Office of the Director of
Telecommunications
Regulation

Speech by Etain Doyle,
Director of Telecommunications Regulation

to the

Irish Nortel Networks Users Association

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Facilitating Access to Bandwidth

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INTRODUCTION

Chairman, Ladies and Gentlemen; let me begin by thanking the Irish Nortel Networks Users Association for this opportunity to speak to you this afternoon. I will address a number of strategic issues which I hope may be of interest to you focusing particularly on what we are doing in the ODTR to improve access to bandwidth in fixed and mobile modes for businesses and other users.

Today, almost every business, and you in particular as users of telecom networks, is reliant on telecommunications. It is the role of my office to ensure that appropriate regulatory frameworks are in place which facilitate a vibrant telecommunications industry, thus enabling you to deliver the services on which the success of your businesses rely.

Before I address the issues, it may be useful to first set out some background on my office.

Regulation and the role of the ODTR

So what is the role of my Office? In short, it is responsible for regulating the transmission of telecommunications whether by cable, telephone wire or radio, and whether those means are used for phones, radio messages, data, television or radio delivery. Regulation involves ensuring *access* by way of licensing - opening connection to eircom's network for example – putting pressure on *prices* by requiring appropriate charges for interconnection and price capping non-competitive retail services, and *quality* of service standards such as service level agreements.

My office has a number of key objectives:

- To facilitate consumers: we must provide the framework in which Irish consumers can get the best in services, in terms of price, quality and range of advanced services;

- To facilitate competition and achieve a level playing field: there must be equal opportunities for existing and new suppliers to compete in the telecoms marketplace;

- To provide clear and consistent rules: these are critical to facilitate investment and planning and to ensure that the rights and entitlements of all parties are protected.

The Current State of the Telecoms Sector in Ireland

The Telecoms Market in Ireland continues to expand with virtually all segments of the market experiencing increased demand. There is strong evidence to suggest that competition continues to develop with new entrants share of the market now at 15%. The full automation of carrier pre-selection since April 2000, which enables the customer switch operator with relative ease, has greatly facilitated this competition. The mobile market in Ireland exhibits the third fastest relative growth rate in Western Europe . Mobile market penetration is estimated at 50% and the number of mobile subscribers now stands at 1.86 million. For the first time the number of mobile lines have now exceeded the number of fixed lines.

Based on figures from the operators for the quarter to June 2000, the ODTR estimates that total revenues for the fixed, mobile and broadcasting markets are now worth over IR£1.85 billion a year - an increase of over 10% on previous estimates[1]. Given the steady reduction in prices during the past 12 months, the growth in traffic volume should comfortably exceed this figure. Expressed as a portion of total national output, the telecom sector is now estimated to account for approximately 2.7% of Irish GDP, a figure broadly in line with most other Western European economies. Employment in the sector continues to grow with the ODTR estimating that over 18,000 people are employed amongst the licensed operators alone.

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[1] The European Information Technology Observatory estimated that the Irish telecommunications market was worth £1.66 billion in 1999.

Recently the Secretary General of the OECD[2] remarked that Ireland is one of the fastest growing economies and is in the top ten of OECD countries in terms of its GDP per head. The Irish economy has become outward-looking, attuned to the needs of foreign investment and confident about free trade. We have faced up to the consequences of our geographical position on the periphery of Europe. We invested heavily in education. The result is that our economy is showing phenomenal economic growth with every prospect of this continuing.

Absolutely critical to this process is the development of our telecommunications industry. It cannot just be a priority: it must be something about which we must have an obsessive sense of urgency.

The key of course is liberalisation.

I will now give you a flavour of some of the key areas in telecommunications where the ODTR is facilitating the telecommunications industry by providing access to that increasingly critical commodity - Bandwidth.

These are: unbundling the local loop, an alternative means of bypassing the local loop by means of fixed wireless access and a look at two new developments in mobile communications, TETRA and the next generation of mobile communications.

Unbundling the Local Loop (ULL)

If competition is to succeed in broadening the range of quality, choice and price of telecommunications services, then access to the customer is vital for alternative operators, and both local loop unbundling and fixed wireless access present means of providing that access.

Unbundling the local loop

The local loop is that part of the network that connects each customer's premises to the local exchange. Allowing other operators access to the local loop will mean that

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[2] The new economy: technology is not enough. Donald J Johnston OECD Observer, 22 Sept 2000.

that operators other than Eircom can install their own equipment in the local exchanges to upgrade the capacity of the local loop so that high bandwidth services can be carried over the local loop.

Central to the issue is DSL technology which enhances the copper line allowing it transmit multimedia and data at high speeds on top of the traditional voice traffic.

Earlier this year I announced my intention to unbundle the local loop by April 2001. While recognising that competing companies in Ireland see copper unbundling as their key requirement this is not supported by the legal framework within which the ODTR operates i.e. the ODTR is not in a position to mandate copper loop unbundling.

Both the Government here and the European Union are committed to full copper unbundling. The European regulation is nearing completion and the Minister for Public Enterprise has signalled her intention to include full copper loop unbundling in forthcoming legislation.

There has been considerable debate in the press as to the principles that will be applied to setting pricing for unbundled loops. The European legislation expected to be effective from the end of 2000 is likely to set out the basic principles. Operators providing unbundled loops and associated facilities will have to follow the principle of cost orientation when setting prices. Prices will also have to be set in a manner that fosters fair and sustainable competition. National regulators will have the power to enforce these requirements.

My office has already begun work-collecting data and developing models to ensure that *eircom's* prices are cost orientated. In my decision on unbundling earlier this year I set out the general approach that will be employed:

- Access seekers will be charged only for facilities they require to offer services.
- On the methods used to assess appropriate costs, similar approaches will be used to those applied when analysing costs of interconnection services. These allow

recovery of appropriate operating costs plus a reasonable return on capital employed. Models are being developed both for historical cost analysis and for a forward-looking incremental approach to costing.

- Efficient incentives for investment will be preserved.

The ODTR has a number of working groups developing the information and processes necessary for implementing unbundling, and technical trials are to start shortly.

Fixed Wireless Access

Fixed Wireless Access technologies attack the monopoly of the last mile. They compete with and complement other access technologies offering the customer more choice, more services and better prices. They are another important step in helping to deliver broadband services to all corners of the country.

Fixed Wireless Access (FWA) provides a uniquely cost-effective means to introduce the competitive narrowband and broadband telecommunication services that users are increasingly demanding. In particular, there is also an increasing interest in the delivery of broadband interactive services for both business and residential subscribers.

Earlier this year we concluded a competition for the award of narrowband and broadband licences for Fixed Wireless Point-to-Multipoint services. The result of the competition was the issuing of 6 licenses over the summer to provide radio-based access for fixed line operators. These comprised 4 broadband licences in the 26GHz band and two narrowband licences at 3.5 GHz.

The broadband licences are intended to cater for the needs of medium to large users of telecommunications services, enabling services such as PABX connection, broadband Internet access, bandwidth-on-demand and fast file transfer. The narrowband licences are intended as alternatives to copper in the local loop, which at present connects the

majority of residential and business customers to their local exchange, offering mainly basic telephony, Internet and ISDN connections.

In July this year I announced details of a consultation on additional Fixed Wireless Access licences, and I expect to report this shortly.

I believe that the availability of broadband "mass market" services is an important factor in facilitating the growth of electronic commerce, information and entertainment services. I am anxious to ensure that the benefits of broadband access are available in all regions and across all sectors of society.

Mobile Communications

Turning now from fixed access to the mobile area, I would like to say a few words on the importance of mobile communications in general.

One of our objectives in the ODTR is to increase the level of competition in the provision of telecommunications services. The mobile communications market is one of the most important areas here as any of you know who use mobile phones.
At the end of June 2000 the number of PSTN lines remained relatively constant standing at just under 1.59 million[3]. This figure is unlikely to increase rapidly, given the increasing popularity of mobile phones and businesses' growing reliance on ISDN and dedicated leased line connections. Using the latest population figures of 3.79 million[4], the total number of PSTN lines per 100 inhabitants stands at just under 42, still below the EU average of 48.5. However, given the rapidly changing mix of access technologies being deployed, the relative importance of this indicator has diminished.

A better indicator of the level of adoption of telecom services is the number of telecom access paths. A telecom access path has the equivalent voice carrying capacity of an ordinary PSTN telephone line, but could also include access being

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[3] Source: ODTR Quarterly Review, September 2000.
[4] Source: CSO 12th September 2000.

provided by mobile lines and ISDN access channels. As can be seen this indicator better captures the growing contribution of mobile as a means of communication in Ireland today. With mobile lines accounting for over 1.8 million of the 3.6 million telecom access paths, mobile phones have surpassed fixed PSTN lines as the most popular means for voice communications.

The Irish mobile penetration rate has maintained its upward trend, rising from 45% at the end of March 2000 to 49% at the start of June 2000. With the third fastest relative growth rate in Western Europe, the total number of mobile subscribers now stands at just over 1.86 million[5]. Eircell continues as the larger operator with a reported figure of just over 1.1 million subscribers, bringing their share of the market to approximately 60%[6]. Overall there has been a significant change in the relative market shares of the mobile operators in the last 12 months, with Digifone improving from 33% a year ago to their current market share of 40%.

Also of significance is the increasing demand for data traffic and Internet access which is pushing up users need for bandwidth. And this will be a key driver in the next generation of mobile communications.

Internet Usage

In our latest quarterly review the ODTR reported that there is evidence that Internet traffic is growing. As a percentage of total fixed line minutes, internet usage now accounts for 22%. Further growth in Internet traffic is predicted over the next few months as NTL and Irish Multichannel roll out their local broadband networks across the major population centres.

International experience points to "freeserve" and "flat rate" models as useful tools in developing internet usage and Ireland may be expected to respond in the same way. The free serve model (no internet subscription) has advantages for letting new users try out the Internet without any big financial commitment while the flat rate model (standard charge, no matter how much usage) is best for heavy users. The ODTR has provided a framework for whatever models market players want to introduce from

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[5] Source: FT Mobile Communications, June 23rd 2000.

"freeserve" to "flat rate". The principles as set out by the ODTR recognise the key role played by the eircom network in the Irish Market and are designed to ensure that eircom and the other operators will compete fairly and vigorously in the best interests of the Internet Users. Experience has shown that it is this type of competition that ultimately drives prices to the consumer down. The new arrangements which are outlined in decision notice 04/00 allow at least three models of "dial up" internet access to be developed by the operators in the market.

I am planing to hold a consultation in the near future with a view to opening new number ranges for Internet access traffic. This should help ensure that Irish Service Providers can employ whichever business models prove to be the most practical and attractive to customers.

TETRA

A significant new mobile technology developed in Europe and aimed very much at the professional user is TETRA, otherwise known as Terrestrial Trunked Radio. TETRA is a mobile communications service, which can deliver a broad range of voice and data services in both public and private networks such as communications for transport fleet management or on a major construction site. As an advanced digital technology, TETRA can provide users with mobile access to the latest on-line and electronic commerce applications, while retaining the traditional business radio benefits of instant, cost-effective communication between individuals and groups.

TETRA services are currently being rolled out in a number of European countries and experience with similar services in the USA has shown there is a sizeable market for it. I believe that the introduction of such services in Ireland will create further choice and diversity for users of business mobile communications.

Earlier this month I launched a competition for the award of a national TETRA Public Access Mobile Radio (PAMR) licence, utilising 2 x 2 MHz of spectrum in the 410-430MHz band, to provide digital trunked radio services in Ireland. The licence

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[6] Source: FT Mobile Communications, June 23rd 2000.

will be awarded by tender using a comparative selection process. The term of the licence will be fifteen years. It is expected that the highest ranked applicant will be announced in January 2001.

Third Generation Mobile Services

Given the long term importance of wireless broadband communications, let me say a few words about third generation mobile services. Third generation ("3G") represents the next major step in the evolution of mobile communications. The principle differentiator of 3G services from their current 2G counterparts is the emphasis on data rather than voice services. This reflects similar trends in fixed telecommunications, where the rise of the Internet has recently seen data overtake voice traffic for the first time.

3G services will potentially deliver much more capacity than the current second generation GSM phones. With data rates up to two megabits per second, it will be possible to extend the applications offered into real-time video, web surfing, location-based services and the downloading of entertainment. By offering fast access to the Internet, for example, it will enable e-business applications such as on-line banking and shopping.

The positioning of 3G in the wider telecommunications market can best be described in terms of the bandwidth and mobility capability as follows:

- Current 2G mobile networks are capable of providing high mobility, narrow band services;
- Current fixed networks are capable of providing low mobility, wide band services;
- 3G mobile networks will be provide a combination of high mobility and wide bandwidth services.

3G mobile market relationships are likely to be complex, involving for example value-added content providers, network operators, service providers and retailers. Content and value added services may account for a much more significant proportion of 3G mobile revenue than is the case for today's traditional tariff-based 2G networks.

A useful analogy is broadcasting, where there is an increasing emphasis on subscription based services delivering premium content such as sport or movies. Around the world, mobile operators are increasingly focussing on value added data services, which are likely to be the biggest mobile growth area over the next decade. Currently these are mostly delivered using narrow band technologies such as SMS[7] and WAP[8], however there is a growing industry consensus that in the future users will demand a richer multimedia experience whilst on the move.

Over the next couple of years mobile data services are expected to migrate to "enhanced 2G" services such as the General Packet Radio Service ("GPRS") which will enable both higher speeds and improved efficiency, by connecting to the network only when data packets are actually being sent or received. GPRS will also provide the core network base for 3rd generation mobile services. A report produced for the UMTS Forum[9] estimated that the mobile multimedia market in Western Europe will be worth 24 billion Euros per year by 2005. In Ireland, as in much of the rest of Europe, there are over twice as many mobile phone users as there are Internet users, and Motorola has suggested that more than half of all Internet connections will come from wireless devices by 2003. A number of major corporate alliances are being formed to develop this vision.

Getting the licensing of third generation mobile services underway will be a major ODTR activity during this year. It is likely that the transition in use will be gradual, with both second and third generation operating simultaneously and I would expect hybrid second and third generation terminals to be the norm for some years.

Having due regard to the current state of the Irish mobile telecommunications market and the recommendations put forward by the UMTS Forum, I therefore propose to offer four equal 3G licences, each comprising 2 x 15 MHz of paired spectrum plus a further 5 MHz of unpaired spectrum. To level the playing field between 2G and 3G operators, I also propose to reserve one of the four licences for a new market entrant

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[7] Short Message Service
[8] Wireless Application Protocol
[9] The Future Mobile Market: Global trends and developments with a focus on Western Europe, UMTS Forum, March 1999

and to include within this reserved licence spectrum in the GSM 900 and GSM 1800 bands, comparable to that currently assigned to the three incumbent GSM operators.

The competition format will be a beauty contest and will focus on evaluation of bids in respect of key requirements such as coverage, roll-out, access (including wholesale offerings) and performance guarantees. An admittance test will also be held to determine the financial, technical and business capabilities of applicants, including their ability to meet certain threshold criteria on geographic coverage and roll out. This is to ensure that they are capable of delivering the major effort required to develop 3G services effectively and to ensure that the basic requirements for competition are met.

The competition should conclude in May of next year with the announcement of successful bidders.

The Future

In closing, a brief look at what the future might hold. What are the forces shaping the future, the forces that will combine in perhaps unpredictable ways to yield exciting new developments? *Technological innovation* is arguably the most complex of these, and impacts across all areas of communication.

Market behaviour is another powerful force. Defining, creating, developing and serving markets is traditionally what healthy companies are all about. Add to this today's emphasis on mergers, acquisition and alliance activities, some of which can be measured in multiples of Ireland's GDP, and we begin to appreciate what is at stake commercially and economically.

There are also powerful *policy and social* forces at work over and above economic forces. Why is it that telecoms policy-making has become so prominent on the agendas of the European Union and governments around the world? Fundamentally, it relates to the extended reach and impact that information and communication technologies have. For example, mobile telephony services have transformed

business and personal continuity of contact, while new transaction services over the Internet offer enormous business opportunities and challenges, and convenience to people in their everyday lives. These services have major social and economic implications at the level of individuals.

As a member of the European Union, Ireland has participated in the creation of a liberalising framework that has resulted in very rapid change across Europe since the beginning of 1998. The Irish Government has embraced the potential which the telecoms sector has to offer, from the decision to liberalise the market in 1998 to the initiatives to increase broadband connectivity such as the agreement with Global Crossing at national level to the provision of Internet facilities in schools at a more local level – these are all clear indicators of the importance that is attached to being at the forefront of technological and information society developments.

To meet the challenges of this fast moving market the range of *regulatory tools* and the flexibility of those tools will have to keep pace with the ever increasing demands being placed on us - the ODTR needs to be able to anticipate and respond rapidly enough to ensure that Ireland maintains its place at the leading edge of telecommunications developments.

 In fact next Thursday we have organised a conference " New Issues in the Telecommunications sector 2002 to 2010"which looks at some of these issues. We have identified an international panel of speakers to look beyond the immediate developments in the liberalised telecommunications market and to identify new issues that are likely to arise over the coming decade.

Those of you who have also followed the development of telecoms liberalisation over the last two decades, in countries such as the USA, will be well aware that lobbying and legal challenges are not new phenomena in telecoms. Events in the last year illustrate that Ireland's telecoms sector is not immune from legal forces. It would be naïve to imagine that lobbying and legal challenges will not continue to be influential, but *in the long run* they may be expected to be less influential than technological innovation and market forces.

EU and Irish law

The ODTR operates within a framework of EU and Irish law. It operates only within that framework and does only those things for which it has been given responsibility in law. I am, however, looking forward to the new legislation promised by the Minister for Public Enterprise for the ODTR. The new legislation is timely and very much needed in the fast paced communications environment in which we operate.

The enforcement powers of my office as they currently stand are limited. This impacts on our ability to ensure effective regulation of the market. One major weakness identified in the existing regulatory framework is the lack of transparent, proportionate civil remedies. Such remedies are vital in cases where operators may derive substantial commercial benefits (or cause significant harm to consumers or competitor by failing to comply with licence conditions or other legal requirements. Currently, my office can impose a maximum fine of IR£1,500 on a telecommunications operator who commits an offence. In the Minister's outline legislation this fine for conviction on summary offences is retained. While I understand that there must be a limit on the levels of fines arising from summary offences I believe that £1,500 should be reviewed to take account of current income levels and the value for money, while remaining consistent with Irish judicial and legislative principles.

With regard to criminal conviction (conviction on indictment) this is a lengthy process and not in line with the need to make fast enforcement decisions that apply appropriate redress where licence conditions or requirements of legislation are breached.

The EU is also reviewing its framework of Directives, simplifying and up-dating them in the light of technological and market developments. I would like to briefly touch upon one of our concerns on the proposals, namely, the proposal by the Commission to employ a new "dominance" based threshold to identify when and what obligations to apply in regulatory law.

Currently, Significant Market Power (SMP) is the trigger mechanism for imposing particular regulatory obligations on companies. A firm is presumed to have SMP if it has 25% or more of a pre-defined market. The Commission proposes to change this test in two important ways. One is to focus regulation on economic markets, rather than arbitrary, technology-specific ones. I welcome this change. It will allow regulation to keep up with changing technology and developing markets.

However, the Commission is also proposing to change SMP to a 'dominance' based test. Dominance is a concept developed for use in competition policy. In fact the new SMP test would be more stringent than the competition law dominance test, would be difficult to apply in practice and create uncertainty in the market.

The point of applying sector-specific regulation is that certain sectors are undergoing liberalisation and subject to structural bottlenecks are not yet sufficiently competitive to be regulated by applying competition law alone. Regulators should be able to apply obligations to firms having market power. As markets become competitive, regulators need to have the flexibility to remove regulatory obligations.

I remain unconvinced that a dominance-based test is the most appropriate one for use in sector-specific communications regulation. It would be better to have a test that was explicit about the level of market share at which a firm was presumed to have SMP, together with the scope to look at other factors with a bearing on the degree of actual market power possessed by the firm. This would make the test practical to apply and would contribute added legal certainty. The test should also target a lower level of market power than dominance does. This would be more appropriate for the *ex ante* nature of telecoms regulation and the types of obligations being applied. It is also needed to cater for the nature of a liberalising sector in which competition is still emerging and individual firms tend to have a strong position in many closely related markets.

The Commission's proposals in this area, as well as being cumbersome to employ, will introduce a high degree of regulatory uncertainty in the market. The losers will be

European consumers, as the development of competition in the European telecommunication markets will be hindered.

Conclusion

These various forces, which are of course inter-related, are going to continue to shape the telecoms sector, and any vision – if it is to have credibility – must take them all into account.

The communications sector in Ireland is experiencing unprecedented change. Central to our future economic development is a highly competitive communications sector, which allows for the development of high bandwith communications services and low cost high speed Internet access. These are exciting times. Having put in place many of the essential components of telecom regulation, my Office is increasingly looking to anticipate technological and market developments in order to future-proof our regulatory approach. This is quite a challenge in the fast-moving information and communications sector, a sector characterised by unprecedented levels of technological innovation and market restructuring.

Thank you

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