



Global Business Dialogue on Electronic Commerce

Convergence

Spectrum Management Policy & Licensing Approaches Recommendations

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1. INTRODUCTION

Digital convergence allows content and service providers to deliver their services through multiple delivery channels. Correspondingly, consumers can access services via various terminals capable of consuming multimedia content. This blurs the borderlines between the conventional broadcasting industry and the communications industry and consequently has an effect on the future of media distribution and consumption. Industry has developed technologies that will finally make digital convergence a reality.

Traditionally, broadcasting, telecommunications and the Internet have been treated as separate vertical markets. Digital convergence will create a new horizontal market structure where content aggregation and ownership, service provision, network operation and terminals become separate activities. Digital convergence will also open up an abundance of new business opportunities.

For the first time, ubiquitous access is a realistic ambition where people can access the Internet and other multimedia services from all types of delivery platforms: fixed, mobile and digital TV. To facilitate this process, the existing political and regulatory barriers need to be reviewed taking

into account the interests of all stakeholders. Regulation should allow multimedia service provision through all types of delivery networks and create a level playing field for all actors in the new horizontal markets.

Digital convergence will provide an opportunity for economic growth, job creation and social development. Regulatory policies need to create the right conditions to let this happen. For example, several regulatory impediments have already been removed in Europe as a result of the EU Telecommunications directive package, but some barriers still remain. An example of a new opportunity enabled by convergence but still prevented by current regulation is data casting, in which multimedia content is delivered over terrestrial digital broadcasting networks.

In this context, it is also important that enough spectrum will be made available to provide sufficient and appropriate delivery capacity for radio and broadband networks. In order to facilitate the development of global service and delivery, as well as interoperability, globally harmonized spectrum usage should be encouraged through spectrum management and licensing.

1.1 The importance of spectrum

Technological progress is increasing dramatically the services delivered over the fixed and radio networks. In particular, spectrum usage is becoming more and more important for economic prosperity and social welfare. Decisions on spectrum allocations will constitute an important platform for e-commerce in the future.

Global harmonization in the allocation of radio frequency is crucial as:

- there remains the possibility of spectrum congestion/interference; and,
- more developing countries can now leapfrog and take advantage of new wireless technologies.

1.2 Spectrum management policy and licensing policy

There is an important distinction between spectrum management policy and licensing policy. The latter refers to the procedure of attributing the right to use spectrum to applicants whereas the former refers to the organisation of spectrum resources according to the needs of all the technologies requiring access to spectrum. Spectrum management is a long-term process whereas licensing is rather short term.

Spectrum auctioning is one of the solutions adopted in some countries to allocate the licenses available for mobile services. But recent auctions, especially in Europe, resulted in the high cost of obtaining third-generation (3G) mobile licenses, which has had serious repercussions for the mobile industry as well as for individual operators, as the GBDe 2001 Recommendations pointed out.

1.3 Efficient use of spectrum

Efforts to put convergence into practice have been complicated by problems related to spectrum scarcity. As spectrum-reliant services are growing, the efficient use of the radio spectrum becomes important to the economy as a whole.

Inefficient use of the spectrum can deal a fatal blow to consumers, businesses and users of public services. Spectrum policy and regulation of access to the spectrum are becoming more complex. Conversely, GBDe believes that effective spectrum policy through efficient use and re-use could help pull the IT industry out of recession through the diffusion of new technology

and services, which in turn contributes to economic growth.

2. RECOMMENDATIONS

In the face of these challenges, GBDe puts forward the following recommendations, five regarding spectrum management and four addressing licensing.

2.1 More radio spectrum should be allocated for commercial use

The GBDe proposes that governments foster access to spectrum for commercial applications. Spectrum usage has always been a national issue, which is understandable as some spectrum usages are the result of national policy decisions, i.e. military and scientific, and that countries have to ensure avoiding cross-border interference. However, today parallel commercial applications increasingly need more spectrum in a globally-harmonized manner. National spectrum management should integrate this principle.

As an example, within the spectrum currently allocated to Mobile Services by the ITU a sufficient amount of spectrum could be made available for wide area radio networks, i.e. 2G and 3G/IMT2000. Particularly, for 3G/IMT2000, the ITU has identified spectrum bands that should be sufficient until 2010. However, not all countries and regions have been able to make available the spectrum originally allocated by WARC92 for 3G/IMT2000, and these regions will eventually face capacity problems.

The ITU is in the process of planning for the usage of the additional 3G/IMT2000 spectrum identified in the WRC2000. This additional spectrum should enable further deployment of 3G/IMT2000 and increased capacity as the market demand for the IMT2000 service increases.

The GBDe encourages various administrations to launch, without delay, a spectrum reallocation process that would allow spectrum-efficient technologies for 3G and systems beyond 3G that will become available after 2010. New applications and services with high data rates will be developed over the next 10 years.

Future generations of wide area radio networks (systems beyond 3G/IMT-2000) may need additional spectrum after 2010. However, it is important to start spectrum planning early enough to allow sufficient time for reallocation.

The GBDe supports the proposal to give a

mandate to ITU(R) for starting the studies and planning process in the WRC2003 in order to allow final decisions on new additional harmonized spectrum allocation for future systems after 2010 to be made in the WRC 2006, or later, depending on the market conditions.

2.2 Spectrum usage should be globally harmonized

Digital convergence will also increase the scope of globally-harmonized spectrum usage. Mobile users will need to be able to connect to various local area networks and national broadcasting networks. In order to use their own terminals, spectrum for these networks should be harmonized globally in the same way as spectrum for wide area radio networks has been harmonized. The WRC2003 ought to reach an agreement on a harmonized spectrum for wireless local area networks (W-LANs).

2.3 Technological solutions that facilitate the efficient use of spectrum should always be promoted.

Research undertaken by industry provides everyday more advanced solutions for spectrum sharing. Technological solutions that facilitate the efficient use of spectrum should always be promoted by encouraging industry to find solutions. Regulators would then devise, in cooperation with industry, a new legal framework that will evolve with new technology.

2.4 Any regulation which negatively affects the commercial use of the spectrum should be eliminated.

Some countries (such as the UK) have recently lifted the ban on provision of commercial service on certain frequencies (in this case 2.4 GHz band). GBDe strongly encourages regulators in other countries to follow suit.

2.5 Regulations restricting the delivery of some content over any delivery network should be removed.

Traditionally spectrum bands have been allocated by the ITU to specific purposes; national governments have then assigned the bands to specific operators. Spectrum licenses are generally granted for a specific type of service. With digital convergence it is now technically possible for similar content and services to be provided by many delivery networks – both wired (xDSL, cable, telephone, etc) and wireless (2G, GPRS, EDGE and CDMA, 3G, wcdma and cdma 2000, WLAN, Bluetooth, terrestrial and satellite DTV, etc.).

The borderlines between the content and services of traditional broadcasting, communications and the Internet become blurred. For example, new technologies allow data casting over terrestrial and satellite DTV networks which will bring Internet services and e-commerce to TV sets and mobile terminals in a cost-effective way. Another example would be the delivery of interactive broadcasting services as web casting over the fixed telecom network.

In these new conditions, regulations restricting the delivery of some content over any delivery network should be removed. This will allow service providers to access wider markets and new consumers. This will also allow people to use these services by means of a variety of delivery networks and terminals according to their choice.

Governments should also ensure that previous privileges in spectrum allocation or any change in the use of spectrum for the delivery of new services will not lead to inappropriate competitive advantage in the markets nor discrimination with respect to the rights nor new obligation to existing market players.

2.6 Proceeds from spectrum licenses on broadcasting or telecommunications services should be spent to improve spectrum usage and not used for unrelated sectors.

Part of the Radio Spectrum Knowledge Database, which the GBDe has created, shows some instances where auction proceeds were used to reduce national debt, etc. As a general rule, the GBDe suggests that proceeds from spectrum assignments be dedicated to the financial needs of spectrum management and improvement of spectrum usage.

2.7 The license distribution modes for any service requiring spectrum should be carefully analyzed.

Spectrum, once a limited resource, has now become a scarce resource. In order to distribute the rights to access the spectrum, several approaches have been adopted ranging from beauty contests to auctions.

Auctions are now a practice among a number of national regulatory authorities for some services. If auctions appear as an easy way out of the problem of selecting the licensees of a frequency band, they can also stifle a technology.

For example, 3G mobile licenses auctioned in UK and Germany ended up being extremely costly,

imposing a high financial burden on telecom operators with consequences for the whole telecom sector.

Spectrum licensing should not lead to unreasonably high up front payments. The GBDe Tokyo Recommendations suggested that public authorities' policies should not aim at transforming public debt to private sector debt. The experience since the GBDe 2001 Tokyo Conference has clearly shown the negative impact of high auction prices on innovation and market growth, in particular, in Europe.

The GBDe encourages governments to use spectrum-licensing methods, which emphasize low tariffs, innovation and market growth instead of maximizing short-term public revenue. In the long run, low entry costs to new markets will create economic growth and facilitate social inclusion, which will far outweigh the short-term fiscal benefits of high entry fees.

2.8 Spectrum assignment should involve sufficient flexibility.

The regulatory environment should facilitate flexible reassignment as technologies or market conditions change. The efficiency of spectrum usage will also require mechanisms to facilitate a smooth transfer of license and/or the spectrum right of use to market players as market conditions change. The rights of use of the spectrum should be allowed to be transferred and leased. This should, however, not be allowed to lead to a change of the basic spectrum usage and configuration. Network sharing, spectrum transfer and consolidation should also be allowed in the marketplace as long as these arrangements do not lead to a dominant market power and/or market behaviours incompatible with competition rules.

2.9 The method of paying should be comparable between telecommunications operators and broadcasters.

With digital convergence becoming a reality, offerings to consumers from traditionally differing sectors will probably become substitutable. To the extent that telecommunications operators and broadcasters offer services deemed substitutable by the public, then the method of paying should be comparable.