

Telecom Italia response to
BEREC Consultations
on
“Differentiation practices and related competition issues
in the scope of Net Neutrality”
and
“Guidelines for Quality of Service in the scope of Net Neutrality”

31st July 2012

Executive Summary

Telecom Italia supports the “openness” of the network principle, meaning that - as stated in the provisions of the EU directives - all customers are able to access the content, applications and services of their choice, irrespective of the technology used, be it fixed or mobile, in ways that provide all of them with the best possible experiences and services.

In this context, Telecom Italia deems that the application of non-discriminatory network management practices is a “win-win” approach, as Operators can optimize network resources and customers can benefit from the enhanced average quality of bandwidth intensive applications.

Indeed, the optimization of network resources is an undeniable need of Operators as exponential capacity increase is an inefficient solution to face traffic growth. Rather, the best approach is an efficient and transparent network management allowing a set of offers with different levels of quality. Quality differentiation is beneficial for customers and should not cause concerns when it is transparently communicated to the market.

In this regard, Telecom Italia maintains that the enhancement of transparency and easiness to switch to a different operator, as provided for in the New Regulatory Framework, are sufficient to protect customers from the risk of potential anti-competitive behaviours.

The Regulatory Framework provides many tools for the customer’s protection and minimum QoS requirements should be considered as an exceptional measure to be taken only in case of “excessive” degradation of the quality of service and after other relevant intervention tools, provided within the framework in terms of transparency or competition rules, have been implemented and proved ineffective.

Quality monitoring should be exercised only within the limits of the Internet access chain’s network segment pertaining to the operator, so that the unpredictable role of terminals and external equipment outside the network should be out of the scope of the measures.

Minimum QoS requirements should be applied on a symmetric basis. In this regard, Telecom Italia challenges the assumption BEREC makes with regards to the fact that traffic delivery differentiation practices implemented by SMP should cause more concern and should be considered as a proportionate/legitimate trigger to justify *ex ante* regulatory intervention. We maintain that symmetric remedies should be used to deal with potential net neutrality issues, independently from any SMP evaluation. Indeed, the retail broadband market and the traffic delivery market have not been identified as susceptible of *ex ante* regulation, and are thus ruled by competition law only.

General comments

Telecom Italia welcomes the opportunity to answer the BEREC public consultations on "*Differentiation practices and related competition issues in the scope of Net Neutrality*" and "*Guidelines for Quality of Service in the scope of Net Neutrality*".

We deem the arguments and positions expressed in the two documents to be strictly related and we will therefore provide a joint response to the two consultations.

Before addressing specific items, we would like to provide our view on the main issues of the consultations.

Openness of the Internet and network management

The application of non-discriminatory network management practices leads to a "win-win" situation as Operators can optimize network resources and customers will benefit from the enhanced average quality for both critical and bandwidth intensive applications.

Telecom Italia supports the main principle of Net Neutrality which is the openness of the network, meaning that - as stated in the provisions of the EU directives - all customers are able to access the content, applications and services of their choice, irrespective of the technology used, be it fixed or mobile, in ways that provide all of them with the best possible experiences and services.

The Net Neutrality principle itself, applied to all users, needs the application of traffic management mechanisms in order to ensure satisfactory average quality levels and application policies specified in the user service subscription. In particular, for the generic Internet access, the traffic management application enables the same satisfactory average levels of quality to each user independently of the used specific applications/services and above all it protects, in perspective, the whole customer base against the misuse of the network by someone (i.e. a limited number of customers making an excessive and indiscriminate use of the so called bandwidth hungry applications) to the detriment of others. Only the use of such mechanisms ensures the possibility to pursue the provision of a plurality of applications by content/application providers and their real use by end users.

Traffic management therefore implies granting to all Internet users a common satisfactory average level of quality. Notwithstanding the rapid diffusion of bandwidth hungry applications, ISPs cannot ignore the fact that a substantial part of their traffic is still dedicated to real time applications. In absence of network management, the perceived quality of real time applications would be jeopardized by intensive usage of bandwidth hungry (but time insensitive) applications by few customers.

Traffic management must be therefore considered as welfare enhancing, as recognised by the Universal Service Directive¹, which allows network management practices not only to preserve the integrity of the network but also to avoid congestion and meet quality of service requirements.

¹ Recital 34 of the Directive 2009/136/EC "...*In order to meet quality of service requirements, operators may use procedures to measure and shape traffic on a network link so as to avoid filling the link to capacity or overfilling the link, which would result in network congestion and poor performance...*"

Therefore BEREC should overcome the negative connotation of traffic management highlighting the regulatory coherence and indispensability of the use of traffic management techniques.

Indeed, traffic management mechanisms are usually defined and recognized by international standardization Bodies (for instance ITU), as to provide a sufficient average quality to all applications on IP networks.

It is important to note that the principle of non-discrimination is respected in presence of traffic management techniques since these techniques normally work without considering the typology of traffic; non-discrimination principle is applied even considering that the action of traffic management intrinsically works in a different way on different applications, limiting those who flood the network with high traffic volumes to the advantage of real time applications, services that are considered premium by end users and/or end-to-end messaging and surfing. This happens respecting the non-discrimination of a specific application towards a similar application and with the aim of guaranteeing the supply of all services to all customers.

Unlimited capacity increase vs network management and quality differentiation

The market should select the most efficient solution to face traffic growth. Capacity increase is not necessarily the most efficient solution.

An efficient and transparent network management, together with a set of offers with different levels of quality, is the best approach to this issue.

It is a matter of fact that data traffic is growing exponentially and that “bandwidth hungry” applications (for instance video) will represent an ever increasing share of the network traffic. Cisco states that mobile data traffic has doubled in each of the last four years and is set to grow by 78% CAGR between 2011-2016.

This market evolution requires a network evolution and an efficiency improvement by Operators: investments for this massive network capacity growth have to be financially sustainable and take into account the intrinsic IP resource limitations and the need for an efficient use of available resources both in the fixed (e.g. backhauling, line rate,...) and mobile networks (e.g. spectrum scarcity).

There are two ways to face the foreseen traffic growth: expanding the capacity as needed to guarantee an acceptable quality for the increased traffic, or managing the growing traffic to provide an acceptable average quality for all customers with the available capacity. Both solutions require investments in the network. The market should select the most efficient solution. Operators would naturally choose the most cost-effective solution, which could also be a mix of the two scenarios above.

We believe that the solution must be found looking at the problem from two different perspectives aiming both to technical and economic efficiency; let's elaborate on these issues:

Perspective n. 1: technical efficiency.

The predicted traffic growth cannot be faced only by expanding the network capacity as traffic management techniques are used in any case for an appropriate functioning of the networks and massive capacity increase would not be financially sustainable by Operators in the fixed networks

and utterly impossible in the mobile networks, where frequencies are not expandable at wish and permissions for the installation of new antennas are difficult to obtain.

So, we must acknowledge that we live in a world of limited resources, and that an efficient allocation of these resources is often the best way to cope with their scarcity: all the actors and stakeholders in this market must understand that traffic management is not a form of limitation - nor, in any way, of control - but rather a form of protection. Traffic management methodologies are not aimed at limiting or interfering with the freedom of expression, media pluralism and cultural diversity; on the contrary, they are aimed to grant every customer with access to the network.

As a fact, the explosion of data and multimedia traffic - due to an increasing plurality of different applications - requires that Operators, as appropriately recognized also in the New European Regulatory Framework², introduce more efficient network management tools with the aim to provide a sufficient quality of services for all applications, end users and service providers.

If Operators could not manage their networks using the most efficient technical solution in accordance with their needs, the traffic explosion would indeed inevitably lead to a decrease in the quality of service and thus negatively impact the customer experience.

Perspective n. 2: economic efficiency.

On the other hand, more efficient networks' evolution and related additional investments will enable the improvement of the average quality of services provided to all end users, allowing the access operators to continue providing mass market broadband access at affordable conditions notwithstanding increases in investments. Indeed, without the possibility for operators to manage their networks using the appropriate traffic management solutions, the cost of the (significant) additional investments on capacity increase required to keep up the quality of services would necessarily be "passed on" to the retail market and thus paid by customers by means of price increase and may hamper the diffusion of broadband and ultra-broadband access to European customers as requested by the European Digital Agenda broadband targets.

There is one solution to this problem: the operators should be able to provide offers with different levels of quality, at different prices (both retail and wholesale). In this way, the customer can freely choose the offer that best suits his/her needs, and at the same time the higher price for higher quality offers can be an incentive for network investments.

To sum up: network management and differentiated level of quality, together, are the best tool to cope with the increasing level of traffic demand and the limited resources we have.

Together, these are efficient and pro-competitive measures, provided that they are:

- built in a non-discriminatory way;
- clearly and transparently described to the customers.

We would like to insist on the pro-competitiveness of the approach: every operator can design its own offers, based on its network capacity and on the average usage pattern of its customers; operator can compete not only on prices, but also on the "best efficiency" of their offers. Again, as elaborated before, the market is free to find the best solution.

² We refer to the Directives 2009/136/EC and 2009/140/EC, which have strengthened the requirements on quality, integrity, security, continuity, availability of networks and services enabling operators to manage traffic in their networks

Transparency and differentiation

Telecom Italia maintains that the enhancement of transparency and easiness to switch to a different operator, as provided for in the New Regulatory Framework, are sufficient to protect customers from potential anti-competitive behaviours and that practices to differentiate offers by blocking or throttling an application should be considered within competition and transparency analysis and not as a QoS issue.

Customers are fully protected from potential anticompetitive behaviour both by the application of transparency and by the non-discrimination³ principles, which are rooted in the European regulation and have even been further enhanced by the new regulatory framework.

Regarding the transparency, the New Regulatory Framework highlights the importance of informing end users on possible procedures put in place by ISPs to measure and shape the traffic so as to avoid network congestion, and on how these procedures may impact service quality.

Information should be provided, in particular, for commercial offers that have some explicit restrictions on provided data rates (i.e. cap) and/or user operated applications which shape or limit data traffic.⁴

Differentiated retail offers will always remain necessary to meet different customers' needs. Customers should be free to opt for basic offers at a lower price, offers that would not give access to some internet services, so long as the restrictions are transparently communicated to the customer and so long as other offers, including those services, are available in the market.

A clear distinction should be made between practices which are a matter of traffic management and the one which should be addressed as commercial practices. It means that practices to differentiate offers by blocking or throttling an application should be considered within competition and transparency analysis and not as a QoS issue.

In this regard, we consider the level of new transparency requirements appropriate to allow customers to make well informed choices throughout the different stages of the commercial relationship and select the offers that best suit their needs. In a highly competitive market, as the broadband access market is, the presence of transparent offers can prevent any anticompetitive behaviour.

There is an important focus on transparency both at European level, with BEREC having recently issued guidelines on transparency, and at National level, where some NRAs have defined specific national activities on that subject. For instance, in Italy, AGCom has defined a unique national Quality of Service (QoS) measurement system for all main fixed network ISPs. The ISP are required to measure the QoS of their two best-selling offers and make them publicly available. The measurements are performed in 20 cities, corresponding to the regional capitals of the country.

³ 2009/140/CE, art 10: "*Obligations of non-discrimination shall ensure, in particular, that the operator applies equivalent conditions in equivalent circumstances to other undertakings providing equivalent services, and provides services and information to others under the same conditions and of the same quality as it provides for its own services, or those of its subsidiaries or partners.*"

⁴ 2009/136/CE, art 20: "*...The contract shall specify in a clear, comprehensive and easily accessible form at least: [...] information on any other conditions limiting access to and/or use of services and applications, where such conditions are permitted under national law in accordance with Community law,...*"

Additionally, there is an ongoing project which aims at measuring the QoS of the connections to the Internet from mobile networks.

The (un)importance of SMP

Telecom Italia challenges the assumption BEREC makes with regards to the fact that traffic delivery differentiation practices implemented by SMP should cause more concern and should be considered as a proportionate/legitimate trigger to justify *ex ante* intervention. We maintain that symmetric remedies should be used to deal with potential net neutrality issues, independently from any SMP evaluation.

In both documents BEREC evaluates the impacts of deviations from the net neutrality principles on competition, focusing in the "Guidelines for Quality of Service" on the possible remedies the NRAs could impose on operators.

While we appreciate the effort to identify a set of concerns based on the type of practices employed by operators, we challenge the assumption BEREC makes with regards to the fact that traffic delivery differentiation practices implemented by SMP should cause more concern and should be considered as a proportionate/legitimate trigger to justify *ex ante* intervention.

In the area of assessment of market power in relation with Net Neutrality policy objectives, the issue of dominance should not find its application with a mechanical translation of the SMP assessment in the list of the relevant markets.

It should be recalled that content services are not envisaged in the Framework for electronic communication services. This framework is insisting on services and network competitive issues that are excluding content issues from its scope (see recital 5, Directive 2009/140/EC)⁵.

Also taking into account this character of the Framework, the market analysis performance to assess SMP, is not actually taking into account the role of content providers and their ability to exercise indirect constraints on final clients behaviours.

The paper dealing with competition issues in the scope of Net Neutrality is raising for each of the examined practices (VoIP blocking, P2P blocking, differentiation of services to CAPs) the role of an SMP operator dealing with those practices, without taking into consideration the quality of a two sided market relevant for Internet connectivity: in particular the role of major OTTs appears neglected and the SMP assessment is raised without an adequate assessment of the market structure and its effective competitive constraint.

As a consequence we deem that BEREC statement like the one quoted below should be reconsidered taking into account the two sided nature of the relevant markets, and considering that markets for Internet connectivity differ from those taken into account by the list of markets defined as eligible for *ex ante* regulation in the current Framework. For these reasons we are concerned on BEREC findings that:

⁵ " *This framework does not therefore cover the content of services delivered over electronic communications networks using electronic communications services, such as broadcasting content, financial services and certain information society services, and is therefore without prejudice to measures taken at Community or national level in respect of such services, in compliance with Community law, in order to promote cultural and linguistic diversity and to ensure the defense of media pluralism.*"

"The market power threshold adopted here is that of significant market power (SMP). A general definition of significant market power is the ability of a firm to behave independently from its competitors and end-users, for example, by raising prices above some competitive level in a profitable way for a non-transient period. This is the legal concept used in the electronic communications regulatory framework and by competition law. While there may be a debate as to whether SMP is the appropriate market power threshold to identify concerns in the area of traffic delivery differentiation practices [as they result in the modification of small characteristics of internet access offers which may not be as much subject to full competitive pressure as prices and services], we have taken this as a given for the purposes of this paper. In a situation in which an ECP has SMP, the provider could have an incentive to exclude rivals, reduce quality and costs or increase prices and each of these may harm end users. The behaviour may generate both short-run static detriment – i.e. higher prices and less choice for end-users – and longer-run dynamic detriment – i.e. less investment and innovation. This is because of the deterrence effect that exclusionary behaviour may have"⁶

As a general principle, also taking into account the peculiar nature of the policy objectives relevant to the Net Neutrality debate, it should be recalled that Net Neutrality, as envisaged in the USA environment, is a policy meant to ensure final clients are entitled to get access to legitimate content, in a competitive environment of players including network operators, content providers, ISPs.

Considering the aim of protecting customers, the application of any net neutrality intervention should be focused on symmetry, as a horizontal safeguard to fairly and efficiently empower final clients in accessing the web. In case of exclusionary behaviours, market failure should be dealt *ex post*.

Any *ex ante* regulatory intervention should be the result of a thorough market analysis that takes into account all the actors involved in the supply chain of services. It is to be considered that in the context of wholesale access relevant markets 4 and 5 heavy obligations already apply on SMP operators allowing the maximum openness of the network and enabling service providers to access to the appropriate wholesale offers on the basis of their needs.

For this reason we suggest National Regulators to maintain a "wait and see" approach in relation with market power as an *ex ante* trigger for *ex ante* Net Neutrality policy objectives, and to support instead an *ex post* approach in case of market failure, along with antitrust law principles.

At this stage of market development and infrastructure upgrade in the Internal Market, the introduction of an *ex ante* form of intervention applied along the lines of the SMP regulatory model will imply distortive outcomes and un-proportionate decisions, severely affecting the ability of network operators to further invest in line with DAE target.

Nevertheless, in case SMP would still be kept as a relevant issue for *ex ante* intervention in relation with the 3 practices mentioned above (blocking VoIP, blocking P2P, differentiation of services to CAPs), BEREC should further clarify how to verify the nature of SMP for ISPs dealing with retail broadband connectivity, taking into account:

- the appropriate market definition,
- the scope of services substitutability through different platforms,
- the level of implementation of appropriate switching practices for final clients,
- the indirect constraints exercised by OTT dominant player,

⁶"Differentiation practices and related competition issues in the scope of Net Neutrality", par. 181-182.

- the level of access regulation implemented according with the principle of non-discrimination, in particular when a form of functional separation is implemented in a given national market.

Where the retail level is addressed the issue of the assessment of the 3 criteria should be ascertained with the proportionate details to take into account the market analysis feature mentioned above, in order to verify that the following 3 criteria tests are met:

1. the market must have high and non-transitory entry-barriers;
2. the market does not tend towards effective competition within the relevant time horizon; and
3. the application of competition law alone would not adequately address the market failure(s)

Since the adoption of the current framework, the retail broadband market has never been considered to be notified on the purpose of *ex ante* regulation.

The scope of the analysis would entail to take into consideration also innovative services requiring high bandwidths, recalling that the extent of discretion from a legal and economic point of view on the conditions to perform this assessment will raise a level of uncertainty for the future of the sector that could severely impact the DAE targets.

The application of an SMP trigger to deal with net neutrality issue at wholesale level is also raising similar concerns: in this case art. 7 notification records are already offering a case against the polish regulator (2010), where the Commission appropriately insisted on the need of a careful SMP and market definition assessment, concluding with a veto against the national regulator proposal to notify a dominant position on the markets for peering and transit interconnection.

In this case the Commission was not convinced that the market satisfied the three criteria test, also indicating that the reasons why the wholesale market for exchange of Internet traffic may not satisfy the three criteria test is that competition law would be appropriate to handle market failures.

It is important to point out that, reading the USA debate in light of EU market conditions, the regulatory model at EU level already implies the possibility to regulate access to the relevant bottlenecks accordingly with a SMP assessment.

This feature of the EU regulatory model is a strong safeguard against the raise of market power also taking into account that the access regime is implemented providing a wide range of tools in relation with non-discrimination issue, which address competitive issues at retail level by ISPs and ensure replicability and competitiveness at retail level.

The introduction of a further level of intervention at wholesale level envisaging the assessment of a new market at IP interconnection level in particular in relation with EU "eyeball ISP" appears severely un-proportional for the reasons mentioned above and distortive for a level playing field at global market level.

For all the reasons above, Telecom Italia disagrees with the statement made by BEREC that "*This [the principle of proportionality] might, for example, justify stricter or more comprehensive minimum QoS requirements on SMP providers*"⁷ and maintains that symmetric remedies should be used to deal with potential net neutrality issues. Notwithstanding the fact that remedies could be imposed on single operators, it should be independent on any SMP evaluation.

⁷ "Guidelines for Quality of Service in the scope of Net Neutrality", chapter 3.2.1

Specific issues related to the document
"Differentiation practices and related competition issues
in the scope of Net Neutrality"

The Internet Value Chain and the Characterization of relevant markets

CAPS should not be assimilated to end users and should be framed in a more traditional scheme of wholesale commercial relationship with network operators.

We deem the representation of the Internet Value Chain made in the document potentially misleading as it seems to imply that end-users and CAP should both be considered as clients of the ISP, without taking into account the very different nature of the two categories.

Indeed, although end users can in some cases act as CAPs - when they create and share content in the network (i.e.: blogs, photos, etc.) - Telecom Italia believes they should not be considered as such. A clear distinction should be made between end users, who use a standard retail offer of the network operator (even if they use their connection to sell their old laptop on e-bay) and CAPs, who have different needs in terms of connection to the network.

CAPs in our view are suppliers of services and should not be assimilated to end users when net neutrality is concerned. It is necessary that CAP, increasing their customer base and their business through user access to the Internet provided by operators, concur to the economic sustainability of national and international networks, according to the type and volume of data they produce, being firstly responsible for the quality supplied to end users through their applications and contents.

CAPs should therefore be framed in a more traditional scheme of wholesale commercial relationship with network operators and not assimilated to the end users.

The relationship between ISPs and CAPs will be better analysed in our response to the consultation on the document "An assessment of IP-interconnection in the context of Net Neutrality".

Ability to differentiate/discriminate and effects on end users

Telecom Italia does not share the assumption that traffic delivery differentiation practices implemented by SMP, especially if vertically integrated, should cause more concern. Moreover, BEREC should better investigate the regulatory imbalance between CAPs providing non regulated offers (e.g. unmanaged Voip) and authorized ECPs providing regulated offers (e.g. PATS).

As already stated in the general comments, Telecom Italia deems that the assumption that traffic delivery differentiation practices implemented by SMP should cause more concern is not sharable.

Moreover, we believe that also the vertical integration should not be considered as an additional source of concern with regards to net neutrality. Indeed, possible distortions to competition coming from operators being integrated are not strictly linked to net neutrality and reasonable network management practices and they should be dealt with within the market analysis framework. On the contrary, BEREC seems to give a discriminatory and anticompetitive behaviour by the integrated ISP for granted.

With specific regard to VoIP, it should be noted that the operator that supplies the public telephony service through VoIP technology, pursuant the European regulatory framework, must be authorized to supply Publicly Available Telephone Service (PATS) and, as a consequence, does comply with a set of obligations to protect users and related to security, integrity and availability of services. Moreover in case of dominance, it is subject to specific remedies to protect competition.

BEREC analysis seems not to consider the existing regulatory imbalance between CAPs providing community peer-to-peer VoIP offers and PATS providers. In fact CAPs are not providers authorized to PATS offers, they do not comply with any PATS obligations and they do not provide a publicly available telephone service, but just a community service. If a CAP wants to offer a PATS service it has to comply with all the related obligations, satisfying the conditions of authorization regime and being considered in the relevant market analysis.

Only in this way, the CAP acts in a role different from the end user and with the right responsibilities as provider of services to end customers. Besides, the notion of "no commercial relations practice" is to be properly corrected, with adequate remuneration of the ECP on the basis of the used resources. If the CAP does not have business relations with the ECP it does not remunerate the Internet value chain, not paying what it consumes and creating a clear imbalance in the economic value chain.

Differentiation practices

BEREC's analysis should focus on the predominant use of network management practices in the market and not on the extremes (block of applications, competition distortion, etc.). Offer differentiation is beneficial for customers and should not cause concerns when it is transparently communicated to customers.

While we appreciate that the categorization of differentiation practices has been made in the document for the sake of simplicity, we maintain that it does not reflect the market situation. Indeed, the analysis made by BEREC focuses on the extremes (block of applications, competition distortion, etc.) and not on the predominant use of network management practices in the market.

Regulation, as envisaged by European regulatory framework, should be technologically neutral, without favouring any technology or any network solution with respect to another one. Therefore regulation should allow operators to choose the most appropriate solution for network management ensuring at the same time that its application does not create problems related to discrimination, transparency, competition issues.

Telecom Italia is not aware of any operator blocking applications or contents *tout court* to its customers. What operators do is differentiate their offers to meet customers' different needs.

For a customer who generally uses only a few IP-based applications, possibly just internet browsing and e-mail, it may be beneficial to have more granular pricing which limits the use of his connection to just those applications he/she wishes to use. This would allow a much more efficient

pricing structure which truly represents the usage level of the customer. This could be particularly helpful for customers who wish to restrict their spend limits and occasional users.

In particular, with regards to VoIP blocking on mobile networks, which is considered one of the most critical issues within the net neutrality debate, Telecom Italia makes available for its customers offers with no restrictions to the internet access (VoIP included), as well as cheaper offers with some restrictions (VoIP excluded) to address those clients who are not interested in that specific service.

Moreover VoIP blocking (as well as any other offer restriction) is transparently communicated to the customer, allowing him to choose alternative offers that include this application.

With reference to the fact that "*the assessment of the potential effects of VoIP blocking depends among other factors on whether VoIP applications are considered (potential) close substitutes for mobile telephony or not*"⁸, Telecom Italia maintains that the two services are to be considered very different. Any evaluation from BEREC should consider the distinction between PATS and "community" VoIP application, which are typically not interoperable and not subject to authorization under the European Regulatory Framework (otherwise they would be subject to the same obligations and could not be operated on a *best effort* basis).

Only such a concrete starting point allows an objective analysis of the motivations and effects of blocking of VoIP applications by some operators who provide mobile service to end customers through its network infrastructure (given that mobile data service and access to Internet is technically and commercially integrated in the mobile service available to the public). In fact at present the OTT providing peer-to-peer VoIP applications are substantially outside the rules of the European regulatory framework: they do not respect PATS obligations and, therefore, they cannot enjoy the rights associated to PATS operators. This is not an issue of net neutrality but, in fact, a discrimination issue. PATS authorized operators, compared to the global OTTs, are penalized because the OTTs do not remunerate the networks used for connectivity, do not have to comply with obligations on the telephone service, do not have constraints of quality, reliability of service, access to emergency services, etc. and then they act on the market with a distorting behaviour with respect to authorized PATS operators.

BEREC should recognize that it is not an issue related to net neutrality, but it has to be faced to ensure certain and fair rules in a competitive market. There is a clear difference in the regulatory treatment on operators with respect to OTT and BEREC should address the issue at EU level.

With regards to Peer to Peer (P2P) on fixed broadband, as explained in the general comments, the agnostic throttling of P2P applications falls within the network management practices implemented by operators aiming at ensuring satisfactory average quality levels for all customers.

This is done by limiting those who produce higher traffic volumes to the advantage of real time applications, premium services and/or end-to-end messaging and surfing.

As long as this practice is implemented respecting the non-discrimination of a specific application towards a similar application we do not foresee any concern with regards to net neutrality.

BEREC and NRAs should not focus on the analysis of the different traffic management techniques that are always needed for the normal functioning of every network, but they just have to focus their attention on the cases of possible abuses causing problems on non-discrimination or competition issues.

⁸ "Differentiation practices and related competition issues in the scope of Net Neutrality, par .222.

Finally, with reference to differentiation of services offered to CAPs, Telecom Italia believes they are acceptable as long as operators do not discriminate among CAPs and apply equivalent conditions in equivalent circumstances, as required by art 10 of the Access Directive⁹.

⁹ 2009/140/CE, art 10: "*Obligations of non-discrimination shall ensure, in particular, that the operator applies equivalent conditions in equivalent circumstances to other undertakings providing equivalent services, and provides services and information to others under the same conditions and of the same quality as it provides for its own services, or those of its subsidiaries or partners.*"

Specific issues related to the document

“Guidelines for Quality of Service in the scope of Net Neutrality”

Legal framework

The Regulatory Framework provides many tools for the customer’s protection and minimum QoS requirements should be considered as an exceptional measure to be taken when an excessive degradation of quality of service offered by operators is observed in the market.

As for the legal and regulatory scope of the new European framework, it should be noted that:

- the previous framework already included tools for the final customer’s protection as to quality of service;
- many NRAs have already identified appropriate regulatory measures enforced on network operators and ISPs to guarantee Internet access quality of service;
- these measures have been onerous and complex for the operators and led to significant investments to ensure the final customer’s protection as to the Broadband and Internet access services’ performance.

In addition, the 2009 European framework specifically recognised the legitimacy of the network management techniques’ principle in order to ensure adequate and usable offers to all customers (2009/136/EC, recital 34)¹⁰.

BEREC should therefore concentrate on cases of abuse or Internet access market’s unsettling behaviours, which will be dealt with by the NRAs.

We deem that BEREC should assess net neutrality under the 2009 Telecom Package on the basis of the regulatory paradigm identified by the European Commission (EC) and the evident lack of market issues.

The new power bestowed on NRAs to impose minimum quality levels is an exceptional measure to be taken when an excessive degradation of quality of service offered by operators is observed in the market, so much so that it must be notified to the EC and in line with potential future EC Recommendations in quality.

¹⁰ Please see note 1.

Symmetric tools

Minimum QoS requirements should be enforced on operators in a symmetric way. Moreover, all the actors along the Internet value chain should potentially be subject to measures that fall within the minimum quality levels' scope.

We agree that obligations related to minimum quality levels be enforced on operators in a symmetric way and, as appropriate, to a single operator or to a group of operators/ISPs.

We deem that all the actors along the Internet value chain should potentially be subject to measures that fall within the minimum quality levels' scope; even commercial providers which are often outside the European regulatory framework (not being authorised operators). We refer to those OTTs (Skype, Google, Microsoft etc.) which act as CAPs providing applications and/or contents to final customers.

Certainly, if a server is not able to ensure video streaming usability, no responsibility can be ascribed to network operators, since network operators are not aware that a considerable amount of data are sent, or a messaging or surfing service is required from a given access.

BEREC should recognise that CAPs are providers and as such they cannot be likened to final users or protected under the regulation that deals with final customers' protection, since they are involved in the provision of the requested service.

Technical aspects

Quality monitoring should be exercised only within the limits of the Internet access chain's network segment pertaining to the operator, so that the unpredictable role of terminals and external equipment outside the network be out of the scope of the measure.

In principle we agree with the technical approach to quality proposed by BEREC and the fact it recognises the difficulty to implement this approach on the Internet and the advisability to focus on the Network Performance assessment, within the limits of the Internet access chain's network segment pertaining to the operator, so that the unpredictable role of terminals and external equipment outside the network do not fall under the measures.

Nevertheless, BEREC states that detection of degradation "should preferably also include the interconnection leg". We deem the interconnection should be excluded as it would in practice be very difficult to assess whether the degradation is due to the operator or to another player.

Indeed, BEREC should also highlight that, being the Internet inherently *best effort*, even when assessing the operator's local Network Performances, it is not possible to ensure the QoS on the whole Internet chain, being the operator often supranational or acting as an international carrier. This is important to guarantee the proportionality of potential constraints and, above all, to avoid the impression that the imposition of minimum QoS could solve the performance and stability issues of the whole Internet end-to-end chain, at least in the scope of Internet *best effort*.

Emerging business models

Telecom Italia does not share BEREC's concerns in relation with the development of specialized services. Besides, it is peculiar that the same fears (creating imbalances between small and big CAPs, as well as hindering innovation) are not shown with regard to the increasing role of CDN.

As to the Content Delivery Network (CDN), the widespread of this service confirms the inadequacy of the Internet *best effort* in distributing contents, especially the ones in streaming and with considerable data volumes, through a platform of local "caching" servers, that use the Internet "last mile" segment to provide contents.

Telecom Italia detects a contradiction in BEREC being concerned with the possible creation of a "two speed" Internet, to the detriment of the content/application innovation, in the case of specialized services commercialized by network operators, while not showing the same fears with regards to the increasing role of CDN.

BEREC fears that the proliferation of specialized services with guaranteed quality levels would come at the expense of the Internet Access Service (IAS) and that CAPs requiring acceptable levels of quality would have a strong incentive to purchase specialized services. This scenario, in BEREC's view, would create an imbalance between CAPs, depending on their spending capacity and, in the long run, would hamper the innovation capability of small CAPs.

In reality, the CDN scenario is a different one as it does not guarantee predefined quality levels but simply enhances the quality provided by the network operator on the *best effort* Internet by approaching the content to the end user. The similarity with the specialized services scenario though lies in the fact that CAPs need to purchase CDN services, just as they purchase specialized services by network operators. Therefore, the risks of creating imbalances between small and big CAPs, as well as hindering innovation should not be considered very differently by BEREC.

Moreover, BEREC should consider that specialized services cannot be compared with Internet best effort services because of the different intrinsic characteristics and regulatory contexts. Specialized services are publicly available communication services that have to comply with a set of obligations related to quality, security, integrity, availability and continuity of the services and networks. So specialized service should be offered with predefined quality levels and therefore are not compatible with Internet best effort. They require appropriate architectural models (the so-called Next Generation Network) that can be based on the Internet Protocol but they are completely different from best effort global Internet Network.

As a consequence Net Neutrality issue does not apply on specialized services as they are characterized by specific features and regulatory obligations requiring specific network handlings.

For a complete analysis of emerging business models please refer to Telecom Italia's response to the consultation on the document "An assessment of IP-interconnection in the context of Net Neutrality."

Monitoring of quality

Quality monitoring is independent from net neutrality issues, since its objective is to allow the control of the adherence of different operators' offers to the (average) quality levels indicated in the commercial contract. The measuring system must be univocal and standardised at national level.

BEREC's focus on the quality monitoring system by final customers to identify potential degradation seems inconsistent with the Internet "*best effort*" features, which cannot ensure a minimum QoS level on the whole multi-provider chain.

Any systematic monitoring by final customers would be misleading and non-certifiable as to its correctness, thus incentivising customers to ascribe to the access operator and to the ISP responsibilities inherent to the Internet "*best effort*" network.

Rather, BEREC should consider the QoS in terms of customer's perception and limit to those cases the expediency to introduce audits on the quality of service statistically named in the commercial contract. Any systematic monitoring of the Internet access' QoS requires the definition at national level of a specific measuring system, implemented and certified by the NRAs together with operators, using comparable statistic measurement modes (under relevant ETSI standards).

To assess the measurement of single applications' performance, apart from its obvious complexity and potential unsustainability, would force operators to treat single applications in an increasingly differentiated way, with traffic management and Deep Packet Inspection (DPI) mechanisms.

Quality monitoring is independent from net neutrality issues, since its objective is to allow the control of the adherence of different operators' offers to the (average) quality levels indicated in the commercial contract. The measuring system must be univocal and standardised at national level, to make sure the survey is not misleading, excluding the negative and unpredictable component of the customer's terminal/PC. Moreover, the systems have no Internet end-to-end valence. They operate only on the ISP's local segment and so have no relevance as to the Internet *best effort* features, as they also exclude the measurement of CAPs and OTTs' quality component (server, equivalent IP connections' availability, CAP internal band restrictions etc.), which should also be taken into account by BEREC.

The IP interconnection component is of little interest in this context, since the network aggregate between Internet origination and destination is significant and unaccountable.

It is not deemed useful that the customer be aware of the specific systems implemented by the operator (but for the possible cap, which should be made public). Customers should only be able to assess the consistency of service features with what is guaranteed by the contract. Indeed, we believe that while specific commercial offers with explicit restrictions (i.e. cap and/or autonomous user-applications blocking) must be transparently communicated to customers, the specific technical mechanism used by Operators in their own network to implement such restrictions and to guarantee an adequate average quality of experience to all customers - which by the way usually evolve with technological innovation - is not of interest for (and may risk confusing) end users.

Imposing minimum QoS requirements

QoS minimum requirements should be foreseen as a kind of last resort remedy, after other relevant tools provided within the framework in terms of transparency or competition have been implemented and proved inefficient.

Telecom Italia deems some of the examples of possible functional requirements provided by BEREC (i.e.: blocking and/or throttling of applications to be prohibited, congestion management required to be mainly application-agnostic)¹¹ in contradiction with the main principle of net neutrality, i.e. enabling all customers to access the content, applications and services of their choice, irrespective of the technology used, be it fixed or mobile, in ways that provide all of them with the best possible experiences and services. In particular, as previously highlighted, traffic management is specifically allowed in the provisions of the EU directives.

Moreover, as explained in the general comments, for the right functioning of the network and to protect end-users, applications that produce higher traffic volumes are limited to the advantage of those who need less bandwidth but have real time features or higher needs of acceptable quality guarantee, such as e-mail, messenger, surfing.

A totally agnostic traffic management would necessarily imply the restrictions (e.g.: throttling) to diminish the quality perceived by customers using real time applications, when this inconvenience could be avoided treating different kind of traffic differently.

Before imposing any measure in terms of minimum QoS requirements, NRA should ensure that other relevant tools provided within the framework in terms of transparency or competition have been efficiently implemented. QoS minimum requirements should be foreseen as a kind of last resort remedy. In addition, the provision on QoS minimum requirement is there to address quality degradation; it should not be used to achieve other goals.

Moreover, any evaluation on minimum QoS requirements by NRAs can and should only be related to the general best efforts internet (if necessary) and it should be based on neutral KPIs which are not specific to single applications (e.g. download/upload speed, latency, packet loss, etc.).

Question 1: Degradation of Internet access service (IAS) as a whole

Quality measures on best effort Internet Access Services should only be compared with what indicated/guaranteed in the commercial offer subscribed by the customer. The fact that over-time bandwidth used by IAS would be decreasing compared to bandwidth used by specialized services would not necessarily mean that IAS has been degraded.

Telecom Italia disagrees with the BEREC statement that specialised services can provide a reference to which Internet access services may be compared.

¹¹ "Guidelines for Quality of Service in the scope of Net Neutrality", chapter 3.1.3

Indeed, the Internet access service is based on *best effort* principles and quality measures should only be compared with what indicated/guaranteed in the commercial offer subscribed by the customer, in accordance with the current regulatory framework.

As already indicated, specialized services require the assurance that certain quality levels are respected; in particular with regard to the obligations the European framework sets for public communication services, which cannot be based on *best effort* and are therefore not compatible with the Internet.

For instance, this distinction must be considered by BEREC in order to allow the continuity of PATS telephony supply over innovative technologies, which are similar to the internet but applied on architectural models based on IP (NGN) that permit the predefinition of quality levels, service continuity, global interoperability, network security, etc.

The fact that over-time bandwidth used by IAS would be decreasing compared to bandwidth used by specialized services would not necessarily mean that IAS has been degraded; it should not be the basis of any final conclusion.

Question 2: Issues regarding individual applications on the Internet access service

Telecom Italia does not foresee any relevant issue with regard to the existence of restricted offers and deems the proposed option of prohibiting restrictions on operators' offers is in contrast with the regulatory framework, which specifically allows traffic management, as long as the customer is transparently informed of the restrictions of the offer in the subscribed contract.

As stated in the general comments and throughout the document, throttling of specific applications falls within the normal traffic management practices implemented by operators to preserve the average quality perceived by all the customers and is therefore to be considered welfare enhancing.

The proposed option of prohibiting restrictions on operators' offers is in contrast with the regulatory framework, which specifically allows this practice, as long as the customer is transparently informed of the restrictions of the offer in the subscribed contract¹².

Commissioner Kroes clearly expressed her view on this subject: *"[I] do not propose to force each and every operator to provide full Internet: it is for consumers to vote with their feet. If consumers want to obtain discounts because they only plan to use limited online services, why stand in their way? And we don't want to create obstacles to entrepreneurs who want to provide tailored connected services or service bundles, whether it's for social networking, music, smart grids, e-Health or whatever. But I want to be sure that these consumers are aware of what they are getting, and what they are missing."*¹³

Considering the high level of competition in the broadband access market, Telecom Italia does not foresee any relevant issue with regard to the existence of restricted offers.

¹² Please refer to footnote 4.

¹³ Memo/12/389

Regulatory interventions should not focus on allowing or prohibiting specific traffic management techniques, but they should analyse the issue as a whole considering the presence of different offers provided by operators and if non-discriminatory, transparency or competition problems are evident.

Question 3: The aspects proposed regarding the conditions and process for regulatory intervention?

Minimum QoS requirements should be regarded as a last resort remedy following a robust and comprehensive analysis, and should be applied on a symmetric basis. Additionally, they should only target any proven cases of quality degradation and should not be used to achieve other goals. The evaluation of the practice of blocking or throttling an application on certain offers with differentiated pricing should be considered within a competition analysis rather than as a QoS issue.

Telecom Italia welcomes the relevance acknowledged by BEREC to the proportionality principle, with reference to the introduction of any minimum QoS requirement, and in particular to the application of the subtest of effectiveness, necessity and proportionality *stricto sensu*.

For this reason, Telecom Italia wishes to remind that, before imposing any measures relating to minimum QoS requirements, NRAs should ensure that other relevant tools provided within the regulatory framework, particularly with respect to transparency, have been efficiently implemented. Minimum QoS requirements should be regarded as a last resort remedy following a robust and comprehensive analysis, and should be applied on a symmetric basis. The setting of minimum QoS requirements should only target any proven cases of quality degradation and should not be used to achieve other goals.

When defining the regulatory tools, BEREC 's analysis, as extensively explained in the section "the (un)importance of SMP" of the general comments, is based on very theoretical situations and it risks giving a negative impression that ISP may have SMP and would behave wrongly, especially when vertically integrated.

We therefore consider that BEREC should nuance this analysis and note explicitly that the retail broadband market and the traffic delivery market have not been identified as susceptible for *ex ante* regulation, and are thus ruled by competition law only. An *ex ante* regime can be only applied in cases the market meets the three criteria test and an SMP player is found.

With reference to concrete examples of minimum QoS requirements (par 6.5 of BEREC document), we believe that any evaluation of minimum QoS requirements by NRAs can and should only be related to the general best efforts Internet (if necessary). Moreover, such an evaluation should be based on neutral key performance indicators which are not specific to single applications (e.g. download/upload speed, latency, packet loss, etc.).

The definition of minimum QoS requirements for single applications would be highly unproportional, very difficult to implement and it could even create distortions in the market as obligations which favour certain applications might hinder other applications.

Anyhow, a clear distinction should be made between traffic management practices and commercial practices. The evaluation of the practice of blocking or throttling an application on certain offers

with differentiated pricing should be considered within a competition analysis rather than as a QoS issue.

Question 4: to what extent are the scenarios described in these guidelines relevant with respect to your concerns/experience? Are there additional scenarios that you would suggest to be considered?

The scenarios presented in BEREC's document are very extreme; BEREC should focus its analysis on more realistic scenarios.

The scenarios presented in BEREC's document are in our view very extreme and they do not reflect the current conditions of the market.

This is confirmed by the results of the analysis recently conducted by BEREC "A view of traffic management and other practices resulting in restrictions to the open Internet in Europe", which concludes that the majority of ISPs offer Internet Access Service with no application-specific restrictions.

Therefore, we do not share the concerns expressed by BEREC and we believe BEREC should focus its analysis on more realistic scenarios.