

Frequently asked questions on the regulation of Voice over Internet Protocol services

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Introduction

Voice over Internet Protocol (VoIP) technology is increasingly being adopted for the provision of voice telecommunications services. Services currently using VoIP technology include PC based Internet telephony applications and corporate multi-media services.

This note is intended to provide general and informal guidance on Oftel's current views on the regulation of services that employ VoIP technology. This guidance is set out in response to a number of questions that Oftel is frequently asked in this area, including:

- Does Oftel regulate Voice over IP (VoIP) services?
- Is the commercial provision of VoIP services permitted in the UK?
- Is a licence required in order to offer VoIP services?
- Does Oftel impose quality of service requirements on VoIP services and interconnection?

The answers to these questions are given in the context of the current regulatory and licensing framework and do not deal with the status of these services under the new EU telecommunications framework.

The views expressed in this note may change at any time and should not be taken as providing you with legal advice on how any of the matters raised in this note affects (and applies to) your particular organisation and service. Please seek independent legal advice if you do need such advice. For the avoidance of doubt, as the Director General of Telecommunications (Director) cannot legally fetter his discretion in advance of a decision, he retains the ability to depart from any guidance contained in this note where the circumstances warrant it.

Other technologies

Oftel has a technology-neutral approach to regulation. This means that Oftel neither imposes, nor discriminates in favour of, the use of a particular type of technology. Consequently, although this note focuses on the use of voice over IP technology, this guidance may also be relevant to other related technologies, for example voice over ATM.

Frequently asked questions

1 What does Ofcom consider to be VoIP?

1.1 Terminology in this area is often used inconsistently. To avoid confusion, Ofcom uses the following terms:

1.2 Voice over Internet Protocol (VoIP) is the generic name for the transport of voice traffic using Internet Protocol (IP) technology. The VoIP traffic can be carried on a private managed network or the public Internet or a combination of both. Some organisations use the term 'IP telephony' interchangeably with 'VoIP'.

1.3 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.

2 Does Ofcom regulate VoIP services?

2.1 Under the Telecommunications Act 1984 ('the Act'), anyone running a telecommunication system in the UK is subject to the licensing regime set out in the Act (see Question 6 below). The Department of Trade and Industry, not Ofcom, grants such licences. However, Ofcom ensures compliance with those licences.

2.2 Section 4 of the Act defines what a 'telecommunication system' is in very broad terms:

"[It is] a system for the conveyance, through the agency of electric, magnetic, electro-magnetic...of speech, music and other sounds; visual images, signals serving for the impartation...of any matter otherwise than in the form of sounds or visual images..."

The provision of VoIP is caught by this definition.

2.3 Ofcom has a technology-neutral approach to the regulation of VoIP. Therefore, regulation that is relevant to public voice telephony services and interconnection is likely to be relevant irrespective of the technology, for example circuit switched networks or IP networks, used to deliver those services.

2.4 However, not all VoIP services are considered to be public voice telephony. For example, many Internet telephony services are not used by customers as a substitute for their existing telephone service. See Question 4.

3 Is the commercial provision of VoIP services permitted in the UK?

3.1 Yes, the provision of telecommunications services using any technology is permitted. However, the provider must make itself aware of the applicable licence requirements as certain conditions will apply where the provision of the VoIP service is considered to be public voice telephony. If it is considered to be

providing public voice telephony, the provider of the VoIP service may have to apply to the DTI for a licence. See Question 6.

4 When does Oftel consider a service to be public voice telephony?

4.1 Oftel considers that a VoIP service should be regulated as public voice telephony if any of the following apply:

- the service is marketed as a substitute for traditional Public Switched Telecommunication Network (PSTN) voice services; or
- the service appears to the customer to be a substitute for public voice telephony; or
- the service provides the customer's sole means of access to the traditional circuit switched PSTN.

4.2 However, where a VoIP service is clearly being offered as an adjunct to a traditional circuit switched PSTN voice telephony service or as a secondary service, it is likely not to be considered as public voice telephony.

5 What regulations apply to public voice telephony?

5.1 Where a service is considered to be public voice telephony, the requirements set out in the Revised Voice Telephony Directive [1] apply. For example, these include requirements to provide access to emergency services (999/112), directory enquiries and operator services. Also see Question 10 regarding 'lifeline' requirements.

6 Is a licence required in order to offer VoIP services?

6.1 As explained in Question 2 above, anyone running a telecommunications system in the UK is subject to the licensing regime set out in the Act. In broad terms, this means all telecommunication networks of all types in the UK need to be run under a licence. If an operator is selling services to the public but not constructing its own extensive infrastructure, it is likely to operate under the Telecommunications Services Class Licence (TSL), for which no individual application is required. However, the operator concerned is responsible for deciding what exactly it will be doing and whether such a licence will be sufficient.

6.2 If the operator intends to build an extensive network of its own, then it may need to apply to the Department of Trade and Industry for an individual licence. The type of individual licence required will depend on precisely what services the operator will be providing. Further information on licensing can be found at http://www.dti.gov.uk/cii/regulatory/telecomms/telecomms_licences.shtml.

7 Is VoIP interconnection between operators permitted?

7.1 VoIP interconnection operates within the framework set by the

Interconnection Directive(ICD) [2] and its implementing Regulations (the Telecommunication (Interconnection) Regulations 1997 [3]).

7.2 Therefore, operators with significant market power (as defined in the ICD) have to offer interconnect arrangements. Operators without significant market power are free to negotiate interconnect arrangements between themselves. It is not necessary for these interconnections to use existing circuit switched PSTN technology, although see Question 8 regarding technical standards.

7.3 Further information on how the Director resolves an interconnection dispute can be found at http://www.oftel.gov.uk/publications/ind_guidelines/disp1101.htm

8 Does OfTel set the technical standards for VoIP services and interconnection?

8.1 OfTel has powers to impose technical interface standards for telecommunications services and interconnection, but has always preferred a co-regulatory approach with the industry. OfTel promotes the Network Interoperability Consultative Committee (NICC) to be not only a technical advisory committee to the Director, but to produce consensus standards and specifications for interconnection and related interoperability issues.

9 Does OfTel impose quality of service requirements on VoIP services and interconnection?

9.1 OfTel has powers to impose standards for Quality of Service (QoS). However in competitive markets, we recognise that there may be a demand for cheaper services that offer lower quality. If VoIP based services and interconnection give rise to new requirements where a shared standard or specification would assist in the promotion of interoperability, then this should be raised with the NICC.

9.2 Note that a NICC task group is currently studying the implications of VoIP technology on end-to-end quality in the public telephone network.

9.3 When VoIP services are provided using traditional E.164 telephone numbers, callers may not be aware, in advance, that they are calling a customer connected to a VoIP service. When providing a VoIP service that uses E.164 numbers, operators should take account of the quality of service that a caller would normally expect when calling an E.164 telephone number.

10 Do the 'lifeline' requirements apply to VoIP services?

10.1 If a VoIP service meets any of the three requirements set out in 4.1 above, then yes, the lifeline requirements apply. This is one of OfTel's primary concerns in this area, ie that operators should not assume that VoIP services are excluded from the obligations to provide access to the emergency services, operator assistance and directory enquiries.

10.2 Oftel has published guidance on the requirements for 'lifeline' telephony in the Annex to its consultation, Guidelines on the essential requirements for network security and integrity, and on criteria for restriction of access to the network [4].

11 Does Oftel allocate telephone numbers for VoIP services?

11.1 VoIP services may use any number range in the national numbering plan. However, in order that networks can easily recognise calls which might benefit from being conveyed wholly or partly over IP networks, Oftel may need to grant specific number ranges for this purpose. Oftel will be publishing a consultation document on the use of the 05 number range in April 2002 which touches on this issue.

References

[1] Directive 98/10/EC of the European Parliament and of The Council of 26 February 1998 on the application of open network provision (ONP) to voice telephony and on universal service for telecommunications in a competitive environment – OJ L 101, 1.4.1999 p.24.

[2] Directive 97/33/EC of the European Parliament and of The Council of 30 March 1997 on interconnection in telecommunications with regard to insuring universal service and interoperability through application of the principles of open network provision (ONP) – OJ L 199, 26.07.1997 p.32.

[3] The Telecommunications (Interconnection) Regulations 1997, S.I. 1997 No. 2931.

[4] Consultation on guidelines on the essential requirements for network security and integrity, and on criteria for restriction of access to the network - Oftel consultation, 10 December 2001, http://www.oftel.gov.uk/publications/ind_guidelines/esre1201.htm.

Glossary

ATM: Asynchronous Transfer Mode

IP: Internet Protocol

NICC: Network Interoperability Consultative Committee

PC: Personal Computer

PSTN: Public Switched Telephone Network

PTO: Public Telecommunications Operator

QoS: Quality of Service

RVTD: Revised Voice Telephony Directive

TSL: Telecommunications Services Class Licence

VoIP: Voice over Internet Protocol
