



GSMA Response to the European Commission Public Consultation on the Open Internet and Net Neutrality in Europe

30 September 2010

Robindhra Mangtani
Senior Director GSMA

5 New Street Square, 7th floor
EC4A 3BF London
United Kingdom

E-mail: rmangtani@gsm.org
www.gsmworld.com

Register ID Number: 38516182135-93

About the GSMA

The GSMA represents the interests of the worldwide mobile communications industry. Spanning 219 countries, the GSMA unites nearly 800 of the world's mobile operators, as well as more than 200 companies in the broader mobile ecosystem, including handset makers, software companies, equipment providers, internet companies, and media and entertainment organisations. The GSMA is focused on innovating, incubating and creating new opportunities for its membership, all with the end goal of driving the growth of the mobile communications industry. In the European Union the GSMA represents over 100 operators providing more than 600 million subscriber connections across the region. For more information on GSMA, please visit: Mobile World Live, the new online portal for the mobile communications industry, at www.mobileworldlive.com, GSMA corporate website at www.gsmworld.com, GSMA Europe www.gsmeurope.org.

Introduction

The internet has revolutionised the way business is conducted and individuals interact with each other and society as a whole. Mobile telephony has delivered a new age of connectivity to more than 4 billion people across the globe. These two revolutionary technologies are now being combined into the mobile internet. The GSM ecosystem is now deploying mobile internet services, using High Speed Packet Access (HSPA) technology, faster than any other mobile technology ever deployed. There were more than 295 networks live with more than 1800 devices from 150 different suppliers and more than 200 million connections across 120 countries worldwide at the beginning of 2010. The next generation of mobile broadband, namely, LTE is being rolled out in the United States, Asia and Scandinavia, and countries considering refarming of 900 MHz and 1800 MHz are allowing LTE to be deployed in a “technology neutral” approach to spectrum allocation.

Mobile broadband does much more than just provide faster access to online services, it can also bridge the “digital divide” and bring broadband to the people worldwide who have no access to cable or DSL services and are unlikely ever to do so. There are more than 4.5 billion mobile users, covered by GSM, compared with 1.1 billion fixed-line users. Widespread mobile broadband coverage, coupled with innovative new devices, such as net/notebooks with integrated radio cards or dongles, advanced handheld smartphones such as the iPhone, Blackberry Bold, Android device family, and fixed wireless terminals connecting multiple devices has resulted in exponential growth in data traffic. The continued development of the GSM family of technologies is designed to ensure that the mobile industry can continue to meet this fast growing demand for secure, ubiquitous, always-available and easy-to-use broadband services.

GSMA response to the European Commission questionnaire on the Open Internet and Net Neutrality in Europe

Question 1: Is there currently a problem of net neutrality and the openness of the internet in Europe? If so, illustrate with concrete examples. Where are the bottlenecks, if any? Is the problem such that it cannot be solved by the existing degree of competition in fixed and mobile access markets?

- We do not think there is a problem of net neutrality/openness of the internet in Europe given robust regulatory and competition law frameworks.
- The mobile services market is highly competitive. Competition law offers adequate safeguards for dealing with anti-competitive behaviour and facilitates choice.
- A vibrant competitive market combined with transparency is the best approach. The revised telecoms framework includes additional transparency measures so that consumers can easily compare competitive offerings.

Net neutrality and openness of the internet have been defined in many different ways. The GSMA supports net neutrality and openness that mean consumers and business customers are able to access the content, applications and services of their choice, in ways that provide all of them with the best possible experiences and services. The mobile internet is about empowering consumers and businesses - providing access to information, facilitating social networking, embracing cultural diversity, enabling commerce - and providing choice. The mobile industry is committed to delivering and expanding an open internet where informed choice for consumers is underpinned by competition, transparency, smart managed networks and innovation.

The European Union's competition law and electronic communications regulatory frameworks support openness and transparency while allowing continued innovation in networks, services and business models. The revised EU framework for electronic communications includes additional transparency measures that further enhance consumers' ability to make informed choices regarding their internet service.

There exists a dynamic and competitive market for mobile ISP access in Europe. In many countries there are more than three operators vying for customers with innovative pricing and tariff bundles for smartphones, dongles and mobile broadband connectivity. Consumers are able to choose what suits them best from a wide range of providers and internet access options. It is consumers that dictate the success of any given service or product. That is why mobile operators are committed to giving consumers access to any legal applications, content and services that are available within agreed terms and conditions. Mobile operators may choose to provide packages that include certain applications and services and others that do not. Ultimately it is the consumer that decides which tariff or package best suits his or her requirements.

Transparency is the key to consumers being able to exercise informed choice. The revised electronic communications framework introduces additional transparency rights and obligations so that consumers can easily compare competitive offerings. Mobile operators are committed to providing consumers with clear explanations of how their mobile internet connection is managed in order to deal with congestion, the efficient operation of services,

and the quality of the end user experience. Any limitations, restrictions or conditions will also be clearly and proactively communicated.

The GSMA believes that in highly competitive markets for mobile internet, pre-emptive regulation that would restrict traffic management and service differentiation would undermine Europe's digital economy by excluding new business models, locking in today's technologies, and hampering necessary innovation. We therefore encourage the EU to continue following a balanced policy towards the open internet in support of Europe's Digital Agenda.

Question 2: How might problems arise in future? Could these emerge in other parts of the internet value chain? What would the causes be?

- Problems might arise with the inefficient usage of network resources by other actors in the value chain.

The mobile industry plays an important role as an enabler and creator of digital applications, content and services that run across the internet. The continued emergence of new business models will preserve consumer choice and safeguard the internet as a rich source of innovation. This requires mobile operators to manage services on their networks, in order to deal with dynamic traffic flows and congestion, and to tailor delivery to the specific individual service requirements, within the limits of finite capacity and network resources. It is important that mobile operators continue to have flexibility to experiment with new and different service offerings and business models, as do all the other players in the internet value chain. The GSMA's view is that all players in the value chain should fairly contribute to the funding of the network capacities used.

Question 3: Is the regulatory framework capable of dealing with the issues identified, including in relation to monitoring/assessment and subsequent enforcement?

- The GSMA's view is that the combination of the revised EU regulatory framework, robust competition law and enforcement is the key to dealing with any issues of customer detriment or potential harm.

The GSMA's view is that the combination of the revised EU regulatory framework, robust competition law and enforcement is the key to dealing with any issues of customer detriment or potential harm.

There exists a dynamic and competitive market for mobile ISP access in Europe. In many countries there are more than three operators vying for customers with innovative pricing and tariff bundles for smartphones, dongles and mobile broadband connectivity. The European regulatory framework addresses many of the concerns raised in other jurisdictions on breadth of regulatory responsibility whilst also being explicit on provisions for remedies if appropriate. As stated by Neelie Kroes, European Commissioner for the Digital Agenda, at the ARCEP Conference in Paris on 13 April 2010: "The EU's revised telecoms rules will be complemented by [the] forthcoming NGA Recommendation and Spectrum Policy, both of

which will foster investment in efficient and open networks. Together this provides a good framework to deal with net neutrality issues. Therefore, in my opinion, any further regulatory intervention should be duly justified by the need to tackle specific problems which could possibly emerge”.

Question 4: To what extent is traffic management necessary from an operators' point of view? How is it carried out in practice? What technologies are used to carry out such traffic management?

Traffic management is necessary and a fundamental requirement:

- Mobile operators need to manage traffic and their networks in order to deliver the choice, innovation and experiences consumers want.
- Ex ante regulation to restrict traffic management and service differentiation would have a negative impact on innovation and consumer choice.

The mobile industry plays an important role as an enabler and creator of digital applications, content and services that run across the internet. The continued emergence of new business models will preserve consumer choice and safeguard the internet as a rich source of innovation. This requires operators to manage services on their networks, in order to deal with dynamic traffic flows and congestion, and to tailor delivery to specific individual service requirements, within the limits of finite capacity and network resources.

As demand for the mobile internet continues to grow at an exponential rate, mobile operators need to manage the traffic on their networks in order to deliver an optimum consumer experience. Many more devices are being equipped with mobile connectivity such as laptops, smart meters, environmental sensors, health monitors, and navigation systems. However, the traffic that can be carried at any one time on mobile networks is limited by the finite amount of spectrum available. Devices accessing the internet via a mobile base station have to share the available spectrum with other devices in the same area. Mobile operators also have to balance different types of traffic to give priority to, for example, emergency services.

Operators strive to fulfil diverse customer expectations in a very dynamic and innovative market, which cannot be achieved through one-size-fits-all solutions. Services in the future will be ever more sophisticated. In order to deliver the right customer experience, the “intelligence” of the network will be essential. Operators do not support an un-managed approach where all services have to be provided on a best-effort only basis. Pre-emptive regulation that would restrict traffic management and service differentiation would undermine Europe’s digital economy by excluding new business models, locking in today’s technologies, and hampering necessary innovation.

It is interesting to note that in their joint proposal on a net neutrality framework in the United States Google and Verizon highlight a belief that network management is necessary and delivers value to consumers as well as helping to create an environment for investment. From an operator’s point of view traffic management has always been essential for the efficient delivery of services. Google’s acknowledgement of this in their joint statement

reflects a pragmatism that unlimited network capacity is not possible and that traffic management helps to deliver consumer choice.

A few examples of traffic management practices used in mobile data networks are provided below.

- Content caching- Some popular websites appear to download very quickly because an ISP has stored their content dynamically on local servers, so that they do not have to retrieve packets of data from the original website, which may be on the other side of the world.
- Content control and filtering- Children are prevented from accessing adult content by ISPs' software filters, which require customers to prove they are over 18. Many also take steps to block access to websites that have been identified as carrying child sexual abuse content or other illegal material. In many countries, ISPs are also legally obliged to intercept internet traffic at the request of law enforcement agencies.
- Active monitoring- To ensure they maintain a good quality of service, ISPs actively monitor the performance of their networks, measuring the proportion of packets lost and the speed of customers' connections. They also take steps to react and prevent denial of service attacks, designed to bring down websites or other services, and the spread of malicious software or viruses.
- Capacity planning and spectrum- When carrying too much traffic simultaneously, telecommunications networks, particularly mobile networks, will become congested, and possibly unusable for some services, to prevent this, different possibilities may exist, such as:
 - Cap the amount of traffic a customer can send or receive in a specific time period.
 - Give priority to particular types of traffic associated with real-time service, such as video calls, which require a steady supply of bandwidth.
 - Limit throughput speeds.
 - Alter the number of packets a computer on its network can accept before it needs to acknowledge the sender.
 - Send redundant packets along with the requested packets to reduce the likelihood that the traffic will have to be retransmitted in the event of an error.
 - Mobile operators also sometimes use a mechanism, known as scheduler, to control the speeds and number of data users that can access a given radio channel, time slot or spectrum slice. A mobile operator may also establish dedicated data and voice channels within its network to ensure that heavy internet traffic does not prevent voice calls from being connected.

Question 5: To what extent will net neutrality concerns be allayed by the provision of transparent information to end users, which distinguishes between managed services on the one hand and services offering access to the public internet on a 'best efforts' basis, on the other?

- A vibrant competitive market combined with transparency is the best approach. GSMA members support transparency principles in service provision.

The GSMA believes that a vibrant competitive market combined with transparency is the key to consumers being able to exercise informed choice. Mobile operators support transparency principles in service provision, and are committed to providing consumers with clear explanations of how their mobile internet connection is managed in order to deal with congestion, the efficient operation of services, and the quality of the end user experience. Any limitations, restrictions or conditions will also be clearly and proactively communicated.

Question 6: Should the principles governing traffic management be the same for fixed and mobile networks?

- Traffic management is necessary in both fixed and mobile, but even more important in the mobile context given capacity constraints.

Mobile networks are clearly technically different from fixed, they use different tools, and traffic management is even more important in this context. Mobile operators need the flexibility to deal with continually changing traffic patterns and congestion within the limits imposed by finite spectrum capacity and network resources. This combination of factors is unique to an individual operator's network and reflected in multiple consumer offerings and tariffs. The special characteristics of mobile internet networks make restrictions on network operators' abilities to manage traffic particularly inappropriate because of the capacity constraints of spectrum-based networks and the need for highly dynamic network management. Unlike fixed, fiber optic, coax or DSL connections¹, mobile internet networks operate on a shared system where one user's traffic can have a significant effect on overall network performance. Furthermore, the total throughput and capacity on mobile internet networks are much more limited. These characteristics, combined with the fact that mobile users, by definition, move around, demand that mobile operators have great flexibility in choosing how to manage their networks in order to ensure an optimum consumer experience.

The mobile internet is not a different internet from that accessible via fixed-line connections. Mobile is a new means of accessing the internet, at any place and at any time. Mobile networks can also enhance internet users' experience by providing contextual information, such as their location or the opportunity to pay for goods and services through a mobile

¹ Recognising that types of fixed networks have significant differences between them

phone bill. Over time, more people worldwide will be accessing the internet through mobile devices and laptops than PCs.

Question 7: What other forms of prioritisation are taking place? Do content and application providers also try to prioritise their services? If so, how – and how does this prioritisation affect other players in the value chain?

- We support flexible commercial agreements between content providers and mobile operators given the positive impact on innovation, consumer choice and investment.

Mobile operators will continue to support and invest in the evolution of new internet-based services, networks and infrastructure. However, for service providers and content providers to be able to negotiate commercial arrangements regarding network operation and content distribution, flexibility is needed at every level of the broadband market. Provided there is sufficient transparency to consumers regarding their ability to access or use internet services, applications and content, allowing this commercial flexibility is the best way to develop innovative new business models and expand consumer choice, while at the same time maximising efficient use of network resources. In order to find innovative revenue streams that will support further network investment and lower prices for consumers, network operators need continued flexibility to experiment with different service offerings and business models, just like other participants in the internet ecosystem.

Content and search providers already engage in paid prioritisation by using content delivery networks such as those provided by Akamai and Edgecast. More new business models are likely to emerge in the future as both existing players and new entrants forge agreements or take on new roles within the internet value chain. An example of a new model in web search is the placing of advertisements based on a price paid for a particular search term. The economics of this model rely on the advertiser willing to pay a premium for increased visibility when search results are displayed. Such prioritisation is common practice across the internet value chain.

Question 8: In the case of managed services, should the same quality of service conditions and parameters be available to all content/application/online service providers which are in the same situation? May exclusive agreements between network operators and content/application/online service providers create problems for achieving that objective?

- Managed services are subject to separate regulation and non-discrimination in line with competition law and published terms and conditions.

Managed services are subject to agreement between parties in order to meet specific requirements. These arrangements already exist. Connections to the internet are provided at a certain quality of service. A consumer may pay for a single connection to the web via xDSL whilst a business customer may multi-home to one or more ISPs to improve availability and/or performance. At the same time, an ISP will connect via a transit provider or peer and finally a provider of content can connect via an ISP, transit, content deliver network or peer.

The delivery of a managed service may be exclusive i.e. it meets the specific requirements of the parties involved. Nevertheless, any agreement must be subject to competition law.

The objective of mobile operators and many application/service providers is to deliver the optimum experience for consumers and to ensure services meet the desired expectations. A number of examples exist where mobile operators have worked with application service providers to enhance customer experiences and quality of service. The 3 Group for example allow all VOIP applications on their networks. Furthermore, they have worked closely in collaboration with Skype to create a service that is optimised for their network. This solution delivers an enhanced customer experience, has been good for Skype in providing mobile services and has ensured the 3 Group can help to deliver against customer expectations. It has however required specific technical investment in network design which would not have been possible or economically viable if the same investment had been required for all VOIP providers. A prohibition on this investment would have resulted in best endeavours VOIP services only being delivered which, at times, would be unlikely to meet the consumers' expectations.

This by no means forecloses the possibility of voluntary wholesale offerings which would then be non-discriminatory by nature. As a general rule, openness is best achieved through competition. The regulatory enforcement of any strict non-discrimination obligations would have to be justified by the result of a market definition and market analysis procedure. In the absence of demonstrated market failure or insufficient competition the GSMA sees no benefit in enforcing economic regulation, which is clearly a "2nd best" solution compared to an outcome that competitive markets would produce.

Question 9: If the objective referred to in Question 8 is retained, are additional measures needed to achieve it? If so, should such measures have a voluntary nature (such as, for example, an industry code of conduct) or a regulatory one?

- No additional measures are necessary. Standard terms and conditions under competition law apply.

The GSMA is of the opinion that standard terms and conditions under competition law should apply. Effective, fair competition is the only way to achieve both a desired economic and social outcome.

Question 10: Are the commercial arrangements that currently govern the provision of access to the internet adequate, in order to ensure that the internet remains open and that infrastructure investment is maintained? If not, how should they change?

- The critical consideration is ensuring there that the market has the continued opportunity to adapt and evolve flexible business models now, and in the future to ensure new innovative services can be brought to market and to allow operators to continue to invest in new infrastructure and capacity.

The internet is a rapidly evolving and innovative market place; commercial arrangements and business models are evolving to meet this change. There should be flexibility so that the

market has the continued opportunity to adapt and evolve to ensure both a level playing field in the overall value chain and new innovative services can be brought to market, allowing operators to continue to invest in new infrastructure and capacity.

Question 12: How should quality of service requirements be determined, and how could they be monitored?

- As it is currently difficult to determine quality of service requirements and how to measure them, GSMA members are actively investigating solutions to these challenges.

It is difficult to determine quality of service requirements and how to measure them. For transparency to be effective metrics for monitoring quality of service on a mobile broadband network need to be determined as does a reference model to measure performance in a consistent way across networks. GSMA members are actively investigating solutions to meet these challenges.

Question 13: In the case where NRAs find it necessary to intervene to impose minimum quality of service requirements, what form should they take, and to what extent should there be co-operation between NRAs to arrive at a common approach?

The imposition of minimum quality of service requirements would be counter-productive since strict transparency rules and competition will allow the market to deal with potential net neutrality issues in a non-intrusive way. In this context, the GSMA would support Ofcom's position as set out in its recent consultation document. Namely, that the imposition of minimum quality of service requirements should only be seen as a last resort and that NRAs should first explore existing competition tools and transparency options.

Furthermore quality of service in the internet depends on various aspects which are influenced on different levels. Many of these aspects e.g. transit, distributed/root DNS, content servers and interference/environmental influences are beyond the control of the access network operators and therefore also beyond the control of a national regulator². These different levels of influences on quality of service on the internet should be taken into account before considering an imposition of minimum quality standards.

Question 14: What should transparency for consumers consist of? Should the standards currently applied be further improved?

- Transparency is key to consumers being able to exercise informed choice.

Transparency is the key to consumers being able to exercise informed choice. High speed mobile broadband is a relatively new offering and requires continuing investments by

² The GSMA and member operators have produced a paper on the "Mobile internet – Working for consumers", which is available at http://www.gsmworld.com/documents/Internet_education_FINAL.pdf.

operators. It is our contention that operators are free to build a service mix of voice and data at a tariff that reflects these investments. Therefore, operators may choose to offer and build tariffs which include certain applications and services together; others may be optional. It is ultimately to the consumer to make a decision on which tariff best suits his/her requirements according to clear and transparent information.

Mobile operators are committed to providing consumers with clear explanations of how their mobile internet connection is managed in order to deal with congestion, the efficient operation of services, and the quality of the end user experience. Any limitations, restrictions or conditions will also be clearly and proactively communicated.

Furthermore, we support transparency in the entire value chain. Network quality of service is merely one link in the internet access chain – a customer's quality of experience (QoE) depends to the same degree on the level of quality of service of all the networks passed, on the servers hosting the services which customers chose to access, the terminal type, its operating system, browser and the type of application used. The quality of the internet access also depends on the behaviour of the service and content providers in terms of efficiency, responsibility and non-discrimination.

The GSMA is likewise of the opinion that consumers' awareness of the need for traffic management to provide mobile access to the internet should be enhanced. We would support the establishment and will work with stakeholder working groups bringing together public authorities, consumers associations, operators and industry associations in order to define a way of effectively delivering such information to consumers. Anecdotal evidence suggests that consumers understand the limitations of coverage in wireless networks and that the speed performance limitation in xDSL is constrained by the distance from the "exchange". Ofcom in its recent consultation document considers commissioning a behavioural economics study on consumer information and transparency. The GSMA supports these efforts.

GSMA position on the Open Internet and Network Neutrality

- 1. Competition is the best way to deliver the choice that consumers and businesses want.*

The GSMA supports an open internet that enables consumers and business customers to access the content, applications and services of their choice, in ways that provide them with the best possible experiences and services. Competition is the key to ensuring that consumers and business customers have as much choice as possible. In a highly competitive mobile services market consumers are able to choose from a wide range of providers and options to access the internet and select offers that best suit their needs.

It is consumers that dictate the success of any given service or product. That is why mobile operators are committed to giving consumers access to any legal applications, content and services that are available. Operators may choose to provide packages that included certain applications and services and others that do not. Ultimately it is the consumer that decides which tariff or package best suits his or her requirements.

Transparency is the key to consumers being able to exercise informed choice. Mobile operators are committed to providing consumers with clear explanations of how their mobile internet connection is managed in order to deal with congestion, the efficient operation of services and the quality of the end user experience. Any limitations, restrictions or conditions will also be clearly and proactively communicated.

- 2. Operators need to manage traffic to deliver the choice, innovation and customer experiences we all want.*

The mobile industry plays an important role as an enabler and creator of digital applications, content and services that run across the internet. The continued emergence of new business models will preserve consumer choice and safeguard the internet as a rich source of innovation. This requires operators to manage services on their networks, in order to deal with dynamic traffic flows and congestion, and to tailor delivery to the specific individual service requirements, within the limits of finite capacity and network resources.

As demand for the mobile internet continues to grow at an exponential rate, mobile operators need to manage the traffic on their networks in order to deliver an optimum consumer experience. Many more devices are being equipped with mobile connectivity, such as laptops, smart meters, environmental sensors, health monitors, and navigation systems. However, the traffic that can be carried at any one time on mobile networks is limited by the finite amount of spectrum available. Devices accessing the internet via a mobile base station have to share the available spectrum with other devices in the same area. Mobile operators also have to balance different types of traffic to give priority to certain services such as emergency services.

Operators do not support an un-managed approach, whereby all services have to be provided on a best-effort basis only. Operators strive to fulfill diverse customer expectations

in a very dynamic and innovative market, which cannot be achieved through one-size-fits-all solutions. Services in the future will be ever more sophisticated. In order to deliver the right customer experience, the 'intelligence' of the network will be essential.

3. *The internet is a powerful force for innovation and should remain free to develop. Digital networks and services are a dynamic, progressive part of modern societies.*

The internet is all about democracy, freedom of access to information and continuous innovation and improvement. Its power and adaptability to deliver this has been central to its continuous progression.

Operators will continue to create innovation opportunities for all by ensuring that differentiated services, sustainable business models and innovative devices can be developed, trialed and tested in the market.

The internet stimulates and enriches modern societies. Its uses are as varied and as individual as the citizens and organisations who access it. Operators want to apply open principles to deliver choice, innovation and differentiation. Operators don't want the potential of the internet to be stifled by an indeterminate openness concept.

In order for consumers to continue to benefit from mobile broadband services, ongoing investment is needed in efficient and open networks. Mobile operators will continue to support and invest in the evolution of new internet-based services, networks and infrastructure. However, we require flexibility at every level of the broadband market so that service providers and content providers can negotiate commercial arrangements regarding network operation and content distribution.

Provided there is sufficient transparency to consumers regarding their ability to access or use internet services, applications and content, allowing this commercial flexibility is the best way to develop innovative new business models and expand consumer choice, while at the same time developing efficient uses of network resources. In order to find innovative revenue streams that will support further network investment and lower prices for consumers, network operators need continued flexibility to experiment with different service offerings and business models as all participants in the internet ecosystem.

Network technologies and the resulting digital services that run across them, all need an open, flexible environment to work, evolve, improve and innovate in. Differentiation is driving innovation and enabling new services to emerge that in a 'best-effort' environment could not be successfully provided.

Services in the future will be ever more sophisticated. In order to deliver the right customer experience, the 'intelligence' of the network will be essential.

4. *The European Union's competition law and electronic communications regulatory frameworks underpin openness and transparency while allowing continued innovation in networks, services and business models*

The European Union has robust regulatory and competition law frameworks that protect consumers against anti-competitive behaviour. The revised EU framework for electronic communications includes additional transparency measures that further enhance consumers' ability to make informed choices regarding their internet service. In addition, NRAs dispose of a new reserve competence to prevent a possible degradation of service quality for consumers.