

**Statement from the  
Alliance of Telecommunications Terminal Equipment Manufacturers**  
on the  
**BEREC Guidelines on the Implementation by National Regulators of  
European Net Neutrality Rules (BoR (16) 94)**

The Association of Manufacturers of Telecommunications Terminal Equipment gladly gives a statement on the "*BEREC Guidelines on the Implementation by National Regulators of European Net Neutrality Rules*".

To us the "*Regulation (EU) 2015/2120 laying down measures concerning open internet access*" is an important component of a digital internal market in the European Union. Among others, it is designed to protect the rights of end users and at the same time ensure that the Internet and all its aspects continue to function as innovational motors (cf. Recital (1)).

Regarding open Internet access, telecommunications terminal equipment – which enables Internet access in the first place – is an important and central element between the public telecommunication network and the private home network of end users. This is in line with the definition of telecommunications terminal devices in the European law (Directive 2008/63/EC), which states that it is "equipment directly or indirectly connected to the interface of a public telecommunications network to send, process or receive information."

The liberalisation of the telecommunications market in the European Union has led to a clear distinction between the telecommunications network and the telecommunications terminal equipment. The markets for networks and terminal devices, thereby, do not contradict each other, but depend and promote one another. Technological leaps in the networks mean new requirements for terminal devices and the other way around.

The opening of the telecommunications market brought about a lively competition, which turned up the force of innovation within the market for telecommunications terminal equipment. Especially end users benefit from the results of these innovations and high-performance products. Until lately, they were able to freely choose the terminal device that suited their demands on functionality and quality best and connect it to their Internet access. This worked out fine and was accepted by all parties without questions or problems.

Back in 1988 the European Union had already concluded that "the rapid development of ever newer types of terminal equipment and the possibility of its multifunctional deployment" made it necessary "that the user be able to make a free decision with regard to terminal devices, in order to exploit the full advantage of technical progress [...]" (cf. Recital 2 of Directive 88/301/EEC). These considerations still apply today (cf. Recital (3) of Directive 2008/63/EC).

The right of end users to choose their telecommunications terminal equipment is confirmed and protected in Article 3, Paragraph 1 ("Safeguarding of open internet access") of Regulation (EU) 2015/2120:

"1. End-users shall have the right to access and distribute information and content, use and provide applications and services, and use terminal equipment of their choice, irrespective of the end-user's or provider's location or the location, origin or destination of the information, content, application or service, via their internet access service. [...]"

Recital (5) defines the regulation more precisely:

"When accessing the internet, end-users should be free to choose between various types of terminal equipment as defined in Commission Directive 2008/63/EC <sup>(4)</sup>. Providers of internet access services should not impose restrictions on the use of terminal equipment connecting to the network in addition to those imposed by manufacturers or distributors of terminal equipment in accordance with Union law."

According to the statement of BEREC, the guidelines are supposed to contribute "to the consistent application of the Regulation" and "to regulatory certainty for stakeholders."

From our point of view, especially when looking at Article 3 of the Regulation (EU) 2015/2120, close monitoring is needed to ensure that the "equal and non-discriminatory treatment of traffic in the provision of internet services" (Article 1, Regulation (EU) 2015/2120) – which is related to the end user's right to choose his telecommunications terminal equipment – is complied with.

### **Regarding the individual points:**

#### **Point 23**

Overall we are glad that BEREC included the end user's right to choose in its guidelines by explicitly addressing telecommunications terminal equipment and strengthening them with its remarks for implementation.

According to BEREC the right to choose includes terminal devices that are connected to interfaces of the public telecommunication network – called network termination point (NTP). In turn, the network termination point is defined by the Framework Directive (2002/21/EC, amended by the Directive 2009/140/EC) as

"the physical point at which a subscriber is provided with access to a public communications network; in the case of networks involving switching or routing, the NTP is identified by means of a specific network address, which may be linked to a subscriber number or name".

We believe this definition is only partly qualified in terms of realising the free choice of end users when it comes to their telecommunications terminal devices and therefore needs to be adjusted and specified. However, even if the definition of the network termination point is obviously unclear and – as previously explained – misinterpreted by network providers to justify the ISP lock practice, the

Framework Directive still implies that "the socket on the wall" represents the termination point of the public communication network (see Appendix 1).

The fact that "the socket on the wall" can be the only network termination point based on the European legislation as well as for technical reasons has been accepted since the liberalisation of the telecommunication market. Based on this, end users were able to use their right to choose their telecommunications terminal equipment.

With the change to Next Generation Networks (NGN) some network providers "relocated" and are still "relocating" the network termination point from "the socket on the wall" to the user's interface on the telecommunications terminal device. End users are supplied with terminal equipment that is owned by the network provider and are not allowed to replace their terminal devices.

This makes the telecommunication terminal equipment part of the public telecommunication network and is therefore ruled by the network provider. In turn this allows network providers to stipulate the use or connection of certain terminal devices for their customers (the so-called "ISP lock"). Hence, the end user loses his right of choice to use any telecommunications terminal devices (see Appendix 2).

First and foremost the ISP lock brings significant disadvantages for end users, who can no longer choose the terminal device for their Internet connection that suits their demands best. The fact that the terminal devices, which are "forced" on customers, often offer less functions than freely available devices in the market contributes largely to a negative customer experience.

The economic consequences – such as a decreasing force of innovation and the deceleration of innovation cycles – weigh as much as the problems that arise from the ISP lock regarding data protection, IT security, privacy and network neutrality. At the same time the ISP lock weakens Europe as a technological site and its competitiveness in other world markets.

The relocation of the network termination point to the end user's interface on the telecommunications terminal device contradicts the goals of liberalising the telecommunications market, which stipulated a clear separation between the telecommunications network and terminal devices by abolishing the special rights of network providers for distributing terminal devices (cf. Recital 11. of Directive 88/301/EEC). According to this, an open competition within a liberalised market for telecommunications terminal equipment can only be maintained or re-established, if the market power of network providers does not stretch out on the market for telecommunications terminal devices again.

This can only be guaranteed, if the network termination point remains "at the socket on the wall".

With this in mind, BEREC should advise the national regulation authorities to check whether the respective free choice of telecommunications terminal devices is actually compliant with the EU legislation (cf. definition of the network termination point in the Framework Directive), which clearly means "the socket on the wall". Only then are end users able to really exploit their free choice – especially regarding the possibility of using all services and functions mentioned in point 22.

**Point 24**

Under point 24 BEREC advises national regulation authorities to "assess whether an ISP provides equipment for its subscribers and restricts the end-users' ability to replace that equipment with their own equipment, i.e. whether it provides 'obligatory equipment'".

From our point of view this point is made very well, since it ensures transparency about which network providers grant a free choice of terminal device and where the national regulation authorities should step in according to Article 5, Paragraph 1 as well as Article 6 of the Regulation.

To avoid misunderstandings it should be made clear at this point once again that all end users must have the option to freely choose their telecommunications terminal equipment according to the Regulation (EU) 2015/2120. On the other hand, there may not be any compulsion to connect a freely available terminal device from the market. End users should have the opportunity to choose on their own terms. Whether they want to make use of it or rather use the terminal device from their network provider is – from our point of view – entirely up to them.

**Point 25**

Under point 25 BEREC advises the national regulation authorities to

„consider whether there is an objective technological necessity for the obligatory equipment to be considered a part of the ISP network. If there is not, and if the choice of terminal equipment is limited, the practice would be in conflict with the Regulation.”

The random redefinition of the NTP away from "the socket on the wall" to the end user's interface on the terminal device results in the terminal device being part of the public telecommunication network controlled by the network provider. This is almost solely justified by stating technical reasons.

We strongly reject this assertion. There are no technical reasons that justify the restriction of an end user's free choice of his telecommunications terminal equipment.

When the guidelines of the Regulation are violated ("if the choice of terminal equipment is limited, the practice would be in conflict with the Regulation"), the responsible authorities must step in promptly to ensure the achievement of the Directive's goals (cf. Article 5 of the Regulation).

18 July 2016



## **Appendix 1**

### **Why can the network termination only be "passive"?**

#### **Remarks and explanations**

The statement that the network termination point can only be passive is clearly mentioned in the Framework Directive and can be verified there.

Our statements are based on the definition of the "network termination point" in Article 2 (there) of Directive 2002/21/EC, amended by Directive 2009/140/EC (Framework Directive):

“‘network termination point’ (NTP) means the physical point at which a subscriber is provided with access to a public communications network; in the case of networks involving switching or routing, the NTP is identified by means of a specific network address, which may be linked to a subscriber number or name;”

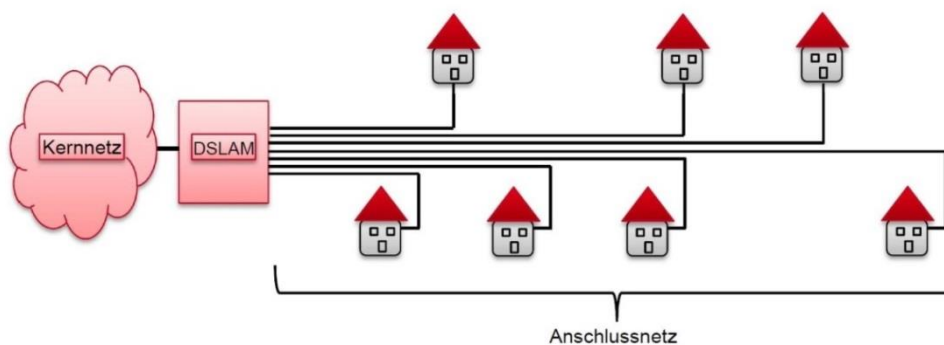
#### **1. Switching/Routing**

There is no switching or routing in the fixed-line subscriber access network, which is why the 'identification by means of a specific network address' is not applicable. "Switching" and "routing" are only necessary for networks, if a route selection at one or various distribution points is needed between the sending and receiving network address.

Within a xDSL subscriber connection network, a DSLAM with many users is connected over various separated telephone lines. Accordingly, the DSLAM is the first element of the network infrastructure, which is connected to the subscriber's terminal devices.

The DSLAM is connected to the backbone of the telecommunication network through an interface, which is why routing is performed at the DSLAM towards the subscriber in the subscriber connection network.

The network termination point can be identified with an "specific network address". This could be the number of the DSLAM along with the port number of the respective subscriber line.

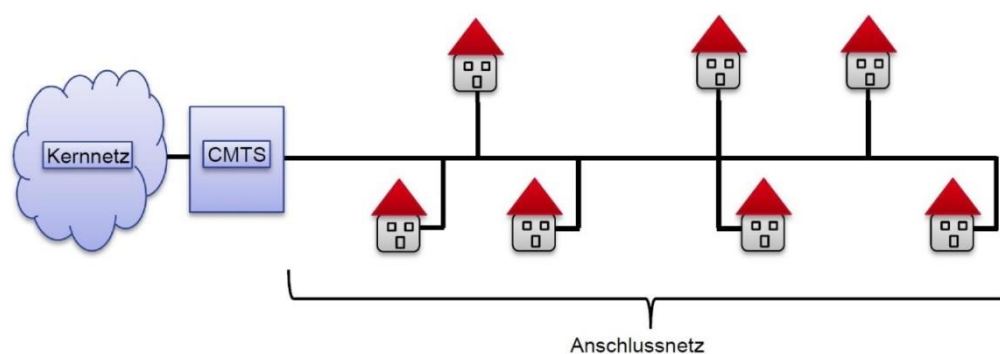


**Illustration: The structure of the connection in a DSL network. The signals sent by DSLAM only reach the intended subscriber, because he is connected to his own line.<sup>1</sup>**

In a DOCSIS subscriber connection network a CMTS (Cable Modem Termination System) is connected through many subscribers using a single coaxial transmission line ("shared medium"). The CMTS is the first element of the network infrastructure, which is connected to the subscriber's terminal devices.

The CMTS is connected to the backbone of the telecommunication network and one coaxial interface towards the subscribers. Therefore there is *no* switching or routing performed in the subscriber connection network. The technical term is "multiplexing". Controlled by the CMTS, the terminal devices operate the transmission medium according to standardized mechanisms same as in many other cases of communicational technologies (mobile communications, xDSL, Ethernet, ATM, WiFi, ISDN, DECT, etc.).

Since neither routing or switching occur in the subscriber connection network, further demands on the network termination point like "naming a certain network address" are obsolete.



**Illustration: The structure of the connection (cluster) in a cable network. The signals sent by the CMTS reach all subscribers, because they share a line.<sup>2</sup>**

<sup>1</sup> Source: ANGA Verband Deutscher Kabelnetzbetreiber e.V.: „Stellungnahme der ANGA Verband Deutscher Kabelnetzbetreiber e.V. zu dem Regierungsentwurf für ein Gesetz zur Auswahl und zum Anschluss von Telekommunikationsendgeräten“, 20. August 2015

<sup>2</sup> *ibid.*

## 2. Interpretation of the term "network address"

It says in the definition of the Framework Directive mentioned above that the network termination point should be "identified" by a certain network address. However, the Directive stipulates in no way that the network termination point needs to be addressable by other configurations of the network in terms of technical transmission.

We therefore claim that the term "identified" can also mean "certain", "stipulated" or even "not stipulated forever". Additionally, it is not further specified when this "term" is used.

The network termination point only makes sense in combination with a terminal device and can only be named by an address when interacting with a terminal device.

When using "network address" it is also not clear what a "network address" is supposed to be, where it came from and in which processes it is determined. Only the network address can or will be linked to a number or name of the respective subscriber.

On top of this, the term "network address" can't be found in any other passage in the whole regulation package nor is it defined.

## 3. ETSI

At this point we would also like to refer to the ETSI Guide EC 201 730 „Terminals' access to public telecommunications networks; Application of Directive 1999/5/EC (R&TTE), Article 4(2); Guidelines for the publication of interface specifications“.

According to the guides, a network termination device can be permitted with "less well standardized interfaces", since the "image and income" of the network provider could otherwise suffer as there could be only few or only bad providers of terminal devices in the market that support the interface.

Vice versa the ETSI guide supposes that network providers want "to offer interfaces for the most standardized technologies", like DSL or DOCSIS, anyway.



Table 1: Position of the NTP

Scenario	Who Publishes	Comments
<p><b>Scenario 1. See clause A.7.2</b></p> <p>Cable Network Side: CMTS</p> <p>User Side: CM/STB, CPE/TTE</p>	The Cable Network Operator publishes specification for the RF interface between the CM/STB and the CMTS.	Details of the RF interface description are given in clause A.7.2. <b>CM/STB is a TTE</b> according the R&TTE-D and therefore <b>in the scope</b> of this Directive
<p><b>Scenario 2. See clause A.7.3</b></p> <p>Cable Network Side: CMTS</p> <p>User Side: CM/STB, CPE/TTE</p>	The Cable Network Operator publishes specifications relating to the interfaces between the CM/STB for connection to CPE/ TTE.	<b>CM/STB is not a TTE</b> according the R&TTE-D and therefore <b>not in the scope</b> of this Directive.

ETSI already focused on cable modems in the TR 101 857 V1.1.1 (2001-06) back in 2001 and declared that cable modems can be terminal devices in accordance with the R&TTE Directive (scenario 1 in table 1).

After 15 years of technical development DOCSIS must be the "most standardized technology" without question. Hence, scenario 2 does not apply anymore.

It can be said that cable modems are terminal devices in the sense of Directive 2008/63/EC.

#### 4. Line ID

A line ID also exists for cable technology.

At this point we would like to refer to the following statement of the AG Interoperability of the NGA Forum – hosted and administrated by the *Bundesnetzagentur* (Federal Network Agency, National Regulatory Authority) – ("Service description of a layer-2 access product, L2-BSA II - Technical Specification"):

"The Line ID must therefore be a logical ID that is linked to the connection of the end user. This ID may not change due to technical adaptations on the end user's connection, for example when exchanging the cable modem."

The line ID shows that there is a technical possibility to name the connection of an end user independent of the terminal device.

#### 5. Addressing the terminal device

Individually, the network termination point is neither significant for the network nor the user. Meaning, benefits and functions of the network termination point only emerge once a terminal devices is connected.

The demand for a making the network termination point technically addressable by other configurations of the network is actually a demand to address the terminal device of the subscriber, which is connected to the network termination point.

Combined with a terminal device, "the socket on the wall"/junction is technically addressable.

There is a direct attribution of individual lines to individual customers when it comes to telephone lines, same as with DSL the addressability in the sense of a technically transmitted network address is performed with the layer 1/2, meaning once the modem interacts with the DSLAM (ATM level).

## Appendix 2

### Different interpretations of the location of the NTP

