

End-to-end connectivity

Guidance issued by the Director General of
Telecommunications

27 May 2003

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Summary

A new regulatory regime

S1 A new regulatory framework for electronic communications networks and services will enter into force in the UK on 25 July 2003. The basis for the new framework is five new EU Communications Directives that are designed to create harmonised regulation across Europe and aimed at reducing entry barriers and fostering prospects for effective competition to the benefit of consumers. Four of these Directives are to be implemented in the UK through a new Communications Act.

S2 The new Directives include requirements on National Regulatory Authorities, such as Oftel, to carry out reviews of competition in communications markets, to ensure that regulation remains appropriate in the light of changing market conditions.

End to end connectivity

S3 Full connectivity of telecoms networks is important for consumers and competition. Customers expect to be able to make calls to any other retail customer irrespective of the network to which the called party is connected. Competing telecommunications providers need to be able to interconnect with other networks in order to provide a full service to their customers.

S4 In two of the market reviews – *Review of fixed geographic call termination markets* published on 17 March 2003 and *Wholesale calls terminated on individual mobile networks* published on 15 May 2003 – the Director proposed obligations on certain providers to deliver calls from other networks to their customers, that is to offer call termination services. In addition, the reviews explained that Oftel would ensure that BT is required to deliver to other providers calls made by its customers to customers on other networks, that is to purchase call termination services.

S5 This guidance document explains that if, as proposed in *Notification of proposals for the designation of universal service providers and setting of conditions* published on 12 March 2003, BT and Kingston remain the Universal Service providers in the UK, they will be required to meet all reasonable requests from their customers to provide access to publicly available telephone services. In meeting this requirement Oftel would expect BT and Kingston to ensure that their customers can call other customers and services irrespective of terminating network, that is to provide end-to-end connectivity.

S6 Oftel believes it has powers to set ex ante conditions requiring BT and Kingston to provide end-to-end connectivity on the basis of the proposals that BT and Kingston have significant market power in local and national calls, set out in the *Review of Fixed Narrowband Retail Markets* published on 17 March 2003. However Oftel does not consider such conditions would be a proportionate

regulatory response at this time, given the proposed USO obligations on BT and Kingston.

S7 Oftel believes that other providers will have a commercial incentive to provide end-to-end connectivity to their customers that should be sufficiently strong to ensure that they seek to purchase call termination and that no additional ex ante regulation is required. However, Oftel would examine the case for proposing ex ante conditions on other providers should they not provide end-to-end connectivity and this had a materially adverse effect on competition or materially detrimental impact on consumers.

S8 Comments on this guidance should be sent to Alan Pridmore, Oftel, 50 Ludgate Hill, London EC4M 7JJ. E-mail: alan.pridmore@oftel.gov.uk Tel: 020-7634 8910 by **1 July 2003**.

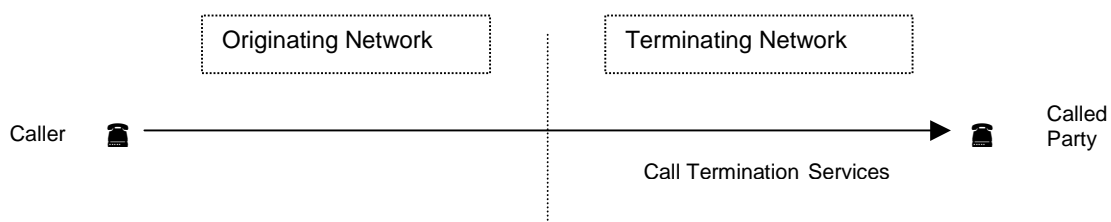
Chapter 1

Introduction

1.1 End-to-end connectivity describes the enabling of retail customers to make calls to other customers or services on the same network or other providers' networks.

1.2 To be able to deliver an end-to-end call across networks, interconnect agreements have to be established between providers. The provider originating the call will have to have sought and purchased a 'call termination' service from the network provider of the called party. The provider delivering the final stage of the call to the called party will have to have offered and agreed to provide the call termination service to the originating network provider.

Fig1 A straightforward call across networks



1.3 In carrying out market reviews and in setting universal service conditions for the new regulatory framework for electronic communications networks and services that will enter into force in the UK on 25 July 2003, Oftel has had to consider how end-to-end connectivity is to be ensured in the new regime. This document sets out Oftel's policy on this issue and, specifically, explains how Oftel's approach will ensure that providers:

- request and purchase call termination services from other providers; and
- offer call termination services when requested.

1.4 The document is provided as additional guidance to the following consultations:

- *Review of fixed geographic call termination markets* published on 17 March 2003;
 - *Notification of proposals for the designation of universal service providers and setting of conditions* published on 12 March 2003; and
 - *Wholesale calls terminated on individual mobile networks* published on 15 May 2003.
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A new regulatory regime

1.5 The basis for the new regulatory framework is five new EU Communications Directives as follows:

- the Framework Directive – Directive 2002/21/EC on a common regulatory framework for electronic communications networks and services;
- the Access Directive – Directive 2002/19/EC on access to, and interconnection of, electronic communications networks and associated facilities;
- the Authorisation Directive – Directive 2002/20/EC on the authorisation of electronic communications networks and services;
- the Universal Service Directive – Directive 2002/22/EC on universal service and users' rights relating to electronic communications networks and services, and;
- the Privacy Directive – Directive 2002/58/EC concerning the processing of personal data and the protection of privacy in the electronic communications sector.

1.6 The new regulatory framework is designed to create harmonised regulation across Europe and is aimed at reducing entry barriers and fostering prospects for effective competition to the benefit of consumers.

1.7 The Framework Directive provides the overall structure for the new regulatory regime and sets out fundamental rules and objectives, which read across all the new directives. Article 8 of the Framework Directive sets out three key policy objectives which have been taken into account as relevant in the preparation of this consultation document, namely promotion of competition, development of the internal market and the promotion of the interests of the citizens of the European Union. The Authorisation Directive establishes a new system whereby any person will be generally authorised to provide electronic communications services and/or networks without prior approval. The general authorisation replaces the existing licensing regime. The Universal Service Directive defines a basic set of services that must be provided to end-users. The Access and Interconnection Directive sets out the terms on which providers may access each others' networks and services with a view to providing publicly available electronic communications services. These four Directives must be implemented in the UK and in other EU Member States on 25 July 2003. They will be referred to as the 'new Directives' in this document. The fifth Directive on Privacy establishes users' rights with regard to the privacy of their communications. This Directive was adopted slightly later than the other four new Directives and has an implementation date of 31 October 2003.

Implementation

1.8 In the UK, it is intended to implement the new Directives through a new Communications Act. The Communications Bill was introduced into the House of

Commons on 19 November 2002. The latest version of the Communications Bill is that which was presented to the House of Lords on 5 March 2003. It can be found at www.parliament.the-stationery-office.co.uk. References to the Communications Bill in this document are references to that version of the Bill. The Bill may continue to be subject to change as it proceeds through Parliament.

1.9 It is intended that the Communications Bill will receive royal assent by 25 July 2003. However, in the event that the Communications Bill does not receive royal assent by 25 July 2003, the government has acknowledged that implementation will need to occur by Statutory Instruments made under the European Communities Act 1972 for an interim period until the Bill enters into force. Further, if the Communications Bill does receive royal assent by 25 July 2003, it is expected that Ofcom will not be ready by the summer to assume all of its duties foreseen by the Communications Bill. The Communications Bill makes specific provision to enable Ofcom's functions to be carried out by the Director General of Telecommunications (the 'Director') or the Secretary of State for a transitional period. For these reasons, this document refers to the Director rather than Ofcom.

Market Reviews

1.10 The new Directives include the requirement that National Regulatory Authorities such as Oftel should carry out reviews of competition in communications markets, to ensure that regulation remains proportionate in the light of changing market conditions. Oftel is currently conducting a series of market reviews under the Regulations. These are published on Oftel's website at http://www.oftel.gov.uk/publications/eu_directives/index.htm.

1.11 More detailed requirements and guidance concerning the conduct of market reviews are provided in the Directives, the Communications Bill, the Electronic Communications (Market Analysis) Regulations 2003 and in additional documents issued by the European Commission and Oftel. Oftel is taking the utmost account of the European Commission's recommendation on markets adopted on 11 February 2003 documents and its guidelines on market analysis and the assessment of Significant Market Power (SMP).

1.12 In the market reviews *Review of fixed geographic call termination markets* published on 17 March 2003 and *Wholesale calls terminated on individual mobile networks* published on 15 May 2003, Oftel considered the need to ensure that providers deliver calls from other networks to their customers, that is to offer call termination services. In addition, the reviews explained that Oftel would issue guidance setting out the basis on which BT and Kingston are required to deliver to other providers calls made by their customers to customers on other networks, that is to purchase call termination services.

Chapter 2

Ensuring End-to-End Connectivity

2.1 End-to-end connectivity across networks is important for consumers and competition. Customers expect to be able to speak with, or send data to, any other retail customer irrespective of the network to which the called party is connected. Competing telecommunications providers need to be able to interconnect with other networks in order to provide a full service to their customers

2.2 The extent to which regulatory intervention is required to ensure end to end connectivity – with originating operators requesting, and terminating operators providing call termination, on fair and reasonable terms – depends in part on the extent of the respective power the interconnecting providers have in the market. Distortion can arise either if the provider of call termination services has Significant Market Power (SMP) or if the provider originating has countervailing buyer power as a result of SMP.

2.3 For example, in the consultative document *Review of fixed geographic call termination markets* Oftel proposed that all fixed network providers have SMP in the provision of their own network fixed geographic call termination services since only they can terminate calls on their networks. Such SMP could give providers power to set unreasonable termination rates. However this could be offset if the originating operator had countervailing buyer power. For instance, a small network with only a few subscribers that is competing with a network provider with SMP in access and calls markets will need to be able to receive calls from, and terminate calls, on the latter's network. This is because the small network is unlikely to be able to attract customers to its network if it cannot provide a service that would enable its customers to make calls to, and receive calls from, the large number of subscribers remaining with the SMP provider. By contrast, there may be little cost to the provider with SMP if its subscribers are unable to call the relatively small number of customers of the small competing network. The provider with buyer power could exploit this asymmetry in order to exclude rivals by refusing to allow other network providers to interconnect with it or by not purchasing interconnect from other providers. In these circumstances regulation to address countervailing power may be appropriate. However, this regulatory intervention may in turn recreate the ability of the terminating provider to set unreasonable rates.

2.4 This chapter explains the measures Oftel is proposing to ensure that:

- providers originating calls purchase call termination services ;
 - providers terminating calls offer call termination services; and
 - call termination services are offered on reasonable terms.
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Ensuring providers purchase call termination: BT and Kingston

2.5 BT and Kingston are currently the Universal Service providers. The Universal Service Obligation (USO) is a fundamental part of consumer protection in communications regulation – ensuring that basic telephony services are made available to everybody upon reasonable request and at an affordable price.

2.6 Oftel's view is that ensuring customers of the USO providers can call other customers and services, irrespective of network, is an important part of the basic consumer protection that USO affords. Without connectivity across networks, customers could only speak with, or send data to, customers connected to the same network. This would reduce consumer choice and welfare.

2.7 There are also economic benefits arising from the network externality on which the USO is based. As the number of people accessible by phone increases, so does the value to all customers of being on the network – because they can contact a larger number of people. This means that there is an economic basis for ensuring that telephone services offering full connectivity are provided to people if those services might not otherwise be supplied by the market.

2.8 The basic principles of USO continue with the new regime. Article 4(1) of the Universal Service Directive requires Member States to ensure that all reasonable requests for connection at a fixed location to the public telephone network and for access to publicly available telephone services at a fixed location are met by at least one undertaking.

2.9 Oftel published a consultation document *Notification of proposals for the designation of universal service providers and setting of conditions* on 12 March 2003. In this document Oftel proposed that the Universal Service providers be required to provide Telephony Services at the reasonable request of any end-user. 'Telephony Services' are defined as either or both single or narrowband connection at a fixed location to the Public Telephone Network and access to Publicly Available Telephone Services (PATS). Oftel is proposing that PATS is defined as a 'service available to the public for originating and receiving national and international telephone calls and access to Emergency Organisations through a Telephone Number or Numbers, and in addition may, where relevant, include one or more of the following services: the provision of operator assistance services, Directory Enquiry Facilities, Directories, provision of Public Pay Telephones, provision of service under special terms, provision of specific facilities for End-Users with disabilities or with special social needs and/or the provision of non-geographic services'.

2.10 Oftel proposes to continue the existing policy that USO providers, in meeting reasonable requests to provide access to PATS, must ensure that their customers can call other customers and services irrespective of terminating network, that is they must provide end-to-end connectivity.

2.11 In the USO consultation document, Oftel is proposing to designate BT and Kingston as Universal Service providers, although Kingston's designation will only apply in respect of activities in the Hull area.

Ex post regulation

2.12 In terms of the competition issues, Oftel has taken into account existing ex-post regulation. In this regard, the provisions of Chapter II of the Competition Act prohibit conduct that amounts to an abuse of a dominant position in a market. In *The Application of the Competition Act in the Telecommunications Sector* published in January 2000, Oftel explained that abuse could include entry barriers created by exclusionary behaviour on the part of an undertaking that is already operating in the market. Refusal by a dominant provider to purchase call termination could be viewed as creating an entry barrier.

Ensuring providers purchase call termination: other providers

2.13 Oftel expects that other providers will have a commercial incentive to provide end-to-end connectivity to their customers that will be sufficiently strong to ensure that they seek to purchase call termination. Small operators are unlikely to be in a position to afford to deny their customers the ability to make calls to other networks because this ability is a basic expectation of all customers. Any operator which does not offer end-to-end connectivity would therefore be likely to lose customers.

2.14 It may be that such operators do not wish to interconnect directly or that it is impracticable for them to do so but, in such cases, they can connect indirectly through BT or other network providers.

Ensuring providers terminate calls

2.15 As explained above, in the *Review of fixed geographic call termination markets* Oftel proposed that all fixed providers of Public Electronic Communications Networks (PECNs) have SMP in the provision of their own network fixed geographic call termination services. Oftel recognises that the obligation on BT and Kingston to purchase call termination from other network providers could, in the absence of regulation, result in those other network providers exploiting their SMP and charging unreasonable prices when they sell termination services to BT and Kingston.

2.16 For this reason, Oftel has proposed that all fixed PECNs should be required to provide call termination to all other PECNs on fair and reasonable terms if in receipt of a reasonable request to do so. In the event of a dispute, the Director would decide what constitutes fair and reasonable terms.

2.17 Similarly, in the consultative document *Wholesale calls terminated on individual mobile networks* the Director proposed that O2, Orange, T-Mobile and

Vodafone have SMP in the provision of their own 2G mobile call termination services and that they should provide call termination to all other PECNs if they receive a reasonable request to do so.

2.18 Taken together, the proposals in these reviews are ensure that fixed and mobile call termination will be provided on reasonable request.

Access-related conditions

2.19 European Directives and the Communications Bill allow for the setting of ex-ante conditions in respect of end-to-end connectivity.

2.20 Article 5 of the *Directive 2002/19/EC on access to, and interconnection of, electronic communications networks and associated facilities* requires National Regulatory Authorities (NRAs) to encourage, and where appropriate ensure, adequate access and interconnection, and interoperability of services. This should be carried out in a way that promotes efficiency, sustainable competition, and gives the maximum benefit to end-users. In particular, the Directive allows NRAs to impose obligations on undertakings that control access to end-users to the extent necessary to ensure end-to-end connectivity, including the obligation to interconnect their networks where this is not already the case.

2.21 Clause 70(2) of the Communications Bill allows Ofcom to set access-related conditions including conditions relating to the provision of network access and service interoperability to secure:

- (a) efficiency on the part of communications providers and persons making associated facilities available;
- (b) sustainable competition between them; and
- (c) the greatest possible benefit for the end-users of public electronic communications services.

2.22 Clause 71(1) of the Bill states that the conditions that may be set include conditions which, for the purpose of securing end-to-end connectivity for the end-users, impose obligations on a person controlling network access to any of those networks and require the interconnection of the networks.

2.23 Oftel believes that in principle a case could be made for ex-ante conditions requiring BT and Kingston to seek call termination from other providers on the basis of Oftel's proposed findings of SMP in local and national calls markets and in the calls to mobiles markets. These were set out in the consultative document *Review of Fixed Narrowband Retail Markets* published on 17 March 2003.

2.24 However, Oftel does not believe it would be proportionate to propose such conditions at this time. As explained above, commercial incentives, the USO conditions and the existence of ex post regulation have to date ensured that BT and Kingston offer end-to-end connectivity. However the Article 5/Clause 70 route

will remain available to Oftel after July. If the current arrangements were found to be inadequate in the new regime, Oftel may propose such ex ante conditions. Oftel would also examine the case for proposing ex ante conditions on other providers should they not provide end-to-end connectivity and this had a materially adverse effect on competition or materially detrimental impact on consumers.

Chapter 3

Conclusions

3.1 Oftel intends to refer to this guidance on end-to-end connectivity in consultative documents and Statements that will follow the consultations below:

- *Review of fixed geographic call termination markets* published on 17 March 2003
- *Notification of proposals for the designation of universal service providers and setting of conditions* published on 12 March 2003
- *Wholesale calls terminated on individual mobile networks* to be published on 15 May 2003

3.2 Any comments on this guidance document should be made in writing and sent by e-mail to alan.pridmore@oftel.gov.uk no later than close of business on **1 July 2003**.

3.3 Copies may also be posted or faxed to:

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3.3 If any stakeholders are unable to supply their comments in one of these ways, please use the contact details below to discuss alternatives.
