# Liberty Global response to draft Guidelines on common approaches to the identification of the network termination point in different network topologies

Liberty Global welcomes the opportunity to comment on BEREC's draft Guidelines on common approaches to the identification of the network termination point in different network topologies, pursuant to article 61, paragraph 7 of Directive 2018/1972 of the European Parliament and of the Council, published on 7 October 2019 (the draft Guidelines).[1] As addressed in our response to BEREC's Work Programme for 2020, Liberty Global strongly supports BEREC's commitment to engage with stakeholders on issues that are relevant to them. However, we consider that there is still room for improvement in the level of engagement. Liberty Global earlier this year shared its position paper (Liberty Global's position paper) on definitions of the network termination point (NTP), ahead of this consultation, but has not heard from BEREC. We appreciate that BEREC has to take into account the interest of all stakeholders, however that does not refrain BEREC from liaising with individual stakeholders.

## Introduction

### As 'boundary of the regulatory framework', the network termination point is a core concept

The network termination point is at the core of electronic communications regulation, setting the 'boundary of the regulatory framework' for electronic communications services (ECS). Because it determines the scope of application for this regulatory framework, Liberty Global is of the opinion that a clear definition of this concept – and its harmonized application – is instrumental for investment and innovation. Until now, however, there has been significant regulatory fragmentation between Member States, as BEREC also recognized in last year's Report on the location of the NTP.[2]

Therefore, Liberty Global welcomes the steps taken by BEREC to 'contribute to a consistent definition of the location of network termination points', as laid down by the European Electronic Communications Code (Code).[3] The importance of adopting consistent and sound NTP definitions is amplified by the fact that NTP is not just a core concept under the Code, but also has important implications within the context of the Open Internet Regulation and the (draft) ePrivacy Regulation.

[1] Draft BEREC Guidelines for the notification template pursuant to article 12, paragraph 4 of Directive 2018/1972 of the European Parliament and of the Council, BoR (19) 113 (Draft Guidelines).
[2] BEREC, Location of the Network Termination Point, BoR (18) 159.
[3] Directive (EU) 2018/1972 establishing the European Electronic Communications Code (Recast), OJ L 321/36 [2018] (EECC).

## Substantive review of the draft Guidelines

**The Guidelines must address the currently fragmented regulatory landscape of NTP definitions**

One of the key reasons for the currently fragmented state of regulation on definitions of the network termination point, identified by Liberty Global in its position paper, is that presently, national definitions of the NTPs are adopted on a variety of legal bases, by different authorities and with little regard for the digital single market. This is also acknowledged by BEREC in its 2018 Report on the location of the NTP, which concludes that definitions of the NTP vary considerably between Member States. As Liberty Global argued, based on its first-hand experience of the telecoms regulatory framework across several Member States, such fragmentation has direct implications for providers' operations, innovation and investments.

Liberty Global thus has high hopes for the Guidelines that BEREC is developing, as a way to address and overcome this fragmentation. The Code may unequivocally assign the responsibility for defining the NTPs to independent national regulators, but given the degree of fragmentation, national regulators cannot be expected to address this fragmentation without cooperation. This highlights the importance of BEREC's work in defining the common approaches that national regulators shall apply. As Liberty Global held in its position paper, for BEREC's work to be successful, the forthcoming guidance must eliminate (potential) uncertainties and address existing regulatory fragmentation.

In reviewing the draft Guidelines, Liberty Global is pleased to see that BEREC recognises the above, by unequivocally stating that these '[…]*Guidelines shall contribute to the harmonisation of the location of NTPs in the EU*'. Moreover, BEREC highlights the importance of harmonize application of these Guidelines by emphasizing that national regulators '[…]*shall take utmost account of these Guidelines when defining the location of NTPs*', in line with the Code. Liberty Global therefore supports the clear objective of these draft Guidelines, as set out in the text's introduction.

**The Guidelines must recognise that the Code is the sole legal basis for adoption of NTP definitions**

As Liberty Global held in its position paper, the Code is the sole appropriate basis for the harmonized adoption of NTP definitions. Given the fragmented state of the current regulatory framework, an important prerequisite is that the current regulatory practice should not necessarily serve as a blueprint for harmonization, adversely most of the nationally adopted definitions of the NTP will have to be revoked.

Liberty Global commends BEREC for clarifying early (section 2.1) in the draft Guidelines that the NTP is defined, based upon the relevant provisions and considerations of the Code, as the '*physical point at which an end-user is provided with access to a public communications network*'. Subsequently, in section 2.2, BEREC recognizes the important fact that the NTP represents the boundary between two separate regulatory frameworks; the one applicable to publicly available ECS and the one applicable to Telecommunications Terminal Equipment (TTE).

Although these sections make it indisputable that NTP definitions can only adopted with the Code as a legal basis, Liberty Global finds that this should be clarified, particularly now that the Guidelines refer to various other legal instruments elsewhere. Given the current fragmented state of the regulatory landscape, particularly with regard to the legal basis for adoption of NTP definitions, Liberty Global recommends BEREC to amend the section on 'General aspects', with a view to laying down explicitly that the Code can be the sole legal basis for adoption of NTP definitions. Similarly, the draft Guidelines would benefit from the clarification that existing NTP definitions, adopted on a different legal basis, will have to be revoked. Both changes would bring greater regulatory clarity and contribute to the draft Guidelines' objective of greater harmonization.

**The Guidelines must take other relevant legal instruments into account**

At the same time, Liberty Global recognized in its position paper that the new NTP definitions on the basis of the Code will not exist in a vacuum. Therefore, Liberty Global called upon BEREC and all national regulators to take into account the Open Internet Regulation and (forthcoming) ePrivacy Regulation. To ensure regulatory clarity, there can be no divergence between NTP definitions used in the application of these instruments and those adopted under the Code.

Unfortunately, BEREC's draft Guidelines seemed to have ignored this. Although the draft Guidelines make ample reference to the Open Internet Regulation's provisions on the freedom of end-users to use the TTE of their choice, at the same time the draft Guidelines remain completely silent on the relationship between the definition of the NTP and the conformity assessment of internet access services with regard to speed or other quality of service parameters.

Liberty Global strongly regrets this omission, particularly in view of the findings of the Commission Study on the implementation of the Open Internet Regulation, wherein it was held that '*the effectiveness of the Regulation may be influenced*' by the adoption of particular NTP definitions.[4] Additionally, the Study recommended that '*the impact of a diverging interpretation of the term* [NTP] *be further investigated* […] *in the context of the transposition of the Code and the development of BEREC guidelines* […] *in particular in relation to* […] *traffic management measures* […] *effects on quality/speed parameters* […] *the results of monitoring tools* […] *and whether measurements should include routers/modems or not*'. Liberty Global thus recommends BEREC to take heed of the recommendations of the Commission Study and issue draft Guidelines which take these matters into account. Lastly, on this point, Liberty Global would like to point out that the draft Guidelines do not seem to take their impact on the application of the forthcoming ePrivacy Regulation into account at all and calls upon BEREC to do so in its next draft of these Guidelines.

[4] European Commission, Study on the implementation of the open internet provisions of the TSM Regulation [2019].

**The Guidelines must accommodate different network topologies by supporting the adoption of multiple NTP definitions**

As Liberty Global held in its position paper, to support a mixed technology approach, which will not only maximize scope for innovation, and infrastructure competition, but will also serve as the most cost-effective means to achieve Gigabit Society objectives, it may be necessary for national regulators to adopt multiple NTP definitions. This is also recognized by the text and spirit of the Code, which support the adoption of multiple NTP definitions explicitly and emphasize that the Guidelines must provide '*common approaches to the identification of the* [NTP] […] *in various concrete circumstances*'. Liberty Global commends BEREC for adopting this approach in its draft Guidelines.

However, Liberty Global notes that the Guidelines offer little assurance that national regulators will come to a harmonized definition of the NTP in cases involving similar network topologies, given that the Guidelines are lacking detail as regards the weighing of the factors to be taken into account in defining the NTP within the context of a particular network topology (or technology). Liberty Global urges BEREC to provide regulators with more guidance in this respect, so as to avoid the fragmentation of NTP definitions adopted on the basis of these Guidelines.

**The draft Guidelines fail to uphold the principle of technology neutrality**

Technology neutrality is one of the core principles of the Code. As Liberty Global held in its position paper, this means that implementation measures such as the draft Guidelines, can neither discriminate against nor favour the use of particular technologies. Sadly, Liberty Global must conclude that the draft Guidelines fail to uphold this principle on multiple accounts.

Firstly, in section 3.1.1, on the definition of the term NTP in the Code, BEREC holds that the NTP in access networks based on particular technologies (passive optical networks, coax based access networks) need not be identified by means of a specific network address (as is the requirement under the relevant provision of the Code), allegedly because such access networks do not involve switching or routing. Liberty Global holds that this position in not only factually incorrect – at least with regard to hybrid fibre-coax (HFC) networks, which do involve routing in the access network – it also fails to adhere to the principle of technology neutrality and misinterprets the wording of the Code by focusing on the access network exclusively. Liberty Global holds that this section should be amended so as not to discriminate between fixed network topologies and technologies by allowing national regulators to exclude part of the network from the equation in defining the NTP.

Secondly, in assessing the potential impact of three different NTP locations (such as, for example, in paragraph 53), the draft Guidelines stipulate with regard to point B, that it can only be defined as NTP with regard to those modems which provide '*network termination but no further functionality (e.g. without switching, routing, NAT, WLAN)*'. This leads to the implicit exclusion of modems which do have (some of) those functionalities, but can be operated in 'bridge mode' (i.e. in conjunction with a third-party router). In our experience, the provision of modems with bridge is common practice amongst

cable operators. Thus, in our view, BEREC should not hesitate to formulate policy options, which take account this alternative into accounts. Again, Liberty Global calls upon BEREC to amend the draft Guidelines so as to adopt a technologically neutral approach, which entails that modems with router functionality are not excluded from the aforementioned category, so long as they are able to operate in 'bridge mode'.

**BEREC is going beyond the scope of its mandate in requiring the publication of all NTP characteristics**

In section 2.4 of the draft Guidelines, BEREC holds that '*characteristics of the NTP need to be defined and made publicly available (in the form of detailed interface specifications)*'. Additionally, BEREC holds that network operators '*have to define the characteristics of the NTP in sufficient detail to permit the design of TTEs to be capable of utilising all services provided through the NTP*' (our emphasis in bold). As is clear from paragraph 13, BEREC infers these obligations from Commission Directive 2008/63 EC on competition in the markets in telecommunications terminal equipment.[5]

However, Liberty Global notes that article 4 of the Commission Directive only obliges '*users of the telecommunications network'* to publish the '*physical characteristics of* [new public network interfaces]'. A broader obligation, addressing Member States, is laid down in article 5 of the Commission Directive, but in Liberty Global's view this cannot be interpreted as conferring upon network operators the obligation to publish more than a description of the physical characteristics of network interfaces. Such an interpretation would clearly depart from the text and spirit of the Commission Directive's provision, since that provision is not addressing network operators directly.

**BEREC is introducing criteria for definition of the NTP which have no basis in EU law**

In section 3, particularly in paragraph 14, BEREC lists the criteria which national regulators must take into account when defining the location of the fixed NTP. Liberty Global understands, firstly, that this list of criteria is intended to be exhaustive in nature. Secondly, BEREC makes clear that the national regulators seeking to define the fixed NTP shall take all these criteria into account. Cherry-picking is thus not allowed. Generally speaking, Liberty Global supports this approach, given that it is clearly aimed at achieving harmonization and addressing regulatory fragmentation.

However, Liberty Global cannot support the full list of criteria laid down in the draft Guidelines, simply because some of the criteria contained therein have no basis in relevant instruments of EU law. Liberty Global holds that, based on the relevant provisions of the Code, the identification of the NTP should be a fact-finding exercise, aimed exclusively at determining the boundary between the public network and the end-user's private domain, not a matter of policymaking. Moreover, Liberty Global holds that the introduction of such additional criteria will – by complicating the identification process

[5] Commission Directive 2008/63 EC on competition in the markets in telecommunications terminal equipment. OJ L 162/20 [2008].

unnecessarily – undermine the Guidelines' objective of harmonization. Therefore, Liberty Global calls upon BEREC to remove the criterion of '*impact on TTE market*' from the Guidelines.

The inclusion of this criterion not only has no basis in EU law, its inclusion undermines the objective of harmonization as foreseen by these Guidelines. The significant discrepancies between national regulators' assessments of the TTE market which can be foreseen, will likely lead to a divergence in the adoption of NTP definitions between Member States.

Liberty Global calls upon BEREC to only include criteria in these Guidelines which have a direct basis in EU law, more specifically in the Code, which is the relevant instrument at hand.

**BEREC's interpretation of the potential impact on network security is flawed and incomplete**

Liberty Global agrees with BEREC that network security is a key element when assessing whether equipment forms part of the public network. However, Liberty Global finds itself disagreeing with the extremely limited number of factors, identified by the Guidelines, which the national regulators have to take into account in this regard.

By exclusively focusing on whether network operators have sufficient measures in place which allow them to protect their networks, BEREC appears to overlook the fact that network operators also have an obligation under the Code to minimize the impact of security incidents on end-users. Whilst measures '*at the edge of the core network*', as BEREC states, can – in some instances – effectively protect public networks from risks posed by TTE, there is no guarantee that such measures can equally protect end-users who may be affected.

Liberty Global also notes the ambiguous approach BEREC takes with regard to software upgrades. In section 3.3.3.3, BEREC stipulates that, for those instances where equipment is held to be part of the public network, a network operator '*needs to ensure that the software used in its equipment at the customer premises is no threat for network security e.g. by using secure software and updating it at regular intervals*'. Conversely, with regard to scenarios wherein a device is considered to form part of the end-user's private network, '*the end-user needs to ensure that the software used in the TTE is no threat for network security e.g. by using appropriate software only, updating it regularly and using security software. To ensure this the end-user may have support from the TTE vendor*.'

What BEREC appears to overlook, however, is that whilst under the Code there might be an obligation for network operators to ensure their equipment is updated regularly, currently no equivalent obligation towards TTE vendors exists (for equipment which is part of an end-user's private network). The BEREC Guidelines may hold that network operators are exempt from responsibility under these circumstances, but Liberty Global holds that such a scenario leaves everyone – bar the TTE manufacturers, who currently face no obligations to ensure network security – worse off. Networks

will be less safe and end-users will be using less secure equipment, with potentially far reaching consequences for themselves, their family members and guests.

Liberty Global urges BEREC to take account of the recent ENISA reports on telecom security incidents and its analyses of the IoT threat landscape, which provide clear accounts of the persistent threat to network security posed customer premises equipment such as modems/routers. For example, as ENISA finds in its 2017 annual report on telecom security incidents, that one of the top incidents for that year concerned '[*a*]*n attempt at malware infection coming from a malicious action caused [which] outage on fixed internet, fixed telephony, IPTV and DNS services for more than three days*'.[6] Even though, as ENISA holds, that worldwide attempt to infect the maintenance interfaces of particular modems/routers *failed*, '*a large number of fixed internet connections*' were impacted.[7] Initial mitigation efforts by the network operator concerned consisted of (network-side) filtering measures, but effective mitigation required the operator to deploy a firmware update to all (potentially) affected devices and to ask the end-users concerned to '*disconnect their CPEs from the power supply, and switch them on again, in order to finalise the update*'.[8]

Liberty Global holds that BEREC could draw important lessons from the aforementioned security incident, which should be taken into account in the draft Guidelines:

- Firstly, that effective mitigation often requires a combination of concerted mitigating actions, effected at various points of the network operator's infrastructure.
- Secondly, that having a direct customer relationship is critical to ensure mitigating actions are effected throughout the network, including at the customer premises. As service providers, network operators have the relationships, as well as the scale and customer service capabilities, to ensure the end-to-end implementation of such measures and to provide their end-users with support in this regard. Conversely, many manufacturers, importers and distributors will not have a similar direct relationship with their end-users.
- Thirdly, product conformity is assessed at the time of 'placing in the market' only and (cyber)security concerns are currently only addressed in a very limited fashion by regulatory requirements in this domain. Manufacturers, importers and distributors thus face far more limited obligations than network operators to safeguard (network) security and their end-users' right to privacy.

In conclusion, with regard to network security, Liberty Global holds that BEREC should significantly expand the guidance it gives to national regulators. Liberty Global recommends BEREC to enlist the

[6] ENISA, Annual report Telecom security incidents 2017, (2018), p.13.
[7] *Ibid*.
[8] *Ibid*.

help of industry stakeholders, as well as of ENISA, to ensure that NTP definitions, adopted on the basis of these Guidelines, take all relevant elements of network security into account.

## About Liberty Global

Liberty Global (NASDAQ: LBTYA, LBTYB and LBTYK) is one of the world's leading converged video, broadband and communications companies, with operations in six European countries under the consumer brands Virgin Media, Telenet and UPC. We invest in the infrastructure and digital platforms that empower our customers to make the most of the digital revolution.

Our substantial scale and commitment to innovation enable us to develop market-leading products delivered through next generation networks that connect 11 million customers subscribing to 25 million TV, broadband internet and telephony services. We also serve 6 million mobile subscribers and offer WiFi service through millions of access points across our footprint.

In addition, Liberty Global owns 50% of VodafoneZiggo, a joint venture in the Netherlands with 4 million customers subscribing to 10 million fixed-line and 5 million mobile services, as well as significant investments in ITV, All3Media, ITI Neovision, LionsGate, the Formula E racing series and several regional sports networks.