



New voice services

A consultation and interim guidance

Consultation document

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Section 1

Summary

Introduction

- 1.1 Traditional telephone services have existed for over 100 years, but changes are underway that could significantly affect the way voice services are provided in the future. New voice services have the potential to deliver substantial benefits to consumers. Ofcom therefore considers it is essential to ensure that the right regulatory framework is in place to enable consumers to benefit from this change.
- 1.2 This consultation forms an important part of Ofcom's approach to new voice services and is published alongside the following documents:
 - Ofcom news release
 - New voice services – a regulatory framework for VoIP and VoB services
 - New voice services - a consultation on consumer issues. A summary
 - Numbering arrangements for new voice services

Scope

- 1.3 This consultation considers the regulation of all public voice services, though it is driven by the development of new services which use Voice over IP (VoIP) technology. Ofcom has identified a number of issues raised by new voice services, some of which require immediate consideration, others of which are more long term. The longer term issues regarding the impact of new voice services on the market are being addressed by Ofcom's Strategic Review of Telecommunications¹. The immediate issues regarding regulation and consumer protection are considered in this consultation. The consultation includes:
 - an overview of the changes in the provision of voice services and the regulatory challenges these raise
 - discussion of the appropriate policy aims in dealing with these regulatory challenges.
 - the implications of the current regulatory framework
 - three important initiatives that can be progressed to meet the challenge posed by new voice services
- 1.4 Ofcom invites written views and comments on the issues raised in this document, to be made by **5pm on Monday 15 November 2004**.

¹ Introduction to the Telecoms Review
http://www.ofcom.org.uk/static/telecoms_review/index.htm

Summary of initial views and proposals

- 1.5 Some new voice services have the potential to 'look and feel' like traditional telephone services but may not be able to deliver, in the same way or to the same standard, the same features consumers have come to expect as standard. Whilst these new services can bring benefits, in terms of increased opportunities for competition and reduced costs, there are also challenges, in terms of potentially lower levels of consumer protection. In dealing with this challenge Ofcom has identified its top level aims as follows:
- to help create an environment in which new technologies can be developed successfully in the market, so that consumers can benefit from a wider and more innovative range of services;
 - to ensure that consumers are properly informed and protected in relation to the products they are using; and
 - to limit the extent to which regulation creates distortions in the market
- 1.6 Ofcom has also identified a number of specific questions, in particular:
- Is it desirable for all voice services to be required to offer the same standard features and level of consumer protection as traditional voice services?
 - What should we do about access to 999?
- 1.7 Ofcom recognises that a balance needs to be struck between creating the right conditions in which new voice services and new providers can enter the market, and ensuring that consumers are properly informed and protected. Ofcom favours an approach that allows new services to enter the market whilst enabling consumers to make informed choices and take advantage of these new services. In particular, Ofcom's initial views are:
- it is not desirable for all voice services to be required to offer the same features as traditional telephone services, and we should instead enable consumers to make informed decisions. This will help new companies to create new products and offer consumers more choice.
 - it is not desirable to rely on criteria such as the appearance of a service or whether it is used as a second line in order to draw a distinction between those services that are regulated in a similar way as traditional telephone services and those that are not. Instead, providers should be allowed to offer a range of differentiated services and consumers should be enabled to make informed decisions about the products they are buying and using;
 - although it is clearly desirable for access to 999 to be provided, it is not currently necessary or appropriate for this to be a requirement for all voice services. It seems likely that access to 999 will continue to be provided by most providers and most consumers would want to have at least one telephone line with access to 999 and would choose a provider that offered it. However, if services without access to 999 or with only basic access to 999 are offered, then consumers' decisions must be informed and all potential users of such a service should be aware that access to 999 is not available;
 - because some new services may not be able to offer the same degree of

reliability for emergency calls as traditional voice services, it is better that these services are able to provide less reliable access to 999 rather than preventing them from offering any access at all. However, Ofcom would be concerned if market developments and/or lack of consumer awareness led to poorer quality and availability of 999 over time, for example if lower reliability services were widely used as primary lines, and would expect to keep this issue under review as the market develops.

- 1.8 Ofcom recognises that in seeking to achieve these policy aims and meet the challenge posed by new voice services, the application of the existing legal framework to new voice services is unclear. The European Commission has published a paper in June 2004 on the regulation of Voice over IP services but this does not give clarity on some key legal issues². The Commission has indicated that it will give more clarification on this matter later in the year.
- 1.9 In response to this situation, Ofcom would like to make as much progress as possible in terms of the practical policies it may decide to implement. Ofcom is therefore proposing initiatives in three important areas which it believes will help meet the challenge posed by new voice services in accordance with the aims and objectives it has identified:
 1. An interim policy, pending further clarification from the European Commission, to allow new voice services to offer access to 999 without having to meet all the obligations of Publicly Available Telephone Services (PATS)
 2. A consultation on whether to retain, re-issue or withdraw existing guidelines relating to network integrity. Ofcom's initial preference is to withdraw the guidelines. Ofcom is also consulting on its initial views that:
 - nomadic services not provided at fixed location fall outside the network integrity requirements;
 - line powering would not be expected where not practical, e.g. for VoB services;
 - it does not seem reasonable for network providers (e.g. providers of broadband access) to take direct responsibility for additional network integrity requirements when PATS is independently provided over their network; and
 - as an interim measure, providers of nomadic services should make sure consumers are adequately informed of the problems of making emergency calls using their services when they are away from their installation address.
 3. A consultation on the appropriate framework for a consumer information policy for new voice services. Ofcom's initial preference is for a co-regulatory approach.

² The Treatment of VoIP under the EU regulatory framework – an information and consultation document
http://europa.eu.int/information_society/topics/ecommm/doc/useful_information/library/commiss_serv_doc/406_14_voip_consult_paper_v2_1.pdf

Section 2

Introduction

Background

- 2.1 The market for voice services in the UK is changing. Phase 1 of Ofcom's Strategic Review of Telecommunications (the Telecoms Review) published on 28 April 2004 highlights increased competition across fixed and mobile platforms and the challenge to existing voice telephony businesses from Voice over Internet Protocol (VoIP) - the generic name for the transport of voice traffic using Internet Protocol (IP) technology - as two of the most significant changes happening in the voice environment³.
- 2.2 The number of new VoIP services being launched in the UK is growing, and this trend is expected to continue with both new entrants and established providers intending to launch services in the future. In particular, the advent of Voice over Broadband (VoB) services that allow consumers to make and receive calls over a broadband access connection, and which have the potential to look and feel like traditional telephone services, has been a significant development and a key driver behind Ofcom's decision to launch this consultation. Ofcom recognises that a number of regulatory and consumer issues need to be addressed to give regulatory certainty to service providers interested in new voice services such as VoB, and to ensure that consumers are informed and protected as necessary.
- 2.3 On 25 February 2004 Ofcom held a stakeholder forum meeting on VoB and has since discussed the major issues surrounding new voice services with a number of stakeholders including key industry representatives and consumer groups. As a result of these meetings and discussions (see Annex 4 for a summary), it is clear to Ofcom that there is a high level of interest in all issues affecting new voice services in the UK market.
- 2.4 In particular, stakeholders have given a clear message that Ofcom should be focusing its attention on 3 specific areas:
 - numbering for new voice services;
 - whether new voice services should be regulated at the same level as traditional voice services; and
 - access to emergency services - in particular what level of service should consumers expect and whether regulation gives rise to a disincentive to new voice providers to provide access to 999 and 112⁴.

Scope of this consultation

- 2.5 This consultation considers the regulation of all public voice services. However, as stated above it is driven by the development of new voice services such as

³ Strategic Review of Telecommunications Phase 1 Consultation
http://www.ofcom.org.uk/consultations/past/telecoms_review1/telecoms_review/

⁴ 112 is the single number for emergency calls in Europe. Throughout the rest of this document, references to 999 access should be read as including access to 112.

VoB as well as 'next generation' networks and services in the longer term. Although the focus of this consultation is on fixed services, some of the issues raised here will also be relevant to developments in mobile services. Private voice services, for example where VoIP is used solely within a business' private network, are beyond the scope of this consultation. However, 'IP Centrex' or 'hosted VoIP' services are typically publicly available services and are therefore within the scope of this consultation.

- 2.6 The term 'voice service' is used throughout this document to include what are traditionally considered as telephone services as well as to refer to other services that could provide a similar capability but might be less obviously recognised as a telephone, for example a PC based service. It also includes services that provide functionally similar capabilities for people with disabilities (which could perhaps be described as 'human conversational services'), the most obvious example being interactive text communication used by deaf people.
- 2.7 Ofcom has identified a wide range of issues, some of which need immediate attention, others of which are more long term. The more immediate issues regarding regulation, consumer protection and numbering are considered in this document and in Ofcom's statement on numbering for new voice services (see paragraph 2.9 and 2.10 below). The longer term issues regarding the impact of new voice services on the market are being addressed primarily by the Telecoms Review.
- 2.8 This consultation explores how consumers may benefit from being offered a variety of voice services that offer different features and/or lower prices than traditional telephone services. It considers how the regulatory framework is applied to new types of voice services and how consumer awareness can be achieved where the services provided are different from those that might be expected, in particular where no access to 999 is offered.
- 2.9 This consultation aims to cover the key issues relating to the introduction of new voice services. There are additional issues which are pertinent to new voice services and Ofcom is undertaking a wide range of related work on the future development of these services. This is outlined in Ofcom's paper *New voice services – a regulatory framework for VoIP and VoB services* and also considered below.

Links to other areas of Ofcom's work

- 2.10 Ofcom is aware that a number of other areas of its work are linked to this consultation. In particular, this includes numbering arrangements, Ofcom's broadband policy and the Telecoms Review.

Numbering arrangements for Voice over Broadband services

- 2.11 On 24 February 2004 Ofcom published a consultation on the appropriate numbering resource for VoB services. It included a proposal that 056 numbers should be determined as available for allocation for VoB services and asked for stakeholders' views on the appropriateness of using geographic numbers for VoB services.

- 2.12 On 6 September 2004, Ofcom issued a final statement on numbering which makes both geographic number ranges and a new 056 number range available for new services including VoB.

Access and interconnection for Next Generation Networks

- 2.13 Ofcom is considering separately the impact that migration from the traditional Public Switched Telephone Network (PSTN) to next generation (IP based) networks, in particular BT's 21C network, might have on current interconnection arrangements, including the impact on traditional voice interconnect products such as Carrier Pre-Selection⁵.

Local loop unbundling

- 2.14 Local Loop Unbundling (LLU) offers VoB providers the potential to lower their costs and gain greater control over the infrastructure used to provide their services. Ofcom's LLU market review consultation was announced on 13 May 2004. It proposes to encourage the development of the LLU market to allow operators to target investment and to develop scale in the creation of new and competitive high-speed data services based on access to the UK's local exchanges. A consultation on appropriate regulation including the level of charges was published on 26 August with the final statement due in December. The Telecommunications Adjudicator is working with the industry on the process issues, including aspects closely related to new voice services, such as number portability.

The Strategic Review of Telecommunications

- 2.15 On 28 April 2004, Ofcom published Phase 1 of the Telecoms Review which is the first wide-ranging analysis of the sector for 13 years and is looking at the bigger picture of telecommunications, including the potential long term impact of new voice services on the market as a whole. Ofcom considers it is essential to address the issues considered in this consultation document now, in order to ensure that regulation does not create unnecessary barriers to providers wishing to offer VoB services and to ensure that the interests of citizen-consumers are addressed effectively. Work on these immediate issues is therefore being taken forward in parallel with the Telecoms Review. Both work streams are working closely together to ensure a consistent approach.

The legal framework

- 2.16 A new EU regulatory framework for electronic communications networks and services came into force in the UK on 25 July 2003. The basis for the new framework is five new EU Communications Directives. Under the new EU framework the provision of all electronic communications networks and services is generally authorised and the system of individual licences has been

⁵ In June 2004 BT set out a timetable for upgrading its core UK networks to facilitate the next generation of multi-media communications services. The 21CN (21st Century Network) programme is designed to migrate services from the existing UK PSTN to a multi-service IP network for both voice and data services.

abolished. Therefore networks and service providers (referred to in this document as 'Communications Providers'), including VoB providers, can enter the market as they wish, although they must comply with any applicable general conditions which have been set, and any specific conditions which apply in their specific case, such as universal service conditions or SMP conditions. The Director General of Telecommunications (the 'Director') published the general conditions of entitlement on 22 July 2003.

- 2.17 Four of the five new EU Communications Directives referred to above were implemented via the Communications Act 2003 (the 'Act'). Prior to 29 December 2003 the Director exercised functions under the Act in relation to electronic communications networks and services. On 29 December 2003 Ofcom took over those functions.

Ofcom's duties

- 2.18 The Act sets out certain duties for Ofcom, including the principal duty under section 3(1) of the Act 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. Under section 3(2)(b) Ofcom must secure the availability throughout the UK of a wide range of electronic communications services and under section 3(3)(a) must have regard to the principles under which regulatory activities should be transparent, accountable, proportionate, consistent and targeted only at cases in which action is needed. Section 3(4) of the Act also sets out a list of factors to which Ofcom must have regard as relevant, including the desirability of promoting competition in relevant markets. Under section 3(5) Ofcom must have regard, in performing its duty to further the interests of consumers, to the interests of those consumers in respect of choice, price, quality of service and value for money.
- 2.19 In addition, Ofcom must act in accordance with the six Community requirements set out in section 4 of the Act, including the requirement to promote competition in relation to the provision of electronic communications networks and services, the requirement not to favour, so far as practicable, one form of network or service over another, and the requirement to promote the interests of European citizens.
- 2.20 Ofcom must act in accordance with its general duties, and any other relevant duties, in addressing any issues arising from new voice services including VoB services. In some circumstances Ofcom's various duties may conflict with one another and in that case, under section 3(7) Ofcom must secure that the conflict is resolved in the manner it thinks best in the circumstances. Priority must be given to its duties under section 4 i.e. the Community requirements, under section 3(6). For example, a conflict may arise from the aim of encouraging entry to the market to promote competition, and the aim of ensuring consumers are adequately protected in using new voice services.

Terminology

- 2.21 Various terms are used to describe Voice over Internet technology and services. Ofcom's understanding of commonly used terms is:

- Voice over Internet Protocol (VoIP) is the generic name for the transport

of voice traffic using Internet Protocol (IP) technology. VoIP traffic can be carried on a private managed network or the public Internet or a combination of both. A wide range of applications and services could use VoIP technology, from traditional telephone services to interactive games.

- Internet telephony (also referred to as Voice over the Internet) is a specific type of VoIP service that uses the public Internet to carry the IP traffic.
- Voice over Broadband refers to VoIP services that allow consumers to make and receive calls over a broadband access connection - for example Digital Subscriber Line (DSL) or cable. Specific examples of VoB services are discussed further in Section 3.

2.22 Ofcom is not proposing that regulation should rely upon or specifically relate to the terms described above. These terms are being used simply to ensure consistent understanding and for convenience to refer to a broad range of services available to consumers. The issues considered in this document are relevant to all voice services and not only to the services described above.

EU framework

2.23 On 14 June 2004, the European Commission published a paper on the application of the EU regulatory framework for electronic communications to VoIP, entitled *Information and consultation paper on the regulatory treatment of Voice over Internet Protocol (VoIP) under the EU regulatory framework*. The document addresses how the EU regulatory framework applies to VoIP and seeks comments on related issues. The deadline for comments was 31 August 2004. Ofcom has submitted a response to that consultation which reflects the initial views outlined in this document.

2.24 Ofcom considers that it is appropriate to consult in the UK on similar issues in the meantime and looks forward to receiving further guidance from the Commission on the application of the regulatory framework to VoIP and other services.

2.25 Other regulatory activity within Europe includes consultations on VoIP launched by French, German and Maltese national regulatory authorities. A subgroup of the European Regulators Group (ERG) has also been set up to consider VoIP policy and Ofcom is an active participant in this group.

Structure of the rest of this consultation

2.26 The rest of the consultation is divided into five main sections:

- **Section 3** looks at the types of new voice services entering the market, the potential benefits they may offer and how they might differ from traditional fixed and mobile services;
- **Section 4** looks at the challenge raised by the emergence of new voice services and considers Ofcom's aims and objectives in dealing with this. It then looks at the existing regulatory framework and the possible constraints this has on achieving the policy objectives Ofcom has identified. It concludes by proposing three important initiatives Ofcom intends to progress which it believes will help meet the challenge posed by new voice services in

- accordance with its aims and objectives;
- **Section 5** sets out interim guidance on the application of the regulatory framework to new voice services;
 - **Section 6** considers the current requirements on PATS providers in relation to network integrity and location information for emergency calls and the implications of those requirements for new voice services, including Voice over Broadband services. It consults on whether to retain, re-issue or withdraw existing guidelines relating to network integrity; and
 - **Section 7** looks at what information consumers of voice services may require and how this information could be provided and consults on the appropriate regulatory framework for a consumer information policy.

Section 3

New voice services

Introduction

3.1 Section 3 sets out the context for the rest of this **consultation** by looking at the types of voice services traditionally used by consumers, the new voice services which are starting to enter the market, and considers what the potential differences between traditional and new services are likely to be.

Traditional voice services

3.2 Today, the vast majority of consumers use only two key types of public voice communication services:

- **Traditional fixed telephone services.** The basic characteristics of these services have been very well established over many years, and the basic analogue telephone connection to a typical home has not changed in nearly a century (e.g. a telephone from the 1920s would still in principle work if connected to a modern telephone socket). Currently 92% of UK households have a fixed line telephone at home⁶.
- **Mobile telephone services.** Mobile services were first introduced in the UK in 1985 and now 85% of UK households have a mobile phone⁷. Mobile services share a basic set of characteristics with fixed lines, but have evolved more quickly than fixed services over the last 20 years, with features such as text messaging and picture messaging being added as technology has developed.

3.3 Many of the basic characteristics of these services, with which consumers are familiar, have been required by regulation. There are however some variations between fixed and mobile services. Figure 1 summarises the typical characteristics of fixed and mobile services and whether there is a regulatory requirement for those characteristics (the table does not attempt to list every characteristic or regulatory requirement).

⁶ The Communications Market 2004 report, Ofcom
http://www.ofcom.org.uk/research/industry_market_research/m_i_index/cm/

⁷ The Communications Market 2004 report, Ofcom
http://www.ofcom.org.uk/research/industry_market_research/m_i_index/cm/

Figure 1: Typical characteristics of fixed and mobile services

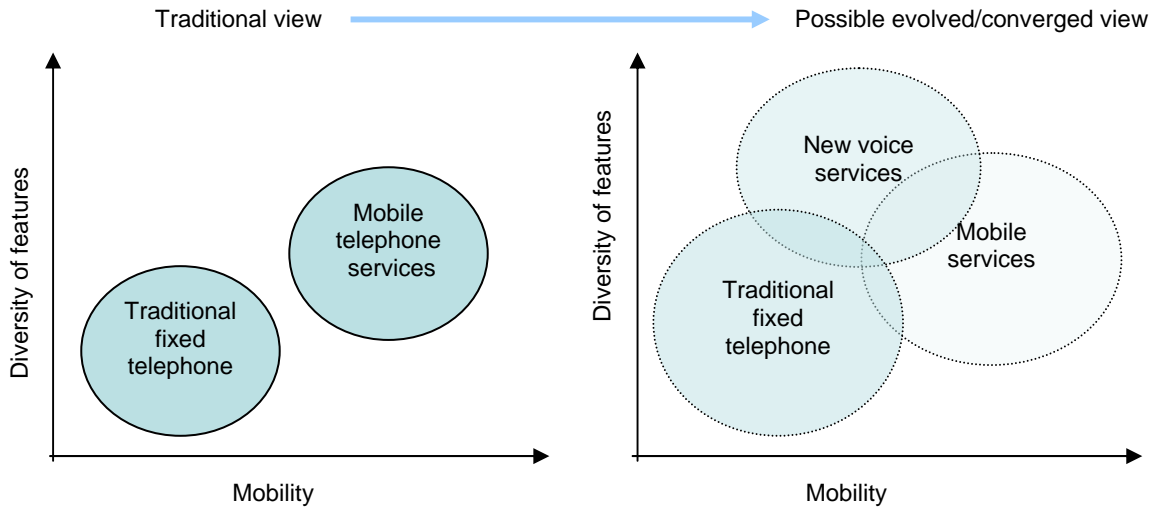
Feature	Traditional fixed		Mobile	
	Typically provided	Regulatory requirement	Typically provided	Regulatory requirement
Ability to call any telephone number	✓	only BT and Kingston	✓	X
Free calls to 999	✓	✓	✓	✓
High reliability (even when power failure)	✓	✓	depends on coverage	X
Caller ID ⁸	✓	✓	✓	✓
Operator assistance	✓	✓	✓	✓
Directory enquiries (at least one service) (free of charge for users with disabilities)	✓	✓	✓	✓
Text relay services for users with disabilities	✓	✓	✓	✓
Voice mail	✓	X	✓	X
Text Messaging	X	X	✓	X
Picture Messaging	X	X	✓	X
Video calls	X	X	some services	X

Evolution and convergence of voice services

- 3.4 Phase 1 of Ofcom's Telecoms Review has recognised several factors that are likely to have a key impact on the development of the telecommunications sector – these include the development of Voice over IP and the deployment of broadband services. These changes are likely to mean that there are new, and potentially cheaper, ways of providing traditional voice services, as well as scope for a much wider range of innovative new services.
- 3.5 At the same time the distinctions between mobile and fixed services are likely to become harder to draw in future as new services start to offer some form of mobility and enhanced functionality. Similarly, the distinction between different forms of communication is becoming blurred, with services combining instant messaging, voice communication and possibly video. Although it is not yet clear what new voice services will enter the market and to what extent each will be successful, it does seem likely that recent changes are just the start of a growing trend. Figure 2 illustrates how these changes might affect the types of services offered in the market.

⁸ Also known as Caller Line Identity (CLI). Enables the calling telephone number to be shown to the called party (but calling party can override this)

Figure 2: Evolution and convergence of new voice services



New voice services

- 3.6 New voice services could take many forms. Some could be identical to traditional voice services, whilst others might offer radically different customer experiences. One possible trend is that voice services could start to be incorporated into a much wider range of Internet applications, for example some online games already allow players to talk to each other.
- 3.7 At the moment many providers are starting to offer a range of services loosely known as Voice over Broadband (VoB) services. These services offer a concrete example of what new voices services could offer, and therefore are considered in more detail below. However, in a rapidly developing and diverse market, any such overview can only give an example of the types of services that might be offered in the future.

Voice over Broadband

- 3.8 Voice over Broadband (VoB) services are a particular example of the way new technology is changing the traditional landscape of voice communication services. VoB services use VoIP technology and allow consumers to make and receive voice calls using a broadband connection, such as Asymmetric Digital Subscriber Line (ADSL) or cable modem. Although some of these services can be used over a narrowband dial-up connection, in practice they always require a connection and higher bandwidth offered by broadband access makes them a much more compelling service when used over broadband. Examples of current residential VoB services include:

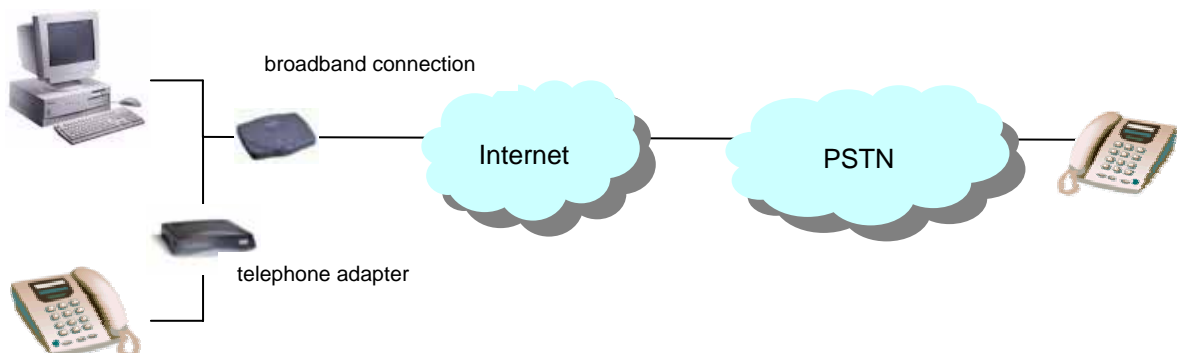
PC to Phone services: Often offer cheap calls to national and international numbers by using a software based 'phone' on the user's PC. Headphones and microphone for the user's PC, or a special type of telephone handset, are needed for this. Some also allow inbound calls.



PC to PC services: Includes software packages that often offer free calls over the Internet to and from other users with the same software on their PC. These services may not use traditional telephone numbers. As above, specific software and equipment is needed for the user's PC.



Phone to Phone services: These can allow users to make and receive calls to any (or most) telephone numbers using an ordinary telephone handset. They commonly use an adapter to enable the telephone handset to be connected to a broadband connection. A PC and special software is not necessarily needed.



3.9 This is a non-exhaustive list and many services may combine characteristics of all these. Although PC to phone and PC to PC services have been around as niche services for several years, it is the recent development of phone to phone services which has raised particular interest, as these might appear to be identical or very similar to a traditional telephone service.

3.10 For businesses, there are also hosted VoIP (sometimes known as "IP Centrex") services which offer a replacement for the business's traditional PBX and traditional telephone connection. The business would typically replace its

traditional handsets with IP enabled handsets and PBX capabilities would be provided by a service provider.

Impact of new voice services

- 3.11 Many industry analysts have been considering the impact of VoIP and VoB on the UK market. For example, market analyst Analysys expects that the impact of VoB services will vary by country and in the UK predicts that nearly 4% of residential lines and 7% of business lines will be VoB by 2009⁹. So far a number of new and established providers have announced and launched new voice services in the UK.
- 3.12 The Telecoms Review is specifically considering the impact of new voice services such as VoIP on the voice communications market. Phase 1 noted the potential significance of VoIP and asked stakeholders a specific question about this. Ofcom will be setting out further thoughts on this question in its Phase 2 document and although this question is not considered in detail here, Ofcom's current view is that new services based on VoIP are potentially significant for competition in voice communication markets, hence their consideration in this document.

Possible characteristics of new voice services

- 3.13 Given the potential impact of new voice services, it is important to understand the possible characteristics that potentially distinguish some new services from traditional voice services (see Figure 1). This should inform our consideration of the regulatory issues that might arise from them. Ofcom understands that these new characteristics do not necessarily apply to all new voice services and that some new voice services may have identical characteristics to existing voice services. Ofcom has outlined its initial understanding of possible characteristics below:
- **Location and network independence.** Some VoB services can be used over any broadband Internet connection. There are two key implications of this. Firstly, the service can in principle be provided independently of both the ISP and the underlying access operator, and potentially without their knowledge. Secondly, users can potentially use the service at any location in the world which has Internet access – such services are sometimes termed 'nomadic'.
 - **Reliability.** Some VoB services rely on a standard broadband Internet connection for their connectivity to the end user. For some such services their reliability may therefore be dependent on the reliability of the user's broadband Internet connection. Depending on the user's ISP and the underlying broadband access provider, this connection might not be as reliable as a traditional telephone service.
 - **New features.** The use of new technology is likely to make it much easier for providers to offer innovative new features than for providers of traditional voice services. For example, compared to upgrading a traditional telephone switch, new VoIP applications can be quickly developed and deployed. New features could include integrated messaging, conferencing, video and personalised call handling

⁹ The Impact of Voice over Broadband: forecasts for Western Europe, Analysys February 2004

- **Lower costs.** New voice services could face lower costs than traditional telephone services due to the use of VoIP technology. Costs might also be saved because a single network could be used for voice and data services, rather than running two separate networks.

Question 1: What types of new voice services do you envisage becoming available in the future and what characteristics will they have that distinguish them from traditional voice services?

Section 4

Policy aims and regulatory framework

Introduction

- 4.1 This section looks at the challenge raised by the emergence of new voice services and considers Ofcom's policy aims in light of these changes. It then looks at the existing regulatory framework and the possible constraints this has on achieving the policy objectives Ofcom has identified. Ofcom is seeking views on all these issues.
- 4.2 This section concludes by setting out three important initiatives Ofcom intends to progress which it believes will help meet the challenge posed by new voice services in accordance with its aims and objectives.

Consumer protection - the policy challenge

- 4.3 New voice services, such as VoB, have potentially far-reaching implications for consumers and providers of communications services. They enable further innovation in new services, with potential for new and different features from traditional voice services, such as the ability to deliver new voice messages to your email inbox and the potential for cheaper calls, for example free calls between people using the same service. This creates possible benefits, in terms of increased opportunities for competition, consumer choice and reduced costs. However, it also creates challenges, in terms of potentially lower levels of consumer protection.
- 4.4 As set out in Section 3 (see Figure 1), the vast majority of fixed and mobile voice services offer a number of standard features that consumers have come to expect from their telephone service. These include innovative developments such as voice mail and '1471' and more significantly, features required by regulation, such as access to directory enquiries and, in the case of fixed services, reliable access to 999.
- 4.5 These regulatory requirements are founded on the capabilities of traditional voice services and are associated with a regulatory construct known as PATS (publicly available telephone service) which flows from the EU regulatory framework. However, requiring, by regulation, new voice services to provide the same features as traditional services risks stifling new competitive services that benefit consumers, given the different characteristics of new voice services (see paragraph 3.13). For example, some services can be used away from the home, potentially using any Internet connection. But it might not be feasible to guarantee the same reliability as a normal fixed line when a service is used from, say, a Wi-Fi hotspot in a café. So requiring services to offer the same levels of reliability and features as traditional services might block valuable innovation.
- 4.6 However, if new voice services are not required to offer the same features, there is a risk that some services that 'look and feel' like traditional services may not offer the same features to the same standard, as consumers might expect. This poses a challenge for Ofcom and the industry since these types of

services may give rise to expectations amongst both subscribers and all potential users that they offer the same facilities as traditional voice services (see Section 3, Figure 1). For example, a babysitter or visitor to a home who expects to be able to call 999 from the home's telephone may discover, in the event of an emergency, that access to 999 is not available. Another example is deaf users potentially being unable to use existing equipment for text communication, because the technology is incompatible with that used for some new services.

- 4.7 There may of course also be *regulatory* challenges if the current regulatory framework leads to undesirable outcomes as new voice services are introduced. However, Ofcom believes it is important to first consider what the desirable outcomes and policy aims should be, before going on to assess whether the regulatory framework is aligned with those aims.

Question 2: *What are the main policy challenges raised by the introduction of new voice services for consumer protection and regulation?*

Policy aims

- 4.8 In order to help meet the challenges identified above, Ofcom has considered what its top level aims and objectives should be in terms of competition and consumer protection. Following on from this broader discussion, Ofcom has also identified a number of specific questions about whether it is desirable for all voice services to be required to offer the same standard features and level of consumer protection as traditional voice services.

- 4.9 These questions can be divided into three key areas and are discussed below:

- What should be our top level aims?
- What is the appropriate level of regulation of voice services?
- What should we do about access to 999?

What should be our top level aims?

- 4.10 Ofcom's mission is as follows:

Ofcom exists to further the interests of citizen-consumers through a regulatory regime which, where appropriate, encourages competition

To do this Ofcom shall:

- *Balance the promotion of choice and competition with the duty to foster plurality, informed citizenship, protect viewers, listeners and customers and promote cultural diversity.*
- *Serve the interests of the citizen-consumer as the communications industry enters the digital age.*
- *Support the need for innovators, creators and investors to flourish within markets driven by full and fair competition between all providers.*
- *Encourage the evolution of electronic media and communications networks to the greater benefit of all who live in the United Kingdom.*

- 4.11 As set out in Section 3, new voice services based on technology such as VoIP have the potential to offer increased competition in terms of the number of services and providers entering the voice market, as well as the types of new services and features being offered. Increased competition has the potential to spur innovation, increase consumer choice and drive down prices. A policy approach which supports the creation of an environment in which these new technologies and services flourish is consistent with Ofcom's mission.
- 4.12 In addition, consumers need to be able to make informed decisions about the products they are buying, in order to take advantage of the range of new voice services and providers entering the market. Consumers also need to be aware that some new services may differ from the traditional services with which they are familiar, for example in relation to whether they provide access to 999. Therefore Ofcom considers it should aim to ensure consumers are informed and protected in relation to new voice services.
- 4.13 In striving to meet these objectives, Ofcom is however aware of the importance of technology neutrality. That is, ensuring where possible that regulation does not unduly favour one technology over another. This is also a duty flowing from the EU regulatory framework. Similarly, regulation should aim to minimise distortions of the types of services offered to and used by consumers. This is particularly important in the context of emerging new voice services and their ability to compete with traditional services. Regulation should not, however, create artificial incentives which support inefficient entry and unsustainable competition.
- 4.14 In summary, Ofcom recognises that a balance needs to be struck between creating the right conditions in which new voice services and new providers can enter the market, and ensuring that consumers understand the choices available to them and are properly protected, whilst ensuring that regulation does not distort the market. This can be summarised in three initial top level aims:
- to help create an environment in which new technologies can be developed successfully in the market, so that consumers can benefit from a wider and more innovative range of services;
 - to ensure that consumers are properly informed and protected in relation to the products they are using; and
 - to limit the extent to which regulation creates distortions in the market

Question 3: Do you agree with the initial top level aims identified by Ofcom?

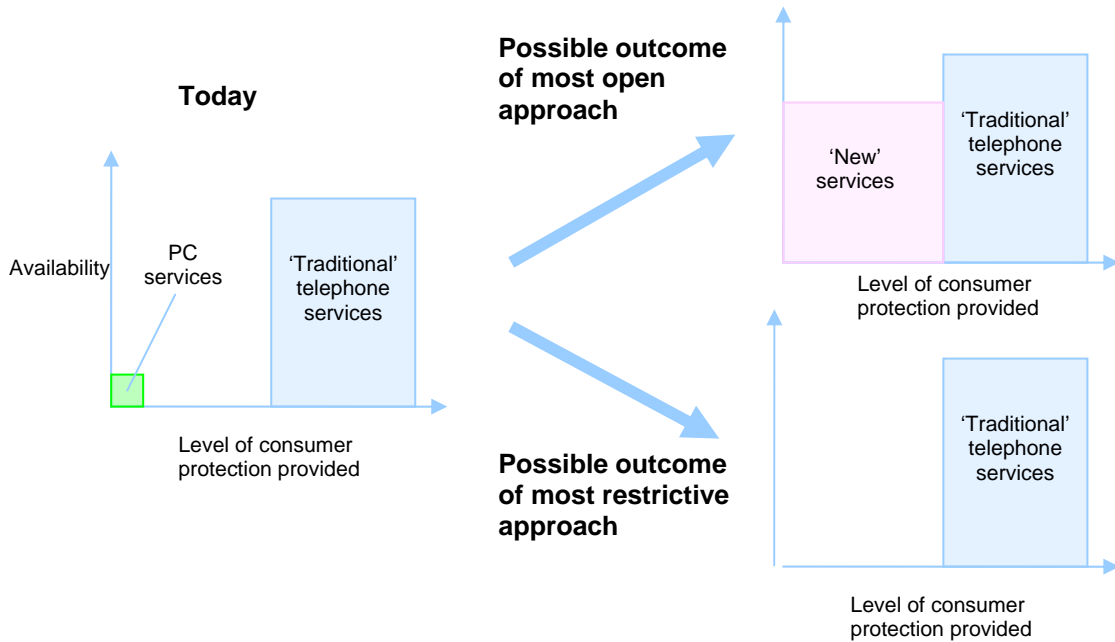
Question 4: Are there other aims and criteria that Ofcom should consider?

What is the appropriate level of regulation of voice services?

- 4.15 In the context of these top level aims, Ofcom is considering what level of regulation is desirable in policy terms in order to achieve the appropriate balance between creating the right market conditions for innovation and market entry, and ensuring that consumers are properly informed and protected.
- 4.16 In principle a range of options is available that might have very different outcomes for the market and the types of services available in the future. At one end of the spectrum, there could be a requirement for all voice services to

offer certain standard features and, in effect, an outright ban on services that do not offer such features. At the other end of the spectrum, we could allow providers to offer a diversity of services and take no active steps to ensure that consumers can make informed decisions. Today there is relatively limited usage in the UK of PC based services that have a lower level of consumer protection than traditional telephone services. Figure 3 below illustrates how these different extremes could impact the range of services offered in the market.

Figure 3: Illustrative outcomes of possible regulatory approaches



4.17 Not all of the ideas explored in this section could necessarily be implemented under the current EU regulatory framework. However Ofcom considers it is important to have an open discussion of potential policy objectives before considering the implications of the existing legal framework. Ofcom has identified the following key questions:

- Should all voice services be subject to the same level of regulation as traditional voice services? For example,
 - should we draw a distinction between the regulation of services that ‘look like’ traditional services and those that do not?
 - should we draw a distinction between the regulation of ‘second line’ services and ‘primary’ services?
 - should we set a threshold at which voice services should be required offer the same features as traditional voice services?

- What should we do about access to 999? In particular,
 - if some voice services are not required to offer the same features as traditional services, should they at least (where practical) be required to offer access to 999?
 - should less reliable access to 999 be allowed?

4.18 This consultation has been promoted by the development of new voice services but the content is relevant to all voice services, including existing services. It is also important to note that all the questions discussed assume the continued existence of universal service obligations on designated providers (currently BT and Kingston Communications) to provide a service that offers all the characteristics expected of a traditional telephone service. Therefore, in discussing these questions, Ofcom is not specifically looking at the future of universal service arrangements. These are being separately considered in Ofcom's forthcoming Universal Service Review (to be published autumn 2004) and in the Telecoms Review.

Question 5: Are there other key policy questions that Ofcom should be considering?

Should all voice services be required to offer the same features as traditional voice services are now?

- 4.19 Ofcom is considering and seeking views on whether it would be desirable, in principle, for all voice services to be required to offer the same standard features as those currently offered by traditional voice services (see paragraph 3.3), or whether it would be desirable for providers to be able to offer a range of voice services with different benefits and features and enable consumers to make informed decisions.
- 4.20 As set out in Section 3, most traditional fixed and mobile services offer a number of standard features required by regulation. By requiring all voice services to offer the same standard features, consumers would enjoy all the benefits associated with traditional services - new providers would effectively be prevented from offering voice services that differed from (for example offered less than) the 'norm' and existing providers would be prevented from reducing the features they currently offer. Ofcom would expect that this approach would help to ensure that existing consumer expectations are not disturbed (see paragraph 4.6) and therefore minimise the risk of consumer confusion.
- 4.21 This form of regulation might be appropriate if there were significant market failures, for example externalities or public goods (see Annex 7 for explanation of externalities and public goods), which meant that certain services or features could be undersupplied by the market. Ofcom's current thinking is that these types of market failure are unlikely to occur for many of the features required of traditional services but has considered this question further for 999 calls (see below 4.40 – 4.56 and Annex 7).
- 4.22 It would also ensure that all services offered facilities for people with disabilities so that they were treated in an equivalent way to other users. For example, this would ensure that deaf users were able to communicate with the emergency

services regardless of the service provider used, rather than this facility being only available from a limited number of service providers.

- 4.23 Whilst such an approach is the most interventionist considered, it would effectively achieve the same outcome for consumers in terms of the range of services on offer today. This is because the majority of voice services today are traditional services required to offer the same standard features (as outlined in Section 3, Figure 1).
- 4.24 However, requiring all voice services to offer the same standard features has the potential to restrict market entry as some services, for example those offered with less features, would not be allowed. The consequence of this could be to reduce competition and limit consumer choice. Consumers may also be willing to accept a lower standard of services, for example if the new service is a secondary line.
- 4.25 Ofcom considers there is value in giving consumers a wide range of voice services to choose from. For example consumers would be able to choose whether to subscribe to a new voice service that provided a set of features similar to those offered by traditional services, a cheaper 'no frills' option or an innovative new voice service which is not directly comparable to any existing services.
- 4.26 Ofcom's initial view therefore is that it is not necessary for all voice services to be required to provide the same features as traditional telephone services and providers should not be prevented from offering voice services that are different. However, in order to protect consumers' interests in this changing environment, it is essential that consumers are adequately informed about what new voice services do and do not offer. Ofcom believes that a consumer information policy, if properly designed, could be effective in ensuring consumers can make informed decisions about the services they are buying and how they use them, for example in addition to or as a replacement for their existing traditional service. As part of this document, Ofcom is consulting on the appropriate framework for a consumer information policy (see Section 7).

Question 6: Do you agree with Ofcom's initial view that it is not necessary for all voice services to provide the same standard features as traditional telephone services, and that we should instead focus on enabling consumers to make informed decisions?

- 4.27 Ofcom has identified a number of variations on the approach set out above which draw a distinction between the regulation of traditional and new voice services in different ways. These variations are discussed below.

Should we draw a distinction between the regulation of services that 'look like' traditional services and those that do not?

- 4.28 One variation would be to require all voice services that look like traditional phone services to offer the same features as traditional services.
- 4.29 This approach would have the advantage of not capturing voice services that have a clearly different 'look and feel' from traditional services, for example those that are accessed only from a PC or that cannot call traditional telephone numbers. Ofcom's current thinking is that consumers are unlikely to expect (or

need) the same facilities from a PC-based service as their traditional voice service so to regulate them at the same level would not be appropriate.

- 4.30 This approach would help meet the existing expectations of all potential users (not just the purchaser) who look at what appears to be a standard telephone and who think it offers the same facilities as a traditional service. For example, it would ensure a visitor to a house or office was able to dial 999 in the event of an emergency. It would also prevent the risk of existing providers reducing the features they currently offer since traditional services are largely likely to look like traditional services.
- 4.31 On the other hand, services are evolving and 'looking like' a traditional telephone could be hard to define or enforce, and is unlikely to be future proof. For example, mobile services are now being offered from terminals that look more like handheld computers than telephones, and mobile and cordless fixed handsets are becoming more similar. In addition, service providers may not have control over the type of equipment their customer is using, be it a telephone handset or headset and microphone.
- 4.32 Ofcom's initial thinking therefore is that it would not be desirable or practical to attempt to draw a distinction between the regulation of services that look like traditional telephone services and those that do not. In addition, such an approach could conceivably distort the market by artificially encouraging providers to offer services that do not look like traditional telephones, in order to avoid regulation. Ofcom believes that appropriate consumer information would be a better means of ensuring consumers are informed about the characteristics of the service they buy (see Section 7).

Question 7: Do you agree with Ofcom's initial view that it is not desirable to draw a distinction between the regulation of services that look like traditional services and those that do not?

Should we draw a distinction between the regulation of 'second line' services and 'primary' services?

- 4.33 A second variation would be to draw a distinction between the regulation of second line and primary services i.e. to require primary line, but not second line, services to offer the same features as traditional services. Most consumers currently rely on a single fixed line (rather than several different fixed lines) at home to make calls. This is likely to be a traditional phone service which offers a number of standard features, as described earlier. However, a number of new voice services are now being marketed as second line services, rather than as a replacement for a consumer's traditional PSTN line. This poses the question whether second line services should be regulated in a less demanding way, whilst placing the same requirements as traditional services on all primary line replacements.
- 4.34 Such an approach would ensure consumers were protected in so far as their primary line was concerned, while at the same time allowing the development of second line services. It would also prevent the risk of existing providers reducing the features they currently offer since traditional services are largely primary line services. Ofcom believes it would be desirable to allow second line services if the user also had a primary line which offered all the features traditionally required by regulation and the user was always able to rely on that

line. For example, if the user wanted to call directory enquiries or make a 999 call in an emergency, they could use their primary line.

- 4.35 However in practice, it could be difficult for providers (or Ofcom) to control or be certain whether a consumer was using a service as a primary line or second line. For example, a consumer could buy a new voice service as a second line and then, at a later date, dispense with their primary line. This is already a possibility for cable modem subscribers using VoB services and although ADSL subscribers are not currently able to cancel their traditional voice service and continue using ADSL, it is possible for the user no longer to have a telephone connected to that line. In addition, if a consumer treated their mobile phone as their primary line (as is the case for around 7% of UK households¹⁰), then providers would have no control over whether the user cancelled their mobile service. Consequently it may be hard to distinguish regulation on the basis of primary and second lines.
- 4.36 An alternative could be to ensure that consumers are adequately aware if a service offers lower capabilities than they would traditionally expect from a primary line service. They could then make an informed choice about whether to keep their existing primary line. A further measure could be for providers to inform consumers clearly whether a service was suitable for use as a replacement for their existing traditional phone line or only as second line, based on the set of features that it offered.
- 4.37 In summary, whilst there are some clear attractions with ensuring that all households with a telephone have the basic features associated with traditional telephone services, an approach based on a regulatory distinction between primary and second line services may be difficult to implement. Ofcom's initial view therefore is that the policy aims could be achieved by empowering consumers to make informed decisions about the products they are buying and how to use them, for example to recommend that certain types of service may only be appropriate for a second line, rather than making a regulatory distinction between primary and second lines. Ofcom is consulting on the appropriate framework for a consumer information policy in Section 7.

Question 8: Do you agree with Ofcom's initial view that a distinction should not be drawn between the regulation of 'second line' services and 'primary' services?

Should there be a threshold at which new voice services should be required offer the same features as traditional voice services?

- 4.38 A third variation on the approaches set out above would be to introduce a threshold at which new services would be required to offer the same features as traditional services or at which Ofcom would review the development of the market and consider whether further regulatory measures were necessary. This could be based, for example, on a service achieving a certain number of subscribers or revenues. This approach would encourage market entrants, whilst ensuring mass-market products were regulated appropriately – potentially at a level similar to traditional types of voice services. However, this could potentially result in certain providers deciding to exit the market at the point that a higher level of regulation was introduced, leaving consumers stranded.

¹⁰ The Communications Market 2004 report, Ofcom
http://www.ofcom.org.uk/research/industry_market_research/m_i_index/cm/

4.39 Ofcom has not considered the implications of this type of approach in detail but would be interested in stakeholders' views on whether this is something Ofcom should pursue.

Question 9: Do you think that a threshold should be set at which new voice services should be required offer the same features as traditional voice services? If so, how should the threshold be set?

What should we do about access to 999?

4.40 As set out above, it may not be appropriate for all services to be required to provide all the features normally expected from traditional voice services. However, because of the strong public interest in access to 999, Ofcom considers that it is worthwhile specifically looking at this feature in more detail, including whether access to 999 should be a minimum requirement even for services that do not offer all the other features of traditional voice services.

4.41 It is first important to understand the different levels of reliability of 999 access that could be provided. Calls to 999 from fixed traditional telephone services are 'high quality' in the sense that they have the following characteristics:

- high level of reliability, for example through minimising single points of failure between the customer and the emergency organisations;
- higher probability of call set-up, especially in the face of general network congestion, than normal calls (normal calls on the telephone network are typically quoted at around 99.999% reliable¹¹ - i.e. less than 5 minutes a year that it does not work); and
- authentic and reliable provision of location information.

4.42 A service with a basic level of access to 999 might rely on a standard Internet connection, for example as part of a VoB service (but this is not to say that all VoB services would be less reliable). It is very difficult to generalise when making comments about the reliability of ISPs and the Internet, but some of the implications of this might be:

- There could be times when calls could not be made at all. Amongst other things this would depend on the reliability on the Internet connection and the ISP being used. The connection for a good ISP might be 99.9% reliable¹², i.e. about 9 hours a year that it does not work (but in the worst case these 9 hours might be continuous);

¹¹ Source: NISCC Guide to Telecommunications Resilience <http://www.niscc.gov.uk/Guide to Telecommunications Resilience.pdf> The National Infrastructure Security Co-ordination Centre (NISCC) is an interdepartmental organisation set up to co-ordinate and develop existing work within Government departments and agencies and organisations in the private sector to defend against electronic attack

¹² Source: NISCC Guide to Telecommunications Resilience <http://www.niscc.gov.uk/Guide to Telecommunications Resilience.pdf> The National Infrastructure Security Co-ordination Centre (NISCC) is an interdepartmental organisation set up to co-ordinate and develop existing work within Government departments and agencies and organisations in the private sector to defend against electronic attack

- If the Internet connection was being used by others, for example to download a file, then in the worst case the quality of the call might be degraded, i.e. it could be harder to understand what the other person was saying. However, there are technical ways of avoiding this problem and it is less likely to be a problem for higher bandwidth connections; and
- 'Nomadic' services can be used away from the user's home. In this case, the emergency operator may not know automatically where the person is calling from (there might be technical or procedural ways of addressing this problem)

If some voice services are not required to offer the same features as traditional services, should they at least (where practical) be required to offer access to 999?

- 4.43 Without doubt, access to 999 is a very important element of today's telephone services and a crucial part of the emergency organisations' ability to respond to emergency situations. Therefore, Ofcom is keen to promote and encourage the availability of access to 999 for all consumers. Indeed access to 999 is widely expected by consumers. Ofcom research showed that in May 2004, the majority (91%) of adults believed all methods of making telephone calls should offer access to emergency services, in particular fixed line services (see Annex 6).
- 4.44 However, expectations regarding access to 999 are already different for fixed and mobile services and slightly lower than what they believe should be available - 89% said they automatically expected access to emergency services from their fixed telephone service compared to 75% of mobile users. This suggests that consumers' views and expectations could be different for new types of voice services too.
- 4.45 If providers are allowed to offer services without access to 999, or at lower quality, it is clearly essential that consumers are aware of this. Ofcom believes that because consumers have strong expectations that services offer access to 999, they would take availability of access to 999 sufficiently into account when choosing a service, provided they were properly informed. In other words it seems likely that consumers highly value the provision of 999 access and would have a strong preference for services that offered 999 access compared to ones that did not. Consequently they would be unlikely to choose a service without access to 999 in order to save a small amount of money (Ofcom is undertaking additional research to further explore consumers' views and expectations of 999 access). Feedback from providers and the current charge for handling 999 calls¹³ indicates that the cost of providing a basic 999 service is low and therefore it seems very likely that consumers would be prepared to pay the additional cost, at least for a basic level of 999 access.
- 4.46 This is supported by informal feedback to Ofcom from existing and potential new voice providers during the pre-consultation phase suggesting that most providers would want to offer access to 999. This would be so that they were able to compete with other providers, but also to try to avoid a situation where there could be loss of life resulting from a customer's inability to call 999.

¹³ In 2001/2 BT's charge for the non-conveyance elements (i.e. including the cost of the 999 operator answering the call) of a single 999 call was 52p

- 4.47 However, the costs of providing a ‘high quality’ 999 access would be higher than basic 999 access (Ofcom has requested information from providers but quantified costs were not available). Therefore there is a question of whether consumers would pay extra for a service with high quality 999 access or would choose a less reliable service because it is cheaper. Annex 7 also considers whether there are market failures associated with provision of high quality 999 access. Ofcom’s initial thinking is that most consumers sufficiently value having access to 999 in order for them to wish to retain at least one means of ‘high quality’ access to 999 at home. In principle a quantified analysis might be undertaken on this question, but Ofcom considers that it is likely to be very difficult to quantify the costs and benefits and therefore hard to rely on its conclusions with confidence.
- 4.48 In conclusion, Ofcom’s initial thinking is that although it is clearly desirable for access to 999 to be provided, it is not currently necessary or appropriate for this to be a requirement for all voice services. This is because it seems likely that access to 999 will continue to be provided by most providers in any event and consumers sufficiently value having access to 999 in order for them to want to retain at least one means of ‘high quality’ access to 999 at home. Ofcom will however keep this issue under review as the market develops. In particular, we would be concerned if there appeared to be degradation in the quality and availability of 999 (for example if lower reliability services were widely used as primary lines), either in general or for specific groups of customers.
- 4.49 If services without access to 999 or with only basic access to 999 are offered, then Ofcom believes decisions about subscribing to such services must be properly informed and all potential users of such a service should be aware that access to 999 is not available. Ofcom concludes from its research and discussions with stakeholders that information regarding the provision of access to 999 should form an integral part of a consumer information policy (see Section 7).

Question 10: Do you agree that most providers would want to offer at least a basic form of access to 999?

Question 11: Do you agree with Ofcom’s initial view that consumers sufficiently value having access to 999 in order for them to wish to retain at least one means of ‘high quality’ (very reliable) access to 999 at home?

Question 12: Do you agree with Ofcom’s initial view that not all voice services should be required to offer access to 999 but that decisions about subscribing to and using such services must be properly informed?

Should less reliable access to 999 be allowed?

- 4.50 Some new voice providers (such as VoB services that can be used over any Internet connection i.e. using any ISP and from any location) may be unable to offer fully reliable access. This is because without any relationship with the underlying network provider, as might be the case say if the user were using a Wi-Fi hotspot in a café, it may be difficult for the voice service provider to make any guarantees about the reliability of the network being used. Although this capability to use a service over any Internet connection could be of value to consumers who want a nomadic service, it does mean that the reliability of the service, including 999 access, could be lower than normally expected. The

provider might also not have any information on the location from which the call is being made.

- 4.51 Ofcom is therefore considering whether services that cannot feasibly offer reliable access to 999 should be prevented from offering any access to 999 or whether such services should be allowed to offer less reliable access.
- 4.52 It could be argued that true access to 999 does not come in different degrees of reliability and that in an emergency situation consumers completely depend on being able to communicate with the emergency services. In addition, as new voice services start to compete with traditional services, there is a possibility that consumers may choose a new voice service as a primary line, possibly encouraged to do so by the potentially lower cost, but then be unable to get through to 999 on that line. Not allowing lower quality access might encourage some providers to offer high quality access where they might not otherwise have done so, thereby increasing the availability of high quality access, even if overall availability was reduced.
- 4.53 However, some providers of new voice services could be deterred from offering 999 access if the quality requirements placed upon them had an impact on the technical or economic viability of their service. Therefore, allowing less reliable access to 999 could increase the *availability* of services with access to 999 even if the *quality* of access was reduced.
- 4.54 Reducing the availability of access to 999 could put more consumers at risk in emergency situations. For example, a user with a reliable traditional phone line and less reliable second line without access to 999, may not recall that one phone was available for access to 999 but that the other was not in the event of an emergency. Use of other types of communication and equipment such as mobile and cordless handsets, suggests that if fully informed about the nature of the services they are buying and using, consumers can make informed decisions about the range of services they buy.
- 4.55 On balance, Ofcom's initial view is that where providers cannot provide the same level of reliable access to 999 as traditional services, they should be allowed to offer some access rather than being prevented from offering any access. Providers who are able to offer reliable access to 999 should continue to do so, and Ofcom believes that the incentives exist for them to do this. However, as noted above, Ofcom would be concerned if market developments and/or lack of consumer awareness led to a degradation of the quality and availability of 999 and expects to keep this issue under review as the market develops.
- 4.56 However, if services with less reliable access to 999 are offered, then decisions about subscribing to and using such services must be properly informed. Ofcom therefore believes that information regarding the provision of less reliable access to 999 should form an integral part of a consumer information policy (see Section 7). Ofcom considers that a requirement for providers to inform users that access to 999 is not guaranteed could also act as an incentive for new providers to offer reliable access to 999 and for existing providers to continue doing so, as it would be potentially more difficult to market if they did not.

Question 13: Do you agree with Ofcom's initial view that given some new services may not be able to offer the same degree of reliability for emergency calls as traditional

voice services, it is better that these services are able to provide less reliable access to 999 rather than preventing them from offering any access at all?

Summary of Ofcom's initial aims and objectives

- 4.57 Ofcom's key aims are to ensure that the appropriate balance is struck between creating the right conditions in which new voice services and new providers can enter the market, and ensuring that consumers are properly informed and protected, whilst making certain that regulation does not distort the market.
- 4.58 Ofcom's initial thinking is that not all voice services should be required to offer the same features as traditional telephone services and that rather than preventing certain services from being offered or trying to draw regulatory distinctions between different types of services e.g. primary versus secondary, consumers should be empowered to make informed decisions about the services they are subscribing to and how to use them. Preventing providers from offering services without access to 999 may not be necessary or proportionate and providers that cannot provide the same level of reliable access to 999 as traditional services should be allowed to offer some access rather than being prevented from offering any access.
- 4.59 It is important that consumers are fully informed about the services they are being offered (see Section 7). Effective consumer information would enable consumers to make informed decisions about the products they are buying, in particular to decide whether to use certain types of products in addition to, or as substitutes for, their existing traditional voice service.

Regulatory framework

- 4.60 In line with the initial aims and objectives set out above, Ofcom favours a light touch approach where providers are able to offer a diversity of services and are not prevented from offering services that are different from traditional services, and where consumers can make informed decisions about the services they are using.
- 4.61 It is important now to look at the existing regulatory framework and the possible constraints this has on achieving the policy objectives Ofcom has identified.

Regulation of traditional voice services

- 4.62 Voice providers have the right to provide services in the UK but must in turn comply with any existing applicable regulation. For the majority of voice providers this will involve the applicable general conditions of entitlement¹⁴.
- 4.63 Certain of the general conditions only apply to providers of Publicly Available Telephone Services (PATS). The majority of traditional voice services in the UK fall within the definition of PATS, as set out in Article 2 of the Universal Service Directive (Art 2 of the USD). PATS is defined as follows-

"a service available to the public for originating and receiving of national and international calls and access to emergency services through a number or

¹⁴ General Conditions of Entitlement

http://www.ofcom.org.uk/static/archive/oftel/publications/eu_directives/2003/cond_final0703.pdf

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 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”

4.64 There are four core elements of PATS therefore, namely:

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

4.65 Where providers are offering PATS, the general conditions of entitlement provide that a service provider must comply with a number of conditions. A full list of additional PATS conditions is set out in Annex 5. These conditions include a requirement to take all reasonable steps to maintain uninterrupted access to Emergency Organisations as part of any PATS offered at fixed locations (General Condition 3) and a requirement to ensure that any end user can access Emergency Organisations by using the numbers 112 and 999 at no charge (General Condition 4).

4.66 Where service providers are not providing PATS, these conditions do not apply. However, all providers of public electronic communications services (PECS) are required to comply with certain conditions, for example the requirement to offer contracts (General Condition 9) and to establish codes of practice, complaint handling and dispute resolution procedures (General Condition 14). Where service providers are providing PATS they will also always be providing PECS and electronic communications services (ECS) and so will have to comply with all the applicable General Conditions for PECS and ECS providers too.

Definition of PATS contained in the Directives

4.67 The definition of PATS contained in the Directives means that providers offering services that fulfil all four parts of the PATS definition automatically qualify as PATS and so have to comply with all regulation applicable to PATS providers. Providers of services that do not meet all four parts of the definition are regulated as providers of PECS or ECS. This has been Ofcom's position to date.

4.68 The difficulty with the PATS definition in relation to new voice services is that if a service provider chooses to offer any access to 999, it is offering PATS and must therefore comply with the other PATS obligations. This includes the obligation to provide *reliable* access to 999 (Condition 3). This therefore has a 'binary effect' in terms of an all or nothing approach to the provision of access to 999. This is not consistent with Ofcom's initial policy aims which favour enabling consumers to make informed decisions rather than requiring providers which offer voice services to provide certain standard features.

4.69 Indeed Ofcom believes that this position has the potential to discourage some new providers from offering access to 999 because it would require them to

comply with all the other regulatory obligations applicable to PATS providers, which may increase their costs. This could also mean that availability of access to 999 is reduced as there could be a disincentive for providers to offer it.

4.70 In relation to whether there is really a disincentive to offer access to 999 arising from the PATS definition, Ofcom has sought initial information from providers offering voice services on the potential costs of complying with the PATS obligations. Ofcom's subsequent analysis suggests that though most of the PATS conditions, such as operator assistance and directory enquiries, can be delivered fairly easily by all voice providers, there are issues affecting the ability of new voice providers to comply with those conditions relating to network integrity and emergency location. In addition, requirements such as providing free access to directory enquiries for visually impaired end users do impose some costs. To balance this, there are benefits to offering PATS, notably number portability (except for players expecting to lose market share), which may be an incentive for providers of primary line replacement services to offer PATS.

4.71 If the network integrity and emergency location issues are resolved, Ofcom's initial thinking is that this would create, on balance, an incentive for providers of primary line replacement services to offer a PATS service, both to compete effectively with existing services and to allow subscribers to port their telephone number. However, for second line services, the balance may be the other way. Whilst the costs of complying with the PATS conditions are in most cases small, together they may discourage some providers of second line services from offering PATS, as the incentives are less clear for these services. Therefore there is a risk that these providers would have an incentive not to offer PATS and hence not offer access to 999.

Question 14: Do you agree with Ofcom's assessment of the costs and incentives for providers offering PATS?

Question 15: Do you agree with Ofcom's understanding of the implications of the definition of PATS contained in the Directives?

An alternative approach

4.72 In its paper of 14 June entitled *Information and consultation paper on the regulatory treatment of Voice over Internet Protocol (VoIP) under the EU regulatory framework*, the Commission sets out the basis on which a service qualifies as PATS (see paragraph 4.3).

4.73 Ofcom has discussed these passages with the Commission and understands that the Commission's thinking is that providers should be allowed to choose whether or not they are providing PATS, even if they offer the four 'core' elements of PATS (including access to emergency organisations).

4.74 The implications of this flexible approach would be dependent on the balance of incentives and costs for providers offering PATS (see above and analysis in Annex 8). Ofcom's initial assessment is that there would, on balance, still be an incentive for providers of primary line services to offer PATS.

- 4.75 Ofcom expects that such an approach would have the advantage of avoiding the binary effect described above by enabling providers to deploy services which offered access to 999 but without being subject to the PATS related conditions, including those related to network integrity for 999 access. This would allow providers that cannot provide the same level of reliable access to 999 as traditional services to offer some (potentially less reliable) access, rather than none at all. This is in line with Ofcom's initial policy views.
- 4.76 However, under the current regulatory framework, the legal basis for such a regulatory approach is not clear. If it were possible, Ofcom would need to introduce measures for providers to be able to make binding decisions about whether they were offering PATS or not, in order for there to be legal certainty. Ofcom has asked the Commission for greater clarity on the legal status of this alternative approach and understands that the Commission will be able to provide further clarification on this matter later this year.

Question 16: Do you agree with Ofcom's understanding of the implications of this alternative approach?

Summary and way forward

- 4.77 Ofcom recognises that a balance needs to be struck between creating the right conditions in which new voice services and new providers can enter the market, and ensuring that consumers are properly informed and protected, whilst ensuring that regulation that does not distort the market. Ofcom's initial top level aims are:
- to help create an environment in which new technologies can be developed successfully in the market, so that consumers can benefit from a wider and more innovative range of services;
 - to ensure that consumers are properly informed and protected in relation to the products they are using; and
 - to limit the extent to which regulation creates distortions in the market
- 4.78 Ofcom is also considering what level of regulation is desirable in policy terms in order to achieve the appropriate balance, as described above. Ofcom favours a light touch approach that relies on consumers to make informed choices and take advantage of a diversity of services, as opposed to preventing providers from offering certain voice services that do not meet specific regulatory requirements. In particular, Ofcom's initial views are:
- it is not desirable for all voice services to be required to offer the same features as traditional telephone services and we should instead enable consumers to make informed decisions
 - it is not desirable to rely on criteria such as the appearance of a service or whether it is used as a second line in order to draw a distinction between those services that are regulated in a similar way as traditional telephone services and those that are not
 - not all voice services should be required to offer access to 999 but decisions about subscribing to such services must be informed
 - because some new service may not be able to offer the same degree of reliability for emergency calls as traditional voice services, it is better that

these services are able to provide less reliable access to 999 rather than preventing them from offering any access at all

- 4.79 However, Ofcom has recognised that in seeking to achieve these policy aims and meet the challenge posed by new voice services, the application of the existing legal framework to new voice services is unclear at present. A strict legal interpretation of the framework does not get Ofcom to where it would like to be in policy terms and the legal status of a more flexible approach as currently being proposed by the Commission, is unclear.
- 4.80 In response to this situation, Ofcom would like to make as much progress as possible in terms of the practical policies it may decide to implement in parallel with the Commission's work on providing further clarification on PATS. Ofcom is therefore proposing three important initiatives which it believes will help meet the challenge posed by new voice services in accordance with the aims and objectives it has identified. In the subsequent chapters Ofcom sets out its initial thinking on:
1. An interim position regarding the application of the regulatory framework to new voice services (Section 5)
 2. A consultation on network integrity requirements and location information for emergency calls (Section 6)
 3. A consultation on the appropriate framework for a consumer information policy (Section 7)

Question 17: Are there policy initiatives in other areas related to new voice services that Ofcom should be considering?

Section 5

Interim PATS policy

Introduction

- 5.1 This section sets out Ofcom's interim position regarding the application of the regulatory framework to new voice services. Ofcom has previously issued guidance in the Questions and Answers published on its web site (this has been removed). It advised providers which fell within the PATS definition (i.e. offered all four core elements, including 999 access) that they should consider how they complied with the General Conditions that applied to PATS services. In addition, Ofcom strongly encouraged non-PATS providers whose services were offered either as substitutes to traditional voice services or could be regarded by the user as such, to provide clear information about what the service did and did not provide. Providers were particularly encouraged to provide clear consumer information where such services did not offer access to 999.
- 5.2 As set out in Section 4, Ofcom is currently seeking further clarification from the Commission on how the regulatory framework should be interpreted. However, Ofcom recognises that in the immediate future it needs to provide clarity to UK market entrants, in particular regarding the basis on which new voice services will or will not be regulated and needs to ensure that UK consumers are adequately protected.
- 5.3 One option available to Ofcom would be to enforce all PATS conditions against providers of voice services that offer all four core elements of the PATS definition, including access to 999 (see Ofcom's previous guidance above). However, as set out in Section 4, this could discourage some new providers from offering access to 999 because doing so would trigger all other obligations applicable to PATS providers. Ofcom's initial thinking, as set out in the policy discussion, is that on balance it is desirable to allow voice providers to offer less reliable access to 999 rather than no access at all. On that basis, Ofcom would therefore in principle favour a more flexible approach that enables providers to choose whether to be PATS, such as that put forward by the Commission (see paragraphs 4.72 – 4.76 above).

Ofcom's interim position

- 5.4 In view of the lack of clarity regarding the legal basis for such a flexible approach, Ofcom is adopting an interim position which will allow new services to enter the market and offer 999 access, without also having to meet all the regulatory requirements associated with PATS. Whilst recognising that it is for the Commission to clarify how the alternative approach, outlined previously in Section 4, should and could be implemented, Ofcom's interim position, until the Commission provides further guidance, is to forbear from enforcing PATS obligations against new services entering the market, even if they offer access to 999.
- 5.5 It is not Ofcom's objective to discriminate in favour of particular technologies or services. The objective of this interim policy is to ensure that any new services

entering the market are not prevented or dissuaded from offering 999 access due to the nature of regulatory requirements. Ofcom would however expect services that are already offering 999 and complying with all the relevant PATS conditions to continue to do so during the interim period.

- 5.6 Ofcom will review this interim position following clarification from the Commission and taking account of the responses to this consultation will publish its final policy in the statement to follow this consultation. Therefore, providers should be aware that Ofcom is at this stage making no commitment to continue this policy beyond this interim period
- 5.7 Importantly, this forbearance is on the condition that providers supply adequate information to consumers about their services. Ofcom will continue to work closely with providers in developing an appropriate consumer information policy for services not offering all the facilities normally required of PATS, in particular if no or less reliable access to 999 is provided (see below). Ofcom will also be looking at the way these services are marketed and sold to test whether adequate consumer information is being provided to continue to justify this forbearance.
- 5.8 Ofcom believes that this interim position minimises, as far as possible, the disincentives for providers to offer access to 999 as it allows them to enter the market with services that offer emergency calls, whilst not requiring them to comply with all the other conditions associated with PATS.
- 5.9 Ofcom also considers that it is important to clarify number portability rights for new services during this interim period. Under the Universal Service Directive, portability is a right for subscribers to PATS services. Therefore, only new voice service providers who provide PATS (and comply with the corresponding obligations) should derive the benefits of portability. Conversely, communications providers who choose not to provide PATS should have neither the obligations nor the benefits which, crucially, includes the ability to attract subscribers by being able to port-in customers. In particular, Ofcom would not expect a communications provider to provide portability to a provider which was providing access to emergency services but was not complying with any PATS obligations. (Annex 9 provides background on the implementation of number portability in the UK).

Question 18: Although Ofcom is not consulting on its interim position, it would welcome your views on its interim policy to forbear from enforcing PATS obligations against new voice services which offer access to 999.

Section 6

Network integrity and emergency call location

Introduction

- 6.1 Both approaches to the regulatory framework set out in Section 4 allow providers a commercial choice whether or not to offer a PATS service and therefore both raise questions about the incentives that providers will have to offer PATS (and hence all the features consumers traditionally expect). However, the analysis in annex 8 identifies network integrity and location information as two requirements that potentially raise issues for new providers hence creating a disincentive to offer PATS.
- 6.2 To address that issue, this section considers the scope and interpretation of network integrity requirements on PATS providers and makes proposals to clarify those requirements for new voice services, including Voice over Broadband services. In particular, it makes a proposal to withdraw the existing Essential Requirements Guidelines. It also considers the appropriate requirements for location information for emergency calls. It takes account of Ofcom's initial policy views discussed in Section 4 that:
- it is not desirable for all voice services to be required to offer the same features as traditional telephone services and we should instead enable consumers to make informed decisions
 - given that some new service may not be able to offer the same degree of reliability for emergency calls as traditional voice services, it is better that these services are able to provide less reliable access to 999 rather than preventing them from offering any access at all
- 6.3 In this section, and the rest of the document, the term 'network integrity' is used to encompass the concepts of both network integrity and network security as referred to in earlier documents (in particular in the Essential Requirements Guidelines – see below). This includes the inherent reliability of the network and resilience to threats, for example natural disaster and malicious acts, and mitigating threats to the normal operation of the network, for example from excessive traffic loads.

Scope of network integrity requirements

- 6.4 General Condition 3, which implements Article 23 of the USD, includes requirements for providers to take all reasonably practicable steps to maintain, to the greatest extent possible, the proper and effective functioning of the PTN provided by the provider, the availability of the PTN and PATS provided by it at fixed locations in cases of *force majeure*, and uninterrupted access to Emergency Organisations as part of any PATS offered at fixed locations.
- 6.5 This condition is only relevant to providers of Public Telephone Networks *at a fixed location* and providers of Publicly Available Telephone Services *at a fixed location*. Therefore, many providers have questioned whether certain types of

services would be considered as not being *at a fixed location* and therefore excluded from the requirements of this condition.

Nomadic services

- 6.6 Ofcom recognises that some VoIP services can be used in a nomadic way, i.e. so that they are accessed from any location with broadband Internet access. In these cases, the user might use a broadband access network, for example a wireless hotspot in another country, over which their VoIP service provider could not have any, even indirect, control.
- 6.7 The Commission implies that such service providers may no longer be providing a service 'at a fixed location' (section 5.1.2) in which case the network integrity requirements would not apply. Ofcom's initial thinking is that consumers should be made aware of this limitation, i.e. that the reliability of the service is only as reliable as the Internet connection they happen to be using at any particular location.
- 6.8 On the other hand, if a service is provided at a contractually agreed location (for example the end user's home or business) then this would appear to be a service provided at a fixed location. Although there might be nothing to prevent a user technically from connecting to the service from another location, Ofcom considers that the network integrity requirements would not be relevant in these other locations and that the end-user would similarly have to be made aware of this. This is consistent with the Commission's thinking as set out in section 5.1.1¹⁵.

Question 19: Is it reasonable to have different network integrity requirements for nomadic services compared to services at a fixed location, and how should consumers be made aware of this difference?

Mobile services

- 6.9 In discussing the network integrity requirements for new voice services, it is also important to compare this to the situation for mobile services. In general, the General Conditions relevant to services provided at a fixed location are also relevant to fully mobile services. The network integrity requirements of General Condition 3 are an exception to this as they are restricted solely to communications providers offering services and networks at fixed locations, and therefore exclude mobile services.
- 6.10 However, penetration of mobile services is very high (85% of households, contain at least one mobile phone¹⁶) and an increasing percentage of UK homes (currently 7%) use a mobile phone to make all their calls and do not have a fixed phone line¹⁷. One could argue that network integrity for mobile services, at least for those users without a fixed telephone line, is just as

¹⁵ The Treatment of VoIP under the EU regulatory framework – an information and consultation document

http://europa.eu.int/information_society/topics/ecom/doc/useful_information/library/commiss_serv_doc/406_14_voip_consult_paper_v2_1.pdf

¹⁶ The Communications Market 2004, Ofcom

http://www.ofcom.org.uk/research/industry_market_research/m_i_index/cm/?a=87101

¹⁷ The Communications Market 2004, Ofcom

http://www.ofcom.org.uk/research/industry_market_research/m_i_index/cm/?a=87101

important as for services provided at a fixed location. On the other hand, Ofcom's research suggests that most consumers expect that mobile phones are less reliable than fixed lines, and lower proportions expect reliable access to emergency services from a mobile than a fixed line phone (76% and 89% respectively).

- 6.11 Ofcom's current thinking is that network integrity is important for mobile services and encourages mobile providers to take all reasonably practicable steps to maintain network integrity, but is not proposing to introduce any new requirements on mobile providers. Although both mobile and some VoIP services might offer a lower level of network integrity than traditional fixed services a key difference between mobile services and some VoIP services may be the current level of consumer awareness. It seems likely that, in general, consumers are currently much more familiar with the characteristics of mobile services than they are with VoIP services. Therefore, it seems likely that the consumer awareness concerns that might be present for new VoIP services would not be relevant for mobile services.

Interpretation of network integrity requirements

- 6.12 Ofcom previously published guidelines on the interpretation of the network security and integrity provisions of condition 20 of the, now abolished, Public Telecommunications Operators' (PTO) Licence. See "Guidelines on the essential requirements for network security and integrity and criteria for restriction of access to the network" (http://www.ofcom.org.uk/static/archive/oftel/publications/ind_guidelines/esre1002.htm) (the Essential Requirements Guidelines). Condition 20 no longer applies, but it has broadly been replaced by General Condition 3. Ofcom's advice to providers has, to date, been that the Essential Requirements Guidelines are also relevant to General Condition 3.
- 6.13 However, many providers have already highlighted that, depending on how these guidelines are interpreted, they might create barriers or impose unreasonable costs for Voice over Broadband providers. In particular, in many cases the guidelines imply that the provider has ownership or direct control over the infrastructure used to provide the service.
- 6.14 At the time the guidelines were developed the expectation was that providers of call origination (even if those calls were resold by an Indirect Access or Carrier Pre Select operator) would normally also be the provider of the access network, i.e. the provider of the access part of the Public Telephone Network over which PATS was being provided. Therefore, the PATS provider would have direct control over the integrity of the access network used. However, VoB services have introduced the possibility that call origination services can be provided independently of the access network provider.
- 6.15 Ofcom also notes that some of the existing guidance may become out of date in the light of next generation networks such as BT's proposed '21st Century Network'. Providing detailed guidance in relation to these new networks is difficult at present, due to the many uncertainties around their design and capabilities.
- 6.16 Therefore, Ofcom is considering whether to withdraw the existing guidelines and instead rely on a case-by-case application of the requirements of General Condition 3 as required. This would comprise an assessment of what it is

reasonably practical for the particular Communications Provider to do. Ofcom would of course expect to treat similar providers in the same way in accordance with its duties to act consistently and in a non-discriminatory manner. It should be noted that, without fettering its discretion, Ofcom's approach is generally to consider whether a particular provider is meeting its obligations under General Condition 3 only if there are significant concerns raised regarding its network integrity (for example following a series of major outages). For avoidance of doubt Ofcom is not intending to undertake any sort of clearance of providers' networks as compliant with General Condition 3.

6.17 Ofcom is considering three possible options in relation to the future of the Essential Requirement Guidelines:

1. Retain the Essential Requirements Guidelines in their current form
2. Re-issue the Essential Requirements Guidelines, incorporating additional guidance in relation to Voice over Broadband and Next Generation Networks
3. Withdraw the Essential Requirements Guidelines, and apply the 'reasonably practical' test set out in General Condition 3

6.18 These options are assessed further in the Regulatory Impact Assessment in Annex 10. Ofcom's current thinking, based on that assessment, is that Option 3 is the preferred option.

Question 20: Do you think that it is better for Ofcom to:

1. *Retain the Essential Requirements Guidelines in their current form;*
2. *Re-issue the Essential Requirements Guidelines, incorporating additional guidance in relation to Voice over Broadband and Next Generation Networks; or*
3. *Withdraw the Essential Requirements Guidelines, and apply the 'reasonably practical' test set out in General Condition 3*

Network integrity issues for new voice services

6.19 There are a number of specific network integrity issues that have been raised by stakeholders in relation to new voice services:

- Providers of PATS that have no direct control over underlying network
- Network providers that have no control over the services being offered using their network.
- Line powering

6.20 Ofcom is consulting on its proposals in relation to these issues. It should be noted that should Ofcom adopt these proposals in any future statement on new voice services, Ofcom would not be able to fetter its discretion in advance and could depart from the approach set out below where necessary. However, Ofcom would explain in that case why it was doing so.

Control of underlying network

6.21 As discussed above, some VoIP services provided at a contractually agreed location would appear to be services provided at a fixed location and therefore some elements of the network integrity requirements in General Condition 3 would apply, including the requirement to take all reasonably practicable steps to provide uninterrupted access to Emergency Organisations. However, in some cases, providers of such services may not have direct control or ownership of the underlying network. This is also recognised by the Commission in section 5.1.1 of their VoIP document¹⁸. Since reliability of the service provided over the network depends on the integrity of the underlying network, this could present problems for such providers in complying with their obligations under General Condition 3.

6.22 Ofcom's current thinking is that for services provided at a fixed location there may be some reasonably practicable measures service providers can take, such as negotiating service level agreements on quality / reliability with the network provider, even if the service provider does not *directly* control the network.

Question 21: Do you think that there are reasonably practical measures that providers at a fixed location can take even if they do not directly control the underlying network?

Control of services being offered

6.23 Ofcom is aware that the application of General Condition 3 is also of concern for network providers that, for example, offer Internet access, over which third party service providers might independently offer PATS. This is because a Public Telephone Network (PTN) is defined as a network over which PATS is provided. Therefore a network could be considered to be a PTN, even if the network provider was not providing PATS and had no relationship with the service provider offering PATS over their network. Under General Condition 3, a PTN provided at a fixed location has certain network integrity requirements, and consequently, providers have expressed concern that they could be subject to these requirements even though they had not intended that their network and Internet access service be used for the purpose of providing PATS.

6.24 In this particular situation, Ofcom's current thinking is that it does not seem reasonable in practice for network providers to independently take steps to ensure network integrity, and that in practical terms it would be up to providers of PATS to take the initiative (which may, as outlined above, include negotiations with the network provider), as it is their action which is causing the network provider to become a PTN provider.

Question 22: What in practice should the roles of the network provider versus the service provider be for network integrity when the network provider has no control over the services offered over their network?

Line powering of terminal equipment

¹⁸ The Treatment of VoIP under the EU regulatory framework – an information and consultation document
http://europa.eu.int/information_society/topics/ecommm/doc/useful_information/library/commiss_serv_doc/406_14_voip_consult_paper_v2_1.pdf

- 6.25 There has traditionally been a regulatory expectation that analogue telephone services and ISDN2 should provide DC feeding (also known as line powering) for terminal equipment. Line powering enables telephones to be used even when there is a power failure at the installation location.
- 6.26 Ofcom's current thinking is that providing line powering is likely to continue to be a reasonably practicable measure for providers of analogue telephone services and ISDN2 services to take. This is because Ofcom understands that this capability is inherent in the technology and standards used to provide these services.
- 6.27 However, Ofcom is also aware that VoB services, for example, cannot normally provide line powering because of the power demands of the terminal equipment and the characteristics of the access technology typically used (for example ADSL). This problem is similar but not identical to the situation already faced by consumers using cordless telephones. If there is a power outage, cordless phones may stop working but the line itself does not stop working, since there is still line powering. The consumer can unplug the cordless phone and plug in an ordinary analogue phone. However, if their primary line service is VoB and there is a power outage, they would not necessarily have this alternative. In addition, widespread use of mobile phones might reduce the dependency on powering for fixed line services, although this does not apply to all users, and mobile services may not always be available.
- 6.28 Ofcom's current thinking is that using current technology it seems unlikely that provision of line powering for services other than traditional analogue telephony and ISDN2 would be reasonably practical. However, Ofcom considers that this is an area where additional consumer information may be necessary to make consumers aware of this difference from traditional services. Consumers would then be able to choose whether to retain a traditional analogue service. This thinking is consistent with the proposal that the Commission has set out in section 5.1.3 of their VoIP document¹⁹.

Question 23: Do you agree that it is likely to be reasonably practical for analogue telephone and ISDN2 services to provide line powering but not other services?

Location information for emergency calls

- 6.29 Condition 4 requires all providers of Public Telephone Networks to ensure, where technically feasible, that caller location information is available to emergency organisations.
- 6.30 Location information is a critical matter for emergency organisations. It enables the call to be routed to the appropriate emergency organisation, helps emergency organisations to reach the caller as soon as possible and is important when the caller is unable to give their address. The issue for some new voice services, for example some VoB services, is that they can be used in a 'nomadic' way (see above) i.e. used from locations other than the installation address.

¹⁹ The Treatment of VoIP under the EU regulatory framework – an information and consultation document

http://europa.eu.int/information_society/topics/ecommm/doc/useful_information/library/commiss_serv_doc/406_14_voip_consult_paper_v2_1.pdf

- 6.31 In order to provide accurate location information for 'nomadic' services, the caller's location would need to be kept up to date as the caller moves around, so that the correct address is passed to the emergency organisation responding to the 999/112 call. One solution might be for providers to make it easy for consumers to update their location details when they are on the move, although this would still mean relying on consumers to proactively update their details. For example, users may do this if they are to be located at a particular location for reasonable time, at a remote office, but it seems less likely that they would for 'casual' use, say when connecting to a Wi-Fi hotspot in a coffee shop.
- 6.32 Ofcom's current thinking is therefore that in practice the provider of PATS will need to have a role in providing location information as they are responsible for the provision of the service, and are in the best position to obtain any necessary information from the consumer. However, Ofcom also recognises in some cases co-operation may also be required with the underlying network provider.
- 6.33 Assuming that the provider is able to obtain accurate and up-to-date location information, there may be a number of technical options for passing this location information from the provider to emergency organisations where a VoIP service is 'mobile', for example utilising the same techniques currently used for calls from mobile phones. However these technical solutions may not be available immediately, and in the early stages of VoB there may be only a very small number of users (usually early adopters) that use their service in a portable way. Ofcom understands that VoB is a new technology and as it develops, there may be many ways for it to support location information and greater resilience.

Question 24: What are your views on the technical feasibility of providing location information for nomadic services, both now and in the future?

- 6.34 Ofcom's initial view is that, as an interim measure, and while such use is relatively rare, providers of nomadic services should make sure consumers are adequately informed of the problems of making emergency calls using their service when they are away from their normal installation address. Note that where a service is provided at a fixed location and would not normally be used in a nomadic way, Ofcom's current thinking is that the use of an alternative technology, i.e. VoIP, should not prevent the provision of adequate location information.
- 6.35 It is also important that the 999 operator and emergency organisations are fully aware that calls from certain numbers may not provide accurate location information. This will enable staff taking emergency calls to pose their questions to the caller accordingly, for example to ask the caller to confirm their location, and to avoid assistance being sent to the wrong location.
- 6.36 However, in emergency situations callers where the caller is unable to speak, not being able to locate the user has serious implications. Therefore, at the same time Ofcom strongly encourages providers to develop the technology and processes that will enable them to support the wider provision of location information, for example by enabling users to update their contact address details whenever they move location or through more sophisticated measures to automatically identify the users location. Ofcom considers that this approach avoids unnecessary barriers being created for new services whilst ensuring that

technology can be developed to provide improved capabilities in the future. Ofcom also considers that this is consistent with the Commission's proposals at section 5.2 and 5.4 of their VoIP document.

Question 25: What approach for emergency location would take account of current technical limitations, whilst ensuring that technical advances bring benefits to emergency organisations in the long run?

- 6.37 The Commission also discusses routing of emergency calls at section 5.3 of their VoIP document. Ofcom believes that automatic routing of emergency calls to the nearest emergency service centre is less of an issue in the UK than in other countries because of our use of a first stage emergency operator to answer all emergency calls. All calls are routed to the first stage emergency operator regardless of the location of the caller. The call is then routed, on the basis of location and other information to the appropriate emergency service centre, for example the correct police or ambulance control room. Therefore, although this approach does not depend on automatic routing to the first stage emergency operator, it does still depend on location information being available as discussed above.
- 6.38 However, Ofcom notes that nomadic users making emergency calls outside the UK could still get routed to a UK emergency operator. This should be rare if consumers are adequately informed about the nature of emergency calls from nomadic services, however Ofcom encourage providers to consider potential solutions to this issue.

Section 7

Protecting consumers

Introduction

7.1 This section looks at what information consumers of voice services may require and how this information could be provided. It takes account of Ofcom's initial policy view discussed in Section 4 that:

- it is not desirable for all voice services to be required to offer the same features as traditional telephone services and we should instead enable consumers to make informed decisions

7.2 This section consults on the appropriate regulatory framework for a consumer information policy. In particular, it asks whether regulation is necessary to enforce its provision or if industry can be left to self-regulate.

The need for consumer information

7.3 New voice services, for example VoB, can be provided using a normal telephone with a broadband telephone adapter attached. This means new services can look and feel like traditional voice services but may not offer the facilities consumers expect to get from traditional (PATS) services, such as high quality access to 999, special measures for end-users with disabilities and directory enquiries. Because VoB services may differ from traditional voice services, they may not meet consumer expectations unless choice is underpinned by an understanding of the services on offer.

7.4 In particular, it is a widely held assumption that all fixed phone lines in the UK provide access to 999 and therefore consumers have an expectation that a phone line will provide them with emergency calls. This view is supported by Ofcom research which shows that currently nine out of ten people automatically expect access to emergency services from their fixed telephone service (see Annex 6).

7.5 Ofcom considers that there is likely to be a period during which consumers will become more informed about new voice services. In this sense, once consumers start using new services, their expectations will change. Mobile usage and behaviour has established that consumers understand that different voice services offer different features and that they are willing to trade-off the facilities offered by traditional services for new benefits. For example poorer availability (i.e. when out of coverage) is traded for greater mobility. However, since it is arguably easier to confuse a fixed phone delivering a new voice service with a traditional PSTN phone than a mobile, the educational timeframe for new voice services might be longer.

7.6 A requirement on new providers to provide consumer information would help ensure consumers were aware of the facilities included and not included in their service. It would also act as a disincentive for existing PATS providers to downgrade to non-PATS if in doing so they had to clearly inform their customers of the change to the service being provided, for example to notify them if certain features or capabilities were being removed.

- 7.7 As an immediate measure, Ofcom has sent a letter to existing providers of new voice services and those planning to enter the market encouraging them to make the nature of their services clear to users. In particular Ofcom has encouraged providers to ensure that consumers are aware if a service does not offer access to 999. Ofcom has asked providers to undertake this as an interim measure on an effectively self-regulatory basis. A copy of the letter is published on Ofcom's web site.

What information needs to be provided?

- 7.8 Ofcom's initial thinking is that any requirement to provide consumer information should apply to all voice services that do not offer the same standard features as traditional services and which, in the absence of any other information consumers are likely to expect to behave in the same way as a traditional telephone service.
- 7.9 Ofcom has considered the types of facilities that are offered by traditional voice services in Section 3 (see Figure 1) and the need for consumer information where a provider is not offering these same standard features (see Section 4 paragraphs 4.57 – 4.59). Ofcom's initial view is that for most of the standard facilities normally expected, for example itemised billing and directory enquiries, it would be sufficient to inform the subscriber at the point of purchase if the service did not offer that facility. This level of information would help consumers make comparisons between products and help them choose the best product to suit their individual needs and budget.
- 7.10 In addition, information at the point of purchase could be provided about any technical differences in the equipment being used. In particular, consumers could be made aware that it will not work during a power failure, unlike other phones, as it needs its own power supply. Consumers could be informed about how emergency calls will be handled if they use the service away from their original installation address. This could include a recommendation not to rely on certain services for emergency calls in this situation.
- 7.11 However, where a service offers no access to 999 or potentially offers less reliable access to 999 than traditional services, Ofcom's initial view is that all potential users of a service, for example colleagues, friends, babysitters and other visitors to the premises, would need to be made aware of this fact at the point of use. This is because these users would not necessarily be aware that the purchaser of the service had decided to install a service that did not offer the same support for emergency calls. These users would then potentially be at risk during an emergency if they were not aware of this limitation. If these users were fully aware of this limitation then they could use an alternative means of calling the emergency services, for example another fixed line or a mobile phone.
- 7.12 This suggests the need for a two stage approach. First, to ensure the purchaser is aware of the nature of the service at the point of purchase, and second to ensure all potential users are aware the service does not provide access to 999 at the point of use.
- 7.13 This two-stage approach received the support of a number of stakeholders at Ofcom's February 2004 meeting (see Annex 4). There are likely to be a range

of possible solutions, the appropriateness of which would be determined by further consultation. For *illustrative* purposes, possible solutions might include:

Stage 1: Information at the point of purchase, for example:

- Information about which facilities are and are not included to be part of terms and conditions, for example by way of a standard 'checklist'
- Publicity material, for example an industry agreed letter sent to new and potential VoB customers explaining how VoB differs from traditional phone services

Stage 2: Information at the point of use, for example:

- Labelling of handsets where access to 999 is not available or less reliable (noting that consumers may choose to buy their equipment from someone other than their service provider)
- A recorded message when 999 is not available

Question 26: Do you agree that consumer information is required where services look and feel like a traditional telephone service but not where services are clearly different (e.g. PC based services)?

Question 27: Do you agree with a two stage approach to consumer information, first to ensure the purchaser is aware of the nature of the service at the point of purchase, and second to ensure all potential users are aware the service does not provide access to 999 at the point of use?

How should consumer information be provided?

7.14 One of Ofcom's key regulatory principles is to seek the least intrusive regulatory mechanisms to achieve its objectives, in this case to protect the interests of citizen-consumers whilst supporting innovation and investment in these services.

7.15 Ofcom has identified and is consulting on 3 potential regulatory approaches for achieving consumer awareness, set out below. The detail of any specific self, co or formal regulatory requirement would be subject to further consultation by Ofcom and a Regulatory Impact Assessment.

Option 1: Self-regulatory guidelines

7.16 A self-regulatory solution could be for industry to develop self-regulatory guidelines or a code of practice which would provide guidance on how providers offering services which consumers are likely to expect to behave in the same way as a traditional telephone service, could make consumers aware of how their service potentially differed from a traditional telephone service. Ofcom would encourage the industry to form a self-regulatory group of relevant stakeholders, including consumer groups, to draft and agree self-regulatory guidelines.

7.17 Self-regulatory guidelines would be the least intrusive solution. Providers themselves are arguably well placed to make decisions about the needs of their consumers.

7.18 A self-regulatory solution would necessarily rely on co-operation by voice providers. This may prove difficult given the diversity of providers of new voice services and the number of players involved, which include existing PSTN providers, Internet Service Providers (ISPs) and new entrants.

Option 2: Co-regulatory guidelines backed up by a new General Condition

7.19 A co-regulatory solution could be for Ofcom, industry and consumer groups together to develop co-regulatory guidelines or a code of practice similar to that set out in Option 1.

7.20 In addition, this could be backed up by a new General Condition. Section 51(1) (a) of the Communications Act 2003 (the 'Act') gives Ofcom the power to set general conditions as it considers appropriate for protecting the interests of end-users of public electronic communications services. The new Condition could involve a requirement that providers of public electronic communication services which consumers are likely to expect to behave in the same way as a traditional telephone service, comply with the guidelines drawn up by the co-regulatory group.

7.21 A co-regulatory solution would introduce an obligation on this group of providers to adopt the guidelines to ensure that the interests of all providers and consumers were met. This approach has clear advantages regarding enforcement, given the progressively more disparate range of services and providers entering the market. Although the creation of a new General Condition means the introduction of new regulation, the detail of any requirements would be contained in the co-regulatory guidelines.

7.22 The creation of a new General Condition is more interventionist than Option 1. If providers were able to adhere to guidelines on the basis of best practice and without the threat of regulatory enforcement, a co-regulatory approach may be regarded as heavy handed.

Option 3: Formal regulation

7.23 A formal approach would be for Ofcom to impose specific consumer information requirements on public electronic communications service providers offering services which consumers are likely to expect to behave in the same way as a traditional telephone service,. Again this could be done by means of a general condition under section 51(1)(a) of the Act.

7.24 This approach would clearly indicate to this group of providers, exactly what they would be required to do to ensure their consumers were informed about the nature of the service they were buying.

7.25 Though any decision on a consumer information requirement would be subject to consultation and the views of stakeholders, a formal regulatory approach has the drawback that Ofcom may not be best placed to decide the most effective measures to achieve adequate consumer awareness.

Initial conclusions

- 7.26 At this point in time, Ofcom is uncertain whether a self-regulatory solution would be appropriate given that there already appear to be some providers of new voice services who, in Ofcom's opinion, could make significant improvements to the clarity of consumer information they provide to consumers, specifically in making it clear that their service does not offer access to 999. Given that full consumer information about what a service does and does not offer might affect the desirability and marketability of a service, Ofcom is currently unsure whether all providers would have the correct incentives under a self-regulatory framework to provide a satisfactory level of consumer information.
- 7.27 At present, Ofcom is initially favouring a co-regulatory approach. However Ofcom is aware that co-regulation is potentially wide reaching in scope and that full consultation would be required in developing the most appropriate solution, if this approach was favoured as a result of the consultation. In particular, guidelines would need to be drafted by a co-regulatory group.
- 7.28 Ofcom has asked industry whether it would be interested in setting up a stakeholder working group to look at consumer issues and best practice. Ofcom would be happy to facilitate the first meeting but stakeholders themselves need to take this forward. The success or otherwise of such a group could provide a indication as to whether Ofcom can realistically expect consumers' interests to be managed on a co- or self- regulatory basis.

Question 28: If consumer information is required to ensure that consumer interests are protected, which of the above frameworks regulatory framework, if any, is appropriate to ensure it is successful?

Section 8

Responding to this consultation

How to respond

Ofcom invites written views and comments on the issues raised in this document, to be made by **5pm on Monday 15 November**.

Ofcom strongly prefers to receive responses as e-mail attachments, in Microsoft Word format, as this helps us to process the responses quickly and efficiently. We would also be grateful if you could assist us by completing a response cover sheet (see Annex 2), among other things to indicate whether or not there are confidentiality issues. The cover sheet can be downloaded from the 'Consultations' section of our website.

Please can you send your response to first justin.moore@ofcom.org.uk

Responses may alternatively be posted or faxed to the address below, marked with the title of the consultation.

Justin Moore
Competition and Markets
Floor 4
Ofcom
Riverside House
2A Southwark Bridge Road
London SE1 9HA

Fax: 020 7783 4109

Note that we do not need a hard copy in addition to an electronic version. Also note that Ofcom will not routinely acknowledge receipt of responses.

It would be helpful if your response could include direct answers to the questions asked in this document, which are listed together at Annex 3. It would also help if you can explain why you hold your views, and how Ofcom's proposals would impact on you.

Further information

If you have any want to discuss the issues and questions raised in this consultation, or need advice on the appropriate form of response, please contact Justin Moore on 020 7783 4167.

Confidentiality

Ofcom thinks it is important for everyone interested in an issue to see the views expressed by consultation respondents. We will therefore usually publish all responses on our website, www.ofcom.org.uk, ideally on receipt (when respondents confirm on their response cover sheer that this is acceptable).

All comments will be treated as non-confidential unless respondents specify that part or all of the response is confidential and should not be disclosed. Please place any confidential parts of a response in a separate annex, so that non-confidential parts may be published along with the respondent's identity.

Ofcom reserves its power to disclose certain confidential information where this is necessary to fulfil its functions, although in practice it would do so only in limited circumstances.

Please also note that copyright and all other intellectual property in responses will be assumed to be assigned to Ofcom unless specifically retained.

Next steps

Following the end of the consultation period, Ofcom intends to publish a statement in early 2005.

Please note that you can register to get automatic notifications of when Ofcom documents are published, at http://www.ofcom.org.uk/static/subscribe/select_list.htm.

Ofcom's consultation processes

Ofcom is keen to make responding to consultations easy, and has published some consultation principles (see Annex 1) which it seeks to follow, including on the length of consultations.

If you have any comments or suggestions on how Ofcom conducts its consultations, please call our consultation helpdesk on 020 7981 3003 or e-mail us at consult@ofcom.org.uk. We would particularly welcome thoughts on how Ofcom could more effectively seek the views of those groups or individuals, such as small businesses or particular types of residential consumers, whose views are less likely to be obtained in a formal consultation.

If you would like to discuss these issues, or Ofcom's consultation processes more generally, you can alternatively contact Philip Rutnam, Partner, Competition and Strategic Resources, who is Ofcom's consultation champion:

Philip Rutnam
Ofcom
Riverside House
2A Southwark Bridge Road
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Tel: 020 7981 3585
Fax: 020 7981 3333

E-mail: philip.rutnam@ofcom.org.uk

Annex 1

Ofcom's consultation principles

Ofcom has published the following seven principles that it will follow for each public written consultation:

Before the consultation

1. Where possible, we will hold informal talks with people and organisations before announcing a big consultation to find out whether we are thinking in the right direction. If we do not have enough time to do this, we will hold an open meeting to explain our proposals shortly after announcing the consultation.

During the consultation

2. We will be clear about who we are consulting, why, on what questions and for how long.
3. We will make the consultation document as short and simple as possible with a summary of no more than two pages. We will try to make it as easy as possible to give us a written response. If the consultation is complicated, we may provide a shortened version for smaller organisations or individuals who would otherwise not be able to spare the time to share their views.
4. We will normally allow ten weeks for responses, other than on dispute resolution.
5. There will be a person within Ofcom who will be in charge of making sure we follow our own guidelines and reach out to the largest number of people and organisations interested in the outcome of our decisions. This individual (who we call the consultation champion) will also be the main person to contact with views on the way we run our consultations.
6. If we are not able to follow one of these principles, we will explain why. This may be because a particular issue is urgent. If we need to reduce the amount of time we have set aside for a consultation, we will let those concerned know beforehand that this is a 'red flag consultation' which needs their urgent attention.

After the consultation

7. We will look at each response carefully and with an open mind. We will give reasons for our decisions and will give an account of how the views of those concerned helped shape those decisions.

Annex 2

Consultation response cover sheet

1. In the interests of transparency, we will publish all consultation responses in full on our website, www.ofcom.org.uk, unless a respondent specifies that all or part of their response is confidential. We will also refer to the contents of a response when explaining our decision, unless we are asked not to.
2. We have produced a cover sheet for responses (see below) and would be very grateful if you could send one with your response. This will speed up our processing of responses, and help to maintain confidentiality by allowing you to state very clearly what you don't want to be published. We will keep your completed cover sheets confidential.
3. The quality of consultation can be enhanced by publishing responses before the consultation period closes. In particular, this can help those individuals and organisations with limited resources or familiarity with the issues to respond in a more informed way. Therefore Ofcom would encourage respondents to confirm on the response cover sheet that Ofcom can publish their responses upon receipt.
4. We strongly prefer to receive responses in the form of a Microsoft Word attachment to an email. Our website therefore includes an electronic copy of this cover sheet, which you can download from the 'Consultations' section of our website.
5. Please put any confidential parts of your response in a separate annex to your response, so that they are clearly identified. This can include information such as your personal background and experience. If you want your name, contact details, or job title to remain confidential, please provide them in your cover sheet only so that we don't have to edit your response.

Cover sheet for response to an Ofcom consultation

BASIC DETAILS

Consultation title:

To (Ofcom contact):

Name of respondent:

Representing (self or organisation/s):

Address (if not received by email):

CONFIDENTIALITY

What do you want Ofcom to keep confidential?

Nothing

Name/contact details/
job title

Whole response

Organisation

Part of the response

If there is no separate annex, which parts?

If you want part of your response, your name or your organisation to be confidential, can Ofcom still publish a reference to the contents of your response (including, for any confidential parts, a general summary that does not disclose the specific information or enable you to be identified)?

Yes

No

DECLARATION

I confirm that the correspondence supplied with this cover sheet is a formal consultation response. It can be published in full on Ofcom's website, unless otherwise specified on this cover sheet, and all intellectual property rights in the response vest with Ofcom. If I have sent my response by email, Ofcom can disregard any standard email text about not disclosing email contents and attachments.

Ofcom can publish my response: on receipt once the consultation ends

Name

Signed (if hard copy)

Annex 3

Consultation questions

Section 3

Question 1: What types of new voice services do you envisage becoming available in the future and what characteristics will they have that distinguish them from traditional voice services?

Section 4

Question 2: What are the main policy challenges raised by the introduction of new voice services for consumer protection and regulation?

Question 3: Do you agree with the initial top level aims identified by Ofcom?

Question 4: Are there other aims and criteria that Ofcom should consider?

Question 5: Are there other key policy questions that Ofcom should be considering?

Question 6: Do you agree with Ofcom's initial view that it is not necessary for all voice services to provide the same standard features as traditional telephone services, and that we should instead focus on enabling consumers to make informed decisions?

Question 7: Do you agree with Ofcom's initial view that it is not desirable to draw a distinction between the regulation of services that look like traditional services and those that do not?

Question 8: Do you agree with Ofcom's initial view that a distinction should not be drawn between the regulation of 'second line' services and 'primary' services?

Question 9: Do you think that a threshold should be set at which new voice services should be required offer the same features as traditional voice services? If so, how should the threshold be set?

Question 10: Do you agree that most providers would want to offer at least a basic form of access to 999?

Question 11: Do you agree with Ofcom's initial view that consumers sufficiently value having access to 999 in order for them to wish to retain at least one means of 'high quality' (very reliable) access to 999 at home?

Question 12: Do you agree with Ofcom's initial view that not all voice services should be required to offer access to 999 but that decisions about subscribing to and using such services must be properly informed?

Question 13: Do you agree with Ofcom's initial view that given some new services may not be able to offer the same degree of reliability for emergency calls as traditional voice services, it is better that these services are able to provide less reliable access to 999 rather than preventing them from offering any access at all?

Question 14: Do you agree with Ofcom's assessment of the costs and incentives for providers offering PATS?

Question 15: Do you agree with Ofcom's understanding of the implications of the definition of PATS contained in the Directives?

Question 16: Do you agree with Ofcom's understanding of the implications of this alternative approach?

Question 17: Are there policy initiatives in other areas related to new voice services that Ofcom should be considering?

Section 5

Question 18: Although Ofcom is not consulting on its interim position, it would welcome your views on its interim policy to forbear from enforcing PATS obligations against new voice services which offer access to 999.

Section 6

Question 19: Is it reasonable to have different network integrity requirements for nomadic services compared to services at a fixed location, and how should consumers be made aware of this difference?

Question 20: Do you think that it is better for Ofcom to:

1. Retain the Essential Requirements Guidelines in their current form;
2. Re-issue the Essential Requirements Guidelines, incorporating additional guidance in relation to Voice over Broadband and Next Generation Networks; or
3. Withdraw the Essential Requirements Guidelines, and apply the 'reasonably practical' test set out in General Condition 3

Question 21: Do you think that there are reasonably practical measures that providers at a fixed location can take even if they do not directly control the underlying network?

Question 22: What in practice should the roles of the network provider versus the service provider be for network integrity when the network provider has no control over the services offered over their network?

Question 23: Do you agree that it is likely to be reasonably practical for analogue telephone and ISDN2 services to provide line powering but not other services?

Question 24: What are your views on the technical feasibility of providing location information for nomadic services, both now and in the future?

Question 25: What approach for emergency location would take account of current technical limitations, whilst ensuring that technical advances bring benefits to emergency organisations in the long run?

Section 7

Question 26: Do you agree that consumer information is required where services look and feel like a traditional telephone service but not where services are clearly different (e.g. PC based services)?

Question 27: Do you agree with a two stage approach to consumer information, first to ensure the purchaser is aware of the nature of the service at the point of purchase, and second to ensure all potential users are aware the service does not provide access to 999 at the point of use?

Question 28: If consumer information is required to ensure that consumer interests are protected, which of the above frameworks regulatory framework, if any, is appropriate to ensure it is successful?

Annex 4

Pre-consultation activity

February 2004	Voice over Broadband discussion group meeting: http://www.ofcom.org.uk/ind_groups/ind_groups/telecommunications/vob/vob_disc/dg_250204/?a=87101
April 2004	Letter to VoB providers encouraging them to make the nature of their services clear to users: http://www.ofcom.org.uk/ind_groups/ind_groups/telecommunications/vob/vob_letter.pdf
May 2004	Letter to consumer groups asking for initial feedback to top level questions
March – August 2004	Meetings with: Representatives from the emergency organisations RNID European Commission Internet Service Providers Association (ISPA) Internet Telephony Service Providers Association (ITSPA) UK Competitive Telecommunications Association (UKCTA) Intellect 5 individual companies

Annex 5

General Conditions

1. Providers who offer PATS are subject to more obligations than those who just provide electronic communication services (ECSs) and public electronic communication services (PECSs). Some general conditions only apply to PATS providers who are providing the service at a fixed location. This distinction is derived from the European Directives.

2. More information on the General Conditions can be found at http://www.ofcom.org.uk/licensing_numbering/tele_gen_auth/g_a_regime/

3. The additional General Conditions which apply to PATS are:

General Condition 3: Proper and effective functioning of the network (including taking all reasonably practicable steps to maintain uninterrupted access to Emergency Organisations) (PTN and/or PATS provider at a fixed location only)

General Condition 4: Emergency call numbers (no charge for calls to emergency organisations)

General Condition 5: Emergency planning (providers need to make arrangements for the provision or rapid restoration of services in disasters)

General Condition 8: Operator assistance and Directory Enquires (these should be provided) Directories to be supplied on request.

General Condition 10: Transparency and publication of information (providers should publish clear and up to date prices, tariffs, terms and conditions)

General Condition 11: Metering and Billing (certain providers need to apply for and obtain approval of their metering and billing system)

General Condition 12: Itemised bills (a basic level of itemised billing should be provided)

General Condition 13: Non-payment of bills (providers should be proportionate and give due warning when taking measures following non-payment of a bill) (PATS provider at a fixed location only)

General Condition 15: Special measures for end-users with disabilities (including free directory information and text relay services)

General Condition 16: Provision of additional facilities (including tone dialling and Calling Line Identification facilities)

General Condition 18: Number Portability (providers need to meet Subscribers' requests to retain their telephone numbers on request)

Annex 6

Market research

Introduction

1. New voice services are entering the market which enable consumers to make calls using a telephone handset, but which may deliver calls over the Internet using a broadband connection rather than the traditional telephone network. This means that these new telephone services have the potential to look and feel like traditional telephone services but may not offer the same facilities – in particular they may not offer reliable access to 999 emergency services.
2. The results of this research provided evidence to inform Ofcom's policy on new voice services. The survey was conducted for Ofcom by NOP World amongst 883 GB adults aged 15+ between 20-25 May '04, reflecting the GB profile of sex, age, and working status.
3. Given that new voice services such as Voice over Broadband services are only just entering the market, and consumers' knowledge and understanding will be limited, this research explored residential consumers' expectations of service levels via fixed and mobile telephony in the home, in particular in relation to provision of access to emergency services,.
4. This is important as although new services may have the appearance of a fixed landline phone the service quality for some of these services may be more similar to mobile phones (for example where availability is affected by signal reception and battery charge). In addition new voice services may initially be taken up as second line telephone services – again similar to most consumers' current mobile usage. Therefore expectations of fixed and mobile telephony are a useful guide to what consumers might expect from voice services provided over the Internet.

Summary findings

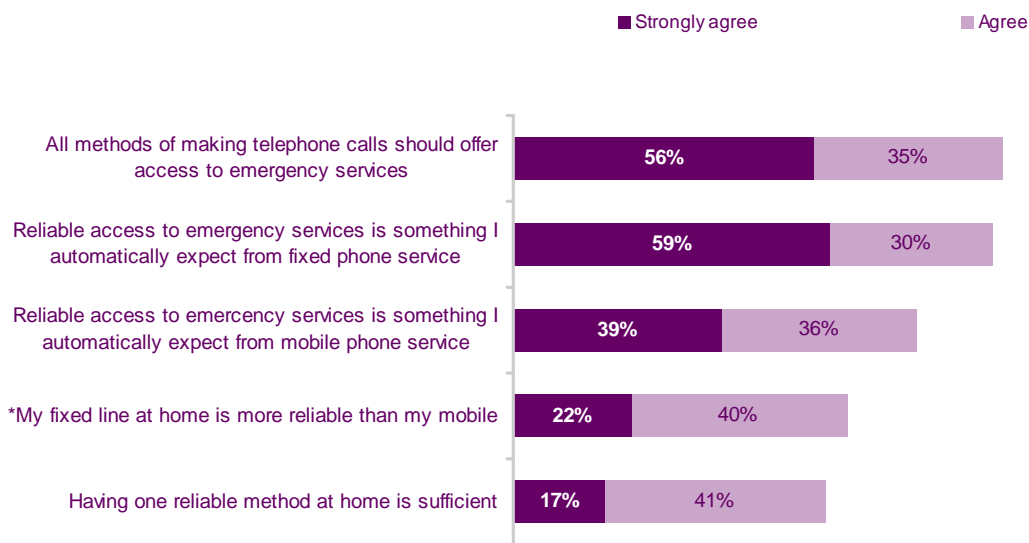
5. The majority of consumers regardless of their preferred method of telephony *expect* reliable access to emergency services from both fixed and mobile phones however, some also consider one reliable method of access at home sufficient.
6. Perceptions on whether reliable access to emergency services is required from each method of telephony, unsurprisingly corresponds with the reliance consumers place on each telephony service used. Two thirds of consumers who rely solely on their fixed line cited this as being the most important device to access emergency services from whilst at home – compared to 28% on average. Amongst consumers that rely solely on their mobile - a third (34%) cited this as being the most important device compared to a 6% average.
7. Most consumers accept that mobile phones are less reliable than fixed lines, and as such lower proportions expect reliable access to emergency services from a mobile than a fixed line phone (76% and 89% respectively). However, 9% of consumers continue to use only a mobile in their home.

Main findings

What’s consumer opinion on telephony access to emergency services?

8. The majority (91%) of adults automatically expect to be able to access emergency services from all methods of telephony. Having said this, almost three in five (58%) consumers considered it sufficient to have one reliable method of accessing these services at home, as illustrated in figure 3a. Figures were broadly similar amongst those with both a fixed line and a mobile at home however, adults relying solely on a mobile phone were more likely to disagree (26%) than those with only a fixed line (15%). This may be linked to consumer awareness of the potential unreliability of mobile phones in comparison to fixed lines – supported by the opinion that fixed lines are generally more reliable than mobiles (cited by 62% of consumers with both methods of telephony at home).
9. Reliable access to emergency services via fixed lines is automatically expected by 89% of adults (91% amongst those with a fixed line at home). Three-quarters of adults expect this from mobile phones – rising to 89% amongst consumers that rely solely on their mobile. While the actual voice services delivered by VoB will travel over the Internet, the look and feel will be that of a fixed line service therefore it is likely that initially consumers may expect the same level of service as they do from their fixed line phone.

Figure 3a: Attitudes towards accessing emergency services



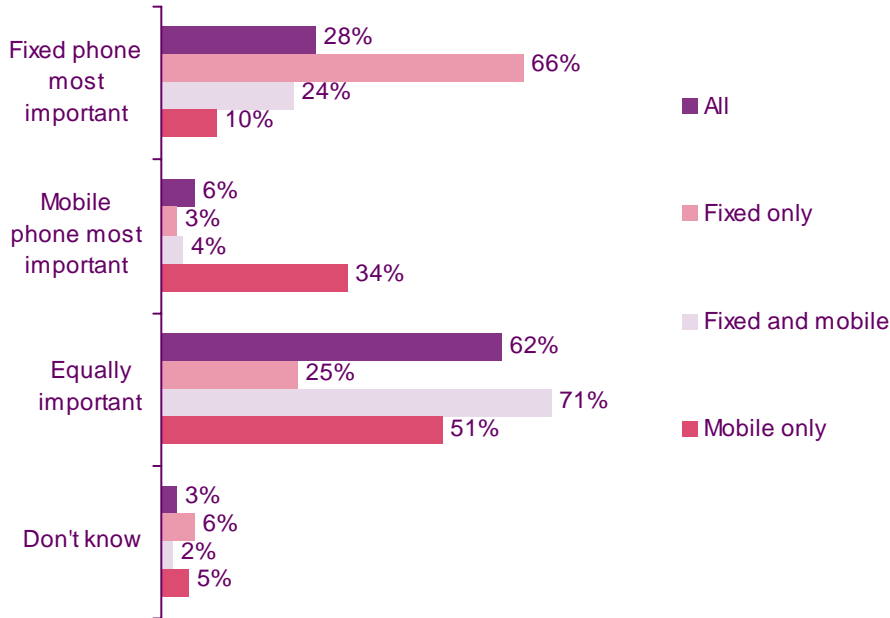
Base: Adults aged 15+, (Base: 883)

*** Based on adults with a fixed line at home fixed who also personally use a mobile**

10. Figure 3b illustrates that perception on whether reliable access to emergency services is required from each method of telephony at home, unsurprisingly corresponds with the reliance consumers place on each service used. This is consistent with the higher expectations of mobile services amongst those that rely solely on this method of telephony mentioned above. Just over six in ten

(62%) consumers think it is equally important to have reliable access to emergency services at home from both fixed and mobile phones. Unsurprisingly, those with a fixed line only were more likely to state that it was more important from a fixed line (66%), and vice-versa for mobile only users (34%).

Figure 3b: Most important device in home for reliable access to emergency services



Base: GB adults aged 15+, May '04 (Base: 883)

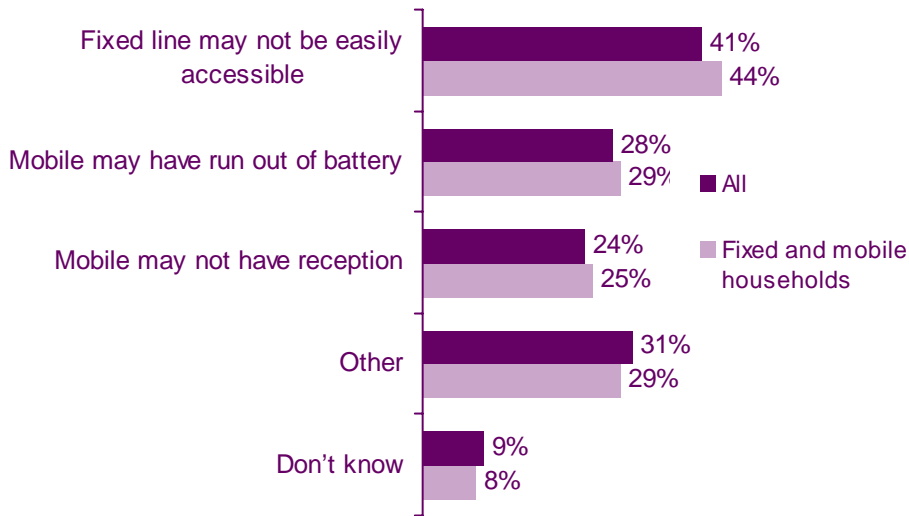
- Results amongst consumers with broadband Internet access were broadly similar to those for homes with both fixed and mobile telephony. Given their current use of broadband this group of consumers are potentially most likely to be the early adopters of VoB.

What is driving consumers' opinion?

Reliable access is equally important from both fixed and mobile phones (71%)

- The following section explores comparisons of service expectations between fixed and mobile telephony, and as such focuses on the opinions of consumers with both methods in the home. Amongst these consumers the main reason for considering it equally important to have reliable access to emergency services from both was for resilience; for example in situations where the fixed phone could not be reached, or the mobile phone had no battery or reception, illustrated in figure 3c.

Figure 3c: Reasons reliable access to emergency services is equally important from both fixed and mobile phones while at home

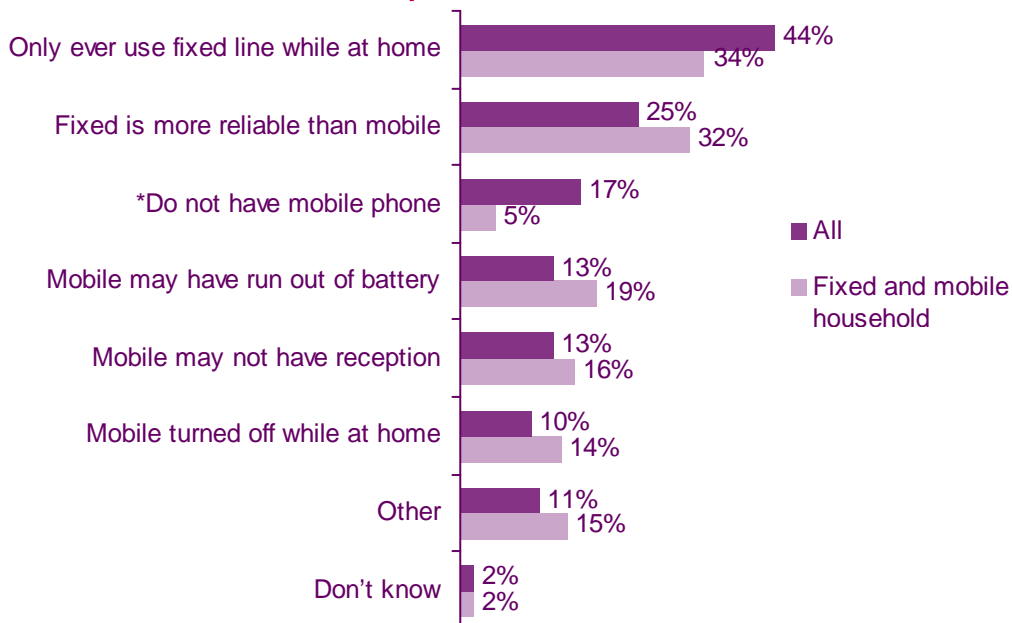


Base: All saying equally important to have access from both fixed and mobiles at home, May '04, (Base: 542)

Reliable access is more important from fixed phones (24%)

13. A third (34%) of the group that considered it more important to have reliable access to emergency services from fixed phones, claimed they only ever use their fixed line while at home. In addition just over one in ten (14%) said their mobile was turned off therefore for these consumers reliable access to emergency services from their mobile while at home is unlikely to be an issue.
14. In total a third cited the importance of reliable access from their fixed line because they acknowledged the unreliability of mobile phones. This group cited the higher reliability of their fixed line in comparison (32%), running out of battery power (19%), or reception issues (16%), shown in figure 3d.

Figure 3d: Reasons reliable access to emergency services is more important from fixed rather than mobile phone while at home



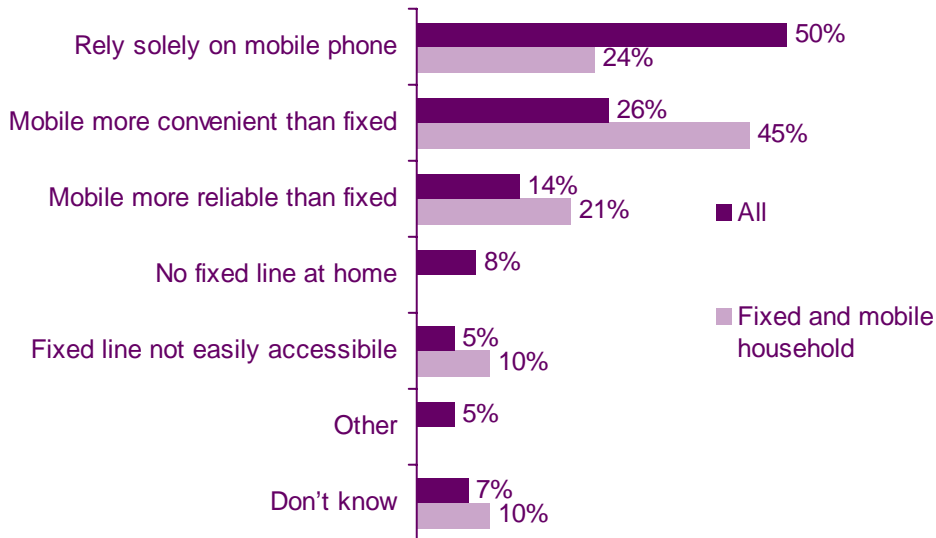
Base: All saying more important to have access from fixed phones than mobile, May '04, (Base: 260)

***The respondents stated there was at least one mobile phone within their household.**

Reliable access is more important from mobile phones (4%)

15. Illustrated below are the main reasons 4% of consumers with both a fixed line and a mobile considered their mobile the most important means of reliable access to emergency services while at home. This appears to be related to their greater reliance on mobile telephony either considering their mobile to be more convenient (45%) or more reliable than their fixed line (21%), or relying solely on their mobile phone (24%). Half as many (10%) stated that the fixed line was not easily accessible, therefore reliable access from the mobile was most important, as illustrated in figure 3e.

Figure 3e: Reasons reliable access to emergency services is more important from mobile rather than fixed while at home



Base: All saying more important to have access from mobile phones than fixed, May '04 (Base: 54)*

Questions

ASK ALL

Q1. Do you have a fixed/land-line phone in your household?

ASK ALL

Q2. How many mobile phones IN TOTAL do you and members of your household use?

ASK ALL

Q3. Do you personally have a mobile phone?

ASK ALL

Q4. Do you or anyone in your household have access to the Internet/ worldwide web at home (via any device. e.g. PC, mobile phone etc)?

ASK ALL

Q5. Which of these methods does your household use to connect to the Internet at home? MULTICODE

- Ordinary phone line –dial up access
- ISDN Line – mid speed access, allows you to make voice calls at the same time as using the Internet
- Broadband – always on, high speed access, allows you to make voice calls at the same time as using the Internet
- High speed access via another method

ASK ALL

Q6. Generally, phone calls can be made from fixed and mobile phones. Thinking about telephone access to emergency services (eg calls to 999 or 112), would you say it is more important to have reliable access to emergency services from a mobile phone at home, from a fixed line at home, or are they equally important? – Why is this? UNPROMPTED

ASK ALL

Q7. Could you tell me whether you agree or disagree with the following statements?

- All methods of making telephone calls should offer access to emergency services?
- My fixed line at home is more reliable than my mobile phone
- Reliable access to emergency services is something I automatically expect

from a fixed phone service

- Reliable access to emergency services is something I automatically expect from a mobile service
- Having one reliable method of accessing emergency services at home is sufficient

Annex 7

Potential market failures in provision of high quality 999 access

1. In general, consumers make decisions about whether to purchase a good (or service) based on the benefit they receive from it and the cost to the consumer of purchasing it. If the benefits are greater than the costs, the consumer will purchase the good and the benefits that society receives (the benefit to that consumer) will be greater than the costs imposed on society in producing the good (the cost to the consumer) and therefore the consumer's choice will also be the socially optimal choice. As long as the consumer is well informed (and so understands the costs and benefits that they face) the free market working without external regulation will deliver the socially optimal choice.
2. There are some goods or services however for which the market would not provide the optimal provision – these are known as 'public goods' and have two defining characteristics. First, they are 'non-rivalrous' because consumption by one individual does not affect the supply available for other individuals. Second, they are 'non-excludable' since if the public good is provided then it is difficult to exclude individuals from consuming it. A typical example of a public good is national defence.
3. In addition, there are goods for which the benefits gained by the consumer of the good or service are different from those gained by society (because consumption by one person impacts on the benefits received by others) – in many cases these externalities are negative for example pollution (where consumption by one person imposes a cost on other members of society), however there can be positive externalities where society gains more from the consumer purchasing the good than the consumer does themselves. In these cases, the free-market will under-provide the good (even with full consumer information) and regulation or other external action may be required to provide the socially optimal level of output
4. High quality access to 999 is likely to be an example of a service with some public good characteristics (because some consumers could decide to use a cheaper low quality emergency access service and 'free ride' on those consumers and providers who incurred the additional costs of providing a service with high quality access) and positive externalities (because, for example many people call to report emergencies that do not directly affect their possessions or individual well-being – such as reporting a fire in a neighbour's house). Therefore the benefits to society from people having high quality emergency access are likely to be higher than the benefits to individuals. The externalities associated with emergency access on a second line are likely to be lower than those for the primary line – since there is already an opportunity for the household to call the emergency services if required.
5. If the costs of providing high quality emergency access are lower than most or all consumers' value of that access, then consumers will prefer services that offer emergency access to those that do not and the market will provide

widespread high quality emergency access without the need for market intervention.

6. In practice there may be variation in the value that consumers place on access to high quality emergency access. If there are a significant number of customers whose valuation of high quality emergency access is lower than the costs of that access, then some market growth may come from services that do not provide high quality emergency access and there may be switching of existing consumers from high to lower quality emergency access provision.
7. Some of this growth may be in second line services with relatively low externalities (where the primary line in the household has high quality emergency access). However, if informed consumers do not value the provision of high quality emergency access even to their primary line as greater than the additional cost of providing it, then there could be switching of primary line services with high quality 999 access to services with lower quality 999 access (with lower positive externalities). This would lead to lower provision of access to emergency services than is desirable for society as a whole and would provide a rationale for regulation to correct the market failure.

Annex 8

Incentives and costs of providing PATS

Introduction

1. Where providers are able to make a choice about whether to offer a PATS service or a non-PATS PECS, it is useful to understand what incentives providers have to offer PATS. This section qualitatively analyses the benefits and costs to providers of offering PATS, and how the balance between these is likely to affect providers incentives to offer PATS.
2. This qualitative analysis is based on feedback from providers using VoIP and traditional technology. These providers were unable to provide quantitative costs at this stage, and Ofcom welcomes any further information that providers are able to supply. However Ofcom considers the qualitative analysis is sufficient to draw some broad initial conclusions.

Incentives for providers to offer PATS

Ability to market and sell services as equivalent to traditional telephone services

3. Currently, nearly all consumers are provided with traditional telephone services which offer them all of the benefits outlined in Section 3 (see Figure 1), for example free access to Emergency Organisations, features for disabled users and directory enquiries. Given this, Section 7 highlighted the expectations that consumers have of these services and the need for them to be informed if they choose to take a service that offers less than the full set of normal (PATS) features. In particular, Section 7 proposed that consumer information should be provided for all voice services that do not offer the same standard features as traditional services and which, in the absence of any other information, consumers are likely to expect to behave in the same way as a traditional telephone service.
4. In marketing their services to potential customers, it seems likely that many, if not most or all, providers would want to be able to advertise their service as equivalent to the customer's existing telephone service. If the measures proposed by Section 7 were successfully implemented then consumers would be aware if the service being offered to them were not equivalent to their existing service (assuming their existing service is a traditional telephone service). Therefore, Ofcom's initial thinking is that consumer information requirements are likely to be a strong incentive for providers to offer PATS if they are aiming to market their service as equivalent to the consumer's existing service.
5. However, Ofcom recognises that some providers will not necessarily want to market their services as direct replacements for traditional telephone services, particularly if the service is supplemental to consumers' existing services, i.e. a

second line services. Therefore it appears this incentive is likely to be stronger for primary line services than for second line services.

Number Portability

6. Subscribers to PATS have the right to retain their telephone number when they change their supplier, if both their existing and new supplier are providing them with PATS. This right is known as 'number portability'. Number portability has pro-competitive benefits as it reduces the barriers for new entrants in persuading consumers to switch their services, i.e. consumers do not have to change their telephone number. See Annex 9 for an explanation of the UK implementation of number portability.
7. Ofcom has already had feedback from some providers as part of its consultation on numbering for new voice services, indicating that number portability is very important where a replacement service to a customer's existing telephone service is being offered. However, Ofcom would expect that number portability is more important for new entrants or expanding providers, than for established providers with large market shares. Large established providers, who are gaining as many customers as they are losing, may be neutral to number portability. For other large providers, who are expecting their market share to decline, the ability of their subscribers to take their number to an alternative provider could be perceived as a disadvantage.
8. For second lines it appears that number portability would not be as relevant to providers. This is because the number used for the second line would normally be a separate number, in addition to the customer's existing telephone number. Even so, the right to port numbers would still appear to be of consumer benefit even for second lines, by reducing the barriers for consumers switching the supplier of their second line.
9. In summary, Ofcom's initial thinking is that number portability is a strong incentive for new or expanding providers to offer PATS for primary line services but not for second line services. For large established providers, the effect may be more neutral or negative if the provider is trying to minimise market share erosion.

Costs to providers of complying with PATS obligations

10. This subsection considers the regulatory conditions that apply to PATS providers and examines whether they introduce any unreasonable or disproportionate barriers to providers offering a PATS services, particularly in the case of new services that utilise VoIP such as VoB services. It also considers conditions that apply to providers of Public Telephone Networks (PTNs), i.e. networks used to provide PATS.
11. Ofcom has already sought information from providers on the costs of complying with these conditions. Providers have as yet only been able to provide some qualitative rather than quantitative costs. At this stage Ofcom considers that the qualitative analysis below is sufficient to identify what the main costs or barriers for providers are likely to be, however it would welcome further qualitative and quantitative information from providers as part of their responses, particularly if there are concerns about a specific condition.

General Condition 3: Proper and effective functioning of the network (fixed location only)

12. Many providers have already highlighted that this condition may create barriers or impose unreasonable costs for Voice over Broadband providers. The implications of this are considered in Section 6. That section outlines Ofcom's proposal to apply this condition on a case by case basis and withdraw the Essential Requirements Guidelines. It also consults on a number of issues specifically raised by new voice services. Together Ofcom believes that these proposals would mean that condition 3 is not likely to impose unreasonable costs on providers.

General Condition 4: Emergency call numbers

13. Condition 4 requires all providers of PATS to ensure that any end user of such services can access emergency organisations free of charge by dialling 999 and 112. In addition, it requires all providers of public telephone networks (not just PATS) to ensure, where technically feasible, that caller location information is available to emergency organisations.
14. Providers have indicated to Ofcom that VoB providers would be able to provide emergency access at no cost to end-users. However, there are likely to be difficulties associated with the provision of Caller Location Information. The issue for some VoB services is that they can be 'nomadic', i.e. used from locations other than the installation address. Section 6 set out Ofcom's proposals in this area which in the short term it hopes should allow PATS services to enter the market, whilst encouraging the development of appropriate long term solutions.

General Condition 5: Emergency planning

15. This condition requires providers who operate a PTN and/or provide PATS to agree arrangements with emergency organisations and other authorities to ensure the provision or restoration of networks and services in the event of a disaster, if requested to by those organisations. In practice, these authorities are primarily concerned with large providers who control the underlying infrastructure, and therefore this condition would have no impact on many providers, particularly new entrants with little infrastructure.

General Condition 8: Operator assistance, directories and Directory Enquires

16. Condition 8 requires providers of PATS to ensure that any end users of such services can access operator services assistance and directory enquiries facilities.
17. Ofcom's initial thinking is that that provision of operator assistance, directories and Directory Enquiries will not be a significant issue for VoB providers as access to these services could be provided in the same manner as for traditional voice services. Operator assistance can be provided on a wholesale basis, so the VoB provider would not need to provide an operator assistance service itself.
18. In relation to directory enquiries, there are many different 118 directory enquiry services now available. VoB providers would not need to provide a directory

enquiry service themselves; they could simply pass calls on to at least one directory enquiry service provider (although Ofcom encourages VoB providers to make all directory enquiry services available in the interests of their customers). The costs of access to a DQ service are normally recovered through usage charges paid by the customer.

19. In relation to directories, the provider only has to provide this if requested to by the subscriber and is allowed to charge a reasonable fee for doing so. In addition, BT will provide copies of local directories, for a fee, to third party providers. Therefore, this requirement would not seem to present a significant problem for providers.

General Condition 10: Transparency and publication of information

20. This condition ensures that providers publish clear and up to date information on services and relevant prices. Ofcom's initial thinking is that this should not present a significant cost to any provider, including VoB providers.

General Condition 11: Metering and Billing

21. This condition requires providers of PATS who in addition have a relevant turnover exceeding £40 million to get their metering and billing system approved. The minimum turnover trigger for this condition means that it would not create a barrier for smaller VoB market entrants. Otherwise, for larger VoB providers, it seems likely that the costs would not necessarily be any more onerous than for traditional services, in fact, it is possible the costs could be less if VoB services made heavy use of flat rate tariffs.

General Condition 12: Itemised bills

22. This requires providers to provide, on request, and either at no extra charge or for a reasonable fee, a basic level of itemised billing. Ofcom believes, based on initial feedback from providers, that this is likely to represent good commercial practice for communication companies and therefore does not represent a disproportionate burden on providers.

General Condition 13: Non-payment of bills

23. This condition aims to protect end users by requiring providers of PATS at fixed locations to adhere to basic principles, including proportionality and giving due warning, prior to disconnecting any such services or imposing any penalty due to non-payment of a telephone bill. Ofcom believes, based on initial feedback from providers, that this is likely to represent good commercial practice for communication companies and therefore this requirement should not represent a disproportionate burden on providers.

General Condition 15: Special measures for end-users with disabilities

24. This condition aims to protect disabled people by ensuring equivalent access for them to PATS. In particular, it requires PATS providers to:
 - consult the Ofcom Consumer Panel from time to time to ensure the requirements and interests of disabled end-users are fully taken into account in the development and provision of its services;

- ensure that visually impaired end users can access free of charge Directory Information and Director Enquiries facilities in a way that meets their needs; and
 - ensure that end-users who because of their disabilities need to make or receive calls in text format, are able to access a relay service.
25. As discussed in relation to General Condition 8, provision of directory enquiries should not raise specific issues for VoB providers. However, provision of free access to directory enquiries for visually impaired end users does impose some costs on providers.
26. Textphones translate typed text to audio tones in real time that are then transmitted over the telephone network and translated back into visible text by a textphone connected to the other end. They are used primarily by deaf users, but also by speech-impaired users and anyone else who is unable to use a standard telephone to communicate. A Text Relay Service allows textphone users to call phone users (and vice versa) via a third party operator who is used to translate text to speech (and vice versa).
27. In relation to access to relay services, Ofcom's initial understanding is that not all VoIP services will necessarily be able to support existing text phones and relay services. However, Ofcom notes that there are likely to be alternative means of providing these services over IP networks and encourages providers to consider how best to support them (the RNID providers useful advice in this area, see <http://www.ictrnid.org.uk/>). Ofcom is also aware that new technology could offer other ways of meeting the needs of end users with disabilities and will be considering this wider question further in Ofcom's Universal Service Review scheduled to take place later this year.

General Condition 16 – Provision of additional facilities

28. This condition requires PTN providers to, subject to technical feasibility and economic viability, provide tone dialling or dual-tone multi frequency operation, such that the network supports the use of DTMF tones for end-to-end signalling throughout the network. Ofcom expects that providers would have a commercial incentive to support this in order to allow consumers to use the many interactive services (e.g. telephone banking) that rely on DTMF tones.
29. This condition also requires the provision of calling line identification. Ofcom is not currently aware of any particular issues for providers in complying with this condition (the issues related to location information are considered elsewhere).

Summary

30. The analysis above suggests that most of the PATS conditions can be delivered fairly easily by all voice providers, including VoB providers, such as operator assistance, directories enquiries, publication of service and price information, and itemised bills. The primary issues appear to relate to network integrity and emergency location, and Ofcom's proposals in these areas are set out in Section 6. Assuming that these issues are resolved, there appears that some providers, of primary line replacement services, would have reasonably strong incentives to offer PATS in order to compete effectively with existing services and to allow subscribers to port their telephone number. However,

whilst the costs of complying with the PATS conditions are in most cases small, without other incentives, providers of second lines have an incentive not to.

Annex 9

Number portability

1. This section provides some background on the implementation of number portability in the UK and explains how this relates the definition of PATS and providers obligations.
2. Subscribers of publicly available telephone services have a right to retain their telephone number when switching between one provider of publicly available telephone services and another. This is known as number portability and is provided for by virtue of Article 30 of the Universal Service Directive (2002/22/EC). Its purpose is to foster consumer choice and effective competition by enabling subscribers to switch between providers without the costs and inconvenience of changing telephone number.
3. The Director General of Telecommunications consulted on a general condition to implement the number portability provisions of the aforementioned Directive before its coming into effect in July 2003. In drafting the number portability condition (General Condition 18), the Director proposed to change the definition of publicly available telephone services because of his concern that the definition taken from the Directive was not clear in terms of ensuring the provision of number portability in respect of non-geographic numbers; a clear intention of the Directive. This was highlighted in the statement on the general conditions released at the time. In every other regard, the Director intended that the general condition should reflect Article 30 including the overarching policy that the rights afforded to subscribers should be tied to publicly available telephone services, that is to say, a service which is 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.
4. Ofcom recognises that whilst the Director rightly sought to provide legal certainty and clarity over the provision of non-geographic number portability, he did not intend to create a second, broader, category or tier of publicly available telephone services. The definition of PATS in General Condition 18 does not refer to access to emergency services. However, it was not intended to create the result that a provider that did not offer access to emergency services would be able to take advantage of portability under General Condition 18, while at the same time having no obligations under the other general conditions which apply to PATS providers, such as the obligation to provide a directory enquiry facility.
5. Ofcom considers that portability should be a benefit for any provider choosing to provide PATS and to comply with the obligations which correspond with providing such services. Conversely, communications providers who choose not to do so should neither have the obligations nor the benefits which, crucially, includes the ability to attract subscribers by being able to port-in customers.
6. Ofcom will seek to take steps to resolve this tension over the number portability definition of PATS and the provision of non-geographic number portability but in the interim wishes to make clear that its policy is that number portability must be considered as any other PATS condition such as General Condition 8

(operator assistance, directories and directory enquiry facilities). Ofcom would not expect a communications provider to provide portability to a provider which was providing access to emergency services but, under Ofcom's interim policy of regulatory forbearance, was not complying with any PATS obligations. Ofcom has already been in contact with the European Commission in respect of these matters.

Annex 10

Essential Requirements Guidelines: Regulatory impact assessment

Introduction

1. The analysis presented in this section represents a Regulatory Impact Assessment (RIA), as defined by section 7 of the Act. We will consider all comments before deciding whether to implement our proposals.
2. RIAs 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 means that generally we have to carry out RIAs where our proposals would be likely to have a significant effect on businesses or the general public, or when there is a major change in Ofcom's activities. In accordance with section 7 of the Act, in producing the RIA in this document Ofcom has had regard to such general guidance as it considers appropriate, including related Cabinet Office guidance.

Summary of the issue

3. Oftel previously published guidelines on the interpretation of the network security and integrity provisions of condition 20 of the Public Telecommunications Operators' (PTO) Licence. See "Guidelines on the essential requirements for network security and integrity and criteria for restriction of access to the network" (http://www.ofcom.org.uk/static/archive/oftel/publications/ind_guidelines/esre1002.htm, the Essential Requirements Guidelines).
4. Condition 20 no longer applies, but it has broadly been replaced by General Condition 3. General Condition 3, which implements Article 23 of the USD, includes requirements for providers to take all reasonably practicable steps to maintain, to the greatest extent possible, the availability of PATS in cases of force majeure and uninterrupted access to Emergency Organisations. Ofcom's advice to providers has, to date, been that the Essential Requirements Guidelines are also relevant to General Condition 3.
5. However, many providers have highlighted that depending on how these guidelines are interpreted they might create barriers or impose unreasonable costs for Voice over Broadband providers. Additionally, Ofcom notes that a proportion of the Essential Requirements Guidelines will be rendered obsolete by next generation networks such as BT's proposed '21st Century Network'
6. Ofcom has considered a range of options to address this issue:
 1. Retain the Essential Requirements Guidelines in their current form
 2. Re-issue the Essential Requirements Guidelines, incorporating additional guidance in relation to Voice over Broadband and, where possible, Next Generation Networks

3. Withdraw the Essential Requirements Guidelines, and apply the 'reasonably practical' test set out General Condition 3 on a case-by-case basis. Additionally, provide some guidance on specific network integrity issues that have been raised by stakeholders in relation to new voice services in the final statement that will follow this consultation

Option 1

7. The first option considered by Ofcom is simply to retain the Essential Requirements Guidelines in their current form. However, much of the specific technical guidance provided in the Essential Requirements Guidelines relates to traditional PSTN network architectures. This guidance is unlikely to be relevant to Voice over Broadband and Next Generation Networks.
8. Many providers have already highlighted that depending on how these guidelines are interpreted they might create barriers or impose unreasonable costs for Voice over Broadband providers. In particular, in many cases the guidelines imply that the provider has ownership or direct control over the access infrastructure used to provide the service. However, VoB services have introduced the possibility that call origination services can be provided independently of the network provider.
9. Ofcom also notes that a significant proportion of the detailed technical guidance provided by the Essential Requirements Guidelines will be rendered obsolete by Next Generation Networks such as BT's proposed '21st Century Network'.
10. Ofcom's initial view is therefore that it would not be appropriate to retain the Essential Requirements Guidelines in their current form.

Option 2

11. The second option considered by Ofcom is whether to re-issue the Essential Requirements Guidelines, incorporating additional guidance in relation to Voice over Broadband and Next Generation Networks
12. The principal advantage of this option is that it would provide a high degree of transparency as to how Ofcom expects to interpret General Condition 3, minimising the uncertainty faced by communications providers.
13. However, although Ofcom recognises the benefits of greater transparency, it believes that these benefits may be difficult to deliver in practice. The deployment of Voice over Broadband services in the UK has only just started, whilst Next Generation Networks are still in the planning stage. Because of this, it may be difficult to establish a consensus as to 'best practice' in relation to these types of networks. There is a danger that any specific guidance issued by Ofcom would over-specify how networks should be designed, leaving network operators and service providers with insufficient flexibility to exploit advances in technology.
14. It would be possible to re-issue the Essential Requirements Guidelines retaining only more general guidance on network design. This might specify that 'best practice' should be followed wherever practical in relation to such

matters as resilient routing and the availability of backup power supplies. However, Ofcom's current view is that such general guidelines in relation to best practice may add little value to the 'reasonably practical' test set out in General Condition 3.

Option 3

15. The third option considered by Ofcom is to withdraw the Essential Requirements Guidelines, and apply the 'reasonably practical' test set out in General Condition 3 on a case-by-case basis.
16. This option provides the maximum flexibility for network operators to exploit technological advances in network design, and for service providers to adopt novel means of delivering services.
17. The primary concern with this option might be that Ofcom would no longer be able adequately to discharge its responsibilities in relation to consumer protection. However, Ofcom is currently of the view that application of the 'reasonably practical' test set out General Condition 3 on a case-by-case basis would allow it to take any action that might reasonably be required in relation to consumer protection
18. Ofcom is aware of a number of specific network integrity issues that have been raised by stakeholders in relation to new voice services. If Ofcom withdraws the Essential Requirements Guidelines, then Ofcom believes it would be appropriate to provide some guidance on these issues in the Statement that will follow this consultation document. The issues are discussed in more detail in Chapter 7 of this consultation document, and include:
 - Providers of PATS that have no direct control over underlying network
 - Network providers that have no control over the services being offered using their network.
 - Line powering

Initial conclusion

19. Ofcom is initially of the view that retaining the Essential Requirements Guidelines in their current form (Option 1) would be inappropriate, since much of the specific guidance currently provided is not appropriate for Voice over Broadband and Next Generation Networks.
20. In addition, Ofcom is initially of the view that it would not currently be appropriate to re-issue a revised version of the Essential Requirements Guidelines (Option 2), since any specific guidance that Ofcom provided might over-specify how networks should be designed, leaving network operators and service providers with insufficient flexibility to exploit advances in technology.
21. Ofcom's initial view is that withdrawing the Essential Requirements Guidelines, and applying the 'reasonably practical' test set out General Condition 3 on a case-by-case basis, provides the best balance between Ofcom's responsibilities to promote innovation and competition, and Ofcom's

responsibility to protect consumers. Ofcom therefore proposes to adopt this option.