

BT Response to the
Radio Spectrum Policy Group's Public Consultation on
Wireless Access Platforms for Electronic Communications Services
(WAPECS)

Contact: Tim Hewitt
Head of Radio Spectrum Policy
BT Group plc
PP7B, Adastral Park
Martlesham Heath
IPSWICH
IP5 3RE
UK

+44 1473 642160
tim.mth.hewitt@bt.com



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1 Introduction

BT welcomes the public consultation¹ by the *Radio Spectrum Policy Group* (RSPG) on the WAPECS² concept. We believe this to be a much needed discussion as radio communications becomes all-digital, as the boundaries between public and private and fixed and mobile networks become less clear, as broadband services and applications become the focus of consumer attention rather than the wireless platforms that support them.

Two aspects of convergence are now making their presence felt. The first is the convergence of the legacy fixed, nomadic, mobile and broadcasting domains into a broad market for personal access to broadband services (now commonly referred to as *personal broadband*). Here the focus is increasingly on IP based networks, the Internet and access to content. The consumer experience is now the important issue, rather than the technology and standards used to deliver that experience. The second important trend in convergence is the conjoining of computer (and especially personal computer) and wireless technologies. This trend is driven by business, professional and consumer needs for broadband mobility, ubiquitous access to information in an increasingly information driven world, and the power to process that information on the move.

Against this fast-developing market backdrop, and with the generally much reduced interference potential of modern digital wireless communications systems, there is a risk that the "chalk-line" boundaries of the traditional radio Services³ and frequency allocations could now act as unnecessary impediments to innovation and progress. BT is thus able to offer its full support to the RSPG WAPECS initiative as it looks to the requirements for the future radio-regulatory environment within which convergence and innovation can thrive, and artificial barriers to the tailoring of systems and services to suit market needs disappear.

¹ RSPG05-87(Rev) *Public Consultation on Wireless Access Systems for Electronic Communications Services (WAPECS)*, Radio Spectrum Policy Group, 24th June 2005

² WAPECS – *Wireless Access Platforms for Electronic Communications Services*

³ Here we refer to the radio Services formally defined within Article 1 of the ITU Radio Regulations.

We have not found any significant issues in the *WAPECS* consultation with which we disagree, and our response below therefore provides a few observations within the overall framework of our support for the Commissions *WAPECS* Project and this RSPG Consultation.

2 BT's response to the questions raised in the RSPG Consultation Document

Q.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?

Questions 1 and 2 both deal with *WAPECS* related definitions. BT believes that if the Commission is to achieve the change and flexibility that it is ultimately seeking for *WAPECS* then RSPG should advise that any definitions relating to *WAPECS* must be as general and as flexible as possible.

WAPECS is about convergence and other dynamic aspects of a new era of broadband telecommunications resulting from the conjunction of wireless access, ICT and the Internet. There are many ideas as to how such convergence will come about, but two points are certain. Firstly, there will be no single technical or commercial solution to a converged telecommunications environment, and indeed future regulation should encourage technical and commercial innovation and diversity so that wide choice is available to consumers. Secondly, even if the totality of these opportunities were already known, it would as yet be impossible to state definitively how the market will respond to the new opportunities that convergence will offer. *WAPECS* must therefore enable change, encourage innovation and minimise barriers.

BT sees *WAPECS* as a timely and prudent attempt to prepare the ground for change that is inevitable and likely to come sooner rather than later as a result of market forces. We therefore firmly believe that the *WAPECS* initiative must result in a fully flexible spectrum and regulatory framework for a market-driven wireless access environment. We do not believe that a regulatory pre-determined regime could pick the right winner in such a dynamic period of change, and it would therefore risk leaving Europe significantly disadvantaged.

Given the inevitability that change will come yet uncertainty as to the outcome, BT is sure that *WAPECS* does not warrant a rigorous definition. Indeed, if the Commission were to produce such a definition, we believe that sooner or later the definition could become an obstacle to progress. It is essential to avoid a situation where, in the future, there are arguments as to what is and what is not compliant with a definition created at the very outset of convergence. If *WAPECS* is to help the advancement of wireless access within Europe, and hence contribute to the prosperity of Europe, its outcome should not create potential regulatory barriers.

It might also be unproductive to expend time and energy on deciding which of the present-day wireless access platforms should or should not be included. *WAPECS* is about facilitating change and progress, and therefore the focus should be on broadening the future scope. To be successful, it should inherently aim to embrace all legacy platforms.

We would therefore suggest that, perhaps, *WAPECS* is an adequate definition in itself – ***Wireless Access Platforms for Electronic Communications Systems***. We believe this encapsulates the problem space very well. We would argue that little more is needed, although the special needs of government, military, transport and “blue light” emergency services applications within a *WAPECS* concept may need to be considered further as the *WAPECS* concept may find applications in those areas.

BT could however also accept the definition proposed by RSPG in the consultation document, i.e. *Wireless Access Platforms for Electronic Communications Services (WAPECS) are the platforms used for radio access to electronic communications services, regardless of the bands in which they operate, or the technology they use.* However, the frequency band agnostic stance of this definition might be difficult to move forwards since it might prove too open-ended in the spectrum context.

An alternative definition, i.e. “*Wireless access platforms for electronic communication services (WAPECS) are the wireless access networks used to access electronic communication services which operate without restriction on services (public or private) or interoperability and may use spectrum that may be licensed or license-exempt*” has also been discussed for WAPECS. This too is potentially useful, as it draws in the issues of public and private applications and licensed and unlicensed spectrum. We see no reason why all these earlier regulatory concepts should not be embraced within the WAPECS environment.

However, we believe that the overarching principal should be that, if any definition is deemed necessary, it is general, flexible, and allows wireless and convergence to move forward without the burden of unnecessary regulatory barriers. We believe that this is what the Commission is trying to achieve. Certainly within WAPECS operators must be free to build innovative propositions that cross historical boundaries, both service and platform.

As WAPECS will potentially encompass wireless access systems of many types, then there could be an issue of imbalance in the regulatory status of the individual wireless access *platforms* themselves (see below). Some platforms (e.g. IMT-2000, GSM, etc) have historically had special regulatory protection. Whether it is acceptable for such arrangements to continue within a competitive WAPECS environment is an issue that needs to be considered carefully. We believe that these platforms are well established and that, ideally, in a new order, all wireless access platforms would have equal opportunity. Special privilege has no place here.

There are also issues to resolve with respect to broadcasting, as that term now embraces many things. We note that the Framework Directive⁴ includes broadcasting within its scope when discussing electronic communications services. The traditional terrestrial public service broadcasting remains critically important to most societies in the world. At the same time “broadcasting” is expanding its scope to deliver content and different degrees of interactivity over “conventional” broadcast TV, satellite, the Internet, mobile phones, and potentially, broadband wireless access. Digital broadcast multiplexes are increasingly being seen as versatile channels for a range of data and other services of value to consumers. How regulation might address *TV broadcast services* carried via the *Internet over fixed or mobile broadband wireless access* is an example of an issue that might be further explored in the context of WAPECS. Broadcasting in its broadest sense is no longer clearly differentiated from other platforms in a converged world..

Whilst we recognise the ongoing social and economic importance of public service broadcasting, we also see broadcasting becoming a competing player in telecommunications. On balance therefore, we believe that digital broadcasting must at least be brought into the WAPECS discussion.

See also our response to Q3 below.

⁴ As indicated in the consultation document, the Framework Directive 2002/21 includes broadcasting within its scope of electronic communications services.

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

The term platform would in our view be equally difficult to define, as the traditional legacy domains, or platforms, from which access has been provided may have far less significance as we go forwards into the realm of “convergence”. These platforms will inevitably converge and their boundaries will become increasingly blurred. Indeed, it is surely an objective of *WAPECS* to facilitate such trends.

Wireless access platforms will in future come from a number of different backgrounds (e.g. cellular, broadcasting and the computer industry) to meet in various combinations within the converged market space. All approaches should have reasonable opportunities for access to spectrum and the market, and the diversity of commercial and technical solutions will encourage innovation and increase consumer choice. BT does not believe that a platform should continue to be a heavily regulated combination of a selected market segment, a pre-selected technical solution and a specific frequency band. This was successful for GSM, but there is no certainty that in today’s faster-moving telecommunications market such a model would be at all appropriate, indeed there are strong indications to the contrary.

A platform might therefore become: -

- A market determined approach targeted at a particular market segment of the operator’s choosing;
- A means of delivering services over combinations of delivery methods drawn from fixed and/or nomadic and/or mobile and/or broadcasting background, depending on the operators perception of the market;
- The deployment of technical solutions and standards chosen by the operator as being best suited to that market segment;

All operating in a frequency band or bands selected from those indicated as appropriate to *WAPECS* type applications and services.

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

In our response to Q1 above we explored some of the issues associated with broadcasting in the *WAPECS* context.

Quite what spectrum *primarily in the broadcast domain* is, is becoming less clear as time passes and convergence advances. Even public service broadcasting is becoming broader in its scope; carrying data services, mobile TV, mobile content delivery and e-Shopping etc. It is clearly becoming a key element of convergence. However, whilst we believe that broadcasting should therefore be part of *WAPECS* thinking, there is a case for arguing that the high power terrestrial TV and Radio Transmitters that are part of the public broadcasting infrastructure are controlled by a different strategic political and economic agenda than telecommunications per se. They also need special measures to ensure technical compatibility across large areas because of the high powers involved.

BT therefore recognises that the integrity of the European broadcasting frequency plans that will emerge from the ITU *Regional Radiocommunications Conference (RRC-06)* will need to be properly respected. Nevertheless, we also believe that the transition to full digital sound and vision broadcasting could and should result in a digital dividend. The many demands on lower frequency spectrum mean that this dividend should not necessarily be re-injected solely for traditional public

broadcasting purposes. It could instead form part of a spectrum pool for *WAPECS* so that market forces could determine its best use for wireless access applications. Broadcasting would not then be excluded, but would need to compete on a fair commercial basis for that spectrum. The so-called digital dividend will hopefully release a significant amount of spectrum for new purposes. However, it might be possible to go further. BT believes that frequency sharing opportunities for exploiting (perhaps low power) *WAPECS* innovation alongside or “under” high power broadcasting should be fully explored. This would help to maximise the pool of spectrum available to *WAPECS* innovation. This would, of course need careful technical evaluation.

Q.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?

Market mechanisms generally work best when the competing players have broadly similar externalities. This would be very difficult to achieve when full commercial enterprise meets *services of general economic interest* (SGEI) in the same spectrum. It is likely therefore that SGEI could benefit from some allowable forms of state or regional aid, but this could either lead to higher burdens on such aid budgets (competing with commercial services) or could deprive *WAPECS* of spectrum that could alternatively be used in a competitive situation. BT believes that this would be an issue to address further down the road for *WAPECS* once the proposals are better formed and their impact on SGEI can be properly assessed via a regulatory impact assessment.

On balance we believe that if *WAPECS* creates the right environment, then market forces could largely cater for the needs of SGEI. However, this can be monitored as *WAPECS* begins to take effect and economic tools could be applied if remedial action becomes necessary.

Q.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?

We do not believe a total “free-for-all” in technology would be desirable or would necessarily result in a *WAPECS* environment. The world has learned a lot of lessons over the past decade. Open platforms and open standards have both proved highly successful, whilst proprietary solutions, in general, have not (but there are of course exceptions). We therefore believe that the *WAPECS* concept, if handled correctly, will inherently encourage an appropriate level of standardisation. However, there must be flexibility to accommodate both the “formal” standardisation, that has in the past been adopted by the wireless community (in Europe at least), and the market driven “ad-hoc” standardisation favoured by, for example, the personal computer industry. Both will have roles to play within *WAPECS* infrastructure and the associated CPE.

As to policy to encourage standards, we believe that a lightweight and flexible approach to regulation for *WAPECS* with clarity and transparency as to what is permitted (including a satisfactory way of defining spectrum rights) is essential. There needs to be a balance of licensed and licence-exempt spectrum, as the latter is often a catalyst for innovation and a rapid route to the market for the results of that innovation. For licensed spectrum, a non-discriminatory (technology neutral) licensing framework that allows the market’s requirements to come to the foreground will stimulate rapid standards development and is of paramount importance.

Furthermore, we believe that harmonised spectrum ranges will be beneficial to *WAPECS* developments, although we recognise that country-to-country and regional differences may need to be catered for within the selected frequency ranges. It does appear now that at least some major manufacturers can foresee, and are willing to develop, radios that cover quite wide frequency

ranges. Precise spectrum alignment may not therefore be essential, but generally similar bands would be important.

The importance of global roaming should be kept in mind if Europe is to remain a favourable destination and if European players are to be able to use *WAPECS* systems outside Europe. To this end we believe that the Commission, if it proceeds with *WAPECS*, will need to sell the advantages of the concept to the other regions. Devices frequently incorporate multiple radio air interface standards and cover several bands and therefore interoperability and access to user applications can therefore occur without necessarily having single air interface standards.

Creating some appropriate *WAPECS* frequency ranges in Europe and promoting the adoption of these on a broader geographical basis would be appropriate enabling action that the Commission could undertake in conjunction with ECC.

Q.6 Are there any other challenges that the RSPG should consider?

The interplay between *WAPECS* and the other flexibility points of spectrum trading and spectrum liberalisation should be given some priority. A healthy spectrum market would seem to be essential to *WAPECS* as the wireless access market could become far more dynamic with a greater pace of change than at present. However, a generally consistent spectrum trading environment across Europe, a high degree of spectrum liberalisation (assumed to be inherent in *WAPECS*) and well thought-through and consistent spectrum property rights and obligations, are further areas of enabling action that the Commission could facilitate.

Q.7 What is your view on the long term policy goals mentioned above and more specifically on how to achieve the right balance between “minimising and harmonising constraints” presented under point 9?

Quite simply, BT believes that spectrum bands should be harmonised to the maximum extent possible, but that the choice of technology and standards should be left to the operator's who are best positioned to understand their target markets and who can assess the commercial risks and benefits. For *WAPECS*, regulation should encourage and enable innovation, and not seek to control any more than is absolutely necessary.

Harmonisation of spectrum – yes. Broad harmonisation of applications (e.g. *WAPECS*) – yes. Regulatory determination of technical solutions and markets – No, as these would hinder the very change that *WAPECS* sets out to achieve.

Q.8 Are there any other long term policy goals that the RSPG should consider?

We believe that the commission might review general European objectives for the interoperability between *WAPECS* platforms with a view to creating some guidelines if necessary. However, we believe the market is already driving interoperability forwards, and thus specific regulatory action is not required.

In BT's response to the European Commission's consultation on 2.6GHz we illustrated just how much work was underway in this area, and stated that we did not believe that there would be issues over interoperability of services if the 2.6GHz band remained non-exclusive to IMT-2000 standards. We believe the same applies in the wider *WAPECS* context if the market were to be free to select from diverse technical solutions.

We do not believe the Commission should, nor indeed that it would be able to, "Mandate" interoperability solutions because, by definition, *WAPECS* is new and exploratory and the market's reaction is as yet unknown. However, we do believe that via the Commission's extensive R&D programmes it would be possible to initiate some high-level research projects to try to explore what the longer-term inter-operability requirements might be. The results of such work could be used to steer the general direction of such work without any need for the Commission's action to be prescriptive.

Perhaps the greatest challenge will be that of determining how the transition can be designed, between the regulatory regimes that Europe now has, and what might be needed in this respect in the future, in order to avoid both damage to what exists and future market distortions. Europe needs to remain competitive in a dynamic age of information, to achieve the goal of a single European information space, to increase internal competition, to facilitate social inclusion and to generally grow the economy and thereby create jobs. We believe that *WAPECS* can help to secure these objectives. The transition will take time, but BT believes there is a window of opportunity now to begin this process, or market forces could drive Europe into fragmented solutions before any future version of *WAPECS* could be implemented.

Q.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?

Yes, as indicated in our introduction, we believe that *WAPECS* is a correct and timely initiative. BT therefore supports the goals that the Commission has set and the approach being taken to seek the independent view of the Radio Spectrum Policy Group. We were also pleased to see that RSPG, in its turn, had the foresight to include this present public consultation in their work plan on the *WAPECS* issue.

To succeed in the job it is intended to do, the *WAPECS* concept needs to be introduced quickly, at least in some frequency bands. To delay, could see Europe becoming even more entrenched in legacy heavyweight regulation and harmonisation. However, we recognise that in some areas of wireless access there will be some areas where the risks of distortion now could be perceived as too great, in those cases delay might be unavoidable. However, BT believes that the debate over the sensitive areas should not prevent *WAPECS* from progressing where it can, and that every effort is made to reduce such areas to a minimum. Furthermore we believe that RSPG should encourage the Commission, towards the early creation of a *WAPECS* environment.

Conclusions

BT is fully supportive of the Commissions *WAPECS* initiative and this RSPG consultation.

We have not found any major points with which we disagree, and we have therefore offered our opinions in response to the questions in support of the RSPG position, in the hope that these will prove useful to RSPG in its work.

We do believe that if *WAPECS* is to proceed, it needs a bold and confident approach that genuinely provides new opportunities in wireless access. A half-way house that retains many of today's restrictions and barriers is unlikely to take Europe forwards, and we could be disadvantaged in a world context whilst losing an opportunity to use wireless to support a number of key Commission policy objectives.

As we have indicated, we believe the markets seeking early access to mobile broadband/personal broadband are strong, and we believe that this indicator points to a window of opportunity for Europe to move into a new era in a manner carefully designed to transition between legacy prescription and future fluidity. Failure to achieve something like *WAPECS* could otherwise see these market forces at work without a relevant and considered enabling regulatory structure resulting in chaos.

BT looks forward to learning of future developments on *WAPECS*.
