIP providers / list of PATS to help monitor compliance. Given the degree of market entry and exit we do not believe it would be an effective use of Ofcom's time and resource to maintain such a list. We will take a similar approach to the one we have taken for mis-selling and pursue an active enforcement programme to monitor and raise the level of compliance in the industry with the new rules, and to respond swiftly and effectively to any failure to comply.
- 7.12 Ofcom will write to smaller providers to make them aware of the new obligations. We will continue our programme of stakeholder engagement with providers, consumer and disability groups, and government agencies to encourage compliance and monitor the effect of our approach.
- 7.13 Once the new requirements have come into force, Ofcom will undertake a mystery shopping exercise to determine whether individual VoIP providers are supplying (potential) customers with the information required by the code of practice. For example, we will seek to establish whether:
- potential customers are informed about any features not included in the service before entering into a contract;
  - consumers are aware of their right to request labels; and
  - providers not offering access to emergency services play an announcement if a call to the emergency services is attempted.
- 7.14 It is intended that the mystery shopping will take place in a range of different purchasing scenarios such as online, telephone and face to face. Ofcom will write to industry players prior to carrying out the research.

## Market research

*Question 20: Are there other areas of research activity that Ofcom should consider to ensure it understands market developments?*

- 7.15 In the February consultation, Ofcom announced that it would be undertaking market research to establish whether consumers' understanding of VoIP services is sufficient to deliver Ofcom's objectives. If Ofcom finds that understanding of VoIP services is not adequate – for instance potential customers are unaware that a VoIP service does not offer access to emergency services or text relay services – Ofcom may conclude that the Code is not effective in ensuring consumers are informed and that a different, potentially more interventionist, approach is required.
- 7.16 For Ofcom to be confident that the code of practice is having a positive impact on informing consumers, we would expect to see these numbers grow. We will continue to monitor and publish our findings. The research will also form an important part of Ofcom's proposed consultation on mandating access to the emergency services.

- 7.17 In response to the consultation, a number of stakeholders suggested that Ofcom's research should be extended to include the following areas:
- users with disabilities and vulnerabilities; and
  - consumer expectations regarding DECT and mobile.
- 7.18 Where appropriate we will seek the views of these groups specifically and will continue to engage with groups representing the interests of these vulnerable groups, including the Ofcom Committee for Older and Disable people (ACOD).
- 7.19 The scope of Ofcom's programme of market research over the next 12 months will include:
- consumer awareness and use of VoIP services;
  - UK market developments; and
  - International market developments.

### Ensuring a high level of availability of access to the emergency services

*Question 21: In relation to ensuring high availability of 999 access, are there other measures that Ofcom could consider?*

- 7.20 As set out in the February 2006 consultation, one of Ofcom's key objectives is to achieve a high level of reliability of emergency services access. We described the incentives proposed by Ofcom to encourage providers of VoIP providers to include emergency services access – such as number portability rights and a requirement to seek acknowledgement from consumers if a service does not include access to the emergency services. This approach reflected the evidence that consumers were not yet substituting existing voice services which support emergency services access for services which do not and focus group research suggesting that consumers value access to the emergency services.
- 7.21 In the February consultation we explained that if it became apparent that the availability of access to the emergency services of a good quality was, or was likely to be, significantly reduced and that this was likely to result in consumer and citizen detriment, we would consider various actions to address the problem, such as requiring some VoIP products to offer access to the emergency services.
- 7.22 The emergency services and Government in particular were concerned that these proposals would not address the risks of delays in consumers and citizens successfully connecting to the emergency services and that this would result in serious consumer detriment.
- 7.23 As set out in Section 3 we believe there is now evidence to suggest that VoIP users are confused about their services, that this confusion might lead to harm and that requiring some VoIP services to include access to the emergency services may save lives. On this basis, we will be consulting on whether to mandate access to the emergency services, and if so with which products or services.



## Section 8

# Other Issues

## Introduction

8.1 The 2006 consultation discussed a number of issues that had previously been raised by stakeholders, industry and Ofcom that may affect VoIP services. Although Ofcom was not proposing any specific regulation in these areas, we considered it useful to clarify Ofcom's role, outline our emerging thinking and understand stakeholders' perspectives to be able to identify the focus of any future work by Ofcom in the following areas:

- VoIP in the *ex ante* framework;
- Naked DSL;
- Blocking of VoIP calls;
- Routing/termination;
- Malicious and nuisance calls;
- SPAM;
- Extraterritoriality of VoIP service providers; and
- Privacy and encryption.

8.2 In each of the areas, we outline below the issues that we raised, the responses and our anticipated approach to addressing the issue going forward.

## VoIP in the *ex ante* framework

8.3 As explained in the 2006 consultation, a number of stakeholders have questioned previously whether services provided via VoIP technology are in the same market or markets as traditional telephony services. The inclusion of services within an economic market may change the character and nature of the market and a resultant review might find that a provider that was previously dominant in the market may no longer retain dominance in the enlarged market or, on the other hand, dominance might be found in a market which was previously competitive.

8.4 Although Ofcom did not invite any responses on this subject, Ofcom nonetheless received some responses from stakeholders, which are summarised below.

## Respondents' views

8.5 Respondents were in broad agreement that the voice sector was dynamic and that services that are fixed, mobile or nomadic might eventually be part of a broader converged voice market. They suggested that Ofcom needs to monitor the trend towards substitution and ensure that regulation is forward-looking and applied in an even handed manner.

- 8.6 One respondent stated that the no single operator would have significant market power in the enlarged voice market.
- 8.7 Several respondents to the 2006 consultation have asked in what market VoIP services would be included.

### Ofcom's view

- 8.8 We reiterate our view as set out in the 2006 consultation in that Ofcom expects that in time VoIP services will increasingly act as a competitive constraint on traditional voice services to the degree to which they may be considered in the same market. Without Ofcom having carried out the relevant market analysis, we cannot confirm whether or not we have reached that point today. The rate at which VoIP services develop to be an effective constraint and/or are in a new separate market may depend on a wide range of factors, including the services offered, broadband and VoIP uptake and broadband service pricing.
- 8.9 In our *Draft Annual Plan 2007/08*, Ofcom has set out its intention to carry out a market review of telephony markets, including the supply of Voice over Internet Protocol (VoIP) services<sup>34</sup>. In line with this commitment, Ofcom plans to review voice markets at both the retail and wholesale levels and will need to consider the extent to which (if at all) services delivered via VoIP technology act as a constraint on traditional services. Ofcom also intends to consider the substitutability between fixed, mobile and VoIP services.

### Naked DSL

- 8.10 Currently, customers can only purchase a DSL broadband product from BT (at the retail or wholesale level), if there is also a rented BT PSTN line into the premise<sup>35</sup>. In other words, DSL 'piggy backs' on the PSTN service. Naked DSL is, in effect, a DSL-based product that does not require a customer to have a PSTN line and functionality. Naked DSL could be provided as a retail or wholesale product. Naked DSL could alternatively be delivered by LLU operators using full LLU (MPF).
- 8.11 In the 2006 consultation, Ofcom explained that it would be inappropriate for Ofcom to proactively intervene to mandate a specific naked DSL product and that the appropriate first step was for operators to request such a product from BT. We asked whether respondents agreed with Ofcom's approach (question 22).

### Respondents' views

*Question 22: Do you agree with Ofcom's approach to naked DSL?*

- 8.12 Stakeholder responses were mostly supportive of the need for a naked DSL product which they believe would drive broadband penetration and facilitate service provider switching and deliver consumer benefits. However, a number of respondents highlighted the downsides with naked DSL if the PSTN line were removed. In particular, they emphasised the negative impact that naked DSL could have on the availability of emergency services access and/or availability of high quality emergency services access that included, for instance, reliable location information. Some respondents stated that any naked DSL product should only be available to

<sup>34</sup> [http://www.ofcom.org.uk/consult/condocs/annual\\_plan2007/annual\\_plan200708/printversions/fullprint.pdf](http://www.ofcom.org.uk/consult/condocs/annual_plan2007/annual_plan200708/printversions/fullprint.pdf)

<sup>35</sup> The situation is different for cable broadband.

PATS providers (in order to ensure that the VoIP service offered emergency services access).

- 8.13 Most respondents, who commented on Ofcom's non-interventionist stance, agreed with Ofcom's approach, although a few considered that Ofcom should step in and mandate a product. One asked for Ofcom to make it clear under what circumstances Ofcom would intervene and another respondent suggested that, if there were a dispute, it was important that there was broad consultation on it.

### **Ofcom's view**

- 8.14 Ofcom understands that BT has received at least two requests for a naked DSL product (or similar) through the Statement of Requirement (SoR) process<sup>36</sup>. Ofcom's current view is that industry is best placed to agree requirements for the provision of any such product. As stated previously, Ofcom continues to have dialogue with stakeholders in order to understand their views and is monitoring progress of discussions between BT and industry over provision of such a product.

### **Blocking of VoIP calls**

- 8.15 Ofcom explained in the 2006 consultation that a number of VoIP service providers had expressed concern that, because they do not control access to the end-to-end service, their voice products might be degraded by access providers or might be prevented altogether. Ofcom stated, however, that it was not minded to take any action in relation to the potential degradation of services, because it was not aware of this actually taking place in practice in the UK. Ofcom stated that it would keep this issue under review.
- 8.16 Although Ofcom did not invite any responses on this subject, Ofcom nonetheless received some responses from stakeholders, which are summarised below.

### **Respondents' views**

- 8.17 A number of VoIP service providers reiterated their previously stated concerns that access providers might block their services. They suggested that 'open access' or 'network neutrality' was important to ensure that VoIP services can develop and deliver high network integrity.
- 8.18 Another respondent stated that VoIP service providers had suffered from inferior service levels in other countries or been charged by access providers to ensure that service quality was maintained at a consistent level.

### **Ofcom's view**

- 8.19 Ofcom does not consider that blocking is a particular issue. Moreover, in terms of the wider debate on network neutrality, Ofcom considers that network neutrality is not as significant an issue in Europe as it has been in the US. While this debate is important and is likely to continue, we believe that the existing market structure, the level of competition in service provision and the regulatory policy in Europe, combined with powers to address such issues under the existing regulatory framework<sup>37</sup> will be

<sup>36</sup> The SOR process is the name given to the process which governs how dominant providers respond to requests for new Network Access. It is established under SMP service conditions in relevant markets.

<sup>37</sup> For example, the ability to impose an end-to-end connectivity obligation under Article 5 of the Access Directive. In its statement on *End-to-end connectivity* (published 13 September 2006), Ofcom stated "if end-to-end connectivity is not ensured by an access-related condition on BT, then Ofcom will consider using its powers to impose such an obligation on all PECNs" ([http://www.ofcom.org.uk/consult/condocs/end\\_to\\_end/statement/statement.pdf](http://www.ofcom.org.uk/consult/condocs/end_to_end/statement/statement.pdf)).

sufficient to address issues that arise in relation to network neutrality now and in the future.

- 8.20 Specifically, in a competitive market, with consumers that are well informed in relation to the activities of different ISPs and who can easily move to competing providers, competition itself can provide a constraint on behaviours that reduce consumer benefits. Therefore, Ofcom is keen that:
- we continue to promote effective and sustainable competition in the delivery of broadband services to consumers;
  - consumers can access transparent information on the services they consume, so that they are fully informed of any traffic prioritisation, degradation or blocking policies being applied by their ISP; and
  - consumers are able to effectively migrate between service providers. This links to Ofcom's current work on broadband customer migrations<sup>38</sup>.

### Routing/termination

- 8.21 As explained in the 2006 consultation, the ability of any subscribers to call 055/056 number ranges has been raised by both VoIP service providers and consumer groups as a potential barrier to the development of VoIP services. Geographic numbers have generally been chosen as VoIP service providers' range of choice, possibly in part because termination rates for services terminating on 055/056 numbers have not been agreed commercially in all cases and access to these numbers is not universal. Additionally, consumers may be averse to calling numbers on ranges that are unfamiliar and, for the same reason, are more likely to call 01/02 geographic numbers.
- 8.22 Ofcom suggested that it could facilitate cross-industry working to minimise consumer detriment by encouraging progress in relation to rates for termination of services on 056 numbers and ensuring widespread access to these number ranges.

### Respondents' views

*Question 23: Do you agree a cross industry meeting would be a useful approach to move this issue forward? What other steps could be taken to provide support for 056 numbers?*

- 8.23 A number of respondents suggested that operators should be required to open access to new number ranges to ensure end-to-end connectivity. Number ranges that are not widely accessible can result in a degradation of services and might mean that consumers are disadvantaged. One respondent stated that a lack of access to the 056 number range might result in mistrust of VoIP services. Another respondent suggested that Ofcom should ensure the provision of end to end connectivity, using its enforcement powers if necessary.
- 8.24 Another operator suggested, however, that data management amendments for new number ranges were common place and therefore they did not believe that Ofcom needed to intervene.

<sup>38</sup> On 13 December 2006, Ofcom published the statement *Broadband migrations: enabling consumer choice*. This statement included a notification setting GC22 which imposes obligations on broadband service providers with regard to end-user migrations (<http://www.ofcom.org.uk/consult/condocs/migration/statement/statement.pdf>).

## Ofcom's view

- 8.25 Ofcom encourages communications providers to open access to each others numbers so that customers of one provider can call customers on all other networks. Ofcom also considers that access to new number ranges is important for the provision of innovative services and that new number ranges are likely to be devalued should access not be universal. Ofcom intends to consider this issue further in its review of the General Conditions.

## Malicious and nuisance calls

- 8.26 Ofcom explained in the 2006 consultation that malicious or nuisance calls are not traced easily where Session Internet Protocol (SIP) URI's are used to initiate a call. This is because the SIP URI is not location specific. Mobile services are not location specific either. However, mobile services use E.164 numbering ranges and therefore they possess the same robust authentication and security mechanisms as fixed services.
- 8.27 Filtering and blocking may also be challenging in a VoIP environment, as someone activating a session may not use a readily identifiable SIP URI.

## Respondents' views

*Question 24: How can a VoIP call be traced for detection and prevention of malicious and nuisance calls? How could a suitable call screening service work in a VoIP network?*

- 8.28 Respondents recognised that there are significant challenges in tracing calls delivered via VoIP technology to their point of origin. They did, however, suggest that there were means to tackle this. Several respondents suggested that users could be required to provide authentication prior to establishing a session. Others suggested that SIP registration logs could be used in a manner similar to the telephone preference scheme (TPS).
- 8.29 A number of respondents stated that part of the problem in tracing SIP initiated calls stems from the fact that these calls might have originated across national boundaries and therefore interception might not be possible. They therefore argued that solutions need to be found at an international level.

## Ofcom's view

- 8.30 Ofcom understands that it is possible to trace the point of origination in certain circumstances. However, it is possible to use a hoax SIP URI and, in such cases, more complex arrangements might be required, including retention of calls logs and IP sessions in accordance with the Data Retention Directive (2006/24/EC) and Regulation of Investigatory Powers Act 2000 ("**RIPA**"). Ofcom will continue to engage with industry, NICC and other stakeholders in working on a solution. Technical solutions are, however, a matter for the industry.

## SPAM, Malware and DoS

- 8.31 Ofcom explained in the 2006 consultation that SPAM over internet telephony (SPIT) could be a problem in the same way that SPAM has proved to be a serious problem in email. Ofcom suggested, however, that techniques similar to those used to

undermine SPAM, such as authentication and use of blocking, could be used to do the same to SPIT.

- 8.32 Ofcom also raised the issue of VoIP services presenting a new means of spreading viruses and other malware to compromise PC/PDA operating systems and could also be used to disable or deny service (DoS). Ofcom asked for respondents' views on the scale of the potential problem and what effective steps could be taken to protect consumers of VoIP services.

## Respondents' views

*Question 25: Do you agree that SPIT could be a potential problem and what techniques can be used to minimise the impact of SPIT on consumers of VoIP services.*

*Question 26: Have there been any instances of a VoIP service being compromised or used to deliver malware or a DoS attack?*

- 8.33 In general, respondents considered that SPIT would be unlikely to be a significant problem, or at least it was not at present, because of the economics of sending multiple SPIT calls. Unlike SPAM calls, which can be sent simultaneously, SPIT calls cannot be made until the previous call has been completed. This inability to send 'one-to-many' would be likely to result in the caller incurring significantly higher costs than their SPAM counterpart. Others agreed that SPAM techniques could be applied to counter the threat of SPIT.
- 8.34 In terms of malware, most respondents considered that VoIP services did not increase the threat and/or they were not aware of any instances of malware on their networks. It was suggested that service providers can limit any such attacks by following the National Infrastructure Security Co-ordination Centre (NISCC) guidelines<sup>39</sup>.
- 8.35 As with all IP-based networks, a number of respondents suggested that denial of service (DoS) attacks could potentially be a threat. Again, however, experience of such attacks was limited.

## Ofcom's view

- 8.36 Ofcom considers that the market and industry should take the lead in developing solutions to the potential threats posed by malware and DoS. Nevertheless, Ofcom considers it important that it is aware of any developments that might be used to counter these twin threats and understand other developments in this area.

## Extraterritoriality of VoIP providers

- 8.37 In the 2006 consultation, Ofcom explained broadly speaking that anyone offering ECSs in the UK is subject to the general authorisation regime and therefore the GCs which govern such services (see further detail now in Section 3 of this Statement). Ofcom recognised, however, that it would be more difficult to take enforcement action against entities that were not based in the UK. Ofcom sought views on what considerations it should take into account in ensuring that those not based in the UK abide by the GCs.

<sup>39</sup> The NISCC has been merged with the National Security Advice Centre (NASC) to form the Centre for the Protection of the National Infrastructure (CPNI). See [www.cpni.gov.uk](http://www.cpni.gov.uk).

## Respondents' views

*Question 27: Are there any other considerations that need to be taken into account when a provider does not have a UK entity?*

- 8.38 A number of respondents agreed that this was a potential problem and others suggested that the issue was one of enforcement. They suggested that the regulatory framework needs to be clear that the GCs apply wherever the entity is based and should, in any case, be pan-European. A number of respondents suggested that Ofcom could withdraw numbering ranges should the provider allocated the numbers choose not to abide by the GCs.

## Ofcom's view

- 8.39 Ofcom notes the views of respondents. Ofcom considers that the regulatory framework is already clear that, broadly speaking, anyone offering ECSs in the UK is subject to the general authorisation regime and therefore the GCs which govern such services. Ofcom also notes that, although taking enforcement action against entities not based in the UK may present some difficulties, Ofcom intends to consider any such complaint carefully that it receives and, wherever possible and appropriate, seek to ensure compliance with the GCs.

## Privacy and encryption

- 8.40 Ofcom asked in the 2006 consultation whether a VoIP service provider should indicate if the privacy of the VoIP call is secured by means of encryption, including the algorithm used and what steps are taken to maintain the security of any user data. Ofcom commented that various schemes and initiatives are in use in the e-commerce world to enhance user confidence in security of an IP network, and that these include trust, SSL and digital certificates.

## Respondents' views

*Question 28: Is it reasonable to ask VoIP service providers to participate in schemes designed for e-commerce?*

- 8.41 Stakeholder responses were mixed with most favouring non-intervention by Ofcom, with VoIP services being described as less or more secure than PSTN depending on the feature set and type of service being subscribed to.

## Ofcom's view

- 8.42 Ofcom notes the views of respondents and it therefore considers that this issue does not require intervention by Ofcom.



## Annex 1

# Modification to General Condition 14 of the General Conditions of Entitlement

## Notification of a modification under section 48 (1) of the Communications Act 2003

Modification of General Condition 14 (as amended) of Part 2 of the General Condition Notification regarding Codes of Practice and Dispute Resolution set under section 48(1) of the Communications Act 2003 for the purpose of imposing requirements upon Service Providers to comply with an information code.

### WHEREAS

- A. The Director General of Telecommunications (the “Director”) issued on 22 July 2003 the General Conditions Notification, which took effect on 25 July 2003 by way of publication of a notification pursuant to section 48(1) of the Act;
- B. By virtue of the Communications Act 2003 (Commencement No. 1) Order 2003 (S.I. 2003/1900 (C.77)) made under sections 411 and 408 of the Act
  - (i) certain provisions of the Act were commenced on 25 July 2003 for the purpose only of enabling the networks and services functions under those provisions to be carried out by the Director; and
  - (ii) those provisions of the Act are to have effect as if references to Ofcom were references to the Director;
- C. On 13 April 2005, OFCOM published a notification under section 48(1) of the Act modifying General Condition 14, entitled ‘*Protecting citizens and consumers from mis-selling of fixed-line telecommunications services*’.
- D. On 19 April 2006, OFCOM published a notification under section 48 (1) of the Act modifying General Condition 14, entitled ‘*Providing citizens and consumers with improved information about Number translation Services and Premium Rate Services*’.
- E. On 8 February 2007, OFCOM published a notification under section 48(2) of the Act proposing to modify General Condition 14, entitled ‘*Protecting citizens and consumers from mis-selling of fixed-line telecommunications services*’;
- F. OFCOM issued a notification pursuant to section 48(2) and 86 (1) of the Act setting out their proposals for the modification of General Condition 14 (as amended) on 22 February 2006, entitled *Regulation of VoIP Services* (the “First Notification”);
- G. A copy of the First Notification was sent to the Secretary of State in accordance with section 50(1)(a) of the Act;



H. In the First Notification and accompanying explanatory statement, OFCOM invited representations about any of the proposals set out therein by 10 May 2006;

I. By virtue of section 48(5) of the Act, OFCOM may give effect to any proposals to modify or set general conditions as set out in the First Notification, with or without modification, where:

(i) they have considered every representation about the proposals made to them within the period specified in the First Notification; and

(ii) they have had regard to every international obligation of the United Kingdom (if any) which has been notified to them for this purpose by the Secretary of State;

J. OFCOM received responses to the First Notification and have considered every such representation made to them in respect of the proposals set out in the First Notification and the accompanying explanatory statement; and the Secretary of State has not notified OFCOM of any international obligation of the United Kingdom for this purpose;

## **THEREFORE**

1. OFCOM in accordance with section 48 (1) of the Act hereby make the following modification of General Condition 14 (as amended) of Part 2 of the General Condition Notification, regarding Codes of Practice and Dispute Resolution.

2. The modification is set out in the Schedule to this Notification.

3. The effect of, and OFCOM's reasons for making, the modification referred to in paragraph 1 above is set out at Sections 6 and 7 of the accompanying explanatory statement.

4. OFCOM consider that the modification referred to in paragraph 1 above complies with the requirements of sections 45 to 50 of the Act, as appropriate and relevant to their proposal.

5. In making the modification set out in this Notification, OFCOM has considered and acted in accordance with their general duties in section 3 of the Act and the six Community requirements in section 4 of the Act.

6. Copies of this Notification and the accompanying statement have been sent to the Secretary of State in accordance with section 50(1)(a) of the Act;

7. The modification shall enter into force on publication of this Notification.

8. In this Notification:

- i) 'the Act' means the Communications Act 2003;
- ii) 'General Condition Notification' means as set out in the Schedule to the Notification under Section 48(1) of the Communications Act 2003 published by the Director General of Telecommunications on 22 July 2003; and
- iii) 'OFCOM' means the Office of Communications.

9. Except insofar as the context otherwise requires, words or expressions shall have the meaning assigned to them in this Notification (including the Schedule) and otherwise words or expression shall have the same meaning as it has in General Condition Notification and, subject to such meanings, otherwise any word or expression shall have the same meaning as it has in the Act.

10. For the purpose of interpreting this Notification:

- i) headings and titles shall be disregarded; and
- ii) the Interpretation Act 1978 shall apply as if this Notification were an Act of Parliament.

11. The Schedule to this Notification shall form part of this Notification.

**Steve Unger**

**Competition Policy Director**

**A person authorised by Ofcom under paragraph 18 of the Schedule to the Office of Communications Act 2002**

**29 March 2007**

## Schedule

**Modification to General Condition 14 of Part 2 of the General Condition Notification regarding Codes of Practice and Dispute Resolution, which is set out in the Schedule to the Notification under Section 48(1) of the Communications Act 2003 published by the Director General of Telecommunications on 22 July 2003.**

General Condition 14 on Codes of Practice and Dispute Resolution shall be modified as set out below:

1. The following wording is inserted after Condition 14.7:  
  
“Code on the provision by Service Providers of consumer protection information for the provision of Services  
  
Condition 14.8 Within two months of this Condition entering into force, all Service Providers shall:  
  
(a) comply with the requirements set out in the Code at Annex 4.”
2. Condition 14.8 is renumbered as Condition 14.9.
3. The following definitions are inserted in alphabetical order in Condition 14.9 (as renumbered):  
  
“**Service**’ means a Public Electronic Communication Service, but only to the extent it comprises the conveyance of speech, music or sounds.  
  
“**Service Provider**’ means a provider of a Service.”
4. The following Code is inserted in General Condition 14, after Annex 3, and is entitled ‘Annex 4 to General Condition 14’

## **Code on the provision by Service Providers of consumer information to Domestic and Small Business Customers for the provision of Services**

### **Provision**

1. This code (the ‘Code’) sets out the minimum requirements for all Service Providers to ensure that their Domestic and Small Business Customers are provided with information about any feature and/or limitation in that Service Provider’s Service that differs from a Publicly Available Telephony Service provided over the Public Telephone Network, in the ways set out in paragraph 4 below.
2. Different sections of the Code may be applicable to different Service Providers, depending on what Services the Service Provider is providing.
3. These requirements are in addition to the information required to be made available by the Service Provider under the General Conditions of Entitlement and any Codes of Practice set under the General Conditions of Entitlement.

## Scope

4. The Code requires the Service Provider to provide information to its Domestic and Small Business Customers on:

- a) service reliability;
- b) Emergency Calls;
- c) the ability to Port Numbers; and,
- d) Other information for Domestic and Small Business Customers.

## Service Reliability

5. Each Service Provider shall provide to its Domestic and Small Business Customers clear and readily accessible information regarding whether its Service may cease to function if there is a power cut or power failure, or a failure of the Broadband Connection.

6. The information in paragraph 5 above shall be provided during the Sales Process, within the Terms and Conditions of Use, and in any User Guide issued by the Service Provider.

7. The following text is an indicative example of the information to be provided in paragraph 5 above, that can be adapted to the specific requirements of Service Providers:

“IMPORTANT INFORMATION: If your Broadband Connection fails, your voice service will also fail. Your service may cease to function if there is a power cut or failure. These failures may be caused by reasons outside our control.”

## Emergency Calls

8. Some Services may not offer any access to Emergency Calls or access to Emergency Calls may be offered by the Service Provider over its Service but the reliability of this access may be affected by a power cut or power failure, or by failure of the Customer’s Broadband Connection.

9. This section is intended to ensure that Service Providers provide their Domestic and Small Business Customers with relevant information about their ability to make Emergency Calls.

## No Access to Emergency Calls

10. Where the Service provided by the Service Provider does not provide access to Emergency Calls, the Service Provider shall:

- a) provide the Domestic and Small Business Customers, clear and readily accessible information at the Point of Signature, in the Terms and Conditions of Use and in any User Guide; that its Service does not provide access to Emergency Calls. The same information must also be provided to prospective Domestic and Small Business Customers as part of the Sales Process;
- b) take reasonable steps to ensure that Domestic and Small Business Customers acknowledge in the form of a signature (or online equivalent), at the Point of

Signature, that they understand that the Service will not provide any access to Emergency Calls, (the following text is an example of the wording that could be used) :

"I understand that this service does not allow calls to the emergency services numbers 999 and 112."

- c) provide evidence to Ofcom of the acknowledgement in paragraph 10 (b) above, within five working days; following a written request from Ofcom;
- d) as part of the Terms and Conditions of Use, supply its Domestic and Small Business Customer with a clear and readily accessible printed statement, or an on-screen statement that the Domestic and Small Business Customer is encouraged to print out, that Emergency Calls cannot be made using the Service;
- e) during the Sales Process, give the Domestic and Small Business Customer the choice whether to receive Labels (at no charge, other than reasonable postage and packaging if applicable) which state that Emergency Calls cannot be made using the Service, and recommend that the Domestic and Small Business Customer use these Labels on or near the relevant Service Access Terminal;
  - where a screen or display is used with the Service, a Label could be an on-screen message or display using a clear and readily accessible graphic, words or icon that Emergency Calls cannot be made using the Service; or
  - in these and other circumstances a Label could be (at the Customer's choice) either a piece of paper to be attached to the Service Access Terminal or software facilities for producing such labels (e.g. a PDF file).
- f) if Emergency Calls are made from the Service Access Terminal, provide a network announcement stating (for example):

"Calls to Emergency Services cannot be made from this handset; please hang up and call from an alternative telephone service such as a traditional landline or mobile phone."

- g) This announcement shall be interspersed with a Number Unavailable Tone for the benefit of hearing-impaired users.

## **Reliability of Access to Emergency Calls**

11. Where the Service Provider provides access to Emergency Calls but the Service may cease to function if there is a power cut or failure or a failure of the Broadband Connection the Service Provider shall:

- a) provide its Domestic and Small Business Customers with clear and readily accessible information, during the Sales Process, in the Terms and Conditions of Use and in any User Guide; that, although access to Emergency Calls is provided, the Service may cease to function if there is a power cut or failure, or a failure of the Broadband Connection;
- b) take reasonable steps to ensure that Domestic and Small Business Customers acknowledge in the form of a signature (or online equivalent), at the Point of Signature, that they understand that Emergency Calls will fail if there is a power

cut or failure, or a failure of the Broadband Connection, (the following text is an example of the wording that could be used):

“I understand that this service allows calls to the emergency services numbers 999 and 112. However I understand that calls will fail if there is a power cut or my broadband connection fails.”

- c) provide evidence to Ofcom of the acknowledgement in paragraph 11 (b) above, within five working days; following a written request from Ofcom;
- d) during the sales process, give the Domestic and Small Business Customer the choice whether to receive (at no charge other than reasonable postage and packaging if applicable), Labels which state that Emergency Calls may fail:
  - where a screen or display is used with the Service, a Label would normally be an on-screen message or display using a clear and readily accessible graphic, words or icon that Emergency Calls cannot be made using the Service; and
  - in other circumstances a Label would normally be (at the Customer's choice) either a piece of paper to be attached to the Service Access Terminal or software facilities for producing such labels (e.g. a PDF file).

## **Emergency Location Information**

12. In respect of Emergency Location Information:

- a) where the Service provided by the Service Provider does provide access to Emergency Calls and the Service is to be used principally at a single fixed location, the Service Provider shall require its Domestic and Small Business Customers to register with it the address of the place where the Service is going to be used prior to activation of the Service (the location information), so that up-to-date location information can be used for Emergency Location Information;
- b) where the Service Provider has reasonable expectation that, or has been informed that, the service is to be accessed from several locations, the Service Provider shall recommend that its Domestic and Small Business Customers register and update the location information with it, whenever accessing the Service from a new location, so that up-to-date information can be used for Emergency Location Information;
- c) the Service Provider shall advise its Domestic and Small Business Customer at the Point of Signature, in any User Guide, and in any Terms and Conditions of Use of any limitations on the location information that will be provided to the Emergency Services as Emergency Location Information, if the location information they have provided is not up-to-date. This advice shall be clear and readily accessible;
- d) where the Service Provider does not provide Emergency Location Information, it shall provide clear and easily accessible information to this effect to all Domestic and Small Business Customers at the Point of Signature, in any User Guide, and in any Terms and Conditions of Use. The same information shall also be made available to prospective Domestic and Small Business Customers as part of the Sales Process.

## Ability to Port Numbers

13. Where the Service Provider does not offer Number Portability, the Service Provider shall provide clear and readily accessible information to its Domestic and Small Business Customers in any User Guide and the Terms and Conditions of Use to this effect. The same information shall also be provided to prospective Domestic and Small Business Customers as part of the Sales Process.

## Other information for Customers

14. In addition to the requirements set out above, the information describing the Service made available by a Service Provider to a prospective Domestic and Small Business Customer shall make it clear and readily accessible as part of the Sales Process if any of the following facilities or features are not available by means of the Service:

- access to a Directory Enquiry Facility;
- access to operator assistance services (as described in General Condition 8.1);
- Calling Line Identification Facilities;
- provision of a Directory on request;
- special measures for end users with disabilities (as described in General Condition 15); and
- the non-itemisation of calls which are made from a Subscriber's telephone which are free of charge.

15. The Service Provider shall also make clear and readily accessible, any restrictions on the Number Ranges or Country Codes that may be called using the Service. Where such numbers cannot be dialled, it is recommended that dialling such numbers should produce the standard Number Unavailable Tone.

## DEFINITIONS

For the purposes of the Code, the definition of the following terms is:

**'Broadband Connection'** means the Domestic or Small Business Customer's broadband service which provides speeds which are higher than those attainable over a dial up connection which are 56kbit/s over an analogue line; 64kbit/s over an ISDN2 digital channel and 128kbit/s over the two bonded channels of an ISDN2 line;

**'Calling Line Identification Facilities'** means facilities by which the Telephone Number of a calling party is presented to the called party prior to the call being established;

**'Country Codes'** means the international dialling code e.g. 44 for the UK;

**'Emergency Calls'** means calls to 999 or 112 or its equivalent;

**'Emergency Location Information'** means information concerning the location from where a call to the Emergency Organisations can be made, that is provided by Service Providers to Emergency Organisation's Operators as part of the handling of such a call;

**‘Internet Protocol’** means the method by which data is sent over the internet or intranet;

**‘Label’** means a mechanism for annotating a Service Access Terminal with a brief message. A Label can consist of an electronic notice that is displayed whenever the Service is used or (at the Customer’s choice) either a piece of paper to be attached to the Service Access Terminal or software facilities for producing such labels (e.g. a PDF file);

**‘Number Portability’** the facility by which a Domestic and Small Business Customer can transfer their Telephone Number when switching between Service Providers;

**‘Number Ranges’** means a set of contiguous numbers of a specified or unspecified size;

**‘Number Unavailable Tone’** means a continuous tone which differs from dial tone and indicates a dialled number is unavailable or out of service;

**‘Point of Signature’** means the point in the process of concluding a contract immediately before the Domestic and Small Business Customer indicates his/her agreement to enter into the contract;

**‘Port Numbers’** means the process to transfer Telephone Numbers to a new Service Provider;

**‘Sales Process’** means the process of providing information to the prospective Domestic and Small Business Customer about the Service and of establishing the Domestic and Small Business Customer’s requirements for the Service before the making of the contract to provide that Service. This includes leaflets and marketing material. It does not include advertisements;

**‘Service Access Terminal’** means the equipment used to access the Service;

**‘Terms and Conditions of Use’** means the contract agreed by the Domestic and Small Business Customer for the provision of the Service;

**‘User Guide’** means the document giving the Domestic and Small Business Customer information about how to use the Service. This does not include any document concerned solely with the operation of a Service Access Terminal..



**Annex 2**

# How the Code requirements might apply in different sales scenarios (provided for guidance only)

## Information to be made available before the customer signs up to the service

Sales process			
	Online	Telephone	Face to face
<ul style="list-style-type: none"><li>• The service may not work if there is a power cut or broadband failure</li><li>• There is no access to Emergency Services</li><li>• Access to Emergency Services is provided but the service won't work if there is no power or the user's broadband connection fails</li><li>• No location information is provided to the emergency services</li><li>• Location information will not be provided/will be limited to the emergency services if the user does not register their location appropriately</li><li>• There is no ability to port numbers</li><li>• There is no access to DQ</li><li>• There is no access to operator assistance</li><li>• There are no CLI facilities</li><li>• There are no special measures for end users with disabilities</li><li>• Free phone numbers are itemised</li><li>• There are restrictions on certain number ranges and country codes</li></ul>	The provider will make sure the customer has access to this information prior to signing up to the service – either by ensuring the sales agent reads it aloud or by making it clearly available in material describing the service, including FAQs.		
Point of signature			
	Online	Telephone	Face to face
<ul style="list-style-type: none"><li>• There is no access to Emergency Services (providers must provide Ofcom with evidence of this within 5 working days, on request)</li><li>• Access to Emergency Services is provided but the service won't work if there is no power or the user's broadband connection fails</li><li>• Location information will not be provided/will be limited to the emergency services if the user does not register their location appropriately</li></ul>	The provider will ensure the consumer ticks a set of boxes showing that they have read and understood each of the relevant statements before signing up to the service. (Evidence would be a timed copy	The sales agent will read out a statement on each relevant aspect and ask the customer to verbally acknowledge their understanding of each before signing up to the service. (Evidence would be a recording of	The sales agent will ask the customer to sign each relevant statement to show they have read and understood the information before signing up to the service. (Evidence would be a dated copy of the signed

	of the 'ticked boxes')	this conversation)	statements)
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### Information to be made available before and after the customer signs up to the service

Terms and Conditions of Use			
	Online	Telephone	Face to face
<ul style="list-style-type: none"><li>• The service may not work if there is a power cut or broadband failure.</li><li>• There is no access to Emergency Services (including a printable statement)</li><li>• No location information is provided to the emergency services</li><li>• Location information will not be provided/will be limited to the emergency services if the user does not register their location appropriately</li></ul>	The provider will include this information – where relevant – in the terms and conditions of use, available online or in hard copy, regardless of the sales scenario.		
User guide			
	Online	Telephone	Face to face
<ul style="list-style-type: none"><li>• The service may not work if there is a power cut or broadband failure.</li><li>• There is no access to Emergency Services</li><li>• Location information will not be provided/will be limited to the emergency services if the user does not register their location appropriately</li></ul>	The provider will include this information – where relevant – in a user guide (if one is provided) either online or in hard copy, regardless of the sales scenario.		

### Information to be made available after the customer signs up to the service

Labels			
	Online	Telephone	Face to face
<ul style="list-style-type: none"><li>Where no Emergency Services access is available, provide labels that state this and encourage users to place them on or near equipment; or where a screen or display is used indicate on that screen that Emergency Services is not available</li><li>Where Emergency Services is provided, provide labels that say emergency calls may fail if a customer has a power cut or their broadband connection fails</li></ul>	Applies regardless of sales scenario.		
Announcement and number unobtainable tone (NUT)			
	Online	Telephone	Face to face
<ul style="list-style-type: none"><li>If no access to Emergency Services is provided, the provider will play a network announcement, interspersed by</li></ul>	Applies regardless of sales scenario.		

a NUT if a Emergency Services call is attempted			
Registering location information			
	Online	Telephone	Face to face
<ul style="list-style-type: none"><li>Providers will ensure their users register the address of their primary location</li><li>Providers will encourage users to register their nomadic addresses whenever accessing the service from a new location.</li></ul>	Applies regardless of sales scenario.		

## Annex 3

# Tracked version of the Code on the provision by Service Providers of consumer information to Domestic and Small Business Customers for the provision of Services

(The added text and numbering from the version in the consultation document is underlined and the deleted text or numbering, or numbering changed due to added text has been struck through, with all modifications highlighted in yellow for ease of reference):

## **[Draft] Code on the provision by Service Providers of consumer information to Domestic and Small Business Customers for the provision of Services**

### **Provision**

1. This code (the 'Code') sets out the minimum requirements for all Service Providers to ensure that their Domestic and Small Business Customers are provided with information about any feature and/or limitation in that Service Provider's Service that differs from a Publicly Available Telephony Service provided over the Public Switched Telephone Network Public Telephone Network, in the ways set out in paragraph 4 below.
2. Different sections of the Code may be applicable to different Service Providers, depending on what Services the Service Provider is providing.
3. These requirements are in addition to the information required to be made available by the Service Provider under the General Conditions of Entitlement and any Codes of Practice set under the General Conditions of Entitlement.

### **Scope**

4. The Code requires the Service Provider to provide information to its Domestic and Small Business Customers on:
  - a) service reliability;
  - b) Emergency Calls;
  - c) the ability to Port Numbers; and,
  - d) Other information for Domestic and Small Business Customers.

## Service Reliability

5. Each Service Provider shall provide to its Domestic and Small Business Customers clear and readily accessible information regarding whether its Service may cease to function if there is a power cut or power failure, or a failure of the Broadband Connection, Data Network.

6. The information in paragraph 5 above shall be provided during the Sales Process, within the Terms and Conditions of Use, and in any User Guide issued by the Service Provider.

7. The following text is an indicative example of the information to be provided in paragraph 5 above, that can be adapted to the specific requirements of Service Providers:

~~"IMPORTANT INFORMATION: This is a Voice over Data Network service and, as such, service availability is not guaranteed. Therefore If your Broadband Connection fails, your voice service will also fail. Your service may cease to function if there is a power cut or failure. Power cuts or T~~ These failures may be caused by reasons outside our control."

## Emergency Calls

8. Some Services may not offer any access to Emergency Calls or access to Emergency Calls may be offered by the Service Provider over its Service but the reliability of this access may be affected by a power cut or power failure, or by failure of the Customer's Broadband Connection, Data Network.

9. This section is intended to ensure that Service Providers provide their Domestic and Small Business Customers with relevant information about their ability to make Emergency Calls.

### No Access to Emergency Calls

10. Where the Service provided by the Service Provider does not provide access to Emergency Calls, the Service Provider shall:

- a) provide the Domestic and Small Business Customers, clear and readily accessible information at the Point of Signature, in the Terms and Conditions of Use and in any User Guide; that its Service does not provide access to Emergency Calls. The same information must also be provided to prospective Domestic and Small Business Customers as part of the Sales Process;
- b) take reasonable steps to ensure that Domestic and Small Business Customers acknowledge in the form of a signature (or online equivalent), at the Point of Signature, that they understand that the Service will not provide any access to Emergency Calls, (the following text is an example of the wording that could be used) :

I understand that this service does not allow calls to the emergency services numbers 999 and 112

- c) provide evidence to Ofcom of the acknowledgement in paragraph 10 (b) above, within five working days; following a written request from Ofcom;

- d) as part of the Terms and Conditions of Use, supply its Domestic and Small Business Customer with a clear and readily accessible printed statement, or an on-screen statement that the Domestic and Small Business Customer is encouraged to print out, that Emergency Calls cannot be made using the Service;
- e) during the sales process, give the Domestic and Small Business Customer the choice whether to receive ~~provide~~ Labels (at no charge, other than reasonable postage and packaging if applicable) which state that Emergency Calls cannot be made using the Service, and recommend that the Domestic and Small Business Customer use these Labels on or near the relevant Service Access Terminal;
- f) ~~where a screen or display is used with the Service, indicate on that screen or display using a clear and readily accessible graphic, words or icon that Emergency Calls cannot be made using the Service; and,~~
- ~~where a screen or display is used with the Service, a Label could be an on-screen message or display using a clear and readily accessible graphic, words or icon that Emergency Calls cannot be made using the Service; or~~
  - ~~in these and other circumstances a Label could be (at the Customer's choice) either a piece of paper to be attached to the Service Access Terminal or software facilities for producing such labels (e.g. a PDF file).~~
- f) if Emergency Calls are made from the Service Access Terminal, provide a network announcement stating (for example):

"Calls to Emergency Services cannot be made from this handset; please hang up and ~~redial~~ call from an alternative telephone service such as a traditional landline or mobile phone."

- g) This announcement shall be interspersed with a Number Unavailable Tone for the benefit of hearing-impaired users.

## Reliability of Access to Emergency Calls

11. Where the Service Provider provides access to Emergency Calls but the Service may cease to function if there is a power cut or failure or a failure of the Data Network-Broadband Connection the Service Provider shall:

- a) provide its Domestic and Small Business Customers with clear and readily accessible information, during the Sales Process, in the Terms and Conditions of Use and in any User Guide; that, although access to Emergency Calls is provided, the Service may cease to function if there is a power cut or failure, or a failure of the Data Network-Broadband Connection;
- b) ~~on request of the Domestic and Small Business Customer (at no charge other than reasonable postage and packing if applicable), provide Labels which state that Emergency Calls may fail.~~
- b) take reasonable steps to ensure that Domestic and Small Business Customers acknowledge in the form of a signature (or online equivalent), at the Point of Signature, that they understand that Emergency Calls will fail if there is a power cut or failure or a failure of the Broadband Connection, (the following text is an example of the wording that could be used) :

"I understand that this service allows calls to the emergency services numbers 999 and 112. However I understand that calls will fail if there is a power cut or my broadband connection fails."

- c) provide evidence to Ofcom of the acknowledgement in paragraph 11 (b) above, within five working days; following a written request from Ofcom;
- d) during the sales process, give the Domestic and Small Business Customer the choice whether to receive (at no charge other than reasonable postage and packaging if applicable), Labels which state that Emergency Calls may fail:
  - where a screen or display is used with the Service, a Label would normally be an on-screen message or display using a clear and readily accessible graphic, words or icon that Emergency Calls cannot be made using the Service; and
  - in other circumstances a Label would normally be (at the Customer's choice) either a piece of paper to be attached to the Service Access Terminal or software facilities for producing such labels (e.g. a PDF file).

## Emergency Location Information

### 12. In respect of Emergency Location Information:

- a) where the Service provided by the Service Provider does provide access to Emergency Calls and the Service is to be used principally at a single fixed location, the Service Provider shall **require** its Domestic and Small Business Customers to register with it the address of the place where the Service is going to be used **prior to activation of the Service** (the location information), so that up-to-date location information can be used for Emergency Location Information;
- b) where the Service Provider has reasonable expectation that, or has been informed that, the service is to be accessed from several locations, the Service Provider shall **recommend that** its Domestic and Small Business Customers **to** register and update the location information with it, whenever accessing the Service from a new location, so that up-to-date information can be used for Emergency Location Information;
- c) the Service Provider shall advise its Domestic and Small Business Customer at the Point of Signature, in any User Guide, and in any Terms and Conditions of Use of any limitations on the location information that will be provided to the Emergency Services as Emergency Location Information, if the location information they have provided is not up-to-date. This advice shall be clear and readily accessible;
- ~~d) if a prospective or a Domestic and Small Business Customer chooses not to provide location information, they should be informed of the consequences as part of the Sales Process; and,~~
- d) where the Service Provider does not provide Emergency Location Information, **it** **shall** provide clear and easily accessible information to this effect to all Domestic and Small Business Customers at the Point of Signature, in any User Guide, and in any Terms and Conditions of Use. The same information shall also be made available to prospective Domestic and Small Business Customers as part of the Sales Process.

## Ability to Port Numbers

13. Where the Service Provider does not offer Number Portability, the Service Provider shall provide clear and readily accessible information to its Domestic and Small Business Customers in ~~the Basic Code of Practice, any~~ User Guide and the Terms and Conditions of Use to this effect. The same information shall also be provided to prospective Domestic and Small Business Customers as part of the Sales Process.

## Other information for Customers

14. In addition to the requirements set out above, the information describing the Service made available by a Service Provider to a prospective Domestic and Small Business Customer shall make it clear and readily accessible as part of the Sales Process if any of the following facilities or features are not available by means of the Service:

- access to a Directory Enquiry Facility;
- access to operator assistance services (as described in General Condition 8.1);
- Calling Line Identification Facilities;
- provision of a Directory on request;
- special measures for end users with disabilities (as described in General Condition 15); and
- the non-itemisation of calls which are made from a Subscriber's telephone which are free of charge.

15. The Service Provider shall also make clear and readily accessible, any restrictions on the Number Ranges or Country Codes that may be called using the Service. Where such numbers cannot be dialled, it is recommended that dialling such numbers should produce the standard Network Number Unavailable Tone.

## DEFINITIONS

For the purposes of the Code, the definition of the following terms is:

~~'Basic Code of Practice' means the Service Provider's Code of Practice as required under General Condition 14.1.~~

**'Broadband Connection'** means the Domestic or Small Business Customer's broadband service which provides speeds which are higher than those attainable over a dial up connection which are 56kbit/s over an analogue line; 64kbit/s over an ISDN2 digital channel and 128kbit/s over the two bonded channels of an ISDN2 line;

**'Calling Line Identification Facilities'** means facilities by which the Telephone Number of a calling party is presented to the called party prior to the call being established;

**'Country Codes'** means the international dialling code e.g. 44 for the UK;

**'Emergency Calls'** means calls to 999 or 112;



**‘Emergency Location Information’** means information concerning the location from where a call to the Emergency Organisations can be made, that is provided by Service Providers to Emergency Organisation’s Operators as part of the handling of such a call;

**‘Internet Protocol’** means the method by which data is sent over the internet or intranet;

**‘Label’** means a mechanism for annotating a Service Access Terminal with a brief message. A Label can consist of an electronic notice that is displayed whenever the Service is used or (at the Customer’s choice) either a piece of paper to be attached to the Service Access Terminal or software facilities for producing such labels (e.g. a PDF file);

**‘Number Portability’** the facility by which a Domestic and Small Business Customer can transfer their Telephone Number when switching between Service Providers;

**‘Number Ranges’** means a set of contiguous numbers of a specified or unspecified size;

**‘Number Unavailable Tone’** means a continuous tone which differs from dial tone and indicates a dialled number is unavailable or out of service;

**‘Point of Signature’** means the point in the process of concluding a contract immediately before the Domestic and Small Business Customer indicates his/her agreement to enter into the contract;

**‘Port Numbers’** means the process to transfer Telephone Numbers to a new Service Provider;

**‘Sales Process’** means the process of providing information to the prospective Domestic and Small Business Customer about the Service and of establishing the Domestic and Small Business Customer’s requirements for the Service before the making of the contract to provide that Service. This includes leaflets and marketing material. It does not include advertisements.

**‘Service Access Terminal’** means the equipment used to access the Service;

**‘Terms and Conditions of Use’** means the contract agreed by the Domestic and Small Business Customer for the provision of the Service;

**‘User Guide’** means the document giving the Domestic and Small Business Customer information about how to use the Service. This does not include any document concerned solely with the operation of a Service Access Terminal.

**Annex 4**

# Modification to General Condition 18 of the General Conditions of Entitlement

## **NOTIFICATION OF A MODIFICATION UNDER SECTION 48(1) OF THE COMMUNICATIONS ACT 2003**

**The modification of General Condition 18 (as amended) of Part 2 of the General Condition Notification regarding Number Portability, which is set out in the Schedule to that Notification under section 48(1) of the Communications Act 2003 as published by the Director of Telecommunications on 22 July 2003.**

**WHEREAS:-**

A. the Director General of Telecommunications issued on 22 July 2003 the General Conditions Notification, which took effect on 25 July 2003 by way of publication of a notification pursuant to section 48(1) of the Act;

B. OFCOM issued a notification pursuant to section 48(2) of the Act on 22 February 2006, together with an accompanying explanatory statement, setting out their proposal for the modification of General Condition 18 (the "First Notification");

C. a copy of the First Notification was sent to the Secretary of State in accordance with section 50(1)(a) of the Act and to the European Commission in accordance with section 50(6) of the Act;

D. in the First Notification, OFCOM invited representations about its proposal set out therein by 3 May 2006;

E. by virtue of section 48(5) of the Act, OFCOM may give effect to its proposal to modify General Condition 18 as set out in the First Notification, with or without modification, where:

(i) they have considered every representation about the proposals made to them within the period specified in the First Notification; and

(ii) they have had regard to every international obligation of the United Kingdom (if any) which has been notified to them for this purpose by the Secretary of State;

F. OFCOM received 47 responses to the First Notification and have considered every such representation made to them in respect of the proposals set out in the First Notification and the accompanying explanatory statement; and the Secretary of State has not notified OFCOM of any international obligation of the United Kingdom for this purpose;

**THEREFORE, OFCOM makes the following modification:-**

1. OFCOM, in accordance with section 48(1) of the Act, hereby make the modification to the General Conditions Notification to modify General Condition 18 concerning number portability as set out in the Schedule to this Notification.

2. The effect of, and OFCOM's reasons for making, the modification referred to in paragraph 1 above is set out in the accompanying explanatory statement to this Notification.

3. OFCOM consider that the modification referred to in paragraph 1 above complies with the requirements of sections 45 to 50 of the Act, as appropriate and relevant to it.

4. In making the modification set out in this Notification, OFCOM have considered and acted in accordance with their general duties in section 3 of, and the six Community requirements in section 4, of the Act.

5. The modification shall enter into force on 29 March 2007.

6. Copies of this Notification and the accompanying statement have been sent to the Secretary of State in accordance with section 50(1)(a) of the Act and to the European Commission in accordance with section 50(6) of the Act.

7. In this Notification:

(i) “**Act**” means the Communications Act 2003 (c. 21); and

(ii) “**OFCOM**” means the Office of Communications;

8. Except insofar as the context otherwise requires, words or expressions shall have the meaning assigned to them in this Notification and otherwise any word or expression shall have the same meaning as it has in the Act.

9. For the purpose of interpreting this Notification:

(i) headings and titles shall be disregarded; and

(ii) the Interpretation Act 1978 shall apply as if this Notification were an Act of Parliament.

10. The Schedule to this Notification shall form part of this Notification.

**Steve Unger**

**Competition Policy Director**

A person authorised by OFCOM under paragraph 18 of the Schedule to the Office of Communications Act 2002

**29 March 2007**

## **Schedule**

### **Proposal for modification to General Condition 18 of Part 2 of the General Condition Notification regarding number portability, which is set out in the Schedule to the Notification under Section 48(1) of the Communications Act 2003 published by the Director General of Telecommunications on 22 July 2003**

1. The definition of “Publicly Available Telephone Service” under General Condition 18.5 of Part 2 of the General Condition Notification shall be substituted for the following new definition of “Publicly Available Telephone Service”—

“Publicly Available Telephone Service”:

(a) in relation to a service to be used with a Telephone Number for receiving calls only under the contract between the person and the provider in question, means a Public Electronic Communications Service for only receiving national and international telephone calls through a number or numbers in a national or international telephone numbering plan.

(b) in relation to a service to be used with a Telephone Number for originating and receiving calls and access to Emergency Organisations under the contract between the person and the provider in question, has the meaning ascribed to it under paragraph 1 of Part 1 of this Schedule;

## Annex 5

# Guidelines on the application of PATS obligations to VoIP service providers

## A. Introduction

### Purpose

- A5.1 These guidelines set out Ofcom's approach to applying certain requirements or obligations, which may be applicable to VoIP service providers<sup>40</sup> under either General Condition ("GC"<sup>41</sup>) 3 or GC 4. In particular, these guidelines:
- seek to provide clarity on the meaning of some of the legal concepts used in relevant GCs applicable to providers of 'Publicly Available Telephone Services' ("PATS"), so as to inform stakeholders of Ofcom's general view on them; and
  - describe factors that Ofcom would consider in the application of said requirements or obligations in GCs 3 and 4.
- A5.2 These guidelines are primarily intended to illustrate how Ofcom would investigate potential contraventions of the requirements or obligations in GCs 3 and 4 when taking enforcement action. Normally, Ofcom would do so by giving a contravention notice under section 94 of the Communications Act 2003 (the "Act"). In such a notice, Ofcom would set out its determination that there are reasonable grounds for believing that a person is contravening, or has contravened, a condition set under section 45 of the Act, such as GCs 3 and 4.
- A5.3 Persons given a contravention notice would have the opportunity to make representations, to comply with the condition in question and to remedy any consequences of the breach, before any further action would be taken in the event of non-compliance, such as the imposition of a penalty of up to 10% of the provider's relevant turnover<sup>42</sup>. Further action that Ofcom could take includes the giving of an enforcement notification under section 95 of the Act, the giving of directions suspending service provision and the giving of its consent to persons affected by the contravention in question for the bringing of civil proceedings under section 104 of the Act.
- A5.4 Ofcom may also take these guidelines into account when it is requested to resolve a dispute referred to it under and in accordance with section 185 of the Act.

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<sup>40</sup> The term 'VoIP provider' is used throughout these guidelines in a broad sense covering services provided in the UK using the Voice over Internet Protocol ("VoIP"), including (without limitation) here Voice over the public Internet, Voice over broadband (including managed and unmanaged services), Voice over Unlicensed Wireless Access, Voice over licensed wireless including pre WiMax based services; that term also includes voice services described as 'new voice services' (or 'NVS') in Ofcom's consultation document entitled *New Voice Services: A consultation and interim guidance* on 6 September 2004: see [http://www.ofcom.org.uk/consult/condocs/new\\_voice/aneu\\_voice/?a=87101](http://www.ofcom.org.uk/consult/condocs/new_voice/aneu_voice/?a=87101).

<sup>41</sup> The majority of the general conditions of entitlement (or "GCs") is, at present, set out in a Notification setting general conditions (taking effect from 25 July 2003) under section 48(1) of the Communications Act 2003, which Notification is dated 22 July 2003 by the Director General of Telecommunications, whose regulatory functions have since 29 December 2003 been transferred to Ofcom: see [http://www.ofcom.org.uk/static/archive/oftel/publications/eu\\_directives/2003/cond\\_final0703.pdf](http://www.ofcom.org.uk/static/archive/oftel/publications/eu_directives/2003/cond_final0703.pdf). Certain GCs have been more recently amended by Ofcom, and a consolidated version of the GCs as at 19 December 2006 (including annotations) can be accessed at: [http://www.ofcom.org.uk/telecoms/loi/g\\_a\\_regime/gce/cvogc.pdf](http://www.ofcom.org.uk/telecoms/loi/g_a_regime/gce/cvogc.pdf)

<sup>42</sup> Further details on the criteria that Ofcom would take into account in setting the amount of any penalty can be found in Ofcom's Penalty Guidelines, see: <http://www.ofcom.org.uk/about/accoun/pg/penguid.pdf>.

However, whether or not it would be appropriate (and, if so, the extent) for Ofcom to take them into account on a dispute reference in a particular case is a matter that Ofcom would need to consider on a case-by-case basis.

## Role and Status

- A5.5 Guidelines have the benefit of contributing to effective regulation by improving transparency and understanding. In particular, they are aimed at encouraging compliance by explaining obligations imposed, thereby ensuring that relevant providers understand their obligations and enabling potential customers to identify contraventions. Guidelines also assist to frame an effective complaint, or an effective defence, in the event that a provider is suspected of contravening a condition.
- A5.6 One of Ofcom's regulatory principles is that Ofcom will regulate in a transparent manner<sup>43</sup>. Guidelines are an important means to achieving this principle and to increasing understanding of Ofcom's policy objectives and approach to regulation.
- A5.7 Ofcom would normally expect to follow these guidelines should it investigate any potential contravention of a relevant GC discussed in these guidelines. If Ofcom decides to depart from these guidelines, it will set out its reasons for doing so. These guidelines may also be subject to revision from time to time.
- A5.8 That said, whether or not (and, if so, how) a particular matter is regulated will usually turn on the specific facts in each case. Stakeholders (and, in particular, those persons providing certain services) should seek their own independent advice on specific matters taking into account the facts in question to answer specific questions on their legal obligations. Ofcom cannot, as a matter of law, fetter its discretion as to any future decision. Accordingly, although these guidelines set out the approach Ofcom would expect to take, they do not have binding legal effect; each case would be considered on its own merits.

## Scope and Relevance

- A5.9 The key aspects of the scope and relevance of these guidelines are as follows:
- These guidelines will be of interest mainly to providers of PATS that are (potentially) subject to requirements and obligations set out in relevant GCs. However, they may also be of interests to end-users, subscribers or consumers of PATS, or other stakeholders who are interested in the effectiveness of PATS regulation within communications markets.
  - Certain aspects of GC 3 and GC 4 relate to the provision of a 'Public Telephone Network'<sup>44</sup> ("PTN"). These guidelines are not intended to provide guidance on requirements or obligations relating to such provision.
  - These guidelines do not cover Ofcom's approach to investigating potential contraventions of the consumer information requirements in respect of VoIP services which are the subject of a separate code.

<sup>43</sup> Statutory duties and regulatory principles, <http://www.ofcom.org.uk/about/sdrp/>.

<sup>44</sup> See paragraph 1 in Part 1 of the Schedule to the Notification dated 22 July 2003 by the Director General of Telecommunications, referred to above, which defines PTN as meaning "an Electronic Communications Network which is used to provide (PATS) it supports the transfer between Network Termination Points of speech communications, and also other forms of communication, such as facsimile and data;".

- These guidelines should be read in the light of, and in conjunction with, the final statement entitled *Regulation of VoIP Services* accompanying the publication of these guidelines.

A5.10 The remainder of these guidelines is structured as follows:

- Section B sets out the regulatory framework relevant contextually to these guidelines;
- Section C discusses the meaning of terms and legal concepts that are relevant to determining the application of the relevant requirements or obligations;
- Section D deals with requirements or obligations in respect of network integrity (GC 3) and guidance on issues related to network performance and reliability for VoIP service providers; and
- Section E deals with requirements or obligations concerning the provision of location information to emergency services (GC 4) and their application to VoIP service providers.

## B. Relevant Regulatory Framework

A5.11 In 2002, a package of European Community directives was adopted to establish a harmonised framework for the regulation of electronic communications services (“**ECSs**”), electronic communications networks (“**ECNs**”), associated facilities and associated services. These directives entered into force on 24 April 2004 and member states were required to apply their domestic law transposing the directives from 25 July 2003.

A5.12 That harmonised framework also established certain rights of end-users and corresponding obligations on undertakings providing publicly available ECSs and ECNs. Such regulation derives mainly (but not exclusively) from certain provisions in the Universal Service Directive<sup>45</sup> (“**USD**”). In particular, the USD requires, in effect, that in the UK Ofcom ensures that certain matters (such as network integrity, emergency calls and planning, metering and billing, number portability) are regulated to protect the interests and rights of end-users (or, as the case may be, ‘subscribers’) of ECSs.

A5.13 As a result of these Community obligations, Ofcom imposed domestic regulation in the form of the GCs which took effect from 25 July 2003. One of the effects of that harmonised framework is that the provision of all ECSs and ECNs is generally authorised and the system of explicit decisions or any other administrative acts (such as licences) by national regulatory authorities prior to being allowed to provide ECSs and ECNs has been abolished.

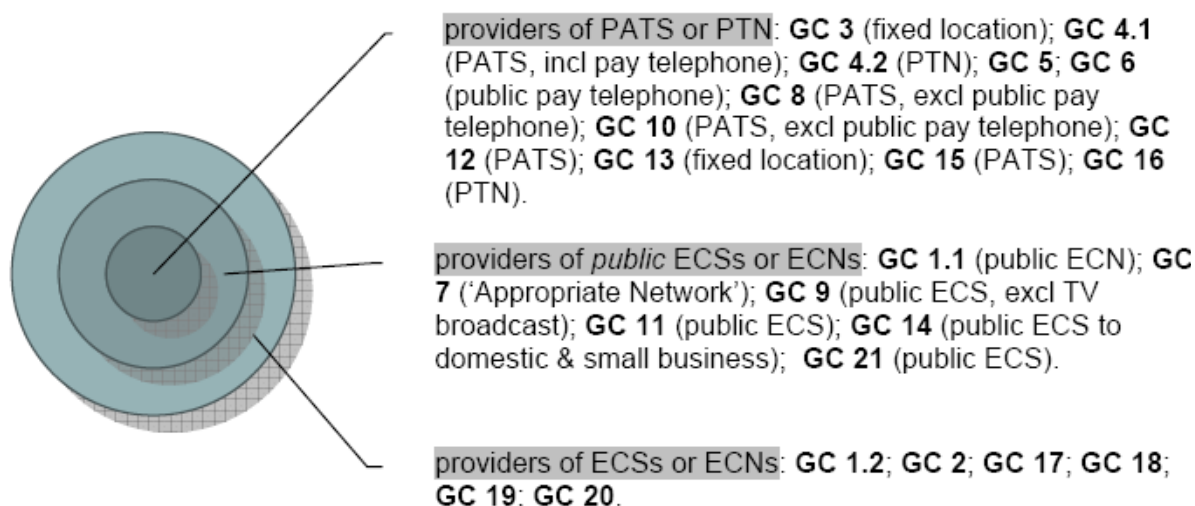
A5.14 Therefore, in the UK, the (previous) licensing regime under the Telecommunications Act 1984 has been replaced by the so-called General Authorisation regime. Thus, everyone is ‘generally authorised’ to provide ECSs and ECNs in the UK. However, the General Authorisation is (among other things) subject to the GCs<sup>46</sup>. In other

<sup>45</sup> Directive 2002/22/EC of the European Parliament and of the Council of 7 March 2002 on universal service and users’ rights relating to electronic communications networks and services.

<sup>46</sup> Individual providers may be subject to additional obligations, such as SMP conditions (imposed as a result of a finding of Significant Market Power), access related conditions or conditions imposed as a consequence of a provider being designated as a universal service provider. Any provider which is subject to these additional conditions will have been notified individually when the conditions were imposed. Such additional obligations are not relevant as such to matters covered by these guidelines.

words, all providers of ECSs and ECNs can enter the market as they wish, although they have to comply with any obligations imposed on them.

- A5.15 Importantly, it is to be emphasised that the GCs apply to anyone who is providing an ECS or ECN, or a particular description of an ECN or ECS (such as PTN or PATS, respectively), specified in the GC in question. Therefore, it is the responsibility of each and every provider to ensure compliance with its GC obligations upon such provision as no individual notification will be given to it by Ofcom that certain obligations apply to it. Failure to comply with such obligations is subject to enforcement action by Ofcom under the procedures mentioned above. Accordingly, a provider must consider whether it falls within the definition of a “Communications Provider”, which term is defined separately for each and every GC.
- A5.16 In very broad terms, the main types of network or service provider and the GCs that they are subject to are illustrated in the figure below.



**Figure 2: Types of Provider and the GCs**

## **C. Meaning of Terms and Legal Concepts**

### **Publicly Available Telephone Service (PATS)**

- A5.17 As shown in Figure 2 above, the majority of GCs are applicable to providers of PATS (or PTN). That term is generally defined<sup>47</sup> for the purposes of the GCs as follows:

“Publicly Available Telephone Service” means a service available to the public for originating and receiving national and international calls and access to Emergency Organisations through a number or numbers in a national or international telephone numbering plan, and in addition may, where relevant, include one or more of the following services: the provision of operator assistance services, Directory Enquiry Facilities, Directories, provision of Public Pay Telephones, provision of service under special terms, provision of specific facilities for End-Users with disabilities or with special social needs and/or the provision of non-geographic services;

<sup>47</sup> See paragraph 1 in Part 1 of the Schedule to the Notification dated 22 July 2003 by the Director General of Telecommunications, referred to above.



A5.18 This definition corresponds to same term as defined in the USD<sup>48</sup>, which provides:

“publicly available telephone service” means a service available to the public for originating and receiving national and international calls and access to emergency services through a number or numbers in a national or international telephone numbering plan, and in addition may, where relevant, include one or more of the following services: the provision of operator assistance, directory enquiry services, directories, provision of public pay phones, provision of service under special terms, provision of special facilities for customers with disabilities or with special social needs and/or the provision of non-geographic services;

A5.19 This means that a service constitutes PATS if, and only if, it meets all of the following gating criteria:

- ‘a service available to the public’;
- ‘for originating and receiving national and international calls and’;
- ‘access to emergency services’;
- ‘through a number or numbers in a national or international telephone numbering plan’.

A5.20 In other words, Ofcom considers that:

- where a VoIP service does not meet *all* of the abovementioned gating criteria, it is not a PATS; and
- where a VoIP service does meet *all* of these criteria, it automatically becomes a PATS.

## Electronic Communications Service (ECS)

A5.21 As seen from the above gating criteria, it is necessary to consider what is meant by a publicly available service. The meaning of the public availability of a service is a matter considered below. As regards the term ‘service’ in the definition of PATS, Ofcom takes the view that it is to be taken as a reference to an ECS. In support of such interpretation, Ofcom considers that it is relevant to take into account the harmonisation aims of the USD, which are set out in Article 1 of the USD. In particular, Article 1(1) provides that:

1. Within the framework of Directive 2002/21/EC (Framework Directive), this Directive concerns the provision of electronic communications networks and services to end-users. The aim is to ensure the availability throughout the Community of good quality publicly available services through effective competition and choice and to deal with circumstances in which the needs of end-users are not satisfactorily met by the market.

A5.22 In other words, that provision makes it clear that, whilst the USD concerns provision of ECSs, the harmonisation aim is to ensure the availability throughout the

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<sup>48</sup> See Article 2(c) of the USD.

Community of good quality 'publicly available services'. Ofcom therefore takes that reference to (publicly available) services as a service, to start with, falling within the ECS definition. However, for such a service to constitute PATS (i.e. a publicly available service of a 'good quality'), it must not only be publicly available but also satisfy the remaining above-mentioned gating criteria.

A5.23 The term ECS is defined in Article 2(c) of the Framework Directive<sup>49</sup> as follows:

(c) "electronic communications service" means a service normally provided for remuneration which consists wholly or mainly in the conveyance of signals on electronic communications networks, including telecommunications services and transmission services in networks used for broadcasting, but exclude services providing, or exercising editorial control over, content transmitted using electronic communications networks and services; it does not include information society services, as defined in Article 1 of Directive 98/34/EC, which do not consist wholly or mainly in the conveyance of signals on electronic communications networks;

A5.24 That ECS definition has, in turn, been transposed in section 32(2) of the Act by the following definition<sup>50</sup>:

(2) In this Act "electronic communications service" means a service consisting in, or having as its principal feature, the conveyance by means of an electronic communications network of signals, except in so far as it is a content service.

A5.25 Therefore, in considering whether a particular service (such as a VoIP service) is an ECS, Ofcom would normally consider the factual and technical aspects of such a service in the light of a number of questions, including the ones set out below.

#### ECS: Is the service conveying a "signal"?

A5.26 To answer this question, section 32(8) of the Act provides that references to the conveyance of signals include references to the transmission or routing of signals or of parts of signals and to the broadcasting of signals for general reception.

A5.27 In turn, the term "signal" is defined in section 32(10) of the Act as including:

- a) anything comprising speech, music, sounds, visual images or communications or data of any description; and
- b) signals serving for the impartation of anything between persons, between a person and a thing or between things, or for the actuation or control of apparatus.

A5.28 If the answer to that question is answered in the affirmative, the next question would normally be:

#### ECS: Is that conveyance by means of an ECN?

A5.29 Section 32(1) of the Act defines ECN as meaning:

<sup>49</sup> Directive 2002/21/EC of the European Parliament and of the Council of 7 March 2002 on a common regulatory framework for electronic communications networks and services.

<sup>50</sup> This definition is, in Ofcom's view, relevant in this context because of the 'interpretation clause' in paragraph 2 in Part 1 of the Schedule to the Notification dated 22 July 2003 by the Director General of Telecommunications, referred to above.

- a) a transmission system for the conveyance, by the use of electrical, magnetic or electro-magnetic energy, of signals of any description; and
- b) such of the following as are used, by the person providing the system and in association with it, for the conveyance of the signals—
  - i) apparatus comprised in the system;
  - ii) apparatus used for the switching or routing of the signals; and
  - iii) software and stored data.

A5.30 Section 32(6) of the Act provides that the reference to a transmission system includes a reference to a transmission system consisting of no more than a transmitter used for the conveyance of signals. As regards software and stored data, section 32(9) provides that the cases in which software and stored data are to be taken as being used for a particular purpose include cases in which they (a) have been installed or stored in order to be used for that purpose; and (b) are available to be so used.

A5.31 Having established that the conveyance of signals in question is by means of an ECN, the next question is:

ECS: Does the service consist in, or have as its principal feature, such conveyance?

A5.32 The answer to this question is entirely dependant on the facts in each case.

ECS: Is the service (or part of it) a “content service”?

A5.33 Section 32(7) defines a “content service” as:

“means so much of any service as consists in one or both of the following—

(a) the provision of material with a view to its being comprised in signals conveyed by means of an electronic communications network;

(b) the exercise of editorial control over the contents of signals conveyed by means of a such a network.”

A5.34 To the extent to which the service in question is a ‘content service’<sup>51</sup> (or part of such a service), it is not an ECS and, as seen above, it cannot therefore constitute a PATS. On the other hand, if it (or part of it) is not a content service (and provided that all of the above-mentioned questions are answered in the affirmative), then it would constitute an ECS.

A5.35 However, for an ECS to constitute a PATS, one would still need to consider whether that service is provided so as to be available for use by members of the public. Even so, whilst such a service would be a public ECS for the purposes of the Act,

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<sup>51</sup> As seen above, the definition of ECS in the Framework Directive makes it clear that information society services other than those that consist wholly or mainly in the conveyance of signals on electronic communications networks are not ECSs. It may therefore be appropriate to consider whether a service would fall within the meaning of an information society service defined in Article 1 of Directive 98/34/EC (as amended by Directive 98/48/EC) on a case-by-case basis to assist the interpretation of an ECS.

one still needs to consider whether the remaining gating criteria apply to the service in question.

A5.36 However, before turning to the issue of public availability of a service, it is to be noted that, as seen from Figure 2 above, a number of GCs apply to providers of either publicly available ECSs or ECNs or simply ECSs or ECNs. An example of the latter is GC 17 which deals with the allocation, adoption and use of telephone numbers. It is the case, at present, that only a provider of ECS or ECN can apply to Ofcom for an allocation or reservation of appropriate telephone numbers.

A5.37 In certain cases, questions may also arise as to which person is actually providing<sup>52</sup> the ECS in question for regulatory purposes. In this regard, it is to be noted that, in particular, section 32(4)(b) provides that:

references, where one or more persons [*e.g. a sales agent*] are employed or engaged to provide the network or service under the direction or control of another person [*e.g. a telecommunications company, Telco X*], to the person [*e.g. a retail customer*] by whom an electronic communications network or an electronic communications service is provided are confined to references to that other person [*here, Telco X*];

A5.38 Taking this example, whether or not a sales agent is 'employed or engaged' to provide the ECS in question to the retail customer 'under the direction or control' of Telco X is a matter that will turn on the factual circumstances of each case, taking into account the contractual relationships between the respective parties.

## Public Availability

A5.39 As discussed above, the public availability of a service is a prerequisite to constitute a PATS. However, the USD does not provide any clarification as to what it means by a service being available to members of the public. In most cases, Ofcom suspects that this issue will not be a difficult one to determine on the facts. However, Ofcom considers that it might be of assistance to set out, in broad terms, how it would approach this issue in this context.

A5.40 In Ofcom's view, a publicly available service is one that is available to anyone who is both willing to pay for it and to abide by the applicable terms and conditions. The provider will not have imposed an upper limit on the class of potential customers other than those that arise from technical or capacity constraints. A publicly available service is distinguishable from a bespoke service restricted to a limited group of individual and identifiable customers.

A5.41 The number of customers to whom the service in question is provided may not necessarily indicate on its own whether it is publicly available or not. For instance, a service with only one customer would be considered a service that is available to members of the public, if other customers would not be prevented from taking up the service but have not chosen to take the service up. This situation would exclude the case where a service is not being made available in good faith, for example by being deliberately overpriced or because the terms and conditions are framed so as to be generally unacceptable. In contrast, a service may not be available to

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<sup>52</sup> That is to say, making available, supplying or furnishing for use. Section 405(1) of the Act provides that the word "provide" (and cognate expressions) in relation to an ECN, ECS or associated facility, is to be construed in accordance with section 32(4) of the Act.

members of the public even though it has several customers – e.g. in the case of a landlord providing services to tenants on a single set of served premises.

- A5.42 Services do not have to be nationally available to be available to members of the public. Indeed, there are a number of providers within the UK limited to a regional customer base and such services are considered to be available to the public. It is also to be understood that the term ‘members of the public’ requires a broad interpretation – it is not to be read as residential or small business customers. A service that because of its scale, such as a virtual private network service, is only likely to attract corporate customers is still considered to be available to members of the public.
- A5.43 The reason the example of the landlord-tenant service is not available to members of the public is not because it is geographically restricted. Rather, it is because admittance to the set of potential customers is not generally open to anyone. Instead, it depends on the existence of a prior relationship between provider and customer. A more extreme example of a service that is not available to members of the public while being provided for remuneration is the provision of a payphone service within the confines of a prison.
- A5.44 Another example of a service not being made genuinely available to members of the public is where it is primarily targeted at members of the provider’s Group (i.e. parent and subsidiary undertakings). Ofcom is minded to consider that, where a provider earns a substantial proportion of its revenue from members of its Group, the services it provides are not genuinely publicly available. A substantial proportion of revenues may be in the order of 80 per cent of the revenues generated by the relevant service, but this percentage is only broadly indicative. However, where it is possible, by means of a physical or logical separation, to partition a network into discrete units, one of which provides services to members of the provider’s Group and one of which provides services to members of the public, the part that provides services to members of the public will be regarded as publicly available.
- A5.45 Ofcom recognises that there may be ambiguous cases where it will not be immediately apparent whether or not a given service is available to members of the public. In such cases, the way in which the service is marketed may be indicative.

## **Originating and Receiving Calls**

- A5.46 As seen from the PATS definition above, a publicly available service must be one for originating and receiving national and international calls to constitute PATS. In other words, it must be a two-way service.

## **Numbers in a national or international telephone numbering plan**

- A5.47 As stated above, the origination and receiving of national and international calls and access to emergency services must be through a number or numbers in a national or international telephone numbering plan.

## Access to Emergency Services/Organisations

- A5.48 As mentioned above, a further gating criterion in the PATS definition is that it must be a service for 999 access (or, as the definition of PATS for the purposes of the GCs refers to the latter, Emergency Organisations<sup>53</sup>).
- A5.49 In this context, it is to be noted that Ofcom takes the view that any type of 999 access would suffice to satisfy this gating criterion. In other words, such access does not need to meet any achieve any particular degree (or quality) of access in order to constitute 999 access for the purposes of being a PATS.
- A5.50 However, where a service does offer such access (and the remaining gating criteria is met) so that it constitutes a PATS, it is equally to be noted that a provider of such a service is required under GC 3 to take all reasonably practicable steps to maintain, to the greatest extent possible, uninterrupted access to emergency services as part of any PATS offered at a 'fixed location'. The meaning of the latter term is considered below.

## Fixed Location

- A5.51 Certain requirements or obligations in GC 3 are limited to those persons providing PATS at a 'fixed locations'. This is because Article 23 of the USD provides:

Member States shall take all necessary steps to ensure the integrity of the public telephone network at fixed locations and, in the event of catastrophic network breakdown or in cases of force majeure, the availability of the public telephone network and publicly available telephone services at fixed locations. Member States shall ensure that undertakings providing publicly available telephone services at fixed locations take all reasonable steps to ensure uninterrupted access to emergency services.

- A5.52 The package of directives adopted in 2002 makes a general distinction between services provided at fixed locations and those provided to non-fixed locations. A clear example of a fixed location would be the place where a provider has contracted to provide a service through the public switched telephone network (or PSTN) connection at an end-user's residence at a geographic address. This could be contrasted with the 'non-fixed location' case where a provider contracts with the end-user to provide services to a mobile phone (or other itinerant equipment), irrespective of the precise location where end-user normally accesses these services.
- A5.53 In its consultation document of June 2004<sup>54</sup>, the European Commission considers the 'nomadic' nature of certain VoIP services in the context of the network integrity requirements in the above-mentioned Article 23. In particular, the Commission recognises that certain users of VoIP services could connect their terminal at any suitable access point, such as a Wi-Fi hotspot or Internet café, and are not limited to a fixed location. Its view is that the term 'fixed location' refers to the location at

<sup>53</sup> See paragraph 1 in Part 1 of the Schedule to the Notification dated 22 July 2003 by the Director General of Telecommunications, referred to above, which defines the term 'Emergency Organisation' as meaning "in respect of any locality: (a) the relevant public police, fire, ambulance and coastguard services for that locality; and (b) any other organisation, as directed from time to time by Ofcom as providing a vital service relating to the safety of life in emergencies;"

<sup>54</sup> See the document entitled Information and consultation paper on the regulatory treatment of Voice over Internet Protocol (VoIP) under the EU regulatory framework;  
[http://europa.eu.int/information\\_society/policy/ecomm/doc/info\\_centre/commiss\\_serv\\_doc/406\\_14\\_voip\\_consult\\_paper\\_v2\\_1.pdf](http://europa.eu.int/information_society/policy/ecomm/doc/info_centre/commiss_serv_doc/406_14_voip_consult_paper_v2_1.pdf)

which a connection is provided. The Commission then implies that, whilst a provider of PATS at a fixed location will normally provide the service at a contractually agreed location, nomadic use would not constitute the provision of PATS 'at a fixed location'. It concludes that the Article 23 requirements will apply only when the service is used at the fixed 'home' location.

- A5.54 Ofcom recognises that a nomadic service poses particular issues since the PATS provider may have little or no visibility or control over the infrastructure when it is used away from the main location and may not therefore be able to provide consistent quality of service. For instance, if a VoIP service is used within an Internet café's Wi-Fi hotspot (Unlicensed Mobile Access), which use frequencies which are uncoordinated and, as such, it cannot be guaranteed to be free from interference from an adjacent access point. In the 2004 consultation<sup>55</sup>, Ofcom proposed that it would interpret the meaning of a 'fixed location' consistently with the Commission's view. At this time, Ofcom remains of this view. However, Ofcom anticipates that this approach may become less sustainable in the future.
- A5.55 That example shows that, whilst the term 'fixed location' is not defined in the directives as such, the legislative intention was that the term would be interpreted according to its natural and ordinary meaning. Generally understood dictionary meanings make it clear that the noun 'location' refers to the action or process of locating or a particular place or position, whereas the adjective 'fixed' means fastened securely in position or predetermined or inflexibly held. In other words, if a service is provided at a contractually agreed location which is fixed in its nature (for example the end user's residential home or business), then this would, in Ofcom's view, constitute a service provided at a fixed location. There might be nothing to prevent a user technically from connecting to the service from another location (such as a Wi-Fi hotspot or Internet café). However, Ofcom considers that the network integrity requirements in Article 23 of the USD (as transposed in GC 3) would not be relevant when the service is used in these other locations. This would equally apply to other obligations which have been imposed on communications providers of a certain service at a fixed location, such as GC 13.

## **D. Network integrity requirements (GC 3)**

- A5.56 In lights of the terms and concepts considered in section C. above, Ofcom turns below to issues related to network integrity and reliability so that it is clear to VoIP service providers what type of matters Ofcom is likely to take into account in investigating any potential breach of GC 3, such as certain steps that they could take in order to comply with the requirements in question.

### **The terms of GC 3**

- A5.57 It is appropriate first to set out the terms of GC 3, which provides:

#### **3. PROPER AND EFFECTIVE FUNCTIONING OF THE NETWORK**

3.1 The Communications Provider shall take all reasonably practicable steps to maintain, to the greatest extent possible:

- (a) the proper and effective functioning of the Public Telephone Network provided by it at fixed locations at all times, and

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<sup>55</sup> See consultation document entitled New Voice Services: A consultation and interim guidance, published on 6 September 2004: [http://www.ofcom.org.uk/consult/condocs/new\\_voice/aneu\\_voice/?a=87101](http://www.ofcom.org.uk/consult/condocs/new_voice/aneu_voice/?a=87101)

(b) in the event of catastrophic network breakdown or in cases of force majeure the availability of the Public Telephone Network and Publicly Available Telephone Services provided by it at fixed locations, and

(c) uninterrupted access to Emergency Organisations as part of any Publicly Available Telephone Services offered at fixed locations.

3.2 The Communications Provider shall ensure that any restrictions imposed by it on access to and use of a Public Telephone Network provided by it at a fixed location on the grounds of ensuring compliance with paragraph 3.1 above are proportionate, non-discriminatory and based on objective criteria identified in advance.

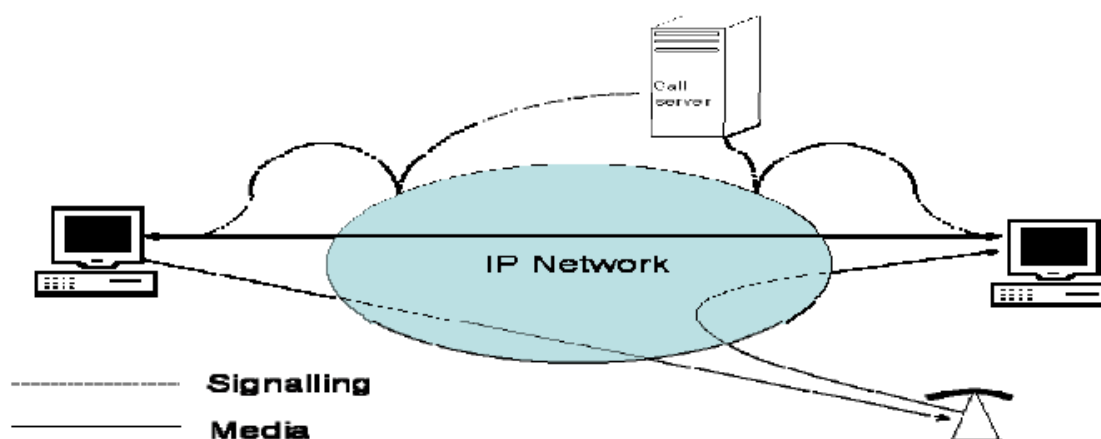
3.3 For the purposes of this Condition, “Communications Provider” means a person who provides a Public Telephone Network at a fixed location and/or provides Publicly Available Telephone Services at a fixed location.

### Persons to whom GC 3 applies

A5.58 It is clear on the face of this GC that it only applies to PTNs (parts GC 3.1(a) and 3.1(b)) and PATS ( parts GC 3.1(b) and 3.1(c)), both provided at fixed locations. In this context, it is to be noted that these guidelines deal only with Ofcom’s views as regards to the application to PATS providers, and not PTNs.

A5.59 As regards to the requirements relating to PATS, they are twofold. Namely, a person who provides PATS at a fixed location must take all reasonably practicable steps to maintain to the greatest extent possible:

- the availability of such PATS if there is catastrophic network breakdown or in cases of force majeure; and
- uninterrupted access to emergency organisations as part of such PATS.



**Figure 3: VoIP Applications and Signalling**

A5.60 As is clear from Figure 3 above, the reliability and performance of a VoIP service is dependant potentially on a number of elements. Typically, VoIP traffic includes signalling and media data which may take diverse routes through an IP network.



## Relevant considerations

A5.61 For a VoIP service running over an xDSL access network, the key elements that will affect reliability are likely to be:

- consumer premise equipment ('CPE') (e.g. PC/software and/or adaptor);
- local access (e.g. copper loop);
- broadband access network (e.g. DSLAM, ATM and IP network);
- core IP network and Internet peering arrangements - several models exist for this, including the use of direct peering, transit or inter exchange peering and the use of public Internet exchanges;
- service and application layers (e.g. home subscriber server, call server and media gateways);
- interconnection into other networks for the purposes of call termination (e.g. the extent of interconnect agreements with other providers including transit operators).

A5.62 For other broadband networks (such as cable modem, Wi-Fi or WiMax), different elements would be relevant in the local access and broadband access layers.

A5.63 A provider who does control all aspects of the network from end-to-end may be able to provide a high level of network integrity through controlling quality of service and prioritising traffic.

A5.64 In respect of the service/application and IP network layers, there are a number of steps that a VoIP service provider (including those offering nomadic services) could take in respect of the elements they do control. Possible measures include:

- engineering the VoIP service to minimise latency and specifying minimum requirements for use of the service such as bandwidth and contention ratios;
- marking the VoIP traffic for priority (QoS) in an IP network in accordance with an agreed DiffServ or IntServ class of service<sup>56</sup> scheme. This can then be used between interconnected IPv4 networks and may be maintained both in IP headers (precedence bits) and interconnected MPLS networks (EXP bits);
- designing their networks to minimise routing hops, providing sufficient redundancy including call servers, gateways and network capacity, to deal with any throughput issues during re-routing or congestion;
- proactively managing any customer premise equipment to dynamically alter the properties, such as packet and or window size, to maximize throughput for voice traffic in response to observed network performance;
- implementing deep packet inspection to identify and prioritise voice traffic in those parts of the network in which it has control;

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<sup>56</sup> <http://www.inf.ufsc.br/~mario/QoSIBM>

- implementing home subscriber server, gateways and call servers close to significant sources and sinks of traffic to other networks;
- in the case of an xDSL service, using the associated PSTN line (which is provided with the DSL service) for 999 access. This would ensure that in the event of power cut/failure or broadband service outage, all 999 calls would be routed to the associated PSTN line, by use of software or control in the CPE/broadband adaptor.

A5.65 Ofcom is not suggesting that any of these specific measures should be regarded as mandatory in order to demonstrate compliance with GC 3. Indeed, these guidelines are intended to provide certain general assistance as to how Ofcom might assess compliance, bearing always in mind more generally that:

- the word “reasonably” imports an objective test, but the onus is on the relevant communications provider to establish that “all reasonably practicable steps to maintain, to the greatest extent possible” have been taken to secure compliance with the applicable obligations in GC 3; and
- while “reasonably practicable” is in isolation a somewhat less strict standard as compared to simply what is “practicable”, the relevant communications must show that not only that *all* such steps have been taken but also that they have so been taken “to the greatest extent possible”.

A5.66 We do, however, consider that all communications providers providing 999 access can reasonably be expected to carry out a formal risk assessment for that service. Such a formal assessment is expected to include:

- producing a model of the network elements used to provide that service;
- defining a set of performance parameters which characterise the end to end performance of that service (e.g.MTBF);
- identifying which of the elements are most likely to fail, or suffer from degraded performance, and what the consequence would be for the performance parameters;
- determining which elements are critical in relation to the end-to-end service performance, and what risk mitigation strategy might reasonably be adopted in relation to those elements; and
- determining and implementing a risk mitigation strategy that might reasonably be adopted in relation to those critical elements.

A5.67 In some cases, there are likely to be elements of the end-to-end network that VoIP service providers do not directly control. For example, they may rely on a different broadband provider (xDSL, cable modem, licensed wireless or UMA) to provide access to their VoIP services. Since reliability of the service provided over the network depends on the integrity of the underlying access and interconnected networks, this could present problems for VoIP service providers in complying with their obligations under GC 3.

A5.68 In the 2004 consultation, Ofcom raised the issue of how a VoIP service provider who does not control the underlying network may ensure network integrity. Most respondents were of the opinion that service level agreements (“**SLAs**”) between

VoIP service providers and infrastructure providers were an effective way of ensuring network integrity and reliability. Ofcom is of the view that such agreements may help improve network integrity.

- A5.69 Therefore, in investigating any potential breaches of GC 3 by VoIP service providers, Ofcom would consider what SLAs on quality and reliability VoIP service providers have entered into with their respective providers of underlying network services. For example, where a broadband access is provided by a different provider, then it may be appropriate that the commercial agreements between the VoIP service provider and broadband access provider would include agreement on the priority mechanisms employed to ensure that any agreed marking or classification of traffic is maintained. Ofcom may expect that such SLAs make provision for service classes and characteristics for VoIP traffic.
- A5.70 Nomadic use presents particular challenges in respect of ensuring network integrity since the user may use a wide range of access networks and so putting in place SLAs may present greater difficulties.
- A5.71 Another consideration that Ofcom will examine in an investigation would be any provisions to ensure continuity of service in the case of a power outage at the customer premise. In the case of a PSTN service, continuity of service is ensured through line powering which provides power from the exchange.
- A5.72 The provision of VoIP services (particularly when provided over existing xDSL, cable modem, licensed wireless and UMA) involves the use of Customer Premise Equipment (“**CPE**”) which is not powered by the broadband service or network termination point or equipment. In the 2004 consultation, Ofcom asked whether line powering was appropriate for VoIP services (question 23). It was not considered a viable option by any respondent. In light of this, Ofcom would not currently expect a VoIP service provider to provide line powering to VoIP CPE.
- A5.73 In the absence of line powering, there are other options to ensure continuity of service in the case of a power outage at customer premises (such as the use of battery back-up or uninterrupted power supply (“**UPS**”)). Ofcom’s view is that the decision to provide battery backup for CPE should be left to the VoIP service provider, who may provide such a facility as part of a service offering.
- A5.74 However, it is worth noting in respect to network termination equipment:
- in the US, at least one cable operator provides a cable modem with battery backup which ensures the service is still available as a result of local power outages;
  - some VoIP service providers focussing on the business market carry out comprehensive audits when providing IP voice services (such as a review of power requirements including battery and UPS options when specifying solutions for business critical purposes);
  - cable operators in the US advise customers on UPS options for their network terminating equipment.

## **E. Emergency Calls (GC 4)**

- A5.75 We now turn to the separate obligations contained in GC 4.

## The terms of GC 4

A5.76 GC 4 provides:

### 4. EMERGENCY CALL NUMBERS

4.1 The Communications Provider shall ensure that any End-User can access Emergency Organisations by using the emergency call numbers “112” and “999” at no charge and, in the case of a Pay Telephone, without having to use coins or cards.

4.2 The Communications Provider shall, to the extent technically feasible, make Caller Location Information for all calls to the emergency call numbers “112” and “999” available to the Emergency Organisations handling those calls.

4.3 For the purposes of this Condition,

(a) “Caller Location Information” means any data or information processed in an Electronic Communications Network indicating the geographic position of the terminal equipment of a person initiating a call;

(b) “Communications Provider” means:

(i) in paragraph 4.1, a person who provides Publicly Available Telephone Services, or provides access to such Publicly Available Telephone Services by means of a Pay Telephone;

(ii) in paragraph 4.2, a person who provides a Public Telephone Network;

(c) “Pay Telephone” means a telephone for the use of which the means of payment may include coins and/or credit/debit cards and/or pre-payment cards, including cards for use with dialling codes. For the avoidance of any doubt, references to a Pay Telephone include references to a Public Pay Telephone.

## Persons to whom GC 4 applies

A5.77 As this GC makes it plain, only GC 4.1 applies to PATS providers (who, in the context of VoIP services, are the focus of these guidelines), whereas GC 4.2 applies to PTN providers. The former obligation is simply one requiring a PATS provider to ensure that any end-user can access the emergency organisations by using the emergency call numbers “112” and “999” at no charge.

## Relevant considerations

A5.78 Ofcom considers that it might be helpful to indicate to those providers of VoIP services that constitute PATS what they may need to agree with providers of PTNs to help them meet their GC 4.2 obligations.

A5.79 GC 4 implements the USD requirement that public telephone networks make caller location information available to emergency authorities, to the extent technically feasible, for all calls to 999/112. GC 4 defines this caller location information as

indicating the geographic position of the terminal equipment of a person initiating an emergency call. Emergency location information is important to the emergency services. Location information is used to dispatch relevant emergency assistance and aids in crime prevention and detection.

- A5.80 In the PSTN, a fixed network termination point is matched with a callers' geographic location which can be identified from the CLI present in signalling system number 7, even when CLI is withheld by the caller. However, for a VoIP service providing location information is not as simple especially for nomadic services.
- A5.81 It is possible for a VoIP service provided over a xDSL, cable modem or Wi-Fi broadband connection to provide its location or location of its associated broadband access network termination point in a number of ways, as outlined below. This information could then be passed directly to the emergency operator service. Some options on how this could be provided are discussed below.
- A5.82 The simplest approach is for the emergency operator (the operator who receives the 999/112 call in the first instance), to request location information when the call is received. They could be prompted to do this in the case of a 999 call by use of a flag that highlights that the call is from a VoIP service.
- A5.83 A second broad approach is for the user to input location details prior to using the VoIP service. This information could then be matched against the E.164 number when a call is received by the emergency operator. For this approach to be effective location information would need to be obtained from the VoIP user prior to calls being made and this information would need to be populated in the emergency operator database and matched against the E.164 number received. In addition the E.164 number could be flagged as being from a VoIP service which could prompt the emergency operator to confirm the location with the caller.
- A5.84 Where a service is used in a nomadic manner (i.e. there are multiple locations that the VoIP service is being used from) then the user would need to input location information at each new location they are at. This could be facilitated by the VoIP service provider requesting their customer to periodically update the location at which they are using the service, or for the VoIP service provider to monitor the customer's IP address and request revised location information when the IP address changes.
- A5.85 A third approach is to use the IP network and IP addressing to provide location information. Location based solutions are used in the commercial world in particular with respect to control of TV content rights and ecommerce. The BBC uses software which locates an IP address down to city/country level in the UK. They use this to be able to restrict access to certain content rights (e.g. where the rights are for UK only) and users are only allowed to view the content if their source IP address matches part of the IP address range assigned to UK. In the US similar software and topology information is used to stop baseball matches being shown 'live' to internet subscribers living near baseball grounds with granularity achieved down to zip code level.
- A5.86 The granularity of such a solution could reach the targets required by emergency services but only if ISPs collaborate in providing IP address and topology information to a central database. It would be of interest to understand how granular can location be made based on IP v4 addressing. Ofcom understands that such a solution would be constrained by the use of private addressing and NAT. However, it is likely that that future NGN deployment will largely use IPv6 so that a higher

level of granularity could be achieved. Standards work to provide location in IP network is ongoing, NICC has a working group looking at providing location in IP networks, as indeed has ETSI and the IETF, eCall proposals from the EC propose a minimum data set, including location, should be provided to support the emergency services across Europe.

- A5.87 Another approach could be to incorporate GPS/A-GPS or other GNSS (such as Galileo) receivers in the broadband adaptors which provide connectivity for the voice service. It is worth noting however, that GPS receivers suffer from the limitation that indoor coverage is problematic, not many users would attach an external antenna and CPE cost would increase.
- A5.88 Another alternative would be for all 999 calls to be made from a PSTN line in the case where a PSTN line remains in place. This could be done by using intelligence in a broadband adaptor (when using xDSL service) to force all 999 calls to PSTN line. This solution enables the continued provision of location to the emergency services based on the PSTN network termination point and associated service location.

## Annex 6

# Responses received

## Non-confidential responses

A6.1 Ofcom received 43 non-confidential responses to the consultation. These were from:

- Association of Chief Police Officers (ACPO)
- AT&T
- BT
- Cable & Wireless
- CIS Soundshield
- Cisco
- Clare, Mr G
- CMA
- Deaf Studies Trust
- Dr Neil Davies CEng, CITP, MBCS, Chief Scientist
- Easynet
- Ericsson
- European Commission - Information Society and Media DG
- FCS
- Hearing Concern
- Home Office
- INTELLECT
- INWG
- ITSPA
- Kingston Communications
- Konstantin Kropivny, PhD
- McSweeney-Roberts, Mr S

- Microsoft
- NetTek Ltd
- News Optimus Ltd
- Nokia
- Nortel
- O2
- RNIB
- RNID
- Scottish Energy
- Skype
- Stephen Harrison
- T-Mobile
- THUS
- Tiscali
- UKCTA
- Verizon Business
- Viatel
- Vonage
- Wanadoo
- Welsh Assembly
- Yahoo!

A6.2 These non-confidential responses can be found at:  
<http://www.ofcom.org.uk/consult/condocs/voipregulation/responses/>



## Annex 7

# Glossary

**3G Smartphone:** A cellular telephone with 3G data capabilities and an operating system such as Windows Mobie, Symbian or Palm OS.

**21st Century Network, or 21CN:** BT's 21st Century Network, its planned next generation core network

**ADSL:** Asymmetric Digital Subscriber Line. A digital technology that allows the use of a copper line to support high bandwidths in one direction and a lesser bandwidth in the other.

**Altnet(s):** Alternative fixed network operator.

**ATM:** Asynchronous Transfer Mode, a standard for high speed data communications.

**Broadband:** An service or connection generally defined as being 'always-on', and providing a bandwidth greater than 128kbit/s.

**BT:** British Telecommunications plc.

**CLI:** Calling Line Identity

**Core network:** The centralised part of a network, characterised by a high level of traffic aggregation, high capacity links and a relatively small number of nodes.

**CP:** Communications Provider.

**CPE:** Customer Premises Equipment.

**CPS:** Carrier Pre-selection. The facility offered to customers which allows them to opt for certain defined classes of call to be carried by a communications provider selected in advance (and having a contract with the customer) without having to dial a routing prefix, use a dialler box, or follow any other different procedure to invoke such routing.

**CSR:** Corporate Social Responsibility. A programme a company runs in order to demonstrate it acts in a responsible manner towards it's customers.

**DECT:** Digital European Cordless Telephony.

**DiffServ:** Differentiated Services, a marking scheme for IP packets to support QoS using Differentiated Services Code Points in an IP header.

**DoS:** Denial of Service, bombarding a computer with service requests so that legitimate service requests can no longer be executed.

**DSL:** Digital Subscriber Line. A family of technologies generally referred to as DSL, or xDSL, capable of transforming ordinary phone lines (also known as 'twisted copper pairs') into highspeed digital lines, capable of supporting advanced services such as fast internet access and video-on-demand. ADSL, HDSL (High data rate Digital Subscriber Line) and VDSL (Very high data rate Digital Subscriber Line) are all variants of xDSL.

**DSLAM:** DSL Access Multiplexor.

**ECS:** Electronic Communications Service.

**E.164:** A telephone number in accordance with the National Numbering Plan.

**Equivalence:** The principle that BT's wholesale customers should have access to the same or a similar set of mandated wholesale products, at the same prices and using the same or similar transactional processes, as BT's own retail activities.

**Ex ante:** Before an event takes place.

**Ex post:** After an event takes place.

**EC:** European Commission.

**ERG:** European Regulators Group.

**ETSI:** European Telecommunications Standards Institute.

**EU:** European Union.

**EXP bits:** 3 bits in an MPLS label that can be used to indicate per hop behaviour, used for class of service mapping.

**FCC:** Federal Communications Commission. The US regulatory body that regulates all interstate and foreign communications by wire, radio and television. Intra-state communications are regulated by state public utilities commissions.

**GC:** General Condition.

**IA:** Indirect Access. The facility offered to customers which allows them to opt on a call by call basis for calls to be carried by an alternative communication provider.

**IETF:** Internet Engineering Task Force.

**IEEE:** Institute of Electronic and Electronic Engineers Inc.

**Interconnection:** The linking of one Public Electronic Communications Network to another for the purpose of enabling the people using one of them to be able (a) to communicate with users of the other one; (b) to make use of services provided by means of the other one (whether by the provider of that network or by another person).

**Interoperability:** The technical features of a group of interconnected systems which ensure end-to-end provision of a given service in a consistent and predictable way.

**IP:** Internet Protocol. The packet data protocol used for routing and carriage of messages across the internet and similar networks.

**ISP:** Internet Service Provider. A company that provides access to the internet.

**ISPA:** Internet Services Provider Association.

**ITSPA:** Internet Telephony Services Provider Association.

**ITU:** International Telecommunications Union.

**LAN:** Local area network. A network allowing the interconnection and intercommunication of a group of computers on a single site, primarily for the sharing of resources and exchange of information (e.g. email).

**Licensed Wireless:** GSM-GPRS, Edge, WCDMA-UMTS or wireless access solutions using licensed radio spectrum.

**LLU:** Local Loop Unbundling. A process by which BT's exchange lines are physically disconnected from BT's network and connected to other operators' networks. This enables operators other than BT to use the BT local loop to provide services to customers.

**Malware:** Software that compromises the working of a computer/device's operating system.

**MPLS:** combines elements of layer 3 routing and forwarding with layer 2 connection oriented forwarding.

**MSAN:** Multi Service Access Node.

**Narrowband:** A service or connection providing data speeds up to 128kbit/s, such as via an analogue telephone line, or via ISDN.

**Naked DSL:** A DSL service provided without existing PSTN line voice services.

**NCC:** National Consumer Council.

**NGN:** Next generation network.

**NICC:** Network Interoperability Consultative Committee.

**NP:** Number Portability.

**NTE:** Network Terminating Equipment.

**NVS:** New Voice Services. A term used by Ofcom in a previous consultation, to describe new VoIP services.

**Ofcom:** Office of Communications. The regulator for the communications industries, created by the Communications Act 2003.

**Oftel:** Office of Telecommunications, whose functions transferred to Ofcom on 29 December 2003.

**PATS:** A category of ECS. Publicly Available Telephony Service.

**PC:** Personal Computer.

**PECS:** Public Electronic Communications Service.

**PSTN:** Public Switched Telephony Network.

**PTN:** Public Telephone Network. A network over which PATS is provided.

**QoS:** Quality of Service.

**Quark:** Fundamental matter particle. Constituent of protons and neutrons.

**SDH:** Synchronous Digital Hierarchy. A transmission standard widely used for leased line services.

**Service provider:** A provider of electronic communication services to third parties whether over its own network or otherwise.

**SIP:** Session Initiation Protocol. An IP telephony signalling protocol developed by the IETF.

**SLA:** Service Level Agreement.

**SMP:** Significant Market Power. This test is set out in the EU Framework Directive, and is aligned with the competition law definition of 'dominance'. It is used by Ofcom to identify those communication providers who may be required to meet additional regulatory obligations.

**SSL:** Secure Sockets layer. Used to encrypt web (http) traffic.

**SPAM:** Unsolicited Mail.

**SPIT:** SPAM over Internet Telephony.

**TSR:** Ofcom's Telecoms Strategic Review.

**UMA:** Unlicensed Mobile Access.

**UPS:** Uninterrupted Power Supply.

**URI:** Uniform Resource Identifier. The addressing technology for identifying resources on the Internet or a private intranet.

**Vertical integration:** Mergers, or co-ownership between, producers that are active in different stages in the value chain for a particular good or service.

**VoIP:** Voice over Internet Protocol. A technology that allows users to send calls using Internet Protocol, using either the public internet or private IP networks.

**Voice over Broadband:** A Voice over Internet Protocol service provided over a broadband Connection.

**VPN:** Virtual Private Network. A technology allowing users to make inter-site connections over a public telecommunications network that is software-partitioned to emulate the service offered by a physically distinct private network.

**WCDMA:** WCDMA is based on Code Division Multiple Access on the air interface and is used in 3G mobile networks in the UK. Otherwise known as UMTS and standardised by the ITU as IMT-2000 direct spread.

**Wi-Fi:** Wireless Fidelity based on IEEE 802.11x standards.

**WiMax:** Worldwide Interoperability for Microwave Access-Broadband wireless based on IEEE 802.16 & ETSI HiperMAN standards.

**WLR:** Wholesale Line Rental. A regulatory instrument requiring the operator of local access lines to make this service available to competing providers at a wholesale price.