

Overview of BEREC's approach to net neutrality

Net neutrality – why it matters

The Internet has made an enormous contribution to growth and innovation in our economies, and has become a crucial part of the everyday life of most citizens. Much of this success is down to the openness of the Internet as a platform, providing low barriers to entry and fertile ground for innovation, in particular the development of new content and applications. As regulators, it is our job (under the Regulatory Framework) to promote end-users' freedom to access and distribute content and run applications of their choice online, to promote competition (including in the delivery of content), and to promote innovation. These objectives are best served by the unhindered operation of the Internet, governed by the principle known as "net neutrality."

In this context, BEREC identified net neutrality as a key policy priority as early as 2010. After three years of intensive work, it has now published a number of documents¹ on this issue, including:

- A survey of traffic management practices in Europe
- A report on differentiation practices and related competition issues
- A report assessing the IP interconnection market
- Guidelines on transparency obligations
- A quality of service (QoS) framework, and guidelines to define and impose QoS requirements

How the Internet works

The open Internet operates on the basis of an application-agnostic best effort paradigm, where data packets are transmitted over decentralised interconnected IP networks. Applications run on top of the network and can be provided independently at the network edge.

As operators (such as ISPs) have developed technical means to actively manage data traffic over their networks, regulators have begun to consider the case for (and form of) any monitoring and/or regulatory intervention that is, or might come to be, required to fulfil the above objectives.

What we found

We considered two different types of services provided to end-users: Internet access services (providing the user with connectivity to the public best effort Internet), and specialised services (typically relying on strict access restrictions and extensive traffic management for the provision of higher quality of service levels, e.g. for IPTV services). We then considered different traffic management/prioritisation practices currently used by operators:

- In relation to Internet access services, traffic management/differentiation can take the form of restrictions on particular applications (e.g. the blocking of access to VoIP on mobile networks, the blocking or throttling of peer-to-peer traffic, or billing policies differentiating

¹ These documents can be found there: address to be completed after Plenary

between applications). *BEREC's traffic management investigation found that application-specific restrictions of this kind are not widespread in Europe, except for some specific practices, mainly on mobile networks. At the same time, the survey revealed a very high level of diversity among national situations, which are consequently most effectively addressed through tailored national responses.*

- In relation to specialised services, regulators need to monitor their development, given their potential to degrade the best effort Internet, if they are prioritised over, and at the expense of, Internet access services. *BEREC found that specialised services do not currently represent a threat to the best effort Internet, but notes with some concern the arguments increasingly made by operators wishing to expand their use.*

If user- or application-based prioritisation (or de-prioritisation) on Internet access services were to become commonplace, or if specialised services were to become more widespread and develop at the expense of Internet access services, this could result in the degradation of the best effort Internet below an acceptable level, and require a regulatory response.

At the same time, it is worth making clear that traffic management practices are not intrinsically damaging to competition, innovation or consumer welfare. Some practices, such as those aimed at guaranteeing network integrity or improving the efficiency of resource allocations, are generally justified and to be welcomed. However, even these practices should be as non-intrusive as is necessary to meet their objectives, and the actual impact of any differentiation practices on a particular market will depend on the characteristics of that market (including e.g., the market power or vertical integration of the operators in question, how widespread the practices are in that market, and end-users' ability to switch suppliers).

While BEREC does not believe it is either useful or appropriate within the current Framework to define, a priori, a list, or categories, of reasonable traffic management practices, it has nonetheless identified useful criteria to assist regulators in deciding whether any traffic restriction is reasonable:

- Whether the practice discriminates against any particular content and application provider(s)
- Whether the practice is applied on the request of (and can be controlled by) the end-user
- Whether the practice is proportionate to the objective (whether it is the least intrusive, and least intense (e.g. in terms of frequency and reach) measure available)
- Whether they are application-agnostic (in which case they are less likely to raise concerns)

So much for the retail end, what about wholesale relationships?

The Internet ecosystem has managed to adapt IP interconnection arrangements to reflect (among other things) technological developments, changes in (relative) market power of players, changes in demand patterns, and the development of new business models – all without the need for regulatory intervention.

In its report on IP interconnection, BEREC sought to better understand the nature of these commercial relationships and how they have developed over time. We found that, while guaranteed end-to-end quality of service levels are neither commercially nor technically realistic in practice, the Internet community has nonetheless developed alternative mechanisms for providing higher quality of experience (and ones which do not risk degrading the best effort Internet), such as endpoint-based congestion control, and the use of content delivery networks (CDNs). Indeed, while quality of service differentiation could be appropriate in access networks to deal with bandwidth

scarcity (e.g. to reduce latency in VoIP services), capacity is cheaper on IP backbone networks, and differentiation may therefore be harder to justify.

Regulators will continue to follow the evolution of the market for IP interconnection. However considering that the market currently seems to function well without any significant regulatory intervention, any measure could potentially be harmful, and so should be carefully considered.

What regulators can do in order to promote net neutrality

Regulators have the following tools at their disposal:

(1) Strengthening competition.

Regulators have powers under the regulatory framework to promote effective competition through the imposition of price, access and non-discrimination obligations on operators with **significant market power**, thereby creating commercial incentives for operators to provide high-quality access products.

Transparency (of terms and conditions) is necessary in order for competition to effectively discipline market players in this way – end-users must have access to information about available offers on the market, so that they can identify unrestricted Internet access service offers (providing access to all applications available on the Internet) as well as any limitations that apply to restricted offers. BEREC will continue to exchange experiences, notably on how to ensure that information provided on these services is understandable and comparable, including the possibility of development of common frames of reference for describing Internet access services (including terminology and quality parameters).

Effective competition also relies on **customers' ability to switch suppliers**, including the availability of unrestricted offers, and low barriers to switching (e.g. in terms of cost, time, and ease). This is an area, which BEREC intends to investigate further in the coming year, looking into consumers' behaviour to understand how traffic management practices can be most effectively factored into their switching decisions.

(2) Monitoring.

The abovementioned regulatory tools are necessary – but BEREC recognises they may not always be sufficient. BEREC therefore recommends that regulators continuously **monitor the quality of Internet offers** on the market, as well as the evolution of the market as a whole. We will aim at detecting degradations of service, look for evidence of the availability of affordable unrestricted Internet access offers, and follow the evolution of specialised services, as well as traffic management practices (which we will assess using the criteria listed above).

(3) Using additional powers, e.g. on quality of service, when necessary.

Depending on the results from this evaluation, regulators also can use other powers under the regulatory framework, including powers around dispute resolution and the power to impose **minimum quality of service requirements**. These requirements could take the form of minimum statistical QoS levels (where an Internet access service is being degraded) and/or a prohibition on blocking and throttling (where a particular application is being throttled or blocked). In either case, BEREC believes this power should be used with caution, and typically only where other regulatory tools are unable to make a sufficient impact quickly enough.

Looking ahead

BEREC is conscious that stakeholders have begun to raise concerns around potential restrictions on accessing content resulting not from the actions of ISPs but from search engine providers or terminal equipment suppliers/operating systems providers, and will continue to follow these discussions. We also note their concern around essential public freedoms such as freedom of speech – but while these concerns are of undeniable democratic importance, they fall outside the remit of most regulators, and are therefore not the focus of BEREC's work.

Going forward, Europe's regulators will continue to monitor the quality of Internet access service offers (including traffic management practices and the availability of unrestricted offers), as well as market trends (including complaints from Internet users) and the evolution of specialised services. We will also look in more depth at available platforms for measuring, benchmarking and publicising the quality of Internet access services.

BEREC believes that the existing regulatory tools enable regulators to address net neutrality concerns for the time being. At the same time, it is important to bear in mind that market structures and local consumer behaviour, as well as national legal systems, vary across Europe. As such, while European regulators will continue to pursue the same objectives and apply the same principles, specific triggers and thresholds for regulatory intervention in a given market will need to be adapted to by the national regulator in order to most effectively address national circumstances.

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