

Public Consultation on Wireless Access Platforms for Electronic Communications Services (WAPECS) – Microsoft Comments

Executive Summary

Overview

Microsoft welcomes the RSPG consultation on WAPECS and fully supports the underlying theme of flexibility and technology neutrality in spectrum management. As the consultation document aptly says, “matching market demand to service delineation has always been a challenge to spectrum managers”, and we support the proposed move away from regulators having to second-guess the market in this way.

We consider that it is particularly important that the spectrum management regimes in Europe encourage innovation. Phenomenal advances in information technology are making new services possible at an increasing rate. This is simply incompatible with the multiple-year timescales involved in changing CEPT or ITU rules. The goal should be to have a spectrum management framework which will allow new developments to flourish by letting market mechanisms replace regulation in areas such as harmonisation and standards, and by applying the absolute minimum of technical rules to prevent interference.

We consider also that some reorganisation of national spectrum planning and management responsibilities may be needed, so as to ensure that those responsible for spectrum planning and management are independent of any specific operator or sector.

Specific Proposals concerning UHF TV Broadcasting Spectrum

A good example of an early move towards implementing the WAPECS concept would be to allow licence-exempt use of fallow spectrum (vacant channels) within the UHF TV broadcasting bands for wireless broadband access. The technical planning rules for broadcast TV build in these fallow zones, and there is no good reason why they should not be exploited for the public good by new low-cost low-power wireless broadband technologies.

In the slightly longer term, we propose that to facilitate more widespread rural and inner-city broadband access, three 8MHz channels should be reclaimed from the analogue to digital switchover process and made available for licence-exempt applications.

Responses to the Specific Consultation Questions

Consultation question 1: Do you agree with this operating definition of WAPECS? Do you consider that the WAPECS concept should include spectrum intended for private, as well as public, applications?

Yes. The definition of WAPECS should be as wide as possible so as not to defeat the object of maximising flexibility and technology neutrality. The current operating definition appears to be satisfactory in this regard. It should include spectrum for private as well as public applications.

Consultation question 2: Do you consider that the term “platform” should be more closely defined? If so, what definition do you propose?

No. We see no benefit in trying to define the word “platform” more closely. It could be argued that this word is actually redundant, since what is being considered is simply wireless access to electronic communications services. The word “platform” is thus a neutral concept, and to try to define it would almost inevitably reduce the scope of the WAPECS definition.

Consultation Question 3: What, if any, constraints should there be on the provision of services using spectrum primarily in the broadcast domain?

We see no reason why the WAPECS concept should not be applied to broadcast bands; indeed the UHF TV bands are probably the prime candidates for an early application of WAPECS for the public good.

Current planning rules and regulatory constraints are designed to protect broadcast services from unacceptable interference. However, in doing so they render a large proportion of the valuable spectrum, particularly in the UHF TV bands, effectively fallow. This needs to be changed so that any constraints designed to prevent interference do just that, rather than at the same time outlawing perfectly acceptable other spectrum uses.

This is already recognised to a very limited extent by allowing the use of broadcast ancillary services (radio microphones, outside broadcast links etc) on a secondary basis in the UHF TV spectrum. However, these uses are very localised and barely scratch the surface of what is potentially available.

An early and very valuable application of the WAPECS concept would therefore be to allow the use of fallow UHF TV Broadcast spectrum for licence-exempt wireless broadband access. The use of “Smart Radio” techniques in the wireless broadband devices, rather than detailed technical co-existence rules applied by regulation, would be the best way to ensure interference-free co-existence

Because of the superior propagation characteristics, a wireless broadband network could be built in spectrum below 1GHz with roughly half the capital costs of a similar network in the 2.4 GHz or 5GHz bands. Furthermore technical developments in the 5 GHz band have already plainly demonstrated the ability of wireless devices to detect and avoid channels that are in use by the broadcasters.

One important application is rural broadband, where the economics are currently unattractive because of the low population density and the high infrastructure and reception costs with 2.4GHz or 5GHz. Also, indoor antennas are feasible in the UHF TV bands enabling a “plug and play” solution, whereas at 2.4GHz or 5GHz professional installation is typically required in this application. There are also opportunities for peer-to-peer networking between homes that do not pre-suppose the existence of a service provider. Broadband in poor inner city areas is another example where, although the population density is high, the economics do not necessarily support implementing an ADSL or cable infrastructure or a licensed spectrum model.

More technical details on this important opportunity are provided in Microsoft’s comments on the FCC’s 2004 Notice of Proposed Rulemaking on the use of UHF TV bands for unlicensed devices, available for downloading from the FCC web site¹.

In the slightly longer term, we propose that to facilitate rural and inner-city broadband on a more widespread basis, three 8MHz channels should be reclaimed from the analogue to digital switchover process and made available for licence-exempt applications. More details on this proposal are given in Microsoft’s response to the Ofcom Spectrum Framework Review, available for downloading from the Ofcom web site²

Consultation Question 4: What specific rules should be introduced or maintained to safeguard the delivery of Services of General Economic Interest in the future? Is it most appropriate to deal with these issues through the regulation of spectrum, or through other instruments such as competition law or state aid policy?

The primary means of safeguarding Services of General Economic Interest (such as public broadcasting or emergency services) should not be through spectrum regulation, but through other public policy instruments.

Some knock-on effects on spectrum are nevertheless likely, such as the need to provide public service TV with certain coverage obligations in a certain frequency band. However, this need not undermine the WAPECS concept. It can simply be a specific obligation on a particular operator which is overlaid on top of the WAPECS framework. As we argued above, it is perfectly possible for other WAPECS services (such as wireless broadband access) to co-exist with public service TV in the same band.

¹ http://gullfoss2.fcc.gov/prod/ecfs/retrieve.cgi?native_or_pdf=pdf&id_document=6516883601

² <http://www.ofcom.org.uk/consult/condocs/sfr/responses/microsoft.pdf>

Consultation Question 5: How do you think changes in spectrum policy will impact on the requirement for standardisation? What policy will best ensure the timely availability of standards?

The more general trend is for standardisation to become market-led, rather than managed by regulators, with bodies such as the DVB group or the Wi-Fi Alliance coming to the fore. We support this trend, and changes in spectrum policy towards greater flexibility and technology neutrality will encourage it still further.

Consultation question 6: Are there any other challenges that the RSPG should consider?

We would summarise the challenges already identified in the consultation document as being:

- To ensure access to adequate amounts of spectrum to meet the needs of consumers and business
- To get the right balances with harmonisation and standardisation to recognise their benefits in some cases while applying them only where necessary
- To deal smoothly with transition and legacy issues in the move to greater flexibility and technology neutrality in spectrum management

This covers the ground quite well.

However, we would emphasise also the challenge of establishing the right kind of co-existence rules - Ones which do not pre-suppose specific technical solutions but which allow for innovations such as Smart Radio (the automatic detection and avoidance of other spectrum users). As a general rule, co-existence rules should seek to specify the objective (e.g. the avoidance of annoying interference to broadcast reception) rather than a regulator's view of the way of achieving it (e.g. specific technical spectrum masks)

Consultation question 7: What is your view on the above-mentioned issues and more specifically on how to achieve the right balance between "minimising and harmonising constraints" presented above?

The consultation document proposes a neutral approach to services and technologies, but warns that issues of potential interference would have to be carefully controlled and monitored.

We support the proposed neutral approach, but consider that interference concerns have probably been over-emphasised. Potential interference is always something to be aware of when sharing spectrum between users (whether they use the same or different technologies), but innovative solutions such as Smart Radio can make an enormous difference. Any approach to preventing interference should certainly recognise the benefits of such solutions, and not be defined too narrowly.

Also we consider that the caveats about the potential benefits of spectrum harmonisation (interoperability and roaming) have probably been overstated, given the increasing ability of low cost new technologies to be frequency agile.

Consultation question 8: Are there any other long-term policy goals that the RSPG should consider?

The long-term policy goal expressed in the consultation document is one of “*converged and coherent spectrum regulation*”, involving technological neutrality, service neutrality and coherent authorisation mechanisms.

We support this, and would not wish to propose any additional high-level policy goals in the WAPECS context.

Consultation Question 9: Do you think that these steps form an adequate basis for achievement of the European objectives in this area? Are there any other steps that are required?

In summary, the steps outlined in the consultation are:

- To ask the Radio Spectrum Committee to mandate the CEPT to prepare a technical report on WAPECS possibilities
- To ask the Radio Spectrum Committee to report on potential technical and non-technical barriers to WAPECS in the frequency bands identified by the CEPT
- For Member States to exchange views and information on progress towards WAPECS

We do not consider that these steps alone are likely to be sufficient to achieve the WAPECS objectives set out in the consultation document. The CEPT is likely to be cautious in its technical assessment (for example in the broadcast spectrum area much of its technical expertise comes from the public broadcasters or those closely associated with them), and mere information exchange is unlikely to be enough to dislodge the many entrenched interests in this area.

In addition therefore we believe that some reorganisation of spectrum planning and management responsibilities is probably necessary in a number of Member States. The bodies responsible for spectrum planning and management need be independent of any specific operator or sector, and should be constituted with the aim of maximising overall spectrum efficiency and effectiveness.

Contact Details

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