

## **BEREC Consultation on “Guidelines on Net Neutrality and Transparency: Best practices and recommended approaches”**

### **Introduction**

Fastweb S.p.A. (“Fastweb”), one of the leading broadband operators in Italy, welcomes this opportunity to provide its comments to BEREC’s draft Guidance on Net Neutrality and Transparency (the “Draft”).

We fully agree with BEREC that providing end users the ability to choose the Quality of the Service (QoS) that best fits their needs through a robust transparency policy on the experience actually delivered is key and extremely effective in guaranteeing net neutrality.

This needs to be complemented by a general policy aimed at guaranteeing a vibrant competition, ensuring that end user can choose among many offers with different features brought by a large number of providers.

We will highlight in our contribution how on the other hand, **the lack of a robust transparency policy prevents a sound competition and the ability of operators to differentiate products based on quality.**

If there is no ground rules, in fact, to communicate fairly and consistently to end users how one ISP’s service provides different (and better) performances than another, all ISPs will ultimately be forced to provide the same (low) quality, competing basically solely on price.

The growth of bandwidth-intensive Internet services (e.g. high-definition video streaming services) and connected Internet traffic is raising the level of customer expectations and puts a pressure never experienced before on ISPs and their capability to guarantee good service levels, in a context characterized by the constant decline of revenues from traditional voice and data communication services and the progressive reduction of revenue streams and margins generated by the delivery of Value Added Services.

In this context, the only way to push broadband providers to invest and to ensure that their network is able to accommodate the increased traffic is, rather than establish minimum QoS requirements that would just flatten competition and force everyone to reach the minimum established threshold, by ensuring that end-users have the means to understand and compare the quality guaranteed by different providers, so to be able to choose a high end service when they require a specific quality or a low-cost services and accept the limitation attached to it.



## Major requirements for a net neutrality transparency policy

In order to guarantee the achievement of the policy objectives set by BEREC, we agree that it is key to clarify some specificities about Internet related services and provide answers to some of the question raised by the paper.

### 1. What is the effect of traffic management measures?

Fastweb agrees with the general approach taken by BEREC: the only way to assess management policies is by **analyzing the rationale underlying different categories of management policies**, and then to measure **the impact they have over the end-users**.

**It should be highlighted though as a different assessment** is necessary when management policies have **anticompetitive implications or effects**. In this case the end user perspective alone cannot be the focus of the analysis, but **impact on the overall market dynamics should be taken into account**.

In order to put the management policies in the right perspective it is fair to start by recognizing how, as shown by many researches, the Internet traffic is growing at an extraordinary pace, putting pressure on the existing networks and pushing operators to systematically increase the dimensioning of their backbone so to accommodate these increases of traffic.

In this context, traffic management policies - i.e. techniques to control the amount and/or the nature of customer traffic transported by an IP broadband infrastructure - may be used by ISPs to achieve two different goals:

- To ensure the delivery of satisfactory QoS to their customers when accessing the Internet;
- To pursue a sustainable business model, i.e. to optimize the CAPEX/OPEX necessary for maintaining an efficient functionality of their broadband infrastructure.

In the next paragraphs we will describe different types of traffic management techniques, classifying them based on their underlying rationale and providing some further consideration to assess whether they are relevant in this context.

#### 1.1. Management Policy aimed at ensuring QoS

In most IP broadband networks, several different services - including typical Operator services such as telephony, IPTV and Business Virtual Private Networks - are transported as multimedia IP streams sharing the same communication infrastructures which support plain Internet connectivity. According to network-engineering best practices, such an IP infrastructure is designed and provisioned so that - under normal network operation conditions - no congestion is present,



allowing the delivery of the individual IP streams and the relevant service components according to their expected SLA's.

Under abnormal network conditions (e.g. in case of fault of a communication channel), temporary infrastructure overloads may take place, due to the dynamic traffic re-routing functions implemented by the IP network. **In such circumstances, the protection of critical Operator services (e.g. telephony) requires that traffic prioritization techniques are applied**, in order to make sure that IP packets carrying mission-critical traffic are neither discarded nor suffer delays that might adversely affect the Quality of Experience (QoE) rendered to end users. In order to cope with such scenario, a typical traffic management policy based onto the DiffServ service model entails that:

- IP streams carrying specific traffic types with different SLA requirements (i.e. voice, video, business data and Internet access) are individually marked with a different Class of Service identifier;
- In case of an abnormal network conditions generating a temporary congestion, network equipment is configured so that the delivery of higher-priority traffic (e.g. voice) is consistently preserved, while temporarily accepting a higher probability of dropping lower-priority traffic (e.g. Internet access).

It is well worth pointing out that, in applying QoS-management policies for protecting mission-critical services, **no other manipulation technique for Internet access traffic (e.g. bandwidth capping or application throttling) is required**.

As such, with respect to the debate about net neutrality, **QoS-management policies are totally irrelevant**, as their enforcement does not impose any constraint to Internet users, neither in terms of freedom to access services, application or content, nor in terms of performance limitations.

## **1.2. Management policies aimed at optimizing network infrastructures and reduce costs**

Based on their customer management and market positioning strategies, ISPs may take different approaches to service and network design. Whereas some ISPs differentiate their service on quality, therefore constantly upgrading their networks to accommodate growing Internet traffic, other may decide to compete on price therefore limiting the resources invested in network expansions, which ultimately leads to their network not being able to support the total volume of traffic generated by customers.

In this scenario, to avoid congestions, such Operators typically apply traffic management policy in order to align the bandwidth usage profile of its customers with the available network resources.

Typical traffic management techniques of this kind include:

- **Fair usage policy enforcement:** Operators apply policies that impose an upper limit to the quota of network resources any individual customer can consume, so that the limited amount of available network capacity is



equally split among all the users simultaneously requesting access to the Internet;

- **Per-application bandwidth throttling:** by using specific network technologies (such as Deep Packet Inspection), the Operator is able to limit the bandwidth consumed by specific categories of applications (e.g. peer-to-peer, video on demand), so that they do not adversely affect other types of customer applications (e.g. web browsing);
- **Walled gardens:** by deploying a combination of network technologies Operators prevent customers from having access to a pre-defined category of applications considered bandwidth intensive (e.g. video streaming, peer-to-peer).

Such traffic management techniques are more relevant to the debate about net neutrality, as they affect the performance that customers might expect in accessing the Internet, based for instance on the sheer bitrate of their access lines.

As such, Operators enforcing this kind of technique on their networks should:

- Explicitly notify their customers about the limitations they impose onto the IP traffic they manage, providing also specific parameters to give indication of the extent to which this will affect the customer experience;
- In case of walled gardens approach, in which customer access to specific categories of application is limited, ISPs should be forbidden to advertising their offer as 'Internet Access'.

### 1.3. Revenue stream protection

A totally different approach should instead be taken towards management policies aimed at blocking or limiting customer access to portions of the Internet which they deem to compete with their core services: this is for instance the case with some Operators that exploit Deep Packet Inspection techniques for blocking the use of Internet-based Voice over IP (VoIP) applications that compete with the Operator's own voice communication services.

We believe that, unlike the others, this policies have serious anticompetitive implications, **as the underlying rationale is not to guarantee QoS, tackle congestion or optimize network resources, but rather deliberately protect vertically integrated services by putting similar services offered by a third party at disadvantage.**

Usually the broadband operators justifies this approach by clarifying that it provides clear information to their customers about the limitation as well as offering a "premium" broadband connectivity service which, at an higher price, provide access also to the VoIP services otherwise blocked.

Although even in this case a robust transparency policy may in principle be enough to take care of end-user perspective, it should be highlighted how **this approach still has an adverse effect not only on applications/services that are discriminated, but also on other broadband providers.**



By excluding, in fact, services that are in direct competition with their vertical integrated voice services, mobile operators protect revenue streams from both outgoing calls and MTRs which they use to cross-subsidize their broadband offers thus being able to put on the market very aggressive data plans. This is even truer in those countries, such as Italy, where MTRs are artificially kept at a level which is way above the underlying cost, guaranteeing to MNOs extra-margins to perpetuate their cross-subsidy policy, which has a very negative effect on the capability of the fixed operators to compete effectively.

## 2. What is “Internet access” and what is not

The discussion about management policies leads directly to another key issue, that is to identify the scope of application of the transparency policy and defining **what should fall under the label of “Internet access”**.

We agree with BEREC that generally ISPs offer two different kinds of “Internet-related” services:

- On one hand, **access to Internet**, which is the (mostly broadband) connectivity allowing the customer to connect to the Internet;
- **IP-based services such as VOIP or IPTV**.

As the provision of services becomes more and more sophisticated, and as explained in the previous section a **third genre of offers seems to be arising**, that we could describe as an “Internet minus” access service in which:

- Only a subset of services/applications (mail, social networks, etc.) are accessible without the need to a comprehensive data plan;
- Users are sold apparently a comprehensive Internet access, although one or more categories of services/applications are excluded (walled gardens).

Without mentioning again the potential anticompetitive aspects of some of the above mentioned strategies, it should be made clear that:

- Only services allowing access to the all Internet environment should be **advertised and sold as “Internet access”**, whereas a different qualification should be given to services providing access to a subset – no matter how large – of services. **This would provide the user the immediate perception of what they are being sold, without the need to go into more sophisticated comparison of products provided by different ISP;**
- For similar reasons, managed services should not be considered as part of Internet access. It should be noted in fact that, although “IP-based”, i.e. technically delivered and build on Internet protocol technologies - such services are not meant to provide the user access to the Internet but are in fact specific, standalone services.



### 3. Is it necessary to identify and impose a minimum QoS to guarantee the Open Internet?

As explained so far, the capability to offer a high quality connection and the extent to which the ISP has to implement network management techniques are the direct result of the specific industrial strategy adopted by each ISP.

ISPs willing to invest in the dimensioning of their network to accommodate the growing Internet traffic generated by their users will experience less congestion and will have to rely less extensively on management policies (but will have to price their services accordingly). Other ISPs may decide to compete on price, therefore limiting their network investments, so to be able to offer lower prices to their customers.

We believe that **both approaches are totally legitimate** and have the positive effect of increasing the possibility of end users to choose a service that suit their needs, **as long as a robust transparency policy is implemented.**

As we said the Internet is evolving constantly and so is the traffic. Setting a minimum QoS would push Operators to all settle for the minimum standard required by the NRAs, therefore reducing the choice for consumers. Instead by setting very robust transparency requirements ISPs wishing to compete on differentiation and quality will choose to constantly upgrade their networks as they will be able to communicate effectively the performances of their services, whether others will prefer offering a lower quality service in exchange of a lower fee. A clear and specific policy on transparency providing the users the exact knowledge of what they getting and allowing them to go for the service that better suit their needs is therefore the most effective guarantee for a differentiation between Operators and to preserve the Open Internet.

On the other hand, if there is opacity on the offers, Operators will not be able to communicate effectively why one service offer better performances than the other, and they will all end up competing on price, progressively decreasing their quality to be able to offer more competitive market propositions.

**A minimum QoS would have the effect of all ISPs offering very similar services, therefore stifling innovation and competition based on differentiation. A robust transparency policy would instead encourage such differentiation and push Operators to innovate on products and technologies to be able to provide their customers higher quality, lower prices or a combination of the two.**

As per the impact of Managed Services offered directly by the ISPs to their own customers (such as VoIP or IPTV) and their alleged ability to affect the quality of the Open Internet it should be noted how:

- Under normal conditions, as highlighted in section 1.1 the impact is marginal if any, as the management policies connected to these services are only implemented in abnormal traffic situation, therefore occasionally and in any case **do not involve throttling or limiting in any other way the access to other Open Internet applications/services/content.** To put it simply, when the ISPs put in place a network strategies based on



adequately dimensioning their backbone, and therefore do not need to implement other policies beyond those described under section 1.1, Managed Services do not interfere in any way with the Best Effort Internet;

- In any case it should be noted that in most if not all cases, Managed Services are provided to the customers that have requested them, and he/she is well aware (or should be informed) that when using those services (i.e. IPTV), should an abnormal situation of traffic occur, that service would be given priority over other application or service that another user in the same household may be using;
- On a more general level, it should be also noted that Managed Services such as IPTV are progressively being replaced by edge-caching services provided by global Content Delivery Network (CDN) operators. **Despite the attempt by telecom operators to market prioritization and B-to-B Managed Services as a value added market proposition targeted at providers distributing content over the Internet, this doesn't appear at all as an emerging or consolidated trend in the market, whereas global CDN operators are establishing themselves as the standard.**

#### 4. Different types of network

There are no structural, technological or business-driven differences whatsoever between the mobile and the fixed Internet industries and ecosystems, especially when identifying transparency requirements for net neutrality purposes: the growth of Internet services and traffic poses the same challenges to fixed and mobile operators, especially in terms of level of investments that are needed for sustaining the growth of broadband infrastructures.

As exposed in previous paragraphs, the **management policies**, and the extent to which they are used, **are the direct result of the overall industrial strategy of the provider who makes an ex-ante choice on whether to invest to upgrade its network dimensions to accommodate the Internet traffic generated by its customers or not.** This approach, *mutatis mutandis*, is true for all type of network operators whether fixed or mobile and should thus be reflected in a comprehensive set of information provided to the users or prospect customer so to enable him/her to make an informed decision on what they are purchasing.

The technological differences between fixed and mobile networks do not determine evident differences in QoE for the end users which may justify a dissimilar transparency approach. It is true that network speed for a mobile broadband user depends, among other factors, by the traffic load within the mobile cell: as the capacity is "shared" among several users, when more users are connected at the same time, the network speed may be affected. Nevertheless, **similar constraints exists also for fixed operators, as a relevant part of fixed network (such as the backhaul segment) is also shared among a plurality of users**, therefore access speed and performance of the network may be affected in situations when more users in a specific area are connected at the same time. Ultimately, as we were



trying to prove above, in both cases the Operator is able to predict the usage pattern and may decide whether to dimension its network accordingly to accommodate it (increasing the backbone capacity or for mobile network reducing the footprint of the mobile cell) or alternatively to adopt management policies to reduce the traffic and therefore limit the need to upgrade its network.

Therefore alleged inherent “limitations” of mobile networks should not be an excuse for a more lenient transparency policy allowing some categories of Operators to provide a lighter (or even different) set of information, as this would deeply distort the market.

By introducing, in fact, different transparency provisions for fixed and mobile operators, the latter would be authorized to advertise offers without providing comprehensive and comparable information on the limitations entailed, therefore potentially creating confusion on the features of the offer advertised, competing unfairly with fixed providers.

As already highlighted a robust and harmonized transparency policy is a prerequisite to allow users to make the right choices and to encourage differentiation in the market.

### **What should the content of a transparency policy be?**

We agree with BEREC on the idea that information is needed both on the general scope and on the limitation and that some form of harmonization is needed in order to make the concepts and information provided by the ISPs easy to understand and comparable.

#### **5. On the scope and content of the offer**

Fastweb agrees with BEREC that providers should make very clear the extent to which the connectivity service that the user is subscribing to will enable him to access all the range of services/applications/content potentially accessible via the Internet.

Nevertheless in order to provide the end user an immediate indicator of what service they are subscribing to, **offers including only a subset of application/services should not be advertised as Internet Access or data flat rate, or be allowed to use similar terms/expressions to make it immediately clear that, unlike other offers, users are in this case evaluating to subscribe an “Internet minus” service.**

Fastweb also agrees with BEREC on the need to provide information on actual speeds for both download and upload. Instead of the “typical” or “average” speed though, Fastweb considers that most of the emphasis should be placed on the “minimum guaranteed” speed as it is the most significant parameter to give the user an indication of what its experience is going to be.



It should be noted though, that in the case of Altnets there are differences between the offers provided to users through the Operators' own network (as for services offered via LLU) and those based on Wholesale Broadband Access (WBA). When WBA is used, the speeds (as well as other QoS parameters and indicators) depend from the quality provided upstream by the incumbent. Therefore:

- It is essential that in providing information to the end-users, Operators can make a distinction between offers provided its own infrastructures (LLU) and those provided using WBA in order to highlight when lower performances are not the direct consequence of its strategy but of the incumbent's;
- A specific obligation to provide information should be placed on the incumbent so that the Altnet can in turn fulfill its communication and transparency obligation towards the end user.

Fastweb also agree with BEREC on the need to provide transparency on minimum QoS and whether the parameters advertised apply to all applications.

Elements such as packed delay, jitter, packet loss and packet error should be provided.

As the QoE depends by a number of parameters, many of which may be very difficult to understand by the average users, Fastweb believes that on top of specifying technical information on QoS **some qualitative/quantitative indicator should be identified to provide, based on the QoS technical parameters adopted by each provider and each offer, immediate information on what the navigation experience may be like.**

One way to achieve this objective may be through the definition of a label-based system correlating the QoS parameters offered by the different Operators with the services that those parameters enable in order to clarify how, when QoS indicator fall below a specific threshold, the broadband service may not support specific categories of services such as interactive applications (online gaming, VoIP, etc.) or streaming services. An example of such approach is shown in the following table.

It is worth pointing out that performance levels depicted in the following table refer to the portion of network infrastructure under the direct control of a specific Operator: more specifically, these KPI's are expected to be observed on the End-to-End path providing connectivity between a customer site and the Internet, including the communication channels (e.g. Peering links, IP Transit links) connecting the network of such Operator to other ISP's.

Labels	Enabled services	Network requirements
<u>"Interactive and Streaming Service Ready"</u>	All the services are enabled, including interactive services (VoIP, video conference, on-line gaming, etc.) and streaming services (video and audio streaming, etc.) , including high-definition, Full- HD video services.	<ul style="list-style-type: none"><li>• Minimum Guaranteed Throughput <math>\geq</math> 50% of the Customer access line speed</li><li>• Average Throughput <math>\geq</math> 80% of the Customer access line speed</li><li>• Packet delay (One Way Delay) <math>&lt;</math> 25 ms</li></ul>



Labels	Enabled services	Network requirements
		<ul style="list-style-type: none"> <li>• Jitter &lt; 5 ms</li> <li>• Packet loss : <math>10^{-4} &lt; P_L &lt; 10^{-3}</math></li> </ul>
“Streaming Service Ready”	<p>Streaming services enabled (video and audio streaming, etc.) including high-definition, Full- HD video services.</p> <p>QoS parameters may not support interactive services.</p>	<ul style="list-style-type: none"> <li>• Minimum Guaranteed Throughput <math>\geq</math> 50% of the Customer access line speed</li> <li>• Average Throughput <math>\geq</math> 80% of the Customer access line speed</li> <li>• Packet delay (One Way Delay) &lt; 100 ms</li> <li>• Jitter &lt; 20 ms</li> <li>• Packet loss : <math>10^{-3} &lt; P_L &lt; 10^{-2}</math></li> </ul>
No label	QoS parameters may not support interactive and streaming services.	

## 6. General limitations of the offer

Fastweb agrees that rather than generic disclaimers, providers should disclose specific information on the fair usage policy adopted and how it might affect the navigation experience, specifying whether after exceeding a specific threshold, heavy users' connection gets throttled, or alternatively whether usage at peak times gets restricted for all users. In any case, connectivity offers subject to the above fair usage policies should not be advertised as “unlimited broadband”.

Similarly, in case of data caps, the offers should not be advertised as “unlimited broadband” and users should be provided detailed information not only about the size of caps, but also on the consequences of exceeding the cap.

We also agree with BEREC that in case of data caps, users should be provided with monitoring tools to evaluate their own usage profile and to measure their consumption.

## 7. Specific limitations of the offer

Currently in many countries the regulatory framework foresees an obligation to disclose whether management policies are implemented by ISPs. In most cases though, including Italy, this doesn't translate into an obligation to provide a specific description of the technique employed and the impact it has on the consumers. As a result, most Operators introduce very vague disclaimers in their contracts, referring to the “possibility of management techniques being enforced”.



Fastweb believes that in order to avoid flattening competition on lower standards, it is key to establish more detailed transparency requirements on the traffic management techniques adopted by the provider.

It should be preliminary noted though that:

- As highlighted in the section 1.1 and 1.2, the categories of traffic management policies mentioned by the BEREC at page 32 of its consultation paper are very different and should be treated accordingly by BEREC in building categories of offer. Unlike other management techniques used to optimize network costs (fair usage, throttling, etc.) **prioritization techniques not associated with other policies do not have any impact or adverse effect on the capability of the user to access any other application in the Internet.**

A totally different approach should finally be taken versus anticompetitive blocking, i.e. when specific applications are blocked not because they are “bandwidth intensive” but rather because they are in direct competition with vertically integrated services of the provider. In this case, disclosure may not be the only solution, as competitive dynamics are at stake, not only the consumers’ interests;

- In general, it should be kept in mind **how the impact of management policies differs remarkably based on the overall “industrial strategy” of the Operator**, i.e. whether or not the provider periodically upgrades its network to accommodate the growing traffic generated by its customer (in which case even more “invasive” policies such as throttling may actually be used marginally, under abnormal circumstances, to guarantee service under very specific circumstances such as unusual congestion). **In order to create a classification of services, it is therefore essential to identify a parameter able to provide information on whether the policy management occurs occasionally to face abnormal situations or it's constantly applied as a way to avoid network upgrades and reduce costs. Fastweb is working on this and will provide at a later stage some specific proposal.**

Therefore, customers could be supported in making well-informed choices when selecting their ISP if:

- The management policy is described according to homogeneous and qualitative indicators agreed upon by ISPs and the NRA, based on the underlying rationale of the management policy and the impact on the consumer;
- A quantitative indicator complements the information, ensuring that the management technique is classified correctly by the ISP and providing at the same time a tool for the NRA to monitor.

A simple effective method could be to define a level-based system, showing the type of limitation – if any – imposed by the traffic management techniques adopted by the different Operators. An example of such an approach is shown in the table below.



Level	Traffic Management techniques	Policy type	Impact on customer
10	No-restriction	none	<ul style="list-style-type: none"> <li>• No impact</li> </ul>
8	Traffic marking and prioritization under <u>exceptional</u> network conditions	QoS-Management	<ul style="list-style-type: none"> <li>• Potential temporary performance decrease in accessing the Internet under <u>exceptional</u> network conditions</li> </ul>
7	Per application bandwidth throttling applied <u>under exceptional circumstances</u> (throttling applied to specific bandwidth intensive applications without real time constraint)  Agnostic throttling <u>under exceptional circumstances</u>	Congestion management	<ul style="list-style-type: none"> <li>• <u>Occasional</u> performance limitations (i.e. under abnormal peaks of traffic) when using specific applications</li> </ul>
6	Data caps Fair usage policy enforcement	Infrastructure cost control	<ul style="list-style-type: none"> <li>• The customer has a predefined amount of bits to download</li> <li>• Some fair usage policies may entail <u>occasional</u> limitation in using the full bandwidth potential of the access line</li> </ul>
4	<u>Systematic</u> bandwidth limitation Per-application <u>systematic</u> bandwidth throttling	Infrastructure cost control	<ul style="list-style-type: none"> <li>• <u>Systematic</u> limitation in using the full bandwidth potential of the access line</li> <li>• <u>Systematic</u> performance limitations when using specific applications</li> </ul>
2	Application/site blocking applied to specific bandwidth intensive applications	Infrastructure cost control	<ul style="list-style-type: none"> <li>• <u>Systematic</u> limitation in accessing specific Internet sites</li> <li>• <u>Systematic</u> limitation in using specific applications (e.g. VoIP, VoD)</li> </ul>



Level	Traffic Management techniques	Policy type	Impact on customer
1	blocking of sites/applications in competition with own services	Revenues stream protection	<ul style="list-style-type: none"><li>• Permanent limitation in accessing sites/applications not to control traffic but to protect revenues streams associated to vertically integrated services</li></ul>
0	Access provided only to selected few applications ( VoIP, social networks, etc.)	Commercial choice	<ul style="list-style-type: none"><li>• Permanent limitation in accessing sites/applications different from the ones selected by the provider</li></ul>

It should be the NRA (eventually supported by a specialized third party) to assess, based on the management policy adopted and the extent to which the same policy is implemented (therefore whether it is occasionally used to resolve abnormal congestion situations or whether it is used as a mean to reduce the Internet traffic generated by users) in which category each offer falls, or alternatively to monitor that the information provided by the ISPs are correct.

Fastweb is working at identifying some quantitative parameters able to provide a clear distinction between the occasional and systematic use of management policies and provide Berec with further information on this at a later stage.

Fastweb fully agrees with BEREC on the relevance to introduce appropriate tools to provide the user a way to monitor the performance of their connectivity service and in particular to identify when traffic management policies are being applied by the Operator. The tools have to clearly indicate the performance and the type of limitation imposed by the traffic management techniques using the corresponding level proposed in the above table.

## 8. Ensuring transparency

Fastweb believes that the provider should remain the primary actor providing information to its customers and prospect customers.

Nevertheless, we recognize that a transparency policy could not be effective **unless the information provided are easy to understand for the average subscriber, homogeneous and comparable**, so to enable users to effectively compare offers made available by different providers and identify what best suits his/her needs.

In this respect, the role primary played by NRA is key in order to establish a common ground and identify the balance between the interests of different stakeholders.



**NRAs should therefore be responsible for identifying the set of information to disclose as well as a standardized format** through which information is provided, including when and under which condition specific terminology (such as Internet access, unlimited offer) can be used, thus ensuring that users are in the conditions to effectively compare offers. NRA should involve in the definition and implementation process also Operators and consumer associations. In Italy for example the role played by the NRA in this sense has been essential leading to the very positive experience of <https://www.misurainternet.it/> a website managed by AGCOM and technical bodies to make a specific set of information public and comparable.

## 9. Self-regulation versus other approaches

Fastweb recognizes the value of self-regulation as a potentially relevant process in many areas, especially those in which the market is moving fast and the Operators can contribute in creating a set of rules in a more rapid and flexible approach compared to more formal regulatory processes.

Nevertheless, when it comes to transparency and net neutrality, we perceive less benefits and some risks in the self-regulatory approach as Operators competing on price may be more interested in a lower level of transparency, therefore influencing heavily the process and the outputs. Also, such a process would not take into the necessary account the interest of other stakeholder, such as the consumers.

Fastweb believe that NRAs should be leading the regulatory exercise, with the active contribution of all players, by establishing technical tables through which identifying the best and most balanced solutions.

## 10. Conclusions

In the evolving context described, it appears evident how in order to ensure the ability of the end customers to choose the offers that best suit their needs and at the same time that competing Operators do not end up offering similarly restricted services, a robust transparency policy is key. If, on the contrary, end users are not offered the means to fully understand what they are buying and to assess whether a higher price is or isn't directly associated to higher performances, **ISPs will be pushed to compete solely on price slowly introducing the same general and specific limitation implemented by others so to be able to match the lower prices in the market.**

In this respect, transparency alone, if implemented effectively, can prove the single, most relevant tool to guarantee the objectives of net neutrality, not requiring the national regulators or EU institution to introduce further and more prescriptive measures that would be instead far more complex to implement and may risk stifling innovation in the fast evolving internet environment.