



Commission for
Communications Regulation

Response to Consultation

Convergence of Mobile and Fixed Technologies

Extending Broadband Access within Licensed GSM Radio Spectrum – Responses to Consultation Document 03/63

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1 Foreword

This paper presents the results of the consultation on the paper issued in July on Convergence of Mobile and Fixed Technologies; Extending Broadband Access within Licensed GSM Radio Spectrum, Document 03/63. I wish to thank the 7 respondents who expressed their views. A summary of the responses is presented in this paper, together with ComReg consideration of those responses and the Commission's position on the issues.

On the basis of the responses received to the revised proposals it has been decided not to proceed with the proposal as outlined in Document 03/63.

Both the original proposal and the revised proposals to facilitate provision of broadband wireless gained only limited, qualified support amongst mobile operators. In each case, the few respondents in favour have set out additional requirements in their responses. The additional requirements sought by two respondents are indistinguishable in key aspects from a mobile telecommunications service. Other arrangements apply for licensing mobile services. Under the relevant EU and national legislation, ComReg is obliged to issue any rights for spectrum use in an objective, transparent, non-discriminatory and proportionate manner. All other respondents who replied were opposed even to the modified proposal put forward in the last paper.

There was no interest at this stage in the opportunity to make use of this (or any additional) 3G technology within their licensed spectrum by either of the two 3G licencees who replied to the consultation.

ComReg remains interested in providing as many opportunities to deliver broadband wireless access services as possible, and wishes to leave open the possibilities outlined in the original paper (ComReg Document 03/13) for fixed wireless access service in the GSM1800 MHz band, and for alternative technologies in the licensed 3G spectrum as set out in the second consultation ComReg Document 03/63. Any mobile operator should contact ComReg about their interest and the matter will be reviewed, subject to consultation as appropriate.

Furthermore, interested parties are reminded that a 3G licence is available for the 'core' 3G bands. Should there be sufficient interest ComReg would open a consultation on the matter.

Finally, ComReg notes the development of convergence in services and applications. ComReg will look at this issue again in the future as part of its ongoing work on the market and regulatory implications of convergence and technology developments.

**Etain Doyle,
Chairperson.**

2 Introduction

In the light of responses to the earlier Consultation Document 03/13, ComReg modified the original proposal to permit provision of broadband wireless services in spare GSM 1800 MHz spectrum with the imposition of certain constraints (minimum downstream bitrate, no soft handover between cells and direct provision of voice services would be prohibited). On that basis three further questions were posed in the Response to Consultation (Document 03/63).

The questions addressed three specific issues, namely:

- the imposition of regulatory restrictions to prohibit handover between base stations and the direct provision of voice services and the imposition of a minimum downstream data rate;
- whether further restrictions should be applied;
- allowing 3G operators to use such technologies within their assigned spectrum.

This paper is the Commission's response to Document 03/63.

3 Background

The earlier Consultation Document 03/13 “Convergence of Mobile and Fixed Technologies – Extending Broadband Access within Licensed GSM Radio Spectrum” had raised a number of issues concerning the proposal to permit GSM1800 operators to use spare spectrum to provide broadband services. Those in favour of the proposal said that the requirement to deliver the service to fixed antennas on customer premises would make the business case unviable and instead proposed that it should be possible to deliver the service to nomadic and portable devices. As it was possible that the technology which could be deployed in such a case could be drawn from the 3G family with similar wide area coverage and mobility capabilities this raised concerns over possible parallels with the public mobile telecommunications services for which other licensing arrangements exist. Therefore 3 further questions were posed in the Response to the Consultation in Document 03/63 proposing that this aspect could be addressed by placing specific constraints and requirements on the proposed wireless access service.

4 List of Respondents

In total there were 7 responses received. The Commission would like to thank all of the respondents for their time and effort and the valuable information provided.

Respondents:

- Digiweb
- Simon Eades (Consultant)
- Esat BT
- Ireland Off Line
- Meteor Communications
- O2
- Vodafone

The responses are available for inspection at the ComReg Office, excluding confidential material that respondents have specifically asked to be withheld.

5 Consultation Topics

In the document “Extending Broadband Access within Licensed GSM radio spectrum – Response to Consultation” 3 additional questions were posed and in this section respondents’ views are addressed under these question headings.

5.1 Technology Developments facilitating Broadband Access

The majority of responses to the earlier Consultation Document 03/13 were not in favour of restricting broadband services in the GSM 1800 MHz band to external fixed antennas only. The Commission was mindful of the concerns raised that a broadband service with full mobility and wide area coverage could be construed as similar to the separately licensed 3G mobile services. Views were sought as to whether this difficulty could be resolved by applying restrictions to ensure that any broadband non-GSM service provided in the 1800 MHz band meets the objective of enhancing broadband wireless availability whilst not replicating the public mobile services.

Q. 1. What are your views on the provision of non-GSM broadband wireless services using GSM spectrum on the basis that the following regulatory requirements would be applied: Handover between base stations would not be permitted; direct provision of voice services would be prohibited; the minimum downstream data rate (i.e. from the base station) must be at least 382 kbps (see Appendix Table 1)? How might these restrictions be enforced?

If you do not agree with this proposal please provide supporting arguments.

5.1.1 Views of Respondents

Four respondents expressed a view in relation to the proposed regulatory requirements. One respondent was generally supportive of the proposal but felt that restricting handover to GSM and 3G mobile networks might stifle innovation. This respondent also expressed concern that mobile operators may restrict delivery of a service in order to protect existing revenues. Two respondents, including a mobile operator who was otherwise supportive of the principle behind the proposal, felt that prohibiting handover would make any wireless service unworkable as handover was necessary even between stationary users due to network loading and the phenomenon known as “cell breathing” (a feature of CDMA networks whereby the effective size or coverage area of the cell can vary with traffic loading). Both of these respondents agreed that the direct provision of voice services could be prohibited and that a minimum downstream data rate of 384kbps is acceptable.

A third respondent expressed concern that the enforcement of the proposals would require a disproportionate increase in ComReg monitoring activity. Another respondent felt that enforcement could be carried out in the usual way by ComReg as the proposals would be a legally binding requirement in their GSM licence.

One respondent (a mobile operator) considered that the regulatory requirements would be difficult to enforce and artificial in nature, as they limit the potential of both the 1800 spectrum and the proposed technologies. They were also of the view that any limit relating to the provision of voice services would have to apply both to the direct provision of voice and the provision of voice over IP, and in the latter case would prove extremely difficult to enforce. This respondent also suggested that prohibiting hand-over would not prevent an operator from offering extensive mobility within a single cell and that regulatory requirements would therefore have to include a restriction on the range of coverage within an individual cell. Once again this would be difficult to enforce.

5.1.2 Commission's Position

Although there was general acceptance of the need to differentiate the proposed broadband wireless services from the separately licensed public mobile telecommunications services, there were strong reservations from supporters of the proposal that it would not be viable if a prohibition on handover were imposed. Having considered the arguments, the Commission does not consider that the provision of a broadband wireless service in a GSM band with the ability to handover between base stations would be sufficiently differentiated from public mobile services. There are specific licensing arrangements for public mobile telecommunications services and, under the relevant EU and national legislation, ComReg is obliged to issue rights for spectrum use in an objective, transparent, non-discriminatory and proportionate manner. Meanwhile, as there appears to be no support for provision of broadband services in the GSM 1800 band without the ability to handover between cells, the Commission has decided not to proceed with the revised proposal described in document 03/63. However, ComReg is still keen to provide as many alternative opportunities to deliver broadband wireless access services as possible and therefore wishes to leave open the possibility to provide a FWA service using spare GSM1800 MHz spectrum as originally outlined in ComReg Consultation Document 03/13. Given the nature of technological developments the broader question of convergence and its implications for the telecommunications market will be kept under review.

**Q. 2. Do you consider that an alternative range of restrictions should apply?
Please outline and indicate how they might be enforced?**

5.1.3 Views of Respondents

Of the four respondents to this question one felt that restrictions should only be applied if there is interference with the operation of others. Two respondents felt that no further restrictions should be applied and that the restrictions proposed were sufficient to protect the interest of 3G mobile operators. One of the two (a mobile operator) was of the opinion that onerous licence conditions would call into question the viability of the business case.

One respondent (a mobile operator) said that the requirement for additional restrictions in the 1800 MHz band when there was no scarcity of spectrum in other FWA bands made the proposal unnecessarily complex and difficult to justify.

5.1.4 Commission's Position

As noted above, the Commission has decided not to proceed with its revised proposal in Document 03/63 to permit the delivery of broadband wireless services using non-GSM technologies in the GSM 1800 band. The Commission notes, however, that recent initiatives such as the licensing of local area fixed wireless access services in the 10 GHz and 26 GHz band, the competition for Fixed Wireless Access Local Area licences in the 3.5 GHz bands and the ability to deliver licence-exempt broadband wireless services in the 2.45 GHz and 5 GHz bands, provide alternative solutions for mobile operators who wish to develop such service offerings. And, as stated above, the Commission wishes to leave open the possibility to provide a FWA service using spare GSM1800 MHz spectrum as originally outlined in ComReg Consultation Document 03/13.

5.2 Extending use of 3G spectrum for other broadband wireless services

The Commission is aware of claims that some IMT-2000 technologies can provide substantially greater capacity than UMTS when operating in a fixed/nomadic mode rather than full mobility. If this were to be the case the Commission sought views from interested parties whether 3G licensees should be allowed to provide such services over and above those required by their licences from within their 3G spectrum allocation should they wish to do so.

Q. 3. Your views are invited on whether 3G operators should be allowed to use such technologies within their assigned 3G spectrum over and above those required by their licences.

5.2.1 Respondents' views

There were four responses to this question three of whom agreed with the proposal. One (a mobile operator) was of the opinion that the proposal would maximise the use of a scarce resource. A second agreed with the proposal providing that they were subject to the same restrictions as those imposed in the GSM 1800 MHz band. The third agreed with the proposal as long as it was subject to rollout and service conditions.

The fourth respondent (a mobile operator) expressed a preference that technologies be used within their assigned frequencies and that co-ordination of uses of spectrum is maintained at the global level via World Radiocommunication Conferences. Delivery of service should be within the band that is optimal for the service where there is frequency available in the designated band. They do not believe in mixing the uses of the frequencies in an uncoordinated way with the potential for unforeseen consequences and limitation of future development.

5.2.2 Commission's Position

Whilst all 3G mobile licensees must give priority to compliance with their licence obligations, the Commission does not consider that this should preclude the provision of additional services using IMT-2000 standards at substantially higher speeds than those required by the 3G mobile licences, where this does not impact adversely on those licence obligations. The Commission notes in this regard the current development by the 3G Partnership Project (3GPP) of the High Speed Downlink Packet Access standard as an enhancement to the UMTS standard, with the goal of enabling packet data transmission in the downlink at theoretical speeds of up to 10 Mbps.

6 Next Steps

In light of the responses received, in particular concerning the apparent non-viability of delivering broadband wireless services without the ability to handover between cells, the Commission is concerned that such services would not be sufficiently distinguished from the already licensed public mobile services for which specific licensing arrangements apply. Nevertheless, ComReg is still keen to explore additional platforms for the delivery of fixed broadband access that would facilitate provision beyond the areas covered by existing technologies and has therefore decided to leave open the possibility to provide a FWA service using spare GSM1800 MHz spectrum as originally outlined in ComReg Consultation Document 03/13, i.e., service delivery to fixed, external subscriber antennae and using no more than 20% of an GSM1800 MHz operators' licensed spectrum.

Any mobile operator interested in offering a FWA service under these conditions should contact ComReg and the matter will be reviewed, subject to consultation as appropriate.

Other options for FWA also exist and mobile operators who wish to provide broadband wireless services are invited to apply for local area fixed wireless access licences in the existing 10 GHz and 26 GHz bands, or to consider the deployment of licence-exempt technologies in the 2.45 GHz or 5 GHz bands. A further initiative to make local area fixed wireless access licences available in the 3.5 GHz band is also open to applicants (ComReg 03/97). Further information on these options is available on the ComReg website.

Convergence of services and applications is increasingly becoming a reality, raising many challenges for regulators and for the industry. As the debate deepens at the EU level ComReg will revisit the issue and review its position in the future as part of its ongoing work on the market and regulatory implications of convergence and technological change.