



Consultation Paper

Market Analysis: Wholesale Broadband Access

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All responses to this consultation should be clearly marked:-
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and sent by post, facsimile, e-mail or on-line at www.comreg.ie
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Please note ComReg will publish all submissions with the
Response to Consultation, subject to the standard confidentiality
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Contents

1	Executive Summary	3
2	Introduction.....	6
	OBJECTIVES UNDER THE COMMUNICATIONS (REGULATION) ACT 2002	6
	REGULATORY FRAMEWORK	6
	CONSULTATION	7
	COMREG PROCEDURE.....	7
	LIAISON WITH COMPETITION AUTHORITY	8
	STRUCTURE OF CONSULTATION DOCUMENT	8
3	Relevant Market Definition	9
	BACKGROUND	9
	SCOPE OF REVIEW	10
	THE RELEVANT PRODUCT MARKET	11
	<i>What downstream retail services are capable of being supported by the relevant wholesale services?.....</i>	14
	<i>Are wholesale cable connections (self supply) included in the relevant market?..</i>	19
	<i>Are wholesale FWA connections (self supply) included in the relevant market?...</i>	21
	<i>Are bit stream services (self supply) included in the relevant market?</i>	22
	<i>Are LLU and bit stream services in the same relevant market?.....</i>	24
	THE RELEVANT GEOGRAPHIC MARKET	28
	PRELIMINARY CONCLUSIONS	28
4	Relevant Market Analysis.....	29
	BACKGROUND	29
	PRELIMINARY CONCLUSIONS	33
5	Designation Of Undertakings With Significant Market Power.....	35
6	Proposed Market Remedies	36
	THE NEED FOR EX-ANTE REGULATION	36
	WHAT ARE THE COMPETITION PROBLEMS?	38
	<i>Refusal to deal and denial of access.....</i>	38
	<i>Non-price problems.....</i>	38
	<i>Price problems.....</i>	39
	REMEDIES AVAILABLE IN THE ACCESS REGULATIONS	40
	<i>Obligation of Transparency.....</i>	40
	<i>Obligation of Non-discrimination</i>	41
	<i>Obligation of Accounting Separation</i>	41
	<i>Obligation of access to, and use of, specific network facilities</i>	41
	<i>Price control and Cost Accounting obligations.....</i>	41
	PRINCIPLES TO BE APPLIED WHEN SELECTING REMEDIES	42
	WHOLESALE BROADBAND ACCESS AND BIT STREAM.....	43
	REMEDIES PROPOSED.....	44
	<i>Access to and use of specific network facilities</i>	44
	<i>Non- discrimination</i>	47
	<i>Transparency</i>	48
	<i>Accounting Separation.....</i>	49
	<i>Price Control and Cost Orientation</i>	51
7	Regulatory Impact Assessment.....	56
8	Submitting Comments.....	57
	Appendix A – Wholesale Broadband Access and Bit stream	58
	Annex B – Price Comparison between bit stream and ULL.....	60

Annex C Consultation Questions 62

1 Executive Summary

- 1.1 The new communications regulatory framework requires that ComReg define relevant markets appropriate to national circumstances, in particular relevant geographic markets within its territory, in accordance with the market definition procedure outlined in the *Framework Regulations*. In addition, ComReg is required to conduct an analysis of the relevant markets to decide whether or not they are effectively competitive.
- 1.2 The *Framework Regulations* further require that the market analysis procedure under Regulation 27 be carried out as soon as possible after ComReg defines a relevant market, which takes place as soon as possible after the adoption, or subsequent revision, of the Recommendation on relevant product and service markets (“the *Relevant Markets Recommendation*”) by the European Commission.¹ In carrying out market definition and market analysis, ComReg must take the utmost account of the *Relevant Market Recommendation* and the European Commission’s *Guidelines on Market Analysis and Significant Market Power* (“*The Guidelines*”).
- 1.3 ComReg welcomes comments from all interested parties on the questions posed in this market review. Comments should be supplied only in writing on or before 21 April 2004.
- 1.4 Under Article 5 of the *Framework Regulation* and in order to promote further openness and transparency ComReg will publish the names of all respondents and make available for inspection responses to the consultation at its Offices².
- 1.5 The European Commission’s *Relevant Markets Recommendation* states that there is a market for the supply of **wholesale broadband access** services, a market which covers ‘bit stream’ access permitting the transmission of broadband data in both directions and other wholesale access provided over other infrastructures, if and when they offer facilities equivalent to bit stream access.
- 1.6 The European Commission expresses the view, in the *Explanatory Memorandum* to the *Relevant Markets Recommendation* that an operator providing wholesale broadband access will not consider unbundled local loops to be a substitute. The European Commission considers that it is equally unlikely that an entity using wholesale broadband access, could easily switch to unbundled loops to provide equivalent retail service(s). ComReg’s review adopts this scope as its starting point.
- 1.7 The primary platform for broadband access competition in Ireland is the copper loop, and to a lesser extent coaxial cable connections and Fixed Wireless Access (FWA). The precise mix of the assets used is in large part a result of the facilities and network elements to which access is mandated, the price of access and the eligibility criteria for particular forms of access or pricing.
- 1.8 Based on the types of wholesale services currently available and technologies in use in Ireland, ComReg's market definition analysis considers:

¹Framework Regulations 26 and 27.

²ComReg may publish submissions with the Response to Consultation, subject to confidentiality. ComReg appreciates that many of the issues raised in this paper may require respondents to provide confidential information if their comments are to be meaningful. Respondents are requested to clearly identify confidential material and if possible to include it in a separate annex to the response. Such information will be treated as strictly confidential.

Wholesale Broadband Access

- what downstream retail services are capable of being supported by the relevant wholesale services;
 - whether notional cable access (*i.e.*, self-supply by the operator of a digitised bi-directional cable network) should be included in the wholesale market analysis, given that some retail cable services compete with xDSL services at the retail level;
 - whether notional FWA (*i.e.*, self-supply by the operator of a FWA network) should be included in the wholesale market analysis, given that some retail FWA services compete with xDSL services at the retail level;
 - whether self supplied bit stream services should be included in the wholesale market analysis;
 - whether functional differences at the wholesale level suggest that LLU and bit stream services are not in the same relevant market, and;
 - whether price differences (including costs attributable to additional equipment) suggest that LLU and bit stream services are not in the same relevant market.
- 1.9 ComReg has considered a number of different possible market definitions, depending on whether or not self-supply by cable operators and Fixed Wireless Access (FWA) operators are included. The narrowest possible market definition consists of externally-supplied and self-supplied bit stream services. The broadest possible market definition consists of the above, plus self-supply by cable and self-supply by FWA operators. ComReg invites respondents to give their views on the appropriate market definition."
- 1.10 Regardless of which market definition is chosen, ComReg proposes to designate *eircom* as having significant market power (SMP) in the relevant market for the provision of wholesale access. *eircom* currently supplies approximately 79% of the market for wholesale broadband access (both to itself and to third parties) according to the broader market definition, and 99% according to the narrow market definition. ComReg does not believe that the operators of cable or FWA networks are able to exert significant competitive pressure on *eircom*. In the short to medium term, considering foreseeable technological developments and anticipated customer behaviour, there is nothing to suggest to ComReg that the SMP enjoyed by *eircom* will be diluted in any meaningful way in the absence of appropriate and proportionate *ex ante* regulatory measures.
- 1.11 According to the Guidelines³, the purpose of imposing *ex-ante* obligations on undertakings designated as having SMP is to ensure that undertakings cannot use their market power either to restrict or distort competition on the relevant market, or to leverage such market power onto adjacent markets. ComReg can only impose *ex-ante* regulation "in markets where there are one or more undertakings with significant market power and where national and Community competition law remedies are not sufficient".⁴
- 1.12 The Guidelines make it clear that the mere designation of an undertaking as having SMP on a given market, without imposing any appropriate regulatory obligations, is inconsistent with the provisions of the new regulatory framework, notably Article 16

³ Commission Guidelines on market analysis and the assessment of significant market power under the Community regulatory framework for electronic communications networks and services at paragraph 16.

⁴ Recital 27 of the Framework Directive.

(4) of the Framework Directive⁵. Indeed, NRAs must impose at least one regulatory obligation on an undertaking that has been designated with SMP⁶.

1.13 ComReg is obliged to impose obligations listed in Articles 9 to Article 13 inclusive of the Access Directive⁷ which are as follows:

- Obligation of transparency
- Obligation of non-discrimination
- Obligation of accounting separation
- Obligation of access to, and use of, specific network facilities
- Price control and cost accounting obligations

1.14 This document is a consultation document. ComReg would welcome comments from all interested parties on the questions posed in this market review and will accept written comments on or before 21 April 2004. As required by Regulation 20 of the *Framework Regulations*, the draft measure will then be made accessible to the European Commission and the national regulatory authorities in other member states of the European Community prior to taking a final decision.

⁵ Commission Guidelines on market analysis and the assessment of significant market power under the Community regulatory framework for electronic communications networks and services at paragraph 114.

⁶ *Ibid*, paragraphs 21 and 114.

⁷ Article 8(2) of Access Directive

2 Introduction

Objectives under the Communications (Regulation) Act 2002

- 2.1 Section 12 of the Communications (Regulation) Act 2002 outlines the objectives of ComReg in exercising its functions. In relation to the provision of electronic communications networks, electronic communications services and associated facilities these objectives are to:
- (i) promote competition
 - (ii) contribute to the development of the internal market, and
 - (iii) promote the interests of users within the European Union.
- 2.2 This review is in line with the objectives set out in the Communications (Regulation) Act 2002, in particular as ComReg seeks to promote competition and ensure that end-users derive the maximum benefit in terms of price, choice and quality.

Regulatory Framework

- 2.3 Four sets of Regulations,⁸ which transpose into Irish law four European Community directives on electronic communications and services,⁹ entered into force in Ireland on 25 July 2003. The final element of the European electronic communications regulatory package, the *Privacy and Electronic Communications Directive*, was transposed into Irish law on 6 November 2003.
- 2.4 The new communications regulatory framework requires that ComReg define relevant markets appropriate to national circumstances, in particular relevant geographic markets within its territory, in accordance with the market definition procedure outlined in the *Framework Regulations*.¹⁰ In addition, ComReg is required to conduct an analysis of the relevant markets to decide whether or not they

⁸ Namely, the European Communities (Electronic Communications Networks and Services) (Framework) Regulations 2003 (S.I. No. 307 of 2003), ("the *Framework Regulations*"); the European Communities (Electronic Communications) (Authorisation) Regulations, 2003 (S.I. No. 306 of 2003), ("the *Authorisation Regulations*"); the European Communities (Electronic Communications) (Access) Regulations 2003 (S.I. No. 305 of 2003), ("the *Access Regulations*"); the European Communities (European Communications) (Universal Service and Users' Rights) Regulations 2003 (S.I. No. 308 of 2003), ("the *Universal Service Regulations*").

⁹ The new regulatory framework for electronic communications networks and services, comprising of Directive 2002/21/EC of the European Parliament and of the Council on a common regulatory framework for electronic communications networks and services, ("the *Framework Directive*"), OJ 2002 L 108/33, and four other Directives (collectively referred to as "the *Specific Directives*"), namely: Directive 2002/20/EC of the European Parliament and of the Council on the authorisation of electronic communications networks and services, ("the *Authorisation Directive*"), OJ 2002 L 108/21; Directive 2002/19/EC of the European Parliament and of the Council on access to, and interconnection of, electronic communications networks and services, ("the *Access Directive*"), OJ 2002 L 108/7; Directive 2002/22/EC of the European Parliament and of the Council on universal service and users' rights relating to electronic communications networks and services, ("the *Universal Service Directive*"), OJ 2002 L 108/51; and the Directive 2002/58/EC of the European Parliament and of the Council concerning the processing of personal data and the protection of privacy in the electronic communications sector, ("the *Privacy and Electronic Communications Directive*"), OJ 2002 L 201/37.

¹⁰ Framework Regulation 26.

are effectively competitive.¹¹ Where it concludes that the relevant market is not effectively competitive, the *Framework Regulations* provide that it must identify the undertakings with SMP on that market and impose on such undertakings such specific regulatory obligations as it considers appropriate.¹² Alternatively, where it concludes that the relevant market is effectively competitive, the *Framework Regulations* oblige ComReg not to impose any new regulatory obligations on any undertaking in that relevant market. If ComReg has previously imposed sector-specific regulatory obligations on undertakings in that relevant market, it must withdraw such obligations and may not impose new obligations on those undertaking(s).¹³

- 2.5 The *Framework Regulations* further require that the market analysis procedure under Regulation 27 be carried out subsequent to ComReg defining a relevant market, which is to occur as soon as possible after the adoption, or subsequent revision, of the *Relevant Markets Recommendation* by the European Commission.¹⁴ In carrying out market definition and market analysis, ComReg must take the utmost account of the *Relevant Market Recommendation* and the European Commission's *Guidelines*.

Consultation

- 2.6 All comments to this Public Consultation are welcome. However, it would make the task of analysing responses easier if comments were referenced to the relevant question numbers from this document.
- 2.7 The consultation period will run from 05 March to 21 April 2004 during which ComReg welcomes written comments on any of the issues raised in this paper.
- 2.8 As required by Regulation 20 of the *Framework Regulations*, the draft measure will be made accessible to the European Commission and the national regulatory authorities in other member states of the European Community prior to adopting the measure.

ComReg procedure

- 2.9 ComReg has collected market data from a variety of internal and external sources, including users and providers of electronic communications networks and services ("ECNS"), and from consumer surveys commissioned by ComReg, in order to carry out thoroughly its respective market definition and market analysis procedures based on established economic and legal principles, and taking the utmost account of the *Relevant Markets Recommendation* and the *Guidelines*.
- 2.10 ComReg published an information notice¹⁵ on the market analysis process on December 19th, 2002. The first of the industry workshops held by ComReg took place on January 23rd, 2003 and questionnaires were sent to all fixed operators on February 18th. Following representations made by operators at ComReg's first

¹¹ Framework Regulation 27.

¹² Framework Regulation 27(4).

¹³ Framework Regulation 27(3).

¹⁴ Framework Regulations 26 and 27.

¹⁵ ComReg Document No. 02/117 - Information Notice - market analysis and data collection for market reviews of electronic communications networks.

workshop, industry was given until the 15th April to respond to the questionnaire. ComReg held its second workshop on the 25th February to discuss the questionnaire.

- 2.11 The results of ComReg's consumer surveys are referred to throughout this report. In particular, ComReg commissioned Amárach to carry out research in July / August 2003 on fixed users regarding their usage of fixed services.

Liaison with Competition Authority

- 2.12 There is a requirement on ComReg under Regulation 27 of the *Framework Regulations* to carry out an analysis of a relevant market that has been defined. This analysis must be carried out in accordance, where appropriate, with an agreement with the National Competition Authorities (NCAs) under Section 34 of the Competition Act 2002. In December 2002, ComReg signed a co-operation agreement with the Competition Authority for a period of three years.¹⁶ To facilitate market review decision-making, a Steering Group which included a representative from the Competition Authority was established by ComReg. Through this forum, the Competition Authority has been informed and involved throughout the market review decision making process.

Structure of Consultation Document

- 2.13 The remainder of this consultation document is structured as follows:

- **Section 3** presents ComReg's preliminary conclusions on the definition of the market for "wholesale broadband access". This section consists of a review of the market definition procedure and its scope, as well as demand side and supply side assessments at the wholesale and retail level;
- **Section 4** presents ComReg's market analysis for the market listed above and presents ComReg's preliminary view on whether this market is effectively competitive;
- **Section 5** presents ComReg's preliminary view on those undertakings with significant market power in the wholesale broadband access market;
- **Section 6** provides a discussion of the general principles associated with remedies and outlines a range of possible, as well as our likely proposed remedies, under the new regulatory framework; and
- **Section 7** outlines the nature of the regulatory impact assessment that needs to be conducted in relation to any proposed regulatory intervention regarding these markets;
- **Section 8** provides details with regard to the submission of comments on this consultation document.

¹⁶ ComReg Document No. 03/06

3 Relevant Market Definition

Background

- 3.1 The *Framework Regulations* require ComReg to define relevant markets appropriate to national circumstances, in particular the relevant geographic markets within Ireland, in accordance with the market definition procedure outlined in the *Framework Regulations*. This obligation applies to both the relevant markets identified in the *Relevant Markets Recommendation* and to additional relevant markets that ComReg may consider to merit investigation. In accordance with the *Framework Regulations*, the market definition exercise must be carried out in accordance with the principles of competition rules and must take “utmost account” of the *Relevant Markets Recommendation*, as well as the *SMP Guidelines*.^{17 18}
- 3.2 The purpose of the market definition procedure is to identify in a systematic way the competitive constraints that providers of Electronic Communication Networks (ECNs) encounter, thereby also facilitating the subsequent market analysis procedure. According to the European Court of Justice,¹⁹ a relevant product market comprises all products or services that are sufficiently interchangeable or substitutable with its products, not only in terms of the objective characteristic of those products, their prices or their intended use, but also in terms of the conditions of competition and/or the structure of supply and demand for the product in question.
- 3.3 The definition of the relevant market concentrates on identifying constraints on the price setting behaviour of operators. These constraints comprise demand substitution and supply substitution. For the purpose of defining the relevant market, ComReg will take into account a range of measures in assessing demand and supply substitution, including the SSNIP test where practicable²⁰. Under that test, a particular service or set of services constitutes a separate relevant product market if a hypothetical monopoly supplier could impose a small but significant,²¹ non-transitory increase in price above the competitive level without losing sales to the extent that such a rise in prices would prove to be unprofitable²². The market definition exercise

¹⁷ Framework Regulation 27.

¹⁸ Commission guidelines on market analysis and the assessment of significant market power under the Community regulatory framework for electronic networks and services, OJ 2002 C 165/3, (“the Guidelines”).

¹⁹ See, for example, Case 322/81, *Michelin v. Commission* [1983] ECR 3461, as well as the Commission Notice on the definition of relevant markets for the purposes of Community competition law (“the Commission Notice on Market Definition”), OJ 1997 C 372/3, and the Guidelines.

²⁰ See the Commission Notice on Market Definition, the Guidelines and ComReg’s Market Data Information Notice for additional guidance. Applying the SSNIP test, one tries to ascertain whether customers purchasing a particular product or service would switch to readily available substitutes or to suppliers located elsewhere if a hypothetical monopoly supplier were to impose a small (in the range of 5% to 10%) but significant, non-transitory price increase above the competitive level, thereby rendering such a rise in prices as being unprofitable.

²¹ Usually calculated at between 5% and 10%, depending on the particular product and the market circumstances.

²² See the Commission Notice on Market Definition, the SMP Guidelines and ComReg’s Market Data Information Notice (Document No. 02/117) for additional guidance.

is concerned with the likely competitive response of a body of customers, that is, not necessarily the majority of customers²³.

- 3.4 A relevant geographic market comprises the area in which the undertakings concerned are involved in the supply and demand of products and/or services, in which the conditions of competition are sufficiently homogeneous and which can be distinguished from neighbouring areas because the conditions of competition are appreciably different in those areas.

Scope of Review

- 3.5 The European Commission's *Relevant Markets Recommendation* states that there is a market for the supply of wholesale broadband access services, a market which covers 'bit stream' access permitting the transmission of broadband data in both directions and other wholesale access provided over other infrastructures, if and when they offer facilities equivalent to bit stream access.
- 3.6 The European Commission expresses the view, in the *Explanatory Memorandum to the Relevant Markets Recommendation* that an operator providing wholesale broadband access will not consider unbundled local loops to be a substitute, even if the same services could be provided over the unbundled loops. This is because the use of wholesale broadband services would require that the "DSL technologies or equivalents used over the loops were compatible at every level of the network" and future synchronous technology development.
- 3.7 The European Commission considers that it is equally unlikely that an entity using wholesale broadband access could easily switch to unbundled loops to provide equivalent retail service(s). It finds that such an entity would only do so if it has all the other network elements needed to self provide an equivalent service. Similarly, supply-side substitution is dependent on the same condition. In conclusion, the European Commission finds that there is very limited demand and supply-side substitution between resale of end-to-end wholesale products and access products.
- 3.8 ComReg's review adopts this scope as its starting point.

Q. 1. Do you agree with the scope of ComReg's review of wholesale broadband access? Please elaborate your response.

²³ See, for example, Case 85/76, *Hoffman-La Roche & Co. A. G. v. Commission*, [1979] ECR 461, as well as Case 66/ 86, *Ahmed Saeed Flugreisen v. Zentrale zur Bekämpfung unlauteren Wettbewerbs*, [1989] ECR 803.

The Relevant Product Market

- 3.9 The primary platform for broadband access competition in Ireland is the copper loop, and to a lesser extent coaxial cable connections and Fixed Wireless Access (FWA). The precise mix of the assets used is in large part a result of the facilities and network elements to which access is mandated, the price of access and the eligibility criteria for particular forms of access or pricing.

Broadband Access Technologies

- 3.10 **Services based on the copper loop** - Digital subscriber line technologies are based on copper loops that convert the copper pair into a digital line, using modems at both ends of the loops. DSLAMs²⁴ at the operator's exchange connect high speed DSL data traffic, typically over ATM and IP networks, to the Internet. The incumbent, *eircom* provides wholesale broadband access, as a bit stream service. An overview of bit stream services is contained in Annex A. Many retail xDSL variants based on this technology are provided, whether symmetric or asymmetric, with differing capacities and degrees of contention.
- 3.11 **Cable** - ntl and Chorus are television distribution companies which operate nationally with a combination of cable and MMDS (Multipoint Microwave Distribution System) networks in a number of regional areas in Ireland. Chorus and ntl do not compete with each other in the same geographic territory as their origins in Ireland come from exclusive franchise areas. There are also a number of smaller cable providers who provide a range of services in their locality such as Cablesurf in Waterford and Crossan Cable in Longford. Currently cable/MMDS networks pass approximately 87% of all households in Ireland. Approximately 40% of the households passed are passed using MMDS technology which is currently incapable of providing broadband access. It is unlikely that the MMDS network will be upgraded for the delivery of two way broadband services due to disproportionate infrastructure investment and a need for spectrum allocation. The remaining cable networks have generally not been upgraded to the point where they are able to provide services other than broadcasting services. Cable networks are currently technically incapable of offering a wholesale broadband access product.
- 3.12 **FWA** - Currently *eircom* and EsatBT are the only licensed operators to provide services in the 3.5 GHz and 26 GHz bands via Fixed Wireless Access²⁵. Both voice and Internet services can be delivered to end users over the platform, however the provision of broadband access via licensed FWA is minimal. Its use is typically limited to areas where it is more economical to use FWA in the delivery of local loops and for backhaul e.g. in areas where subscribers are more sparsely dispersed. Neither *eircom* nor EsatBT currently provide wholesale FWA services to third parties.
- 3.13 In order to encourage entry into the FWA market on a smaller scale, ComReg adopted a competitive procedure to assign licences on the basis of base station by base station. At the end of January 2004, thirty seven licences were awarded to seven operators for the provision of fixed wireless access local level (FWALA) services

²⁴Digital Subscriber Line Access Multiplexers.

²⁵ Fixed wireless access (using technology such as LMDS systems) which can provide varying bandwidth services is currently used to provide voice access in Ireland.

using the spectrum from the 3.5 GHz frequency band²⁶. Further awards may be made following this first round. While there is sufficient spectrum to provide national coverage, it is not clear that all areas will be licensed. It is expected that services will become available by year end 2004.

- 3.14 Local broadband FWA services can be provided using license exempt spectrum, often based upon the technology standard IEEE 802.11 known as Wi-Fi, but also using proprietary systems. Higher capacity technology known as Wi-Max (IEEE 802.16) will soon be available. (Wi-Max is capable of operating in both licensed and un-licensed systems). A number of operators (Irish Broadband, Leap Broadband, Ice Wireless, Digiweb Wireless and Amocom) offer license exempt “always on” broadband services in the major urban areas of Ireland to approximately 1,350 subscribers.
- 3.15 **Wi-Fi Hot-Spots** – Wi-Fi technology is also used to provide wireless broadband access in localised areas known as “hot-spots”, allowing users to gain broadband access via their laptop computers or Personal Digital Assistants (PDA). Hot-spots are typically located in public areas such as Internet cafés, train stations, hotels, and conference centres. O2, *eircom*, and Esat BT offer Wi-Fi hot-spot services in Ireland.
- 3.16 **Satellite** – Satellite broadband services are typically used to fill the gap in deployment between other technologies. The investment required for a two way services is high. In Ireland a number of small companies such as Digiweb, Media Sat, Websat, and Orbitlink nationally provide two way broadband services via satellite. Take up of satellite services is limited due to bandwidth capabilities (in the up-stream direction) and latency (i.e. the ability to deal with real-time traffic such as voice).
- 3.17 **Fibre To The Home** – FTTH provides broadband services over an optical fibre link to the customer’s home or business. They are mainly used for high capacity users, which are almost always non-residential and are generally installed as part of a corporate network. Currently the take up of FTTH is minimal in Ireland.
- 3.18 **High Bandwidth Mobile Access** - In 2002, 3G licences were granted to three mobile operators in Ireland (3, Vodafone and O2). 3G technology can be used to deliver high speed data services through a mobile handset. 3G services are currently only available on a trial basis.
- 3.19 **Power lines** – Electrical power networks can be used to deliver bandwidth of broadband dimensions both upstream and downstream. Power lines are not currently utilized to provide broadband access in Ireland. However, the ESB is currently carrying limited commercial trials in county Galway.
- 3.20 Despite there being a number of technologies available for the purpose of broadband delivery, the current review will focus primarily on DSL, cable and FWA services provided using licence exempt spectrum as these are the most widely used and actively utilized services in Ireland.
- 3.21 Currently powerlines and high bandwidth mobile wireless are largely experimental and are not publicly available. The take up of both satellite and FTTH has been very

²⁶ ComReg Document No (03/32) - Request for Expressions of Interest - 3.5 GHz Local Licences for Wireless Broadband.

low.²⁷ Wi Fi hotspots have attracted a great deal of attention, but their use is largely confined to localised communities and hotels.

3.22 In this review, ComReg has sought to balance a range of considerations in assessing the relevant markets for broadband access services. It has examined the investment incentives for all operators and the ‘make’ or ‘buy’ choices to be made by new entrants. Finally, ComReg is mindful of the need to ensure that operators are able to generate adequate returns on investments.

3.23 ComReg has considered the appropriate wholesale markets that are relevant to the supply of retail broadband access services. In doing so, it has considered the technical and functional characteristics of the available wholesale services, primarily to identify the extent to which differences in such characteristics indicate that services operate at different functional levels, also the additional services and equipment necessary to make services functionally substitutable and any limitations that preclude functional substitutability.

3.24 A number of technologies can support access to facilitate the provision of retail broadband access services, including:

- technologies based on copper loops
- cable modems
- FWA

3.25 Based on the types of wholesale services currently available and technologies in use in Ireland, ComReg's market definition analysis considers the following points which are also outlined in Figure 3.1 below:

- what downstream retail services are capable of being supported by the relevant wholesale services;
- whether notional cable access (*i.e.*, self-supply by the operator of a digitised bi-directional cable network) should be included in the wholesale market analysis, given that some retail cable services compete with xDSL services at the retail level;
- whether notional FWA (*i.e.*, self-supply by the operator of a FWA network) should be included in the wholesale market analysis, given that some retail FWA services compete with xDSL services at the retail level;
- whether self supplied bit stream services should be included in the wholesale market analysis;
- whether functional differences at the wholesale level suggest that LLU and bit stream services are not in the same relevant market, and;
- whether price differences (including costs attributable to additional equipment) suggest that LLU and bit stream services are not in the same relevant market.

3.26 In doing so, ComReg will consider demand-side substitution at both the retail and wholesale levels and supply-side substitution at the wholesale level.

²⁷ In September 2003 there were approximately 200 satellite and less than 60 FTTH subscribers.

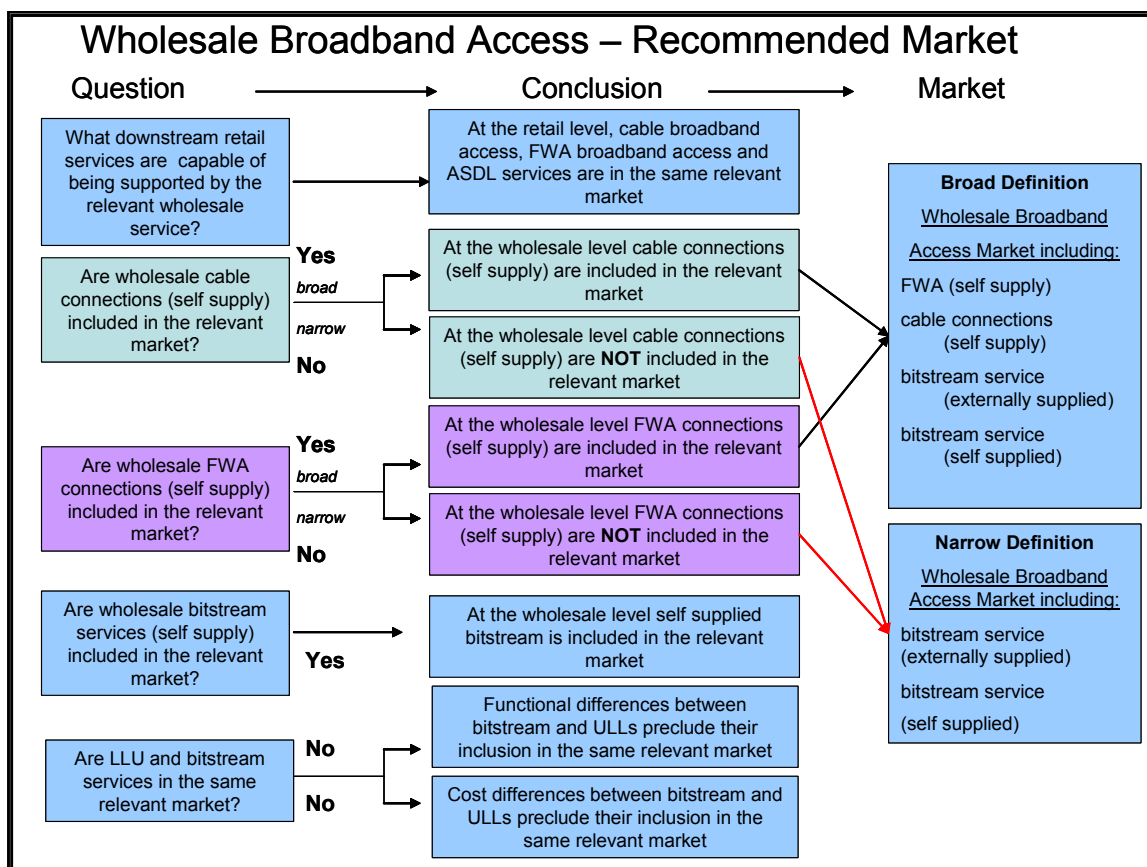


Figure 3.1 – Market Definition Process

Q. 2. Do you agree with the approach to market definition outlined above? Please elaborate your response.

What downstream retail services are capable of being supported by the relevant wholesale services?

Retail demand-side substitution

3.27 The European Commission's *Explanatory Memorandum to the Relevant Market Recommendation* differentiates between narrowband (or 'dial-up') and broadband access. It refers to a number of differentiating factors between the two types of access, including bandwidth, technical characteristics that render some applications not viable on narrowband connections, the distinction between 'dial-up' and 'always on', and price differentials. ComReg has considered the range of retail access services available in Ireland with a view to identifying whether and how any such distinction might be drawn in Ireland. In doing so, it has adopted the European Commission's criteria.

Functional characteristics

- 3.28 The evidence available to ComReg suggests that there is a clear distinction in terms of bandwidth, between access services *up to* 128 kbps and access services *equal to and above* 128 kbps. Surveys conducted on ComReg's behalf²⁸ found that when consumers were asked what they thought to be the main advantages, if any, of having broadband versus narrowband, 77% cited that the additional bandwidth provided increased speed for Internet functions (access, e-mail, data transfer and video conference). This is supported by an additional survey which identified that when respondents were asked what are the most appealing benefit, if any, of broadband over narrowband, the primary benefits were found to be; unlimited Internet access for the same fee,²⁹ higher speed Internet access and an always on connection.
- 3.29 As such, cable and FWA broadband services have the same functional characteristics as ADSL products currently available in Ireland.
- 3.30 So-called cable 'broadband' services have bandwidths ranges which include the following packages

Package name	Downstream	Upstream
ntl always on 150	150 kbps	64 kbps
Chorus always on 600	512 kbps	128 kbps
ntl always on 600	600 kbps	128 kbps
Cross@n cablemodem	600kbps	600kbps
Cablesurf cable modem	2 Mbps	2 Mbps

Table 3.1: Cable Broadband Speeds

- 3.31 FWA 'broadband' services have bandwidths ranges which include the following packages

Package name	Downstream	Upstream
Amocom (home)	512 kbps	512 kbps
Digiweb Wireless	512 kbps	128 kbps
Ice Wireless (home)	512 kbps	256 kbps
Irish Broadband	512 kbps	128 kbps

Table 3.2: FWA Broadband Speeds

²⁸ TNS MRBI Broadband & Data Communications Survey, May 2003 (ComReg 03/67d); MRBI Broadband Internet Survey – Residential, August 2002

²⁹ Flat rate dial up Internet services have recently become available in Ireland

3.32 The bandwidth ranges available with ADSL packages are as follows:

Product name	Downstream	Upstream
<i>eircom</i> – home starter	512 kbps	128 kbps
<i>eircom</i> – broadband business plus	1 Mbps	256 kbps
IOL broadband	512 kbps	128 kbps
Netsource - SOHO	512 kbps	128 kbps
Netsource - Premier	1MG	256 kbps
UTV – clicksilver	512 kbps	128 kbps

Table 3.3: ADSL Broadband Speeds

3.33 Typically for households and small businesses, asymmetric DSL (ADSL) is used, which has a download speed in excess of 150 kbps. With ADSL, most of the two-way bandwidth is directed down stream (in the downward direction to the end-user) and can be used for both voice and data. Symmetric DSL (SDSL) provides symmetric capacity, which means equal capacity is directed both downstream and upstream (in the upward direction from the end user). SDSL cannot be shared with voice. Many variants exist (xDSL), differing in capacity provided and the degree of contention they involve i.e. the number of users with which the technology is shared.

3.34 FWA connections, cable connections and ADSL access lines are ‘always on’, in that they allow the subscriber to maintain a permanent connection to the network (facilitating real-time delivery of content, including email).

Pricing

3.35 From table 3.4 below, it can be seen that cable, FWA and ADSL broadband access are interchangeable in terms of price. There are quite distinct charging models adopted for ‘always-on’ broadband access and narrowband services, which incorporate both connection and service components³⁰.

3.36 In Ireland, PSTN remains the predominant access technology for narrowband internet connection. The monthly rental charge for a PSTN line is €24.18 per month in addition to per minute call costs³¹. *eircom*’s ISDN basic rate access includes a per month price of €37.50 and a connection charge of €202.47.

³⁰ All prices are inclusive of VAT at 21%.

³¹ Calls are based on a local rate. Other packages are available which offer bundled minutes and range in price from €9.99 for 25 hrs to €29.99 for 150 hrs as of February 2004

Wholesale Broadband Access

Platform	Product name	Price ³² per month	Connection Fee
Cable	Cablesurf	€48.00	n/a
	Chorus	€42.00	€50.00
	Cross@n	€59.00	€45.00
	ntl always on 150	€30.00	€65.00
	ntl always on 600	€40.00	€65.00
FWA	Amocom (home)	€72.00	€320.00
	Digiweb Wireless	€55.00	€240.00
	Ice Wireless (home)	€39.00	€199.00
	Irish Broadband	€30.00	€120.00
ADSL ³³	eircom -home starter	€40.00	€99.00
	eircom – bb business plus	€170.00	€99.00
	iol broadband	€50.00	€190.00 ³⁴
	UTV – click silver	€47.00	€99.00
	Netsource - SOHO	€55.00	€99.00
	Netsource - Premier	€205.00	€99.00

Table 3.4: Broadband Services Speeds and Pricing

Development of subscriber numbers

3.37 There is growing retail demand in Ireland for broadband access services. The total number of broadband subscribers at the beginning of 2004 are as follows:

Platform	Subscriber numbers
Cable	4,900
FWA	1,350
ADSL ³⁵	25,300
Total	31,550

Table3.5: Broadband Subscriber Numbers

³² Prices collated from operators' website

³³ A monthly rental charge of €24.18 will also apply for access to an exchange line for all DSL services

³⁴ Connection charge includes engineering fee for iol. All other connection charges are self installed

³⁵ ADSL subscribers include both eircom's subscribers and other licensed operator ISPs. A number of bit stream lines are resold for the delivery of broadband services to end users

- 3.38 The number of bit stream subscribers has increased five fold since the start of 2003. ADSL subscribers grew from 3,330 to 25,300 and cable subscribers grew from 2,300 to 4,900 at the start of 2004. Likewise, the number of FWA subscribers grew from 700 subscribers at the middle of 2003, to 1,350 at the start of 2004.

Conclusion

- 3.39 It appears to ComReg that, from the demand-side, cable broadband access services, FWA access services and ADSL services are supplied on the same relevant retail service market.

Q. 3. Do you consider that cable broadband access services, FWA access services and ADSL services are supplied on the same relevant retail service market? Please elaborate your response.

Wholesale demand-side substitution

- 3.40 In Ireland, there is, in effect, a hierarchy of broadband access services that allow new entrants to acquire services that move them closer to end users and also allow them to develop differentiated and, perhaps, innovative services. This is illustrated by the price list for wholesale access services, which is contained in Annex B. Not all acquirers of access will seek to go so far as to acquire fully unbundled local loops. Operators will seek to acquire access at different points in the network hierarchy, taking into account both the technical and economic implications of such decisions. In this review, ComReg is seeking to identify the extent to which such different forms of wholesale access exert competitive pressure on each other and, accordingly, fall into the same relevant markets.

The following analysis assesses:

- whether notional cable access (i.e. self-supply by the operator of a digitised bi-directional cable network) should be included in the wholesale market analysis, given that some retail cable services compete with xDSL services at the retail level;
- whether notional FWA access (i.e. self-supply by the operator of a FWA network) should be included in the wholesale market analysis, given that FWA broadband services compete with xDSL services at the retail level;
- whether self supplied bit stream services should be included in the wholesale market analysis;
- whether functional differences at the wholesale level suggest that LLU and bit stream services are not in the same relevant market, and;
- whether price differences (including costs attributable to additional equipment) suggest that LLU and bit stream services are not in the same relevant market.

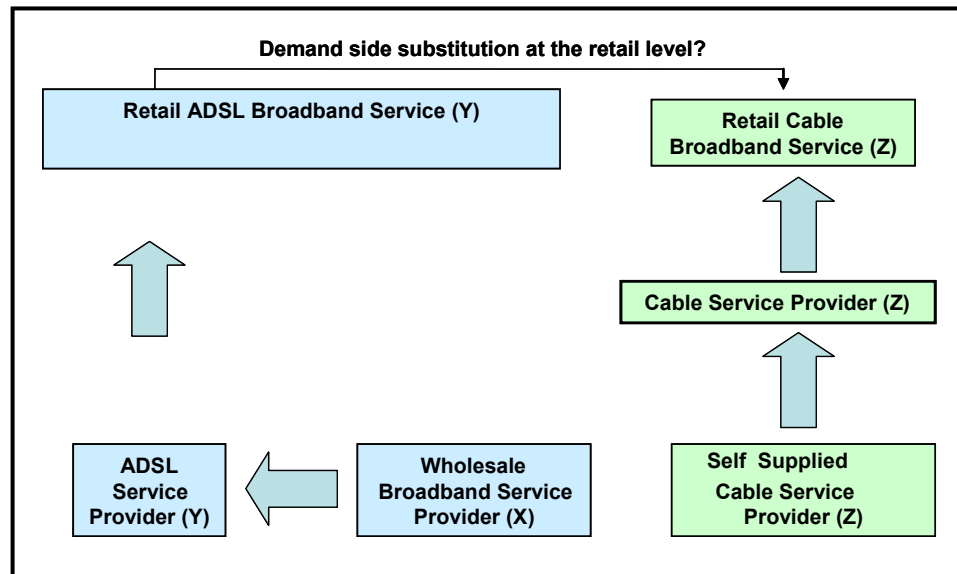
Are wholesale cable connections (self supply) included in the relevant market?

- 3.41 There is currently no provision in Ireland of wholesale capacity on cable networks to third parties. Technical limitations of existing cable networks prohibit operators from offering a wholesale broadband product. Significant investment is required to upgrade existing networks to facilitate the delivery of such services. This is unlikely to happen within the timeframe of this review. However, there is provision, albeit limited, of retail broadband access on cable networks. At the retail level, xDSL and cable broadband services are in the same retail relevant product market as the above analysis demonstrates. Demand at the wholesale level is derived from the retail level. As a result, ComReg has considered whether to include capacity available on cable networks that is not made available to third parties in its analysis.
- 3.42 ComReg notes that the recent decision of the Court of First Instance in *Schneider Electric SA v Commission of the European Communities*³⁶ rejected the European Commission's view that vertically integrated channel sales were not 'sold' in the wholesale market (and, therefore, would not constrain the conduct of the merged entity).³⁷ As a result of the case, it is now necessary to conduct a market-by-market analysis to determine whether the 'captive' capacity concept should be taken into consideration in the context of the particular circumstances of each market. It appears to ComReg that there is derived demand for both self-supplied products (on cable, FWA and xDSL-enabled networks) and wholesale inputs (over xDSL-enabled networks).
- 3.43 ComReg makes the following analysis in this light. Even if cable capacity is all self-supplied, ComReg considers that the issue is whether such self-supply constrains wholesale behaviour through its impact at the retail level. For example, an increase in the price of bit stream access is highly likely to induce demand-side substitution at the retail level. Such an increase will probably lead to ADSL operators that buy bit stream from *eircom* increasing their retail ADSL prices, thereby providing technically-able cable operators with the opportunity to increase their share of the retail market (assuming that they do not merely follow the retail ADSL price increase). Such cable operators would be effectively increasing their self-supplied wholesale broadband access. ComReg concludes that the indirect pricing constraint exercised by cable based services at the retail level has a sufficiently significant impact at the wholesale level to justify its inclusion in the wholesale broadband access market.

36 [2002] ECR II-4201

37 Prior Commission administrative practice has shown a mixed approach to the treatment of captive sales. In BASF/ Eurodiol/ Pantochim Case No. COMP/M.2314, the Commission excluded captive sales from its market analysis. In Cargill/ Agribands Case No. COMP/M.2271, the Commission included captive sales, finding that the self-supplied products effectively constrained prices. Finally, in Shell/ DEA Case No. COMP/M.2389, the Commission applied the 'net' merchant rule (i.e., calculating the total merchant market supply of each firm and subtracting merchant market purchases made by each firm (or its affiliates), to calculate net merchant market shares of each entity). In addition, the Commission's attitude to self-supply in the context of distribution agreements, on the one hand, and technology transfer, on the other, also appear to be not wholly consistent in approach.

3.44 This is illustrated as follows:



Source: ComReg

Figure 3.2 – Self supply of Cable Broadband Services

X= hypothetical monopolist

Y = third party ADSL providers

Z = vertically integrated retail cable broadband service provider

Conclusion - Broad Definition

3.45 It could be considered that in these circumstances, self-supply by cable operators occurs in the same relevant market as the provision of bit stream access.

Q. 4. Do you consider that self-supply by cable operators occurs in the same relevant market as the provision of bit stream access? Please provide a reasoned response.

3.46 However, ComReg is mindful of the European Commission's comments pursuant to Article 7 (3) of the Directive 2002/21/EC to Ofcom on its market review of Asymmetric broadband Origination and Broadband Conveyance in the UK. The Commission recognises that Oftel's approach to defining a wholesale market on the basis of competitive conditions in the corresponding retail market is not in principle inconsistent with the methodology set out in the Recommendation and in the Commission's Guidelines on market analysis and the assessment of SMP. However greater consideration should have been given to the technical, practical and economic feasibility of cable operators to facilitate equivalent to bit stream access. As a result ComReg makes an assessment of the potential direct constraint of wholesale cable operators on (PSTN) bit stream providers in the market for wholesale broadband access.

Wholesale Broadband Access

- 3.47 While it is *technically* possible for cable operators of the small number of Irish cable networks that are bi-directional and digitised to provide a wholesale broadband service to third parties equivalent to bit stream, there are a number of practical and economic difficulties preventing them from doing so. Where the cable network is bi directional, investment at the headend is necessitated to enable the provision of services to third parties such as additional equipment (routing and switching kit), the provision of collocation space with a robust power supply and adequate air conditioning. Other practical considerations include compatibility of incoming signals from the third party provider, allocation of sufficient spectrum space in the bandplan for an additional traffic, standardisation of the set top box modulation technique and billing integration.
- 3.48 Each of these issues in themselves can be addressed, however in combination would require significant time and investment (in terms of vast sunk costs). ComReg is aware that the operators of such networks do not intend to make such investments (at least within the timeframe of this review). This makes it infeasible for cable operators to provide a wholesale service within the timeframe of this review.

Conclusion - Narrow Definition

- 3.49 ComReg considers that in these circumstances, self-supply by cable operators does not occur in the same relevant market as the provision of bit stream access.

Q. 5. Do you consider that self-supply by cable operators does not occur in the same relevant market as the provision of bit stream access? Please provide a reasoned response.

- 3.50 When these alternative definitions are considered, it is important to remember that market definition is just the first stage of a market analysis, and does not determine its outcome. In particular, where the narrow definition is adopted, account is still taken in the market analysis of the possible constraining effect of cable-based broadband on ADSL wholesale.

Are wholesale FWA connections (self supply) included in the relevant market?

- 3.51 In Ireland, there is currently no wholesale broadband access product available to third parties on FWA networks. This is unlikely to happen within the timeframe of this review.
- 3.52 At the retail level, xDSL and FWA broadband services are in the same retail relevant product market, as the above analysis demonstrates. Demand at the wholesale level is derived from the retail level. As a result, ComReg has considered whether to include capacity available on FWA networks that is not made available to third parties in its analysis.
- 3.53 ComReg concludes that the indirect pricing constraint exercised by FWA based services at the retail level has a sufficiently significant impact at the wholesale level to justify its inclusion in the wholesale broadband access market.

Conclusion - Broad Definition

3.54 ComReg considers that in these circumstances, self-supply by FWA operators occurs in the same relevant market as the provision of bit stream access.

Q. 6. Do you consider that self-supply by FWA operators occurs in the same relevant market as the provision of bit stream access? Please provide a reasoned response.

3.55 However, ComReg is mindful of the European Commission's comments pursuant to Article 7 (3) of the Directive 2002/21/EC to Ofcom on its market review of Asymmetric Broadband Origination and Broadband Conveyance in the UK. The Commission recognises that Oftel's approach to defining a wholesale market on the basis of competitive conditions in the corresponding retail market is not in principle inconsistent with the methodology set out in the Recommendation and in the Commission's Guidelines on market analysis and the assessment of SMP. However greater consideration should have been given to the technical, practical and economic feasibility of cable operators to facilitate equivalent to bit stream access. As a result ComReg makes an assessment of the potential direct constraint of wholesale FWA operators on (PSTN) bit stream providers in the market for wholesale broadband access.

3.56 Despite it being technically possible for FWA operators to offer services equivalent to bit stream, in practical terms it is unlikely that any existing operators would offer wholesale services within the timeframe of this review. For licence exempt networks, the limited capacity carried on these networks and the level of potential revenue which could be earned makes it unlikely that operators will provide a wholesale service to third parties. Additionally, significant investment is required which would preclude any existing FWA operators from offering such services.

Conclusion - Narrow Definition

3.57 ComReg considers that in these circumstances, self-supply by FWA operators does not occur in the same relevant market as the provision of bit stream access.

Q. 7. Do you consider that self-supply by FWA operators does not occur in the same relevant market as the provision of bit stream access? Please provide a reasoned response.

Are bit stream services (self supply) included in the relevant market?

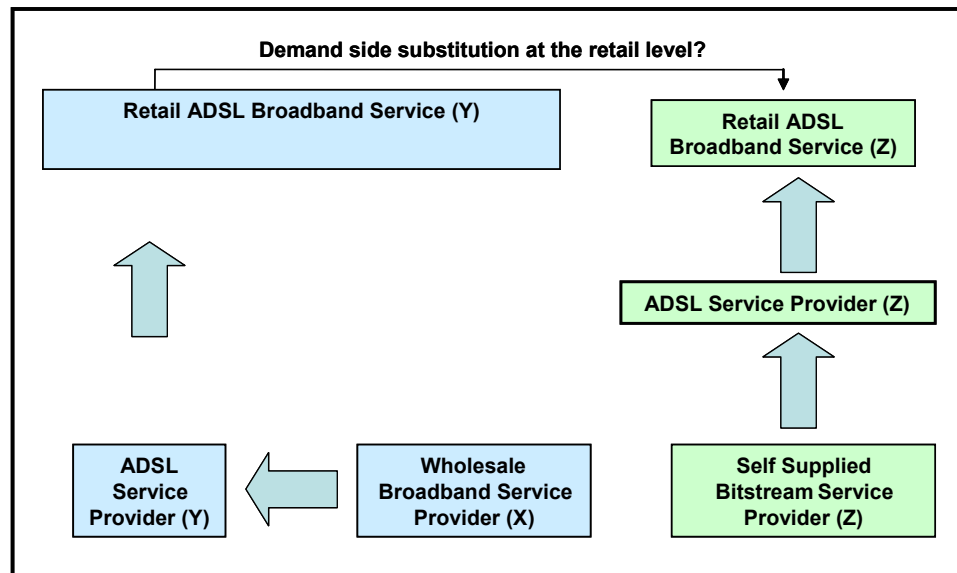
3.58 In considering whether *eircom's* self-supplied bit stream service imposes a competitive constraint on its wholesale bit stream product (supplied to third parties), analysis is made on the basis that self-supplied bit stream and wholesale bit stream are supplied by different parties. Put another way, the issue is whether, if one

Wholesale Broadband Access

operator monopolised externally supplied bit stream and another operator supplied a vertically-integrated retail broadband service, would the ability of the first operator to raise prices be constrained. ComReg considers that the ability to raise prices would be constrained.

3.59 As such, self-supplied bit stream and bit stream supplied to third parties are the same product and fall within the same relevant product market.

3.60 This is illustrated in the following scenario



Source: ComReg

Figure: 3.3 – Self supply of bit stream services

X= hypothetical monopolist

Y = third party ADSL providers

Z = vertically integrated retail broadband service provider

3.61 The above diagram suggests that hypothetical monopolist (X) supplying wholesale bit stream product to third party ADSL providers (Y) would face a competitive constraint from vertically integrated retail broadband service provider (Z) on the retail level.

3.62 An increase in the price for wholesale bit stream product would, in turn, translate into an increase in the retail price of ADSL services that incorporate the wholesale product, assuming that the increase at the wholesale level is passed on to the retail level.

3.63 As a result, third party ADSL providers (Y) are likely to lose customers to the integrated provider of retail broadband service (Z). Accordingly, the hypothetical monopolist supplier of wholesale bit stream product (X) would lose sales, while the vertically integrated retail broadband service provider (Z) would increase sales.

3.64 The competitive constraint on the hypothetical monopoly supplier, should it be found to exist, would come from demand substitution at the retail level. As demand substitution at the retail level is likely to be strong, the self-supplied bit stream service provider should be included in the relevant wholesale market.

- 3.65 *eircom* currently provide bit stream access both internally to its retail arm and externally to third parties. The dynamics of this relationship is dealt with, in further detail within the market analysis section.
- 3.66 At the end of the fourth quarter of 2003, *eircom* was self-supplying the bit stream services required to provide retail ADSL services to approximately 19,500 end users, and was supplying bit stream access to third parties for in the region of 5,800 lines.

Q. 8. Do you consider that bit stream services (self-supply) should be included in the relevant market? Please provide a reasoned response.

Are LLU and bit stream services in the same relevant market?

Functional substitutability

- 3.67 Unbundled local loops and bit stream services are functionally different products for acquiring entities. An overview of bit stream services is contained in Annex A. Bit stream services limit the extent to which the purchaser can produce innovative services for retail supply or, for that matter, depart significantly from the retail services made available by *eircom*. The provider of bit stream controls both the bandwidth (or speed) and geographic coverage of retail services developed and supplied using the bit stream service.
- 3.68 Fully unbundled local loops give control to the purchasing operator of the local loop connection to the end user. As such, the purchasing operator has almost complete discretion in relation to the bandwidth of services offered. In addition, the purchasing operator, by installing its own DSLAM and related equipment, has a greater degree of control over geographic coverage and roll-out of new retail services.
- 3.69 Consequently, ComReg takes the view that there are clear and distinct functional differences between bit stream services and (fully and shared) unbundled loops which preclude their inclusion in the same relevant product market.

Price comparisons

- 3.70 The current standard charges for the unbundled local loops and bit stream services are outlined in Annex B.
- 3.71 ComReg notes a number of key difficulties in both setting and assessing prices for broadband access services, including:
- identifying the range of services across which the costs of broadband investments should be allocated;
 - the appropriate method of apportioning such costs;
 - the period over which costs should be depreciated, and;

Wholesale Broadband Access

- the appropriate methods for allowing for the fact that IP and ATM networks are dimensioned for anticipated demand, not demand at the time of service launch (impacting significantly on unit costs).

3.72 Noting this however, ComReg believes that the significant differences between the pricing of bit stream and LLU services (both fully unbundled and line sharing), reflect the functional differences between the services. Pricing for bit stream services (i.e. the charge for a “service establishment per access seeker” is €8,035) are considerably higher than the price for LLU. In addition to granting access to the local loop, the bit stream price will also include the cost of DSLAMs, ATM and transmission from a point of aggregation to the point of handover.

3.73 In effect, the services operate at entirely different functional layers. The bit stream acquirer must make significant investment to enable delivery of services to end users however these are not as great in comparison to the LLU acquirer. The provision of LLU necessitates significant investment in its exchange equipment and must play a much greater role in managing its services (in that it bears responsibility for identifying faults). As such, these differences suggest that bit stream services are not in the same relevant market as LLU services.

Development of customer numbers

3.74 By the end of the fourth quarter of 2003, the number of unbundled lines and bit stream access lines provided by *eircom* to other operators was as follows:

	Number of lines	Number of contracts
Fully unbundled lines	300	2
Shared access lines	1,100	2
Bit stream access	4,400	3

Table 3.6 – Number of unbundled and bit stream lines

3.75 Accordingly, there were approximately 1,400 unbundled lines and 4,400 bit stream access lines (of *eircom*'s 1.6 million fixed access lines).³⁸

3.76 While these figures indicate that the supply of such services to third parties is in the early stages of development (e.g. 5,800³⁹ ADSL subscribers), ComReg notes that *eircom*'s retail ADSL subscriber growth patterns indicate that self-supply by *eircom* is somewhat more mature (e.g. 19,500 ADSL subscribers).

Conclusions

3.77 ComReg takes the preliminary view that considering the demand-side factors, wholesale broadband access services defined narrowly or broadly, fall into one relevant market, while unbundled local loops, offered both on a fully unbundled and shared line basis, do not fall into the same relevant market.

³⁸ Currently over 1 million lines are served from DSL enabled exchanges.

³⁹ A number of bit stream lines are resold for the delivery of broadband services to end users

**Q. 9. Do you consider that wholesale broadband services, defined narrowly or broadly are not in the same relevant market to unbundled local loops?
Please provide a reasoned response.**

Wholesale supply-side substitution

- 3.78 ComReg is of the view that there is limited scope for network operators currently operating in Ireland to provide effective supply-side substitution for wholesale broadband access (in response to a 5 to 10% increase in price by a hypothetical monopolist supplier). Operators of existing networks capable of supporting uni-directional or narrowband access services will be required to make significant investments in upgrading their networks to support broadband access. ComReg is unaware of any such operators intending to make such investments in "brownfield"⁴⁰ networks during the timeframe of this review.
- 3.79 ComReg takes the view that within the timeframe of this review LLU will not provide supply side substitution at the wholesale level. This is due to the high level of investment required for a hypothetical supplier of unbundled local loops to switch to the provision of bit stream access after a 5-10% increase in bit stream access charges.
- 3.80 Finally, there are high sunk costs associated with building "greenfield"⁴¹ access networks, which are typically characterised with economies of scale and density. These costs significantly increase the barriers to entry for entities considering constructing new local access networks capable of supporting the provision of broadband access. The difference between potential competition and supply side substitution lies in the fact that supply side substitution responds promptly to a price increase whereas potential competition may need more time before starting to supply the market.
- 3.81 As such, ComReg takes the view that any potential competitive constraint imposed by the possibility of market entry (e.g. high bandwidth mobile wireless or power line platforms) or significant roll out (e.g. Wi Fi hotspots or FTTH) using alternative platforms is most appropriately considered in the context of market analysis.

Q. 10. Do you consider that there are no effective supply-side substitutes for wholesale broadband access within the timeframe of this review?

40 A "brownfield" network describes a telecommunications network that is abandoned or underused and is considered to have potential for redevelopment.

41 A "Greenfield" network is one that is being designed or built from nothing, with no need to accommodate legacy equipment or architectures.

Conclusion

- 3.82 Two different findings can be reached, depending on whether a broad or narrower view is taken in the market definition. If it is concluded that the market should be broadly defined and that the self supply cable and self supply FWA should be in the market, then it can be determined that there is a distinct relevant market in Ireland for wholesale broadband access, currently including:
- self-supply by cable operators,
 - self supply by FWA operators,
 - externally-supplied bit stream services and;
 - self-supplied bit stream services.
- 3.83 Alternatively, a narrower definition can be taken which excludes self supply of cable and self supply of FWA. If this view is thought to be appropriate then it can be concluded that there is a distinct relevant market in Ireland for wholesale broadband access, currently including:
- externally-supplied bit stream services and;
 - self-supplied bit stream services.

Q. 11. Do you consider that the relevant market for wholesale broadband access should be defined broadly, including self-supply by cable, self-supply by FWA operators, externally-supplied bit stream services and self-supplied bit stream services? Alternatively, do you consider that the relevant market should be defined narrowly, including externally supplied bit stream services and self-supplied bit stream services. Please provide a reasoned response.

The relevant geographic market

- 3.84 A relevant geographic market comprises the area in which the undertakings concerned are involved in the supply and demand of services in relation to which the conditions of competition are sufficiently homogeneous and which can be distinguished from neighbouring areas because the conditions of competition are appreciably different to those in those areas.
- 3.85 On this basis, ComReg takes the view that the relevant geographic market for the provision of wholesale broadband access is national in scope and is the country of Ireland. This view is based primarily on the fact that *eircom* offers its services within these relevant market on a national basis, under the same terms and conditions. Where other services are or might be offered by other operators on a less than national basis, such services will compete with *eircom*'s national services.

Q. 12. Do you agree that the relevant geographic market for wholesale broadband access is Ireland? Please expand in your response.

Preliminary conclusions

Broad Definition

- 3.86 ComReg considers that there is a distinct relevant market in Ireland for wholesale broadband access, currently including self-supply by cable, self supply by FWA operators, externally-supplied bit stream services and self-supplied bit stream services.

Narrow Definition

- 3.87 ComReg considers that there is a distinct relevant market in Ireland for wholesale broadband access, currently including externally-supplied bit stream services and self-supplied bit stream services.

4 Relevant Market Analysis

Background

4.1 Having first identified a relevant market relating to wholesale broadband access in Ireland, ComReg is required to conduct an analysis of whether the market is effectively competitive by reference to whether any given undertaking or undertakings is/are deemed to hold SMP in that market. Recital 27 of the *Framework Directive* states that a relevant market will not be effectively competitive “where there are one or more undertakings with significant market power”. Regulation 25(1) of the *Framework Regulations* states that:

“A reference in these Regulations ... to an undertaking with significant market power is to an ... undertaking (whether individually or jointly with others) [which] enjoys a position which is equivalent to dominance of that market, that is to say a position of economic strength affording it the power to behave to an appreciable extent, independently of competitors, customers, and, ultimately, consumers”.

- 4.2 Accordingly, an undertaking may be deemed to have SMP either individually or jointly with other undertakings in a relevant market. In addition, where an undertaking has SMP on a relevant market, it may also be deemed to have SMP on a closely related market, where the links between the two markets are such as to allow the market power held in one market to be leveraged into the other market, thereby strengthening the market power of the undertaking.⁴²
- 4.3 ComReg is obliged under the *Framework Regulations* to assess SMP in accordance with European Community law and to take the “utmost account” of the *SMP Guidelines*.⁴³ Those criteria considered to be probative on the issue of SMP are discussed below.

Market shares

Market share based on broad market definition

Platform	No of Access Lines	Market Share
Cable	4,900	16%
FWA	1,350	4%
Resell	350	1%
ADSL	25,300	79%
Total	31,900	100%

Table 4.1: Broadband Access Lines

4.4 Currently, a small number of wholesale broadband access lines are acquired from *eircom* and are resold. However, ComReg takes the view that the provision of these lines exerts limited competitive pressure on *eircom*, given the extent to which *eircom* is vertically integrated. Resellers are effectively required to acquire from *eircom* at

⁴² Framework Regulations, Regulation 25(3).

⁴³ Framework Regulation 25(2)

Wholesale Broadband Access

its wholesale price and must set their resale price at a level that permits its customers (e.g., ISPs) to compete with *eircom*'s retail services. As such, ComReg believes that the impact of such resellers is less than even the *de minimis* market shares⁴⁴ that they have, suggests.

- 4.5 Cable operators currently self-supply a small amount of wholesale broadband access services with around 4,900 lines, which would account for approximately 16% market share. However, as discussed below, there are significant barriers to expansion for cable operators currently self-supplying such services, and significant barriers to entry for those not currently supplying.
- 4.6 FWA operators currently self supply wholesale broadband access services to nearly 1,350 subscribers, which is equivalent to approximately 4% of the wholesale broadband access market share. However, as discussed below presently Fixed Wireless Access (FWA) using licence exempt spectrum has limited roll out and is primarily available in urban areas of the country.

Market share based on narrow market definition

Platform	No of Access Lines	Market Share
Resell	350	1%
ADSL	25,300	99%
Total	25,650	100%

Table 4.2: Broadband Access Lines

Conclusion

- 4.7 In conclusion, it is clear that *eircom* has significant market share in the wholesale broadband access market regardless of whether a broader or narrower market definition is adopted.
- 4.8 Currently *eircom* provides approximately 25,300 externally-supplied and self-supplied bit stream lines, which accounts for either 79% of market share taking a broad market definition or 99% taking a narrower market definition. Market shares are often used as a proxy for market power. Although a high market share alone is not sufficient to establish the possession of significant market power (dominance), it is unlikely that a firm without a significant share of a relevant market would be in dominant position.

Potential competition and barriers to entry and expansion

- 4.9 The threat of market entry, either on a long-term or 'hit and run' basis, is one of the main potential competitive constraints on incumbent firms, where such entry is probably (rather than hypothetical), timely and appreciable. The threat of entry will be reduced by the existence of barriers to entry.

⁴⁴ Resellers account for approximately 1% of the wholesale broadband access market.

Wholesale Broadband Access

- 4.10 ComReg considers that entry to the market for wholesale broadband access (both to itself and third parties) would require significant investment, largely as sunk costs. As noted above, these high sunk costs, together with the economies of scale and density that characterise access networks, significantly increase the barriers to entry for entities considering constructing new local access networks capable of supporting the provision of broadband access.
- 4.11 As discussed in section three, there are a small number of cable networks that are technically able to self supply wholesale broadband access services. However the majority⁴⁵ of cable networks are currently technically incapable of providing broadband access services (at either the wholesale or retail levels). ComReg understands that cable networks are able to accommodate further expansion through upgrading the existing technology within the current coverage of those networks (cable networks currently passes close to 52%⁴⁶ of all households in Ireland). Upgrading these networks to the point at which they could provide such services will require significant investment, in terms of vast sunk costs. These barriers to expansion necessarily put an absolute limit on the total possible number of cable subscribers.
- 4.12 While it is *technically* possible for cable operators of the small number of Irish cable networks that are bi-directional and digitised to provide a wholesale broadband service to third parties, there are a number of practical and economic difficulties preventing them from doing so. Where the cable network is bi-directional, investment at the headend⁴⁷ is necessitated to enable the provision of services to third parties such as; additional equipment (routing and switching kit), the provision of collocation space with a robust power supply and adequate air conditioning. Other practical considerations include compatibility of incoming signals from the third party provider, allocation of sufficient spectrum space in the bandplan for additional traffic, standardisation of the set top box modulation technique and billing integration.
- 4.13 Each of these issues in themselves can be addressed, however in combination would require significant time and investment (in terms of vast sunk costs). ComReg is aware that the operators of such networks do not intend to make such investments (at least within the timeframe of this review). Of the two main operators, one has recently emerged from Chapter 11 protection while an examiner has been appointed by the High Court to the other. This makes it infeasible for cable operators to provide a wholesale service within the timeframe of this review.
- 4.14 When compared with the potential number of xDSL enabled lines, it is clear that cable broadband will make up an increasingly *de minimis* share of the broadband market. As such, ComReg does not believe that the operators of such networks are able to exert significant competitive pressure on *eircom*.
- 4.15 Currently *eircom* and Esat BT are the only licensed operators to provide services in the 3.5 GHz and 26 GHz band via Fixed Wireless Access (FWA). However the provision of broadband access services via FWA is minimal at the retail level. Neither *eircom* nor EsatBT currently provide wholesale FWA services to third

⁴⁵ Approximately 10% of existing cable networks are capable of providing broadband access.

⁴⁶ This figures represent network coverage as of June 2003.

⁴⁷ A cable headend is the facility at a local cable TV office that originates and communicates [cable TV](#) services and [cable modem](#) services to subscribers.

parties. Furthermore, a number of operators offer licence exempt FWA broadband services in Ireland. The take up of these services is currently limited in subscriber numbers and to date most FWA providers have tended to concentrate on the larger urban markets. The fragmented nature of the coverage and ownership of such networks limits the extent of such competitive pressure. Currently, there is no wholesale broadband access product available to third parties on these FWA networks. Despite it being technically possible to offer services, in practical terms it is unlikely that any existing operators would offer wholesale services. For licence exempt networks, the limited capacity carried on these networks and the level of potential revenue which could be earned, makes it unlikely that operators will provide a wholesale service to third parties.

- 4.16 At the end of January 2004, thirty seven new licences were issued to seven operators for the provision of fixed wireless access local area services using spectrum in the 3.5 GHz frequency band. Under this scheme, additional licences may be offered in the future. While there is sufficient spectrum to provide national coverage, it is not clear that all areas will be licensed. It is expected that services will become available by year end 2004. This scheme may provide possibilities for the development of a wholesale product but no operator had so far announced plans for such a product.
- 4.17 ComReg does not anticipate medium-term market entry from high bandwidth mobile access or power line platforms as both technologies are currently at an experimental stage and are not being offered to broadband end-users in Ireland.
- 4.18 Additionally, the take up of satellite broadband services and FTTH to date has been low, mainly due to limitations in functionality and pricing structures, and a lack of fit with consumers' existing requirements. ComReg does not foresee any significant dynamic within the market which will drastically accelerate the take up of broadband via satellite or FTTH within the timeframe of this review. While there is likely to be some expansion in the medium-term in the roll-out of these platforms, the extent of such expansion is very uncertain and cannot at this point be relied upon to provide effective competition in the local loop.
- 4.19 The incumbent is likely to have cost advantages over new entrants into the wholesale broadband access market (even where the same investments are being made), and the incumbent is likely to have economy of scope opportunities that flow from its investments in broadband equipment which need not necessarily accrue to new entrants. In addition, the incumbent has better access to potential retail customers for the new downstream services. These and other differences in risk and return might conceivably lead to a higher required rate of return on investment for new entrants. As such, they might, collectively (as well as individually), constitute another barrier to entry.
- 4.20 In response to the industry questionnaires circulated by ComReg, operators other than *eircom* referred to the economies of scale and scope enjoyed by *eircom* in relation to local access networks and services, *eircom's* ability to make use of existing network elements and personnel to further reduce its costs of providing new services, including broadband access.
- 4.21 ComReg takes the view that *eircom* is likely to continue to provide the significant majority of wholesale broadband access services during the timeframe of this review, because it does not believe that any new entrant is intending to, or would be able to successfully build a new access network (capable of supplying such services) replicating all or part of *eircom's* network, or that sufficient investment will be made

in existing infrastructure to upgrade it to the point at which it is able to support the provision of broadband access.

Countervailing buying power

- 4.22 If an operator engages in practices that are potentially exploitative, customers might be able to exert countervailing buyer power against such practices. Where buyers are large and powerful, they can effectively respond to any attempt to increase prices by sellers. ComReg has considered the likelihood and/or existence of such countervailing power, given that countervailing power is often a relevant factor in wholesale markets.
- 4.23 However, countervailing buyer power can only exist where large customers have the ability (within a reasonable timeframe) to resort to credible alternatives (*e.g.* not to purchase or to switch supplier) in response to a price increase or threatened price increase. ComReg does not believe that any purchaser of wholesale broadband access has credible alternatives to *eircom*. As such, ComReg does not believe that any purchaser has countervailing market power that would offset *eircom*'s overwhelming market power in this market.

Pricing and Profitability

- 4.24 Community case-law supports the view that SMP can best be identified through an entity's ability to engage successfully in behaviour that cannot be constrained by the independent actions of competitors, customers or consumers.⁴⁸ The structure of the market for wholesale broadband access is conducive to *eircom* charging rates above the competitive level, if unregulated. As noted above, there is no means by which customers (who are also competitors on the related downstream markets) can respond to price increases, given that the only alternative source of supply is currently self-supply. The issues associated with economies of scale and scope, leverage of facilities (both historic and new), ubiquity, and access to customers limit the feasibility of self-supply by new entrants.

Preliminary conclusions

- 4.25 Depending on whether a broad or narrower market definition approach is taken *eircom* currently supplies approximately 79% or 99% (respectively) of the market for wholesale broadband access (both to itself and third parties).
- 4.26 ComReg does not believe that the operators of cable networks are able to exert significant competitive pressure on *eircom*.
- 4.27 The fragmented nature of the coverage and ownership of existing FWA networks limits the extent to which FWA using licence exempt spectrum can impose competitive pressure upon *eircom*. However, within the timeframe of this review the impact of FWA is expected to be minimal.
- 4.28 ComReg does not believe that any purchaser of wholesale broadband access has credible alternatives to *eircom*. As such, ComReg does not believe that any

⁴⁸ Hoffmann-La Roche v. Commission [1979] ECR 461, United Brands v. Commission [1978] ECR 207.

Wholesale Broadband Access

purchaser has countervailing market power that would offset *eircom*'s overwhelming market power in these markets

- 4.29 The structure of the markets for wholesale broadband access is conducive to *eircom* charging rates above the competitive level, if unregulated. As noted above, there is no means by which customers (who are also competitors on the related downstream markets) can respond to price increases, given that the only alternative source of supply is currently self-supply. The issues associated with economies of scale and scope, leverage of facilities (both historic and new), ubiquity and access to customers; limit the feasibility of self-supply by new entrants.

Q. 13. Do you agree with the above preliminary conclusions regarding market analysis? Please provide a reasoned response.

5 Designation Of Undertakings With Significant Market Power

- 5.1 Having regard to the sections above, particularly sections three and four, ComReg is of the view that, in accordance with the *Framework Regulations*:
eircom Ltd should be designated as having SMP on the market for wholesale broadband access
- 5.2 A reference in this section to any given undertaking shall be taken to include any and all undertakings which are affiliated with, or controlled by, the undertaking in question.

6 Proposed Market Remedies

The Need for Ex-Ante Regulation

- 6.1 According to the Guidelines⁴⁹, the purpose of imposing *ex-ante* obligations on undertakings designated as having SMP is to ensure that undertakings cannot use their market power either to restrict or distort competition on the relevant market, or to leverage such market power onto adjacent markets. ComReg can only impose *ex-ante* regulation “in markets where there are one or more undertakings with significant market power (SMP) and where national and Community competition law remedies are not sufficient”.⁵⁰ The Guidelines make it clear that the mere designation of an undertaking as having SMP on a given market, without imposing any appropriate regulatory obligations, is inconsistent with the provisions of the new regulatory framework, notably Article 16 (4) of the Framework Directive⁵¹. Indeed, NRAs must impose at least one regulatory obligation on an undertaking that has been designated with SMP⁵².
- 6.2 For the reasons detailed in section four above, ComReg finds that *eircom* has significant market power in the market for wholesale broadband access. Where markets are effectively competitive, ex-post competition law is generally sufficient to prevent the emergence of a dominant position, and to prohibit market abuses by one or more parties. Where, for historic reasons, a market is not effectively competitive, and/or where there are high and non-transitory barriers to entry, standard ex-post competition law remedies are not sufficient or of a timely nature to prevent or remedy market failures. Ex-ante regulation is required in these circumstances to promote and facilitate the development of competition.
- 6.3 *Ex-ante* obligations imposed by NRAs on undertakings with SMP aim to fulfil the specific objectives set out in the relevant regulations, whereas competition law remedies aim to sanction agreements or abusive behaviour which restrict or distort competition in the relevant market⁵³.
- 6.4 Given the substantial and non-transitory barriers faced by operators wishing to enter the local access market, previously discussed by ComReg⁵⁴, it is vital that competing operators have either direct or indirect access to *eircom*'s network. In Ireland, as discussed in section 3.44 to 3.53 wholesale broadband access is provided by *eircom*'s network division, to both *eircom*'s retail arm and to competing operators to enable them to construct their retail offerings. For a competing operator wholesale

⁴⁹ Commission Guidelines on market analysis and the assessment of significant market power under the Community regulatory framework for electronic communications networks and services at paragraph 16.

⁵⁰ Recital 27 of the Framework Directive.

⁵¹ Commission Guidelines on market analysis and the assessment of significant market power under the Community regulatory framework for electronic communications networks and services at paragraph 114.

⁵² *Ibid*, paragraphs 21 and 114.

⁵³ *Ibid* paragraph 31.

⁵⁴ ComReg Document No. 03/146 - Market Analysis: Wholesale unbundled access (including shared access) to metallic loops and sub-loops.

broadband access provides indirect access to a customer connected to the *eircom* network.

- 6.5 Local Loop Unbundling (including shared access) provides competing operators with an alternative means of serving a customer by means of direct access to the *eircom* network. ComReg, in line with the European Commission⁵⁵ and the European Regulators Group⁵⁶, believes that LLU and bit stream services are complementary, and that both require *ex-ante* regulation in order to encourage competition to the benefit of end users. The availability of a wholesale broadband access product facilitates the entry into the market of competing operators because it presents low barriers to entry, and allows competing operators to share the network efficiencies of scale and scope enjoyed by *eircom*. Over time, as competing operators build up market share and critical mass they should be encouraged to progressively climb the “ladder of investment”⁵⁷ and move towards investment in infrastructure, such as migrating to LLU, in order to further innovate and differentiate their retail offerings.
- 6.6 When considering the imposition of *ex-ante* regulation ComReg has an obligation to encourage efficient investment in infrastructure and promote innovation⁵⁸, and to take into account the risks involved in such investment⁵⁹. ComReg is cognisant of the investment that *eircom* must make in order to offer broadband products, and understands that *eircom* makes this investment without being certain of the returns that it will be able to achieve. *Ex-ante* regulation should not deter necessary investment and therefore the application of remedies in this market should differ from the application of remedies in other markets, such as LLU, where the investment risks are much lower.
- 6.7 While recognising the investment *eircom* is required to make, *ex-ante* regulation must ensure that *eircom* is prevented from leveraging its dominance at a network level into the retail markets, foreclosing those markets and preventing the development of sustainable competition. Over the longer term the maximum advantage to end users, in terms of service innovation, quality of service and pricing, will only be delivered through effective competition. Over the period of this review there is no prospect of *eircom*'s network dominance being threatened and therefore *ex-ante* regulation of the wholesale broadband access market will be required to ensure that *eircom* cannot use its market power at the wholesale level either to restrict or distort competition in this market or to leverage such market power onto adjacent markets⁶⁰.

⁵⁵ Communication on Local Loop Unbundling 2000/C 272/10.

⁵⁶ ERG Bit stream Access Position paper

⁵⁷ Cave 'Remedies for Broadband Services', 2003; Joint ERG/EC Joint Approach on appropriate remedies in the new regulatory framework (working paper) 2003.

⁵⁸ Framework Directive Article 8(2)

⁵⁹ Access Regulation 14(2)

⁶⁰ Commission guidelines on market analysis and the assessment of significant market power under the Community regulatory framework for electronic communications networks and services – paragraph 16

What are the competition problems?

6.8 The list below describes both actual and potential competition problems which therefore may occur in this market. It should be noted the list is not exhaustive, but provides an indicative list of the types of competition problems which ComReg has identified through its market analysis. These competition problems predominantly fall within the broad classification of “vertical leveraging”⁶¹ of market power.

Refusal to deal and denial of access

6.9 Without mandated access, competing operators would face substantial barriers to entry and would be forced to enter the market on the basis of uneconomic investment. Additionally, it is important to note that access does not simply refer to access to the local access network but also may require access to associated facilities. However, mandating access to the bottleneck facility does not eliminate all competition problems. In this case the SMP operator may still attempt to leverage its position from the wholesale market into the retail market (vertical leveraging) in a number of ways. These can be divided into two basic categories – non-price and price.

Non-price problems

6.10 These generally occur from discriminatory behaviour, perhaps following the introduction of a regulated access price, so that price discrimination is not possible. As a group these provide for the incumbent to benefit from a first mover advantage, potentially squeezing quality and raising other operators’ costs, hence leading to a restriction of competitors’ sales. Non-price competition problems are set out below:

Withholding of information

6.11 This relates to a practice whereby the SMP operator on the wholesale market provides its retail arm with information – such as the characteristics of its network – which it does not provide (either at all, or within a timely and/or accurate manner) to competing operators. This leaves the new entrant at a significant disadvantage and may amount to refusal to deal.

Low quality

6.12 The wholesale arm of an SMP operator may not provide services or information of the same quality or accuracy, or within the same timescales it provides to its own retail arm.

Delaying tactics

6.13 Rather than outright refusing to deal, SMP operators may employ delaying tactics such as lengthy contract negotiations, or provision of essential services and information only following negotiation or direction from the regulator. This may provide the SMP operator’s retail arm with a first mover advantage and hence restrict sales of competing operators.

⁶¹ See Chapter 1 of “Draft joint ERG/EC approach on appropriate remedies in the new regulatory framework”.

Undue requirements

- 6.14 This may relate to contract terms such as overly onerous requirements for deposits, credit checks, and non disclosure agreements. Restriction of services offered or points of access allowed may also be imposed. Inappropriate bundling may also be proposed, in that the SMP operator may require that the competing operator buy extra elements from the SMP operator, which are unnecessary for provision of their end user retail services. Negotiation on these points may cause a delay, and the issues may raise competing operators' costs and restrict their sales. It is worthwhile noting that contract terms may also be imposed on customers to restrict switching these may include long contracts, penalties for switching and administrative difficulties.

Strategic design of product

- 6.15 SMP operators may design access points and products according to their own network topology and vendors and may require that competitors use the same, for example, standards, protocols or design. This may mean that products are designed to be easy for the SMP operator's retail arm to use, but require the new entrant to amend its own business plan.

Discriminatory use of information

- 6.16 Where an SMP operator provides a new entrant with wholesale access it may gain information about retail services provided to that customer. Use of that information to target the retail customer (for example for winback or to sell a competing product) may be discriminatory.

Price problems

Such problems may also accompany mandated access to the market, leading to a rise in competitors' costs, negative welfare effects and inefficiencies of allocation. These include:

Excessive prices/cross-subsidization

- 6.17 With mandated access, the SMP operator may seek to set an excessive price on the wholesale market. This could be done in a number of ways. In the absence of price control this could be simply by increasing prices to a level that is unjustified by cost. Even with price control mechanisms, such as cost orientation, the same objective could be achieved by the inappropriate allocation of costs to the wholesale product or the recovery of inefficiently incurred costs which would imply a requirement for cost accounting and accounting separation obligations.

Price discrimination

- 6.18 A vertically integrated operator with SMP on the wholesale market can use price discrimination to raise the wholesale cost to its external wholesale customers or to impose costs on them that are not borne by its downstream retail arm thereby putting the external operator at an unfair disadvantage. This problem may imply the need for an obligation of non discrimination supported by obligations of transparency and accounting separation.

Predatory Pricing/Margin Squeeze

- 6.19 SMP operators may offer predatory prices to end users in order to foreclose the retail market for competitors. There may be an incentive to leverage power in the wholesale market into downstream retail markets in an effort to eliminate or reduce competitive pressures over the longer term.

Q. 14. Do you agree with this analysis of competition problems? Are there any further competition problems which you believe ComReg should consider? Please elaborate your response.

Remedies available in the Access Regulations

- 6.20 As set out previously, ComReg is obliged by the *Framework Regulations* to impose an obligation on undertakings with significant market power.⁶² ComReg also has the obligation under Regulation 6⁶³ to act in pursuit of its statutory obligations to ensure adequate access, interconnection and interoperability of services without prejudice to any measures which may be imposed on undertakings designated as SMP operators and subject to obligations listed in Regulation 10 to 14 of the Access Regulations as detailed below.

Obligation of Transparency

- 6.21 Regulation 10 sets out the requirements with regard to the obligation of Transparency and covers the following:
- (a) Publication of information such as accounting information, technical specifications, network characteristics, terms and conditions of supply and use and prices in relation to interconnection and/or access;
 - (b) Publication of a sufficiently unbundled reference offer;
 - (c) The Regulator's power to specify the precise information to be made available in the reference offer with regards to the level of detail and the manner of publication;
 - (d) The Regulator's power to make changes to the reference offer and to direct the operator designated as having significant market power to publish the reference offer with such changes.

⁶² Framework Regulation 27(4) states 'Where the Regulator determines that a relevant market is not effectively competitive, it shall designate undertakings with significant market power in accordance with Regulation 25 and it shall impose on such undertakings such specific obligations as it considers appropriate' Framework Regulation 6(1-5).

⁶³ Access Regulation 9(1) states 'Where an operator is designated as having a significant market power on a relevant market as a result of a market analysis carried out in accordance with Regulation 26 of the Framework Regulations, the Regulator shall impose on such an operator such of the obligations set out in Regulations 10 to 14 as the Regulator considers appropriate'.

Obligation of Non-discrimination

6.22 Regulation 11 lays down the requirements with regard to the obligation of Non discrimination and covers the following:

- (a) Regulator's power to impose non-discrimination in relation to interconnection and/or access;
- (b) Such non-discrimination shall ensure that the operator applies equivalent conditions in equivalent circumstances to other undertakings providing equivalent services. It shall ensure that the operator provides services and information to others under the same conditions and of the same quality as the operator provides for its own services or those of its subsidiaries or partners.

Obligation of Accounting Separation

6.23 Regulation 12 sets out the requirements with regard to the obligation of Accounting Separation and covers the following:

- (c) Regulator's power to impose accounting separation on an operator in relation to specified activities related to interconnection and/or access;
- (d) Regulator's power to make a vertically integrated company to make transparent its wholesale prices and its internal transfer prices to ensure compliance with any obligation imposed under Regulation 11 and to prevent unfair cross-subsidy.

Obligation of access to, and use of, specific network facilities

6.24 Regulation 13 lays down the requirements with regard to the obligation of access to and the use of specific network facilities and covers the following:

- (e) Regulator's power to impose on an operator obligations to meet reasonable request for access;
- (f) Regulator's power to attach conditions of fairness, reasonableness and timeliness to the obligation to meet reasonable request for access;
- (g) Regulator's obligation to review the imposition of meeting reasonable requests for access against a number of factors to ensure proportionality.

Price control and Cost Accounting obligations

6.25 Regulation 14 sets out the requirements with regard to the obligation of price control and cost accounting and covers the following:

- (h) Regulator's power to impose cost orientation of prices and obligations concerning cost accounting systems for the provision of interconnection and/or access where a market analysis indicates that a lack of effective competition means that an operator might sustain prices at an excessively high level or apply a price squeeze;

Wholesale Broadband Access

- (i) Regulator's obligation that the operator is able to earn a reasonable rate of return on adequate capital employed following the imposition of cost oriented prices;
- (j) Regulator's obligation to ensure that the cost recovery mechanism serves to promote efficiency and sustainable competition and maximise consumer benefits;
- (k) Regulator's power to direct an operator to provide full justification for its prices and to require prices to be adjusted;
- (l) Clarification that the burden of proof placed upon the operator to show that charges are derived from costs including a reasonable rate of return;
- (m) Regulator's obligation to ensure that where implementation of a cost accounting system is imposed under this Regulation, a description of the system is made publicly available, verified as appropriate and a statement regarding compliance published annually.

6.26 It should be noted that NRAs may be justified in imposing remedies other than those set out above or, in exceptional cases remedies that go beyond what is prescribed in the Access Regulations provided that the approval of the European Commission is first obtained.

Principles to be applied when selecting remedies

6.27 When selecting appropriate remedies to address the competition problems identified ComReg has an obligation to consider the objectives of Section 12 of the Communications (Regulation) Act 2002 (to promote competition, to contribute to the development of the internal market, and to promote the interests of users) and of Regulation 6 of the Access Regulations (to promote efficiency, promote sustainable competition, and give maximum benefit to end users).

6.28 Furthermore, Regulation 9 of the Access Regulations requires that any obligations imposed by ComReg must be based on the nature of the problem identified, and be proportionate and justified in the light of the objectives laid down in Section 12 of the Communications Act 2002⁶⁴.

6.29 ComReg has identified in the section above a number of actual or potential competition problems arising from *eircom*'s dominance in the market for wholesale broadband access. As set out previously ComReg believes that it is most unlikely that within the period of this review that there is any possibility of the development of significant competition either in this market or utilising alternative access infrastructure. The remedies imposed must facilitate competitors in entering their chosen retail markets by providing access to *eircom*'s network infrastructure on terms and conditions that promote efficiency and sustainable competition, allowing such operators to share the benefits of economies of scale and scope to enable them to gain critical mass and move towards efficient investment in infrastructure and

⁶⁴ Commission Guidelines on market analysis and the assessment of significant market power under the Community regulatory framework for electronic communications networks and services. See paragraphs 21 and 116. See also Regulation 9 (5) of the Access Regulations.

promotion of innovation. The remedies proposed must also provide sufficient incentive to the incumbent to invest in Wholesale Broadband Access.

- 6.30 It is unlikely that any single remedy can achieve this, so the remedies proposed below should be seen as a complementary suite which support and reinforce each other.

Q. 15. Do you agree with the principles which ComReg believes should be used when selecting remedies? Do you think there are other principles that ComReg should consider when selecting appropriate remedies?

Wholesale Broadband Access and Bit stream

- 6.31 There are a number of ways of ensuring that a bit stream offer is available to competing operators. It is important that the manner of imposing the access obligation is sufficient to ensure that it remedies identified problems whilst being the least burdensome. ComReg has considered three approaches outlined below.
- 6.32 One such way is to maintain the current practice of non discrimination (Direction 5.2 of D6/00) whereby *eircom* supplies to OAOs the same wholesale products as it supplies to its own retail arm. However, ComReg believes this to be insufficient as it does not allow OAOs to differentiate products and hence may stifle innovation as *eircom* only supplies wholesale products equivalent to those it supplies its retail arm. Therefore, there is a risk that products are designed according to the needs of *eircom* retail and OAOs may not be able to acquire products to allow them to target other segments of the market.
- 6.33 It is possible for ComReg to mandate various additional wholesale products; for example, ComReg could specify alternative points of hand-over and technical parameters – e.g handover after the DSLAM, or alternative contention ratios. However, for ComReg to mandate at this point may not be in line with Regulation 13 (4) of the Access Regulations and hence could represent an onerous burden, which could be disproportionate if there is no or little demand for the alternatives. In any event, ComReg believes that competing operators are better placed to request offerings which enable innovative retail services.
- 6.34 Pursuant to Access Regulation 13 (1) ComReg believes a more appropriate regime to be one of requiring *eircom* to meet reasonable requests as this will both promote product differentiation and innovation and ensure that only products for which there is a requirement are developed.
- 6.35 In the context of a market which is only now beginning to experience rapid growth, the issue of investment incentives may best be addressed by regulating only the differential between retail and wholesale rates, rather than by determining the absolute price level. This would prevent market foreclosure by the dominant operator by means of a margin squeeze, while allowing an appropriate level of return on investment.
- 6.36 While the competition problems identified in the analysis above relate to failures in the wholesale broadband access market as a whole, the remedies must necessarily apply to the specific service through which *eircom* exerts its significant market power, i.e. the Bit stream service. Therefore, in the following discussion of remedies

ComReg will propose a number of obligations on the provision of *eircom*'s wholesale Bit stream service that are designed to remedy failures in the broader market.

Remedies proposed

6.37 In this section ComReg sets out the detailed remedies that it proposes to impose on *eircom*, the designated SMP operator, and measures these against the principles set out above. In the consideration of remedies below, ComReg has set out remedies that it considers to be appropriate at this time and in the prevailing market conditions. However ComReg proposes to reserve this right, to refine these remedies, if required from market needs.

Access to and use of specific network facilities

6.38 When considering whether or not to impose an access obligation and the proportionality of so doing, ComReg must take account of Regulation 13 (4) of the Access Regulations. These factors include, *inter alia*, the technical and economic viability of using or installing competing facilities, in the light of market development; the feasibility of providing the access proposed, in relation to the capacity available; the initial investment by the facility owner bearing in mind the risks involved in making the investment; and the need to safeguard competition in the long term.

6.39 As set out in our analysis of competition problems, in this market ComReg believes that there is a danger of a vertically integrated operator leveraging its market power onto a related market, in order to prevent or hinder the entry of competing operators. ComReg believes that this would result in market foreclosure, and imposition of an access obligation will contribute to remedying this failure. ComReg concludes that without imposition of an access obligation it is likely that an SMP operator such as *eircom* will refuse to deal and hence deny access. ComReg therefore considers that mandating bit stream access is based on the nature of the problem identified, is proportionate and is justified.

6.40 Regulation 13 is – on its own – unlikely to solve the problem, however. ComReg does consider that further remedies may be required to accompany this remedy to address all potential competition problems such as predatory pricing or discriminatory practices. These are addressed later in this section.

6.41 In consideration of the remaining factors set out in Regulation 13 (4), ComReg concludes that, based on current experience and the take-up of these products, it is feasible for *eircom* to grant bit stream access as currently four operators (including *eircom* retail) take up varying bit stream services. ComReg has also considered whether access to the local loop safeguards competition. As bit stream access allows new entrants to compete with SMP operators in offering broadband services, ComReg concludes that mandated access safeguards development of competition and in fact allows for new entrants to further climb the ladder towards infrastructure investment.

6.42 It is important to emphasise that imposition of an access obligation means that *eircom* would be required to answer reasonable requests for products, pursuant to Regulation 13 (1). Currently *eircom* provides bit stream access pursuant to Decision

5.2 of D6/00⁶⁵ on ‘non discriminatory, fair and reasonable terms’, and has implemented wholesale variants of their proposed retail offerings to meet the terms of that decision. However in a market where competition problems may arise from the design of products to meet the needs of the SMP operator’s retail arm, ComReg believes that it will be more appropriate to move to a regime where *eircom* must answer reasonable requests for access. Such a request would be considered under Regulation 13 (4) of the Access Regulations. ComReg believes that this allows a competing operator to request wholesale products which allow the OAO to specify parameters to suit their needs, rather than simply mirroring, for example, the handover points most beneficial to *eircom* retail.

Q. 16. Do you agree that an access obligation should be imposed on eircom?

Q. 17. There are three ways access to ensure bit stream access, these are set out in sections 6.32-6.34. However ComReg believes that a reasonable request regime is most appropriate. Do you believe that eircom should be required to answer reasonable requests for access? Please provide details in support of your answer.

6.43 Currently *eircom* provide four wholesale bit stream access products, of which three can be handed off at (distant) ATM level and one at IP level. This is illustrated in Annex A of this paper. ComReg considers that these products should be maintained⁶⁶, as ComReg also proposes to maintain the non discrimination obligation on *eircom*.

6.44 However as set out above, ComReg notes that the current wholesale bit stream products were developed following *eircom*’s non discrimination obligations, and believes that, in the revised regulatory framework, an obligation of meeting reasonable requests to be more appropriate. Therefore ComReg believes that it might be appropriate for OAOs to submit requests for new wholesale products or features.

6.45 Suggested parameters may include:

- i. revised handover points that may be more appropriate to OAOs’ requirements;
- ii. revised handover speeds for example a lower handover speed ATM interface;
- iii. different DSL technologies such as, for example, g.hSDSL which *eircom* does not currently deploy;
- iv. the ability to specify line test parameters and therefore offer products with either lower or higher confidence levels that *eircom* retail and;

⁶⁵ ComReg Document v1.6 ‘Report on the ODTR consultation on local loop unbundling’ (2004)

⁶⁶ ComReg considers the products to be maintained correspond to those set out in the current versions of Wholesale Bit stream Access Reference Offer v 1.6 (with the addition of the Bit stream Port Transfer directed for inclusion by Decision D1/04 ComReg Document 04/02 “Bit stream Port Transfer”)

v. DSL over ISDN

6.46 The *Framework Regulations* define associated facilities as ‘those facilities associated with an electronic communications network, an electronic communications service or both such network and service which enable, support, or both enable and support the provision of services via that network and service’. Currently *eircom* offer a service described as the Bit stream Connection Service, and ComReg proposes to maintain this obligation. In addition however, ComReg would like to gauge the level of interest from OAOs in associated facilities not currently provided. For example, ComReg is aware of market interest in a collocation product for bit stream or associated backhaul. ComReg believes that such a product would increase efficiencies for OAOs who currently use such a product, for example for LLU, as well as encouraging new operators to collocate closer to the DSLAM/point of presence rather than requiring such operators to purchase conveyance from *eircom*.

Q. 18. If you believe that *eircom* should be required to answer reasonable requests for access, do you require any further wholesale bit stream access products or features or additional associated facilities to be provided by *eircom*? Please provide details of such products.

6.47 Furthermore, pursuant to Regulation 13 (2) (e) ComReg also considers it appropriate that, insofar as it is required to avail of wholesale bit stream, *eircom* should also grant open access to technical interfaces, protocols, or other key technologies and similarly, pursuant to Regulation 13 (2) (h) *eircom* is required to provide such OSS or similar software necessary to ensure fair competition in the provision of services. In practical terms this means that *eircom* should be required to maintain the gateway currently used for bit stream. ComReg also believes it appropriate for *eircom* to open up any DSL trials to interested access seekers.

Q. 19. Are there any further obligations which should be imposed on *eircom* with respect to technical interfaces, protocols or OSS? Please detail your views

6.48 Additionally, pursuant to Regulation 13 (2) (b) ComReg also believes that *eircom* has the obligation to negotiate in good faith. ComReg also proposes, pursuant to Regulation 13 (2) (c), to impose the obligation on *eircom* not to withdraw access to facilities already granted.

6.49 Pursuant to Regulation 13 (3) ComReg may also attach conditions covering fairness, reasonableness and timeliness to the obligations set out above. In this context, ComReg believes that Service Level Agreements (SLAs) are required in respect of all products for all process points. However, ComReg proposes to deal with this under the remedy of non discrimination as *eircom*'s retail arm also purchases the same wholesale bit stream product as OAOs. However where the wholesale product differs from that purchased by *eircom* retail, or where OAO use a different associated facility such as, for example, collocation, SLAs may apply in respect of

these products. Where SLAs apply, ComReg is of the view that penalties should apply where appropriate and additionally a remedy of transparency may be appropriate as a supporting remedy.

Q. 20. Do you agree with the approach to Service Level Agreements set out above?

Please detail any further comments.

Non-discrimination

6.50 *eircom* interpret their current obligation under Decision 5.2 of D6/00 to mean that a functional wholesale equivalent of their retail offerings is made available to OAOs. Earlier in this document, ComReg proposed to augment this with a regime based on the granting of reasonable requests, but also proposes to maintain the non discrimination obligation. This means that where *eircom*'s upstream arm provides a bitstream service to *eircom*'s downstream retail arm it would continue to be required to provide an equivalent wholesale bit stream product to other operators.

Q. 21. Do you agree that in addition to provision of reasonable requests, *eircom* should also be required to provide products on a non discriminatory basis and, as such, should be required to provide to other operators an equivalent wholesale Bit stream product to those services it provides to its retail arm?

6.51 Where an access obligation has been imposed pursuant to Regulation 13 - and in particular where obligations regulating charges have been imposed subject to Regulation 15 – ComReg believes that an SMP operator would have increased incentives to discriminate on non-price parameters.

6.52 These competition problems were set out earlier, and include withholding of information, delaying tactics, undue requirements, low or discriminatory quality, strategic design of product, and discriminatory use of information. ComReg believes that non discrimination is the only remedy which can directly target these competition problems and therefore ComReg considers that an obligation of non discrimination is necessary to ensure that *eircom* does not discriminate in favour of its own retail arm.

6.53 ComReg is empowered, where appropriate, to impose non discrimination where access obligations exist. This means that *eircom* must apply equivalent conditions in equivalent circumstances to other undertakings providing equivalent services and must provide services and information to others under the same conditions and of the same quality as *eircom* provides for its own services or those of its subsidiaries or partners. In taking up bit stream, there should be no unreasonable delays, no undue bundling, and no undue contractual terms for OAOs who wish to avail of the service.

6.54 Information and services must be provided to alternative operators in timescales, on a basis, and of a quality, which are at least as good as those provided to *eircom*'s retail arm and associates. As bit stream is a product which is purchased by OAOs

Wholesale Broadband Access

and *eircom* retail ComReg believes that Service Level Agreements (SLAs) are required to monitor *eircom*'s obligation of non discrimination.

- 6.55 In particular, it is important that information gained by *eircom* as a result of their provision of bit stream services to another operator is not used by *eircom*'s downstream arms in any manner.
- 6.56 In order to aid compliance with the obligation of non discrimination, ComReg is of the opinion that a Code of Practice should be rapidly concluded for Bit stream. It will also be necessary to impose obligations of transparency and accounting separation to monitor non discrimination.
- 6.57 ComReg also believes that *eircom*'s downstream arms should not have privileged access to *eircom* wholesale. For example, when developing new products OAOs should be afforded equivalent access to *eircom* wholesale as *eircom* retail. This is potentially a most serious form of discrimination. Not only is there the potential for discriminatory development of products, there is also the potential for the two arms of the *eircom* business to have undue influence on each others pricing.
- 6.58 ComReg proposes to continuously monitor *eircom* for any evidence of discrimination in favour of *eircom*'s downstream arms by *eircom* wholesale. Should any such evidence of this kind of discrimination be found ComReg would consider this a breach of the utmost seriousness, and would, with reference to other relevant national and European bodies, seek such sanctions as would prevent a recurrence.

Q. 22. Do you agree that an obligation of non discrimination should be imposed on *eircom*? Please elaborate your answer, making references to ComReg's interpretation of such an obligation set out above.

Transparency

- 6.59 At present *eircom* publish a limited Bit stream Access Reference Offer on their website (current version 1.5) However this document omits most of the detail found in other *eircom* offers such as the Reference Interconnection Offer (RIO) or the Access Reference Offer (ARO). Associated documents such as detailed process manuals specifications of the wholesale gateway or codes of practice are not published by *eircom* on their website, as is usual for wholesale products.
- 6.60 Following the imposition of access and non discrimination obligations, ComReg believes that it is proportionate and justified to impose an obligation of transparency. This ensures that alternative operators have sufficient information and clear processes to which they would not otherwise have access. This assists their entry into the market and hence promotes competition. Transparency also provides a method of ensuring compliance with a non discrimination obligation, as the information needed to measure this would not otherwise be available. Therefore ComReg considers an obligation of transparency directly targets the nature of the problem and should be imposed on *eircom*.

Q. 23. Do you agree that an obligation of transparency should be imposed on eircom? Please provide a detailed answer.

6.61 Regulation 10 provides for the regulator to require the SMP operator to publish a reference offer that is sufficiently unbundled to ensure that undertakings are not required to pay for facilities which are not necessary for the service requested. This would include a description of the relevant offerings broken down into components according to market needs and a description of the associated terms and conditions, including prices.

6.62 In the case of the Access Reference Offer, Regulation 10 and the Schedule sets out the minimum list of items to be included in such a reference offer. The format of the RIO has been developed through experience and consultation with industry. However ComReg wishes to seek views from interested parties on the most appropriate format for any Bit stream Access Reference Offer and the minimum list of items to be included in such an offer. Following this, ComReg intends, under Regulation 10 (3) to specify the precise information to be made available, the level of detail and the manner of publication. ComReg also reserves the right to direct changes to any reference offer.

Q. 24. Which items should be included in any Bit stream Access Reference Offer? Please provide headings and a description of the content under each heading as appropriate.

6.63 Regulation 10 also provides for ComReg to require an operator to make public (in relation to any access obligation imposed under Regulation 13) specified information, such as accounting information, technical specifications, network characteristics, terms and conditions for supply and use, and prices. ComReg notes that public documentation for bit stream is sparse with, for example, process manuals for bit stream not published.

Q. 25. Do you believe that ComReg should require eircom to make public any further information? Please specify if you believe this should be made available in the Reference Offer or otherwise published. Please provide support for your answer.

Accounting Separation

6.64 The provision of financial information by operators designated as having SMP has always been an essential part of regulation in Ireland. Indeed ComReg has required those operators to supply financial information to ComReg either on-demand to support investigations and pricing reviews and/or on an annual basis in order to

support ComReg's regular monitoring of its decisions since deregulation of the market.

- 6.65 It has been outlined in an earlier section of this document, how the obligation of non-discrimination is important in order to contribute toward the remedy for a number of identified competition problems. An obligation of non-discrimination can require, *inter alia*, the imposition of financial reporting regimes in order to monitor *eircom*'s compliance with such an obligation. With regard to *eircom*'s designation as having SMP in this market and the identification of the obligation of non-discrimination as a means to remedy the competition problems discussed earlier, ComReg believes it is appropriate to impose an obligation of accounting separation upon *eircom* in this market.
- 6.66 ComReg is proposing that *eircom* should have an obligation not to unduly discriminate because where *eircom* is a vertically integrated undertaking it has an incentive to provide wholesale services on terms and conditions that discriminate in favour of its own retail activities in such a way that may have a material effect on competition. The obligation of accounting separation will support ComReg in its monitoring of *eircom*'s behaviour with regard to non-discrimination by clearly reporting its wholesale prices and internal transfer prices for relevant services as well as making transparent the non-discriminatory allocation of cost between products and services. ComReg intends to implement accounting separation on a by service and/or product basis. ComReg believes it is not sufficient to implement such an obligation at a market level as it is important to discourage possible cross subsidisation of pricing at a service level.
- 6.67 ComReg outlines later in this document the proposed imposition of a retail-minus approach to the setting of prices for *eircom*'s wholesale broadband access products. In order to monitor this approach with regard to the accuracy of costs used within the retail-minus calculation and to ensure non-discrimination, ComReg is proposing that *eircom* should have obligations of accounting separation and transparency imposed upon its retail broadband access business using network products and services whose price is determined on a retail-minus basis.
- 6.68 As was discussed earlier, in deciding upon the imposition of obligations to support the remedy of competition problems, ComReg must ensure that the obligation is based on the nature of the problem identified, justifiable and proportionate in the support of promotion of competition, must encourage access to the network in order to ensure efficient and sustainable competition and must contribute towards maximising consumer benefits. In this regard, the accounting separation obligation will be designed to provide evidence from *eircom* which will help to demonstrate the presence or absence of discrimination. In this regard, ComReg believes the imposition of accounting separation upon *eircom* to be justifiable and based upon the nature of the problem identified.
- 6.69 ComReg proposes to consult further on accounting separation and cost accounting methodologies and the related obligations of transparency supporting separated accounting. In the interim, ComReg is proposing that it maintains the existing level of accounting separation on *eircom* until such time as any further consultations are completed.

Q. 26. Do you believe eircom should have an obligation of accounting separation? Please elaborate

Price Control and Cost Orientation

- 6.70 Regulation 14(1) of the Access Regulation allows ComReg to impose obligations relating to cost recovery and price controls on access services where a lack of effective competition means that the SMP operator might apply a margin squeeze to the detriment of end users. It has been described in previous sections of this document how, due to the substantial and non-transitory barriers faced by operators wishing to enter the local access market, it is vital that competing operators have either direct or indirect access to *eircom*'s network. In addition, it is equally vital that *eircom* be prevented from leveraging its market power from the wholesale market into the retail market in an attempt to foreclose the market as this will not promote sustainable competition and will be detrimental to end users. However, the implementation of an obligation of price control and cost orientation needs to take account of the need to provide the correct incentives with regard to investment and product and service innovation. The characteristics of the obligation therefore needs to give new entrants access to *eircom*'s economies of scale in the network and together with appropriate access remedies, to allow new entrants to build a customer base for their services which in turn may give the critical mass in the longer term that allows those competitors the chance to invest in their own infrastructure, so that competition can become self-sustaining.
- 6.71 ComReg believes that wholesale price control is essential to prevent the vertical leveraging of *eircom*'s significant market power in the wholesale broadband access market into retail broadband markets. ComReg considers that two price control mechanisms, Cost Orientation on the basis of Forward Looking Long Run Incremental Costs (FL-LRIC) and retail minus, would both successfully address the potential for vertical leveraging. It is ComReg's belief that of the two approaches retail minus is the least burdensome and will provide the better protection against the vertical leverage problem and so it is the preferred option. Given the inherent uncertainties of a market in the relatively early stages of growth it may be better, from the point of view of providing appropriate investment incentives, to focus on the relative level of retail and wholesale prices, rather than the absolute level. However, in order to be effective a retail minus mechanism must include certain safeguards to prevent market distortions, and without these safeguards the cost orientation of wholesale prices may be the only effective regulatory remedy.

Cost Orientation

- 6.72 ComReg has considered an obligation on *eircom* to offer cost oriented prices for wholesale broadband access on the basis of FL-LRIC. FL-LRIC is a widely used cost accounting methodology that estimates the efficient costs caused by the provision of a defined increment of output, taking a long run perspective, assuming that some output is already produced. The 'long run' means the time horizon over which all costs (including capital costs) are variable.
- 6.73 ComReg believes that any cost orientation methodology used for this market must be forward looking. In order to provide broadband access services, *eircom* is required to make considerable up-front investments in advance of mass market take up of the service; in combination with increasing volumes over time, this results in the current average cost of provision being significantly higher than the average cost of provision in the future. If one were to base wholesale prices on costs currently incurred, the resulting prices could deter the mass adoption of the service, which

would clearly not be consistent with the regulatory objectives set out in Regulation 6 of the Access Regulations.

- 6.74 An appropriately constructed FL-LRIC methodology would result in wholesale prices that fulfil the objectives set out in Regulations 6 and 14 of the Access Regulations, while allowing *eircom* a reasonable rate of return on its investments. However, given the uncertain nature of future demand in this market there are considerable practical difficulties in constructing appropriate FL-LRIC based prices.
- 6.75 While ComReg believes that cost orientation on a FL-LRIC basis would be an effective remedy to the competition problems identified, it is a burdensome obligation and ComReg believes that its regulatory objectives can equally be achieved by using the less burdensome retail minus mechanism. However, should it prove impossible to construct an effective retail minus mechanism, including necessary safeguards, then cost orientation on the basis of FL-LRIC may be the only effective remedy.

Q. 27. Do you believe that cost orientation of wholesale prices on the basis of Forward Looking Long Run Incremental Costs would be an effective remedy for the competition problems identified in this market?

Q. 28. Do you agree with ComReg that there are less burdensome, and hence more proportionate, remedies that would achieve the same objectives?

Retail Minus

- 6.76 ComReg believes that the primary purpose of ex-ante regulation in this market is to foster the development of competition by preventing the vertical leveraging of *eircom*'s significant market power in the wholesale market into the retail market by way of a margin squeeze. To that end ComReg believes that wholesale price control by way of a retail minus mechanism is appropriate. A retail minus mechanism guarantees a margin between the wholesale and retail price and therefore prevents the possibility of market foreclosure by means of a margin squeeze.

Q. 29. Do you agree that retail minus is the appropriate mechanism for wholesale price control in this market?

- 6.77 In order for a retail minus pricing mechanism to achieve its regulatory objectives the fixed margin between the wholesale and retail prices needs to be appropriately established. If the margin is too large then this risks discouraging investment at the network level, on the other hand if the margin is too small then this risks constraining the development of competition. ComReg believes that the approach to setting the margin between wholesale and retail prices should be forward looking and based on the additional costs that must be incurred to provide the retail service.

6.78 In taking this approach ComReg will sometimes need to use historic data to make a judgement on appropriate forward looking costs and may need to use the SMP operator's costs as an input into assumptions about competitors' costs. Historic information on costs and prices may also provide useful information in relation to market dynamics and possible impacts on competition of retail minus price options. For example, evidence about whether an SMP operator has in the past been incurring losses at the retail level, perhaps as part of a predatory pricing strategy, may influence forward looking price setting.

Q. 30. Do you agree that the margin between retail and wholesale prices should be based a forward looking view of the additional costs that must be incurred to provide a retail service? How might these costs be estimated in practice?

Q. 31. What do you believe is an appropriate retail return?

Q. 32. (a) Do you believe that the margin between the retail and wholesale prices should be established as a percentage of the retail price or should it be a constant amount? (b) How frequently should this figure be revised?

6.79 When considering the application of *ex-ante* regulation ComReg believes that it is important that competition delivers product innovation and service differentiation. To that end, as set out in section 6.43, ComReg proposes that competing operators should be allowed to make reasonable requests for access for Bit stream products at different points of handover in the *eircom* network, and where reasonable to be allowed to specify the technical parameters of the wholesale product. Depending on where in *eircom*'s network a competing operator chose the point of handover, it would have to make greater or lesser infrastructure investment. ComReg believes that when considering setting the margin between retail and wholesale prices of various Bit stream products the relative degree of investment, and hence risk, undertaken by the parties should be considered.

Q. 33. Do you believe that if new wholesale Bit stream products were to be developed that the relative degree of investment that the competing operator and the incumbent were required to make should be considered when establishing the margin between retail and wholesale prices?

6.80 When considering the imposition of a retail minus price control mechanism a number of complexities in implementation need to be addressed and ComReg seeks the views of interested parties on how the following issues should be treated.

Q. 34. If eircom were to introduce discounts schemes, time limited promotions, or bespoke contracts, how should these be treated within the retail minus mechanism?

Q. 35. Given the nature of the retail broadband product range, one wholesale network product can support multiple differentiated retail products, possibly each with different pricing, how, therefore do you believe that this should be accounted for in the retail minus mechanism?

Q. 36. If in the future competing operators request wholesale products that are materially different from ones eircom supplies itself how do you believe that these should be treated within a retail minus mechanism? In this case how should product development costs be recovered?

Q. 37. Are there any other implementation issues relevant to a retail minus price control mechanism that you believe that ComReg should consider?

6.81 In order for any price control mechanism to be effective it must be capable of being continually monitored for compliance. While ComReg does not believe it to be appropriate to intervene in the retail market, a retail minus mechanism clearly requires that ComReg is fully aware of any retail price changes that *eircom* should make. ComReg believes that in order that it can monitor the compliance with the retail minus mechanism *eircom* should be obliged to submit details of any change in prices for retail broadband services to ComReg in advance of their introduction. ComReg would then consider whether it would be necessary to adjust the wholesale price, and if so by how much.

6.82 ComReg further believes there is the potential for a retail minus mechanism to give *eircom*'s retail operation an unfair advantage in the market, in that they know that any change they make to retail prices will automatically trigger a change in the wholesale price. However, if a competing operator were to make a price change it will continue to pay the same wholesale price, and hence will have lower margins. To prevent this effect from distorting competition, ComReg believes that it is essential that prior to *eircom* making any retail price change that would cause a change in the wholesale price, *eircom* must notify competing operators in advance of the imminent wholesale price change. Furthermore *eircom* may not introduce the retail price change until the wholesale price change has been effected. The period of notification should be long enough to prevent competing operators from being unfairly disadvantaged, but should be short enough that it does not make the market unnecessarily rigid.

Q. 38. Do you believe that this is an appropriate mechanism for compliance?

Q. 39. What do you believe is an appropriate period for advance notification of a change in the wholesale price?

Cost Accounting Systems

- 6.83 A cost accounting system will be necessary where an obligation has been imposed on an operator in relation to cost oriented pricing, price controls, recovery of costs and/or retail tariff controls. With regard to this particular market, the obligation of a price control has been proposed as an appropriate obligation to be imposed on *eircom* and therefore ComReg proposes to impose a further obligation with regard to cost accounting systems on *eircom* in support of the price control obligation. Additionally, in support of ComReg's proposed imposition of accounting separation with regard to *eircom*'s retail broadband activities, ComReg also proposes to impose an obligation with regard to cost accounting systems to *eircom*'s retail broadband activities, again in support of the price control obligation, and to produce and support accounting statements.
- 6.84 The detailed application of this obligation will be included in the future accounting separation consultation, where issues with regard to maintenance of accounting records, on-demand reporting, audit and timeliness with regard to supply of data will be discussed.
- 6.85 ComReg proposes to consult further on cost accounting and accounting separation methodologies supporting cost accounting. In the interim ComReg is proposing that it maintains the existing level of cost accounting obligation on *eircom* until such time as any further consultations are completed.
- 6.86 ComReg also notes its obligation to cause to be published a statement by *eircom* of compliance with relevant cost accounting systems.⁶⁷

Q. 40. Do you agree that obligations in respect of cost accounting systems should be imposed on *eircom*? Please elaborate your answer

⁶⁷ Access Regulation 14(5): The Regulator shall ensure that, where implementation of a cost accounting system is imposed under this Regulation in order to support price controls, a description of the cost accounting system is made publicly available, showing at least the main categories under which costs are grouped and the rules used for the allocation of costs. Compliance with the cost accounting system shall, at the choice of the Regulator, be verified by the Regulator or by a suitably qualified independent body. Access Regulation 14(6): The Regulator shall cause to be published annually a statement concerning compliance with any cost accounting system imposed under this Regulation.

7 Regulatory Impact Assessment

7.1 The Ministerial Direction (issued by the Minister for Communications Marine & Natural Resources in accordance with S13 of the Communications Regulation Act, 2002) published in February 2003, directs:

“The Commission before deciding to impose regulatory obligations on undertakings in the market for electronic Communications or for the purposes of the management and use of the radio frequency spectrum or for the purposes of the regulation of the postal sector, shall conduct a Regulatory Impact Assessment in accordance with European and International best practice and otherwise in accordance with measures that may be adopted under the Government’s Better Regulation programme.”

7.2 ComReg is obliged by the *Framework Regulations* to impose an obligation on undertakings with significant market power⁶⁸. ComReg is obliged further to impose obligations listed in Articles 9 to Article 13 inclusive of the Access Directive⁶⁹ which are as follows:

- Obligation of transparency
- Obligation of non-discrimination
- Obligation of accounting separation
- Obligation of access to, and use of, specific network facilities
- Price control and cost accounting obligations

7.3 ComReg is obliged under Article 8(4) of the Access Directive to impose obligations based on the nature of problems identified, proportionate and justified in the light of the objectives laid down in Article 8 of 2002/21/EC (Framework Directive)

7.4 ComReg believes the market analysis process is a comprehensive review of the sector under consideration and is approximate to a regulatory assessment as considered by the Ministerial Direction quoted in 8.1 above.

7.5 ComReg, taking account of its obligations under Section 13 of the Communications Act 2002 and the Directives and Regulations of the New Regulatory Framework believe the remedies listed in chapter 6 are proportionate and justified.

⁶⁸ Article 16.4 states ‘Where a national regulatory authority determines that a relevant market is not effectively competitive, it shall identify undertakings with significant market power on that market and the national regulatory authority shall on such undertakings impose appropriate specific regulatory obligations...’

⁶⁹ Article 8(2) of Access Directive

8 Submitting Comments

- 8.1 All comments are welcome; however it would make the task of analysing responses easier if comments were referenced to the relevant question numbers from this document.
- 8.2 The consultation period will run from 05 March to 21 April 2004, during which ComReg welcomes written comments on any of the issues raised in this paper.
- 8.3 ComReg appreciates that many of the issues raised in this paper may require respondents to provide confidential information if their comments are to be meaningful. Respondents are requested to clearly identify confidential material and if possible to include it in a separate annex to the response. Such information will be treated as strictly confidential.
- 8.4 Having analysed and considered the comments received, ComReg will review the wholesale broadband access market review and publish a report on the consultation which will inter alia summarise the responses to the consultation.
- 8.5 In order to promote further openness and transparency ComReg will publish the names of all respondents and make available for inspection responses to the consultation at its Offices.

Appendix A – Wholesale Broadband Access and Bit stream

- 8.6 *eircom* provide wholesale broadband access, both to their own retail arm and to competing operators, as a bit stream service.
- 8.7 “High speed bit stream access refers to the situation where the incumbent installs a high speed access link to the customer premises (e.g. by installing its preferred ADSL equipment and configuration in its local access network) and then makes this access link available to third parties, to enable them to provide high speed services to customers. The incumbent may also provide transmission services to its competitors, to carry traffic to a ‘higher’ level in the network hierarchy where new entrants may already have a point of presence (e.g., transit switch location). The bit stream service may be defined as the provision of transmission capacity (upward/downward channels may be asymmetric) between an end user connected to a telephone connection and the point of interconnection available to the new entrant”⁷⁰
- 8.8 The European Commission states the following: “Bit stream depends in part on the PSTN and may include other networks such as the ATM network, and bit stream access is a wholesale product that consists of the provision of transmission capacity in such a way as to allow new entrants to offer their own, value-added services to their clients. Resale offers are not a substitute for bit stream access because they do not allow new entrants to differentiate their services from those of the incumbent.”
- 8.9 In order to be able to differentiate their services from those of the incumbent, new entrants must have access at a point where they can control certain technical characteristics (see below for the details regarding technical parameters) of the service to the end-user and/or make full use of their own network (or alternative network offerings⁷¹) thus being in a position of altering the quality (e.g. the data rate or other features) supplied to the customer. This includes indirect control, i.e. the incumbent alters the technical parameters as requested by the new entrant (see below for the details). It should be noted that the market for backbone facilities, where alternative operators offer backhaul services should not be left aside when considering bit stream access.
- 8.10 The main elements defining bit stream access are outlined in the figure below and include the following:
- high speed access link to the customer premises (**end user part**) provided by the incumbent;
 - transmission capacity for broadband data in both directions enabling new entrants to offer their own, value-added services to end users;
 - new entrants have the possibility to differentiate their services by altering (directly or indirectly) technical characteristics and/or the use of their own network;
 - bit stream access is a wholesale product consisting of the DSL part (access link) and **backhaul** services of the (data) backbone network (ATM, IP backbone).

⁷⁰ ONPCOM01-18Rev1 – Open Network Provision Committee, European Commission. Working Document. High Speed Bit stream access. 2001

Wholesale Broadband Access

- 8.11 Bit stream access is thus defined as the corresponding wholesale product for DSL services (high speed services). However, this definition leaves open at which point the traffic is handed-over as there are various hand-over points for DSL traffic between the incumbent and the OAO or ISP⁷².
- 8.12 According to the European Commission⁷³ high speed services offered to new entrants on the basis of unbundling, shared access and resale are explicitly mentioned as not being counted as bit stream access.

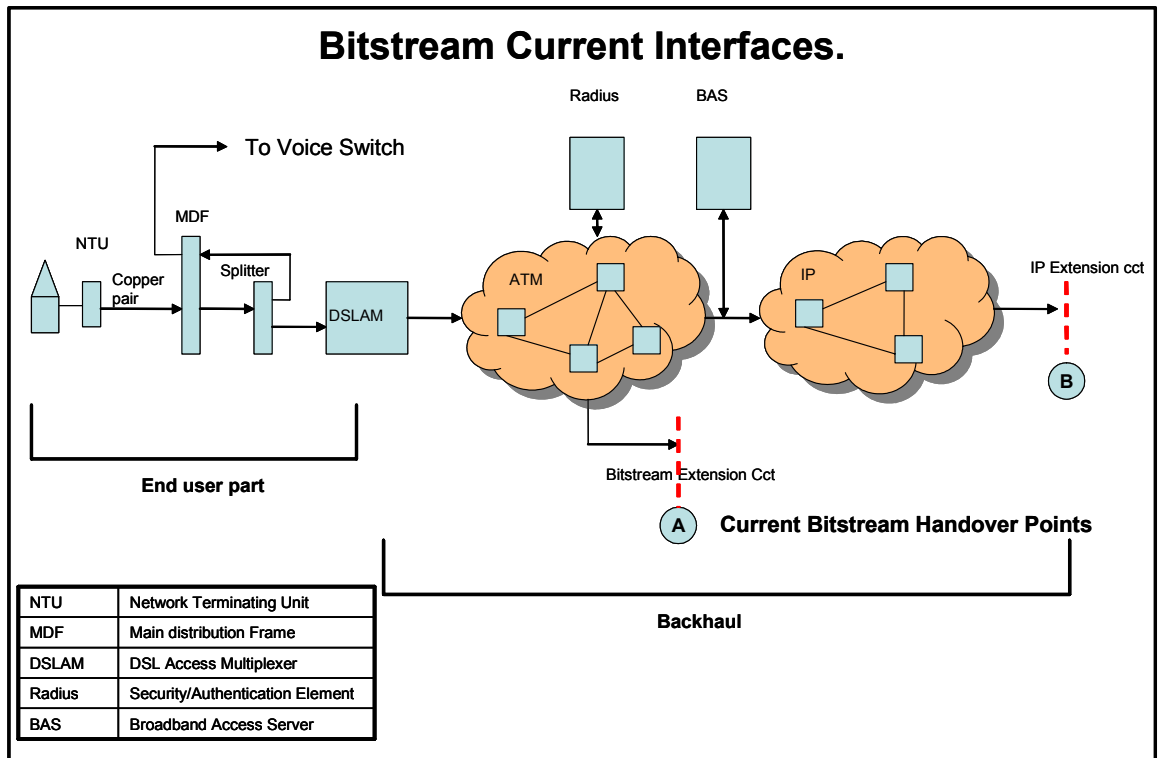


Figure A a – A , B Current Bit stream Handover Points

⁷² An OAO is an Other Authorised Operator and an ISP is an Internet Service Provider

⁷³ ONPCOM02-03 - OPEN NETWORK PROVISION COMMITTEE Working Document Local broadband access -developments regarding unbundling, bit stream access and leased lines. February 2002

Annex B – Price Comparison between bit stream and ULL

The current standard charges for (fully) unbundled local loops are as follows⁷⁴

Service	Charges
Successful connection for existing metallic path	€121.52
Successful connection for existing metallic path (with survey option to allow connection of spare path)	€154.25
Cancelled connection order	€24.12
Upgrade from line sharing to full unbundling	€80.70
Monthly rental charge	€16.81
Line testing	€49.18
Fault clearance	€117.31
Disconnection Charge	€49.58

eircom's current standard charges for (sub) unbundled local loop – Full are as follows⁷⁵:

Service	Charges
Cabinet Survey	€99.17
Cabinet Site Offer	€81.96
Subloop ULMP	€168.65
Monthly rental charge	€15.25
Line testing	€49.18
Sub Loop ULMP Disconnection	€69.03

eircom's current standard charges for (sub) unbundled local loops – Line Sharing are as follows⁷⁶:

Service	Charges
Cabinet Survey	€99.17
Cabinet Site Offer	€81.96
Subloop Line sharing	€172.51
Monthly rental charge	€8.22
Line testing	€18.09
Sub Loop (Line sharing) Disconnection	€92.34

eircom's current standard charges for line sharing connections are as follows:

Service	Charges
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⁷⁴ All charges are exclusive of VAT

⁷⁵ Attendance charges will also apply, which are dependent on an initial charge for the first 30 minutes and subsequent charge thereafter and whether the visit is planned/unplanned/ standard/after-hours

⁷⁶ Attendance charges will also apply, which are dependent on an initial charge for the first 30 minutes and subsequent charge thereafter and whether the visit is planned/unplanned/ standard/after-hours

Wholesale Broadband Access

Successful line sharing connection for existing path	€123.41
Successful shared connection for existing path (with survey option to allow connection of spare path)	€156.14
Cancelled connection order	€24.12
Monthly rental charge	€9.00
Line testing	€18.09
Fault clearance	€117.31
LS Disconnection	€75.00

eircom's current standard charges for collocation facilities are as follows:

Service	Charges
Pre-ordering charges	
Information requests	€318 per site
Full survey reports	ranging between €1143 and 2845 per distant site
Site inspections	ranging between €1143 and 2845 per distant site
Site offers	€6133
Occupancy charges	varying by location
Basic rental	
Licence fees	For generator provision, flooring and air-conditioning, the MDF and cabling
Capital contributions	For generator provision and air-conditioning
Power charges, process charges and charges for attendance services	(both planned and unplanned).

eircom's current standard charges for bit stream access⁷⁷ are as follows:

Service	Charges
Service establishment per access seeker (not per line)	€8,035
Port connection charge	€60
Monthly service charge for 512 kbps port	€55
Monthly service charge for 1,024 kbps port	€89
Monthly service charge for Rate Adaptive Port	€27
Port Transfer Charge	€60

⁷⁷ These charges are currently subject to an number of promotional discounts

Annex C Consultation Questions

- Q. 1. Do you agree with the scope of ComReg’s review of wholesale broadband access? Please elaborate your response. 10
- Q. 2. Do you agree with the approach to market definition outlined above? Please elaborate your response. 14
- Q. 3. Do you consider that cable broadband access services, FWA access services and ADSL services are supplied on the same relevant retail service market? Please elaborate your response. 18
- Q. 4. Do you consider that self-supply by cable operators occurs in the same relevant market as the provision of bit stream access? Please provide a reasoned response. 20
- Q. 5. Do you consider that self-supply by cable operators does not occur in the same relevant market as the provision of bit stream access? Please provide a reasoned response..... 21
- Q. 6. Do you consider that self-supply by FWA operators occurs in the same relevant market as the provision of bit stream access? Please provide a reasoned response. 22
- Q. 7. Do you consider that self-supply by FWA operators does not occur in the same relevant market as the provision of bit stream access? Please provide a reasoned response..... 22
- Q. 8. Do you consider that bit stream services (self-supply) should be included in the relevant market? Please provide a reasoned response. 24
- Q. 9. Do you consider that wholesale broadband services, defined narrowly or broadly are not in the same relevant market to unbundled local loops? Please provide a reasoned response. 26
- Q. 10. Do you consider that there are no effective supply-side substitutes for wholesale broadband access within the timeframe of this review? 26
- Q. 11. Do you consider that the relevant market for wholesale broadband access should be defined broadly, including self-supply by cable, self-supply by FWA operators, externally-supplied bit stream services and self-supplied bit stream services? Alternatively, do you consider that the relevant market should be defined narrowly, including externally supplied bit stream services and self-supplied bit stream services. Please provide a reasoned response. 27
- Q. 12. Do you agree that the relevant geographic market for wholesale broadband access is Ireland? Please expand in your response..... 28
- Q. 13. Do you agree with the above preliminary conclusions regarding market analysis? Please provide a reasoned response..... 34
- Q. 14. Do you agree with this analysis of competition problems? Are there any further competition problems which you believe ComReg should consider? Please elaborate your response. 40
- Q. 15. Do you agree with the principles which ComReg believes should be used when selecting remedies? Do you think there are other principles that ComReg should consider when selecting appropriate remedies? 43
- Q. 16. Do you agree that an access obligation should be imposed on eircom?
45

- Q. 17. There are three ways access to ensure bit stream access, these are set out in sections 6.32-6.34. However ComReg believes that a reasonable request regime is most appropriate. Do you believe that eircom should be required to answer reasonable requests for access? Please provide details in support of your answer. 45
- Q. 18. If you believe that eircom should be required to answer reasonable requests for access, do you require any further wholesale bit stream access products or features or additional associated facilities to be provided by eircom? Please provide details of such products. 46
- Q. 19. Are there any further obligations which should be imposed on eircom with respect to technical interfaces, protocols or OSS? Please detail your views
46
- Q. 20. Do you agree with the approach to Service Level Agreements set out above? Please detail any further comments..... 47
- Q. 21. Do you agree that in addition to provision of reasonable requests, eircom should also be required to provide products on a non discriminatory basis and, as such, should be required to provide to other operators an equivalent wholesale Bit stream product to those services it provides to its retail arm? 47
- Q. 22. Do you agree that an obligation of non discrimination should be imposed on eircom? Please elaborate your answer, making references to ComReg’s interpretation of such an obligation set out above..... 48
- Q. 23. Do you agree that an obligation of transparency should be imposed on eircom? Please provide a detailed answer. 49
- Q. 24. Which items should be included in any Bit stream Access Reference Offer? Please provide headings and a description of the content under each heading as appropriate..... 49
- Q. 25. Do you believe that ComReg should require eircom to make public any further information? Please specify if you believe this should be made available in the Reference Offer or otherwise published. Please provide support for your answer..... 49
- Q. 26. Do you believe eircom should have an obligation of accounting separation? Please elaborate 50
- Q. 27. Do you believe that cost orientation of wholesale prices on the basis of Forward Looking Long Run Incremental Costs would be an effective remedy for the competition problems identified in this market? 52
- Q. 28. Do you agree with ComReg that there are less burdensome, and hence more proportionate, remedies that would achieve the same objectives?
52
- Q. 29. Do you agree that retail minus is the appropriate mechanism for wholesale price control in this market? 52
- Q. 30. Do you agree that the margin between retail and wholesale prices should be based a forward looking view of the additional costs that must be incurred to provide a retail service? How might these costs be estimated in practice? 53
- Q. 31. What do you believe is an appropriate retail return? 53

Wholesale Broadband Access

- Q. 32. (a) Do you believe that the margin between the retail and wholesale prices should be established as a percentage of the retail price or should it be a constant amount? (b) How frequently should this figure be revised? 53
- Q. 33. Do you believe that if new wholesale Bit stream products were to be developed that the relative degree of investment that the competing operator and the incumbent were required to make should be considered when establishing the margin between retail and wholesale prices? 53
- Q. 34. If eircom were to introduce discounts schemes, time limited promotions, or bespoke contracts, how should these be treated within the retail minus mechanism? 54
- Q. 35. Given the nature of the retail broadband product range, one wholesale network product can support multiple differentiated retail products, possibly each with different pricing, how, therefore do you believe that this should accounted for in the retail minus mechanism? 54
- Q. 36. If in the future competing operators request wholesale products that are materially different from ones eircom supplies itself how do you believe that these should be treated within a retail minus mechanism? In this case how should product development costs be recovered? 54
- Q. 37. Are there any other implementation issues relevant to a retail minus price control mechanism that you believe that ComReg should consider?..... 54
- Q. 38. Do you believe that this is an appropriate mechanism for compliance?
55
- Q. 39. What do you believe is an appropriate period for advance notification of a change in the wholesale price? 55
- Q. 40. Do you agree that obligations in respect of cost accounting systems should be imposed on eircom? Please elaborate your answer 55