ITU Global Symposium: 8th December 2004: Broadband Roll-Out and Spectrum Management: the UK Perspective

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Introduction

Good morning. I am most grateful to Hamadoun Touré for giving me the opportunity to address you this morning, in the company of so many distinguished colleagues from regulators around the world, and under the able Chairmanship of FCC Commissioner Abernathy.

The theme of the conference – licensing in the era of convergence – has major resonance in the UK, where Ofcom is a truly converged regulator, with duties across broadcasting, telecommunications and spectrum. We also welcome and fully support the conference's objective to achieve worldwide progress in promoting the development of cost-effective broadband services and internet connectivity in this converging world. In keeping with both objectives, I would like to use my slot this morning to outline to you Ofcom's experience and perspective on regulating for broadband in a converged world, what we are doing now in the UK to facilitate low cost broadband access for those that want it and the challenges we in the UK (and indeed we all as regulators) face going forward, particularly on how we propose to respond to ever-increasing demands for bandwidth via our proposals for future spectrum management and how this relates to the picture internationally.

Broadband: UK Government and Ofcom Objectives

In the UK expanding broadband and making it more competitive has been at the heart of the UK Government's objectives. The UK Prime Minister Tony Blair has also announced that he plans to 'end the digital divide' in the UK and ensure broadband is available to every home that wants it by 2008."

The Communications Act – the statute which governs Ofcom's regulatory duties - provides that Ofcom must have regard to the "desirability of encouraging the availability and use of high speed data transfer services throughout the UK". This has been underlined in Ofcom's annual plan for 2004/5 which emphasised the importance of broadband by having as its aim:

> "To promote effective and sustainable competition in the broadband market at both the retail and wholesale level, encouraging investment that will be necessary for continued roll-out and upgrading infrastructure"

Broadband will be a continuing focus for Ofcom in 2005/6.

Broadband in the UK: History

Historically, the UK has benefited from competition from the cable industry which covers 50% of the UK population and many of the early broadband developments were driven by the cable operators. Indeed, until mid 2003 the majority of broadband connections were provided over cable.

Yet uptake was disappointing due to high prices and relatively low speeds. This was partly due to a lack of infrastructure-based competition. Cable coverage and uptake is not as extensive as it is, say, in the United States and also wireless and power-line technologies remain largely unproven. It was also due to the lack of effective wholesale products such as DSL and Local Loop Unbundling (LLU).

Broadband in the UK: The Last 12 Months

However, over the last 12 months the broadband industry in the UK, has begun a positive transformation. The number of broadband connections has almost doubled to 5.3 million (or about 10% of households) by the end of September 2004 and we are adding about 200,000 connections per month.

The entry price of products from the UK's major broadband players has fallen by about 40% and we now have much more diversity in terms of speeds and pricing packages.

Infrastructure Competition/LLU

At Ofcom we have made it clear that we see infrastructure competition as key to competition and innovation and we are now seeing signs of substantial investment into infrastructure-based businesses, and particularly those based on Local Loop Unbundling, although we recognise that its role will be limited to more densely-populated areas in the UK.

Key Local Loop Unbundling prices have been reduced by 70% and Cable & Wireless and ntl are amongst the operators to have announced investment commitments and new LLU-based services on the back of this revitalised LLU. And the processes for LLU are now being rapidly improved with the support of a Telecommunications Adjudicator, whom we appointed in July 2004 to help the operators and the incumbent, BT, to sort out key process issues. Ensuring effective processes is as important, in our view, to the success of LLU as the price. The overall effect of the price reductions, the efforts of the Adjudicator and the commitment of BT and other operators, is that demand will rise to around 5000 lines per day within 12-18 months – a stark contrast to the 16000 lines that have been unbundled in the last 4 years!

DSL coverage has also increased to over 95% and is expected to reach 99.4% by the end of 2005.

Broadband: Future Challenges

We have made major strides in the right direction in the UK. However, we are not complacent and we still see the need for significant further progress. There are significant challenges ahead.

We need to make infrastructure competition a reality through further improving the processes behind Local Loop Unbundling to ensure that investment stimulates another boost in innovation and market growth.

We will continue to encourage new sources of broadband competition to emerge, with a view both to expanding availability, maximising choice for consumers and exerting downward pressure on prices, and also with an eye on the emergence of next generation broadband access services, with speeds of 20 Mbps and above, which cable and DSL have difficulty in delivering.

We are keen to see truly workable voice over internet (VOIP) broadband services emerge, though we recognise that there are complex legal and consumer protection issues to be resolved.

We also want to encourage greater competition between fixed and mobile telephone service providers for voice and data services. We have a strong market structure in the UK with five competing operators and several more virtual network operators. 3G mobile services in the UK reached a significant milestone in the last quarter with 3UK announcing that it had over 1 million subscribers. In almost all aspects, the mobile sector in the UK displays hallmarks of a vigorously competitive market. Its future evolution will be conditioned by developments in wireless spectrum use and availability, about which I will say more shortly.

We need to facilitate new entry into the market by broadband fixed wireless providers to take advantage of WiMax and higher frequency wireless technologies. Though these too will be subject to spectrum availability issues.

Digital television too, will have a role to play in contributing to the range of potential sources of broadband competition in the UK. Penetration of digital TV continues to grow rapidly with more than 55% of UK households equipped to receive digital service. There are also signs of broadband TV starting to grow, albeit from a low base. Homechoice now claims to have a broadband TV network that can reach one and a quarter million people in London, with further expansion planned, while BT, Wanadoo and ntl also have TV over DSL services planned.

We shall also work with the UK Government to ensure that a digital divide is not created – for instance, for disadvantaged groups such as the poor and elderly.

The Future: Increasing Demand for Radio Spectrum

Many of the new sources of competition in communications and broadband services rely on radio. This is a global phenomenon. Wireless networks can be rolled out faster than fixed infrastructure and provide innovative communications solutions for developing and developed countries alike. Consumers increasingly desire the freedom to communicate wirelessly.

Radio spectrum is an essential raw material for these developments and demand is rising. In some countries, this has reached the point where spectrum managers face pressing difficulties in making enough spectrum available to meet demand, especially in frequencies most suitable for mobile broadband between about 1 and 5 GHz.
As regulators, we are aware of the growing challenges in spectrum management. Demand for spectrum is increasing; the pace of technological innovation, particularly for broadband, is accelerating; and the future of convergence is uncertain. This situation poses a severe challenge to the historical model of spectrum management where spectrum managers specify in detail how spectrum should be used and the technologies that should be applied.

Developments such as ultra-wideband promise much, but it would be premature to conclude that they will solve all spectrum management problems. For example, there are concerns about its potential to interfere with other services. We are following with interest developments elsewhere in the world where UWB has been deployed and looking hard at the conditions under which it can co-exist with other services.

The model of reserving spectrum <u>exclusively</u> for a given technology, or even family of technologies, is outmoded. It worked well in the early days of mobile telephony when spectrum was plentiful, technical change was relatively slow and choices were fewer. But the world looks very different now. It is essential that processes for making spectrum available keep pace with the dynamic changes in the communications sector. We need to move beyond an old-fashioned central planning process if we are to gain the maximum economic and social benefit from spectrum.

This means taking full advantage of the strengths of market mechanisms to distribute spectrum to the most valuable use and user. Market mechanisms cannot totally replace regulation but they are a powerful supplement.

Ofcom's Spectrum Framework Review

The Spectrum Framework Review that Ofcom recently published sets out our vision of how to meet this challenge. We believe:

- spectrum should be free of technology, policy and usage constraints as far as possible ;
- it should be simple and transparent for licence holders to change the ownership and use of spectrum;
- rights of spectrum users should be clearly defined and users should feel comfortable that they will not be changed without good cause.

We aim to use a balanced range of spectrum management tools with a strong emphasis on market mechanisms, such as trading and auctions, within a liberalised, technology-neutral framework that allows spectrum users maximum flexibility to innovate and encouragement to invest.

I appreciate that national circumstances and priorities differ. The UK with a relatively small land mass, many centres of population and extremely intensive use of radio has particular needs. The situation differs from country to country. But Ofcom's approach may be of interest to others facing similar circumstances and we welcome opportunities such as this to exchange views and experience.

Spectrum: The International Framework

I would like to turn now to the international framework.

Radio waves do not stop at national boundaries. Frequency allocation cannot be conducted on a purely national basis. This is why we need the ITU and the Radio Regulations. The challenges that I have described at the national level also apply internationally. This is why I am an enthusiastic advocate of making international harmonisation as flexible and dynamic as possible.

The international framework operates at two main levels. Globally, through the ITU Radio Regulations and regionally, for example through the European Union and the Conference of European Posts and Telecommunications administrations.

There is much work going on in the ITU to consider whether the Radio Regulations need to be made more flexible and technology-neutral. I pay tribute in particular to the interest by Secretary-General Utsumi, who convened an extremely interesting and useful workshop on radio spectrum management for a converging world in

February 2004 as part of the ITU New Initiatives Programme. This was timely and I applaud his initiative.

The Radio Regulations are already fairly flexible. Radio Regulation 4.4 allows non-primary services to operate on a no interference, no protection basis. Yet perhaps this should be broadened to extend co-primary status to any service that creates no more interference than the primary service in a band and that requires no greater protection from interference. This would make the Regulations more truly technology-neutral and better suited to the challenges that lie ahead.

Spectrum: European Markets

Turning to the regional level, European national markets and land areas are relatively small. So economies of scale, consumers' ability to use their equipment across national frontiers and cross-border coordination to avoid interference suggest that a degree of harmonisation is beneficial.

Regional harmonisation in Europe has achieved a notable success with GSM. Yet there have also been several cases in which harmonised services have been unsuccessful or have disappeared without trace leaving spectrum allocated to them lying unused. We can ill-afford this, especially in parts of the radio spectrum that are in greatest demand. We need to make harmonisation work better. This means making it more flexible, dynamic and technology-neutral.

3G Expansion Band

The band at 2.6 GHz that has been reserved in Europe for IMT-2000 technology – the so-called 3G Expansion Band - is a prime example of the need for greater flexibility. The decision on what to do with the Band is one of the most momentous Europe will make in the Information and Communications Technology field for the next 10 years.

The block is not just a minor incremental enhancement. It amounts to 190 MHz of spectrum. In spectrum management terms, this is a massive amount. It would more than double the bandwidth currently devoted to 3G and is considerably more than will be released when analogue television is switched off.

The current proposal is to release it for the exclusive use of IMT-2000 technology. There is nothing wrong in making spectrum available for future expansion of 3G. The flaw in the proposal is that it reserves all this spectrum *exclusively* for IMT-2000. This gambles that no other technology will emerge that could make better use of some or all of the spectrum.

The answer is to allow other technologies in the Band provided that they can co-exist with IMT-2000 without causing interference. The UK strongly advocates such an approach in this critically important band.

I have no reason to doubt the future prospects or value of 3G. But a more technology-neutral approach will guarantee that IMT-2000 can access spectrum to expand while making spectrum available on a timely basis for higher-value applications should they emerge at some point in the future. This is an example of how the international framework can be made more flexible while retaining the benefits of harmonisation.

Conclusion

I hope that this has given you a flavour and understanding of the UK environment which will be of benefit to your discussions during the rest of the Symposium. On broadband in the UK we have made a relatively slow start, but have made substantial progress in the last 12 months. Significant challenges remain ahead, with the future management of spectrum one of the most significant. I very much hope that we can work together and share ideas, both at this Symposium and in the future.

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