

**Bird & Bird & The European Electronic  
Communications Code:  
How to respond to the draft BEREC  
guidelines?**

**Webinar starts at 3 pm CET**

# Bird & Bird & The European Electronic Communications Code: How to respond to the draft BEREC guidelines?

Webinar, 29 October 2019

# AGENDA

1. **Introduction** by Anthony Rosen
2. **Network Termination Point** by Marianne Minneché
3. **Geographical Surveys** by Feyo Sickinghe
4. **Quality of Service Parameters** by Piotr Dynowski
5. **Wrap-up and closure** by Anthony Rosen

# INTRODUCTION



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# About Bird & Bird



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# THE NETWORK TERMINATION POINT



**Marianne Minnecré**

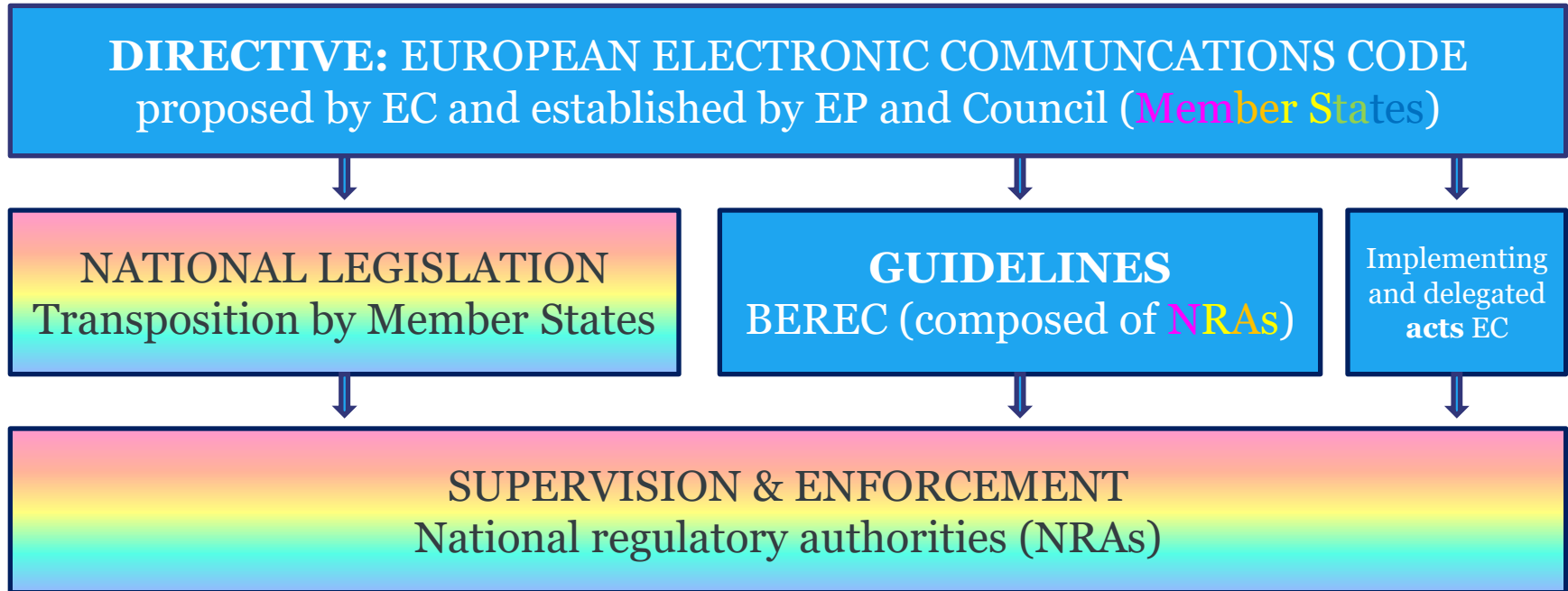
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# THE CONTEXT OF BEREC GUIDELINES IN GENERAL



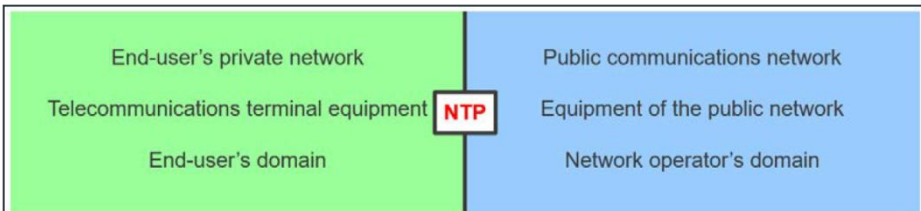
# DEFINITION NETWORK TERMINATION POINT

## *EU-level*

- Definition **Framework directive (old)** and **EECC**: "the physical point at which a subscriber is provided with access to a public **electronic** communications network, and which, in the case of networks involving switching and routing, is identified by means of a specific network address, which may be linked to ~~a subscriber~~ **an end-user's** number or name"
- **Art 61(7) EECC**: "By 21 June 2020 in order to contribute to a consistent definition of the location of network termination points by national regulatory authorities, BEREC shall, after consulting stakeholders and in close cooperation with the Commission, adopt guidelines on common approaches to the identification of the network termination point in different network topologies. National regulatory authorities shall take utmost account of those guidelines when defining the location of the network termination point."



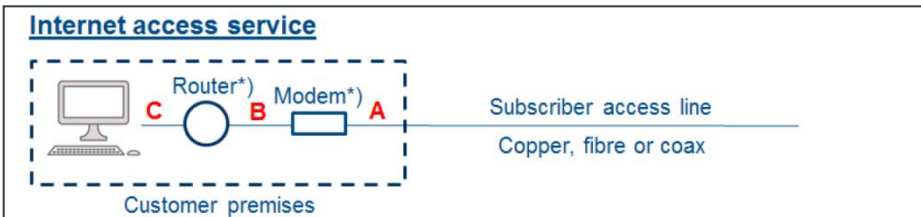
# THE DEFINITION OF THE NTP IN PRACTICE



Source: BEREC

**Figure 1: Location of the NTP**

- BEREC Report October 2018
- Open internet study Bird & Bird  
<https://ec.europa.eu/digital-single-market/en/news/study-implementation-open-internet>
- Different approaches so far
- Relevance of a consistent definition



\*) In case the NTP is at point A or C, router and modem may be integrated in one device.

Source: BEREC

**Figure 2: Different locations of the fixed NTP in case of an internet access service**

# DRAFT BEREC GUIDELINES

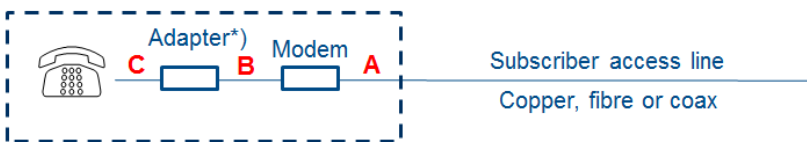
## (2) Traditional ISDN service



Customer premises

\*) Network termination

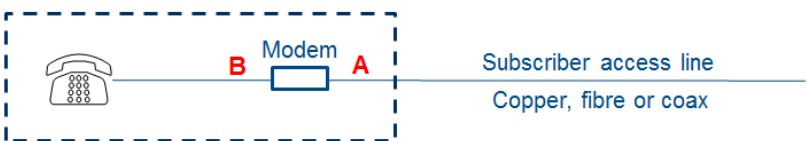
## (3) POTS/ISDN with VoIP on the subscriber access line



Customer premises

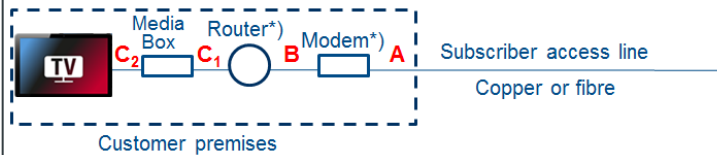
\*) Conversion between POTS/ISDN and VoIP. Adapter and modem may be integrated in one device.

## (4) VoIP service



Customer premises

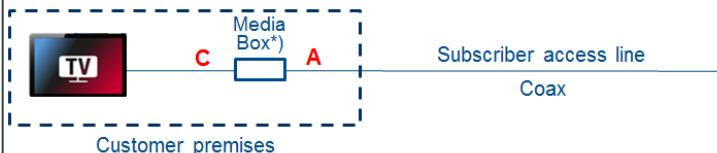
## (6) TV service (copper, fibre)



Customer premises

\*) In case the NTP is not at point B, router and modem may be integrated in one device.

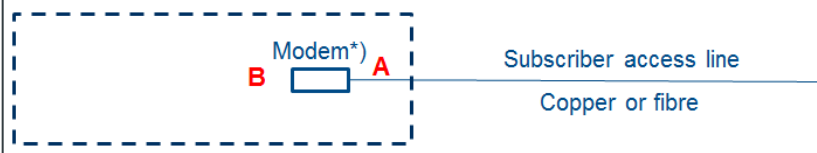
## (7) TV service (coax)



Customer premises

\*) Location B is not accessible from outside since the media box provides not only network termination functionality.

## (8) Leased line



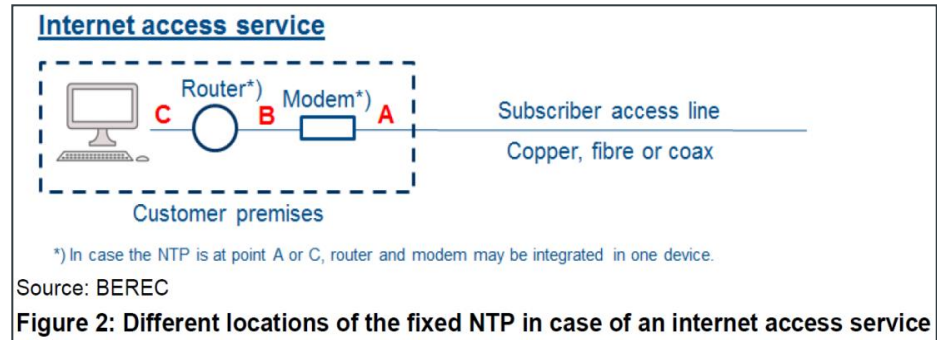
Customer premises

\*) E.g. SHDSL modem, SDH terminal multiplexer, Ethernet network termination unit

# DRAFT BEREC GUIDELINES

*NRAs shall take into account the following criteria when defining the location of the fixed NTP:*

- I. Conformity of the definition with the legal provisions
- II. Impact on the TTE market
- III. Assessment of whether there is an objective technological necessity for equipment to be part of the public network
  - Interoperability between public network and TTE
  - Simplicity of the operation of the public network
  - Network security
  - Data protection
  - Local traffic
  - Fixed-line services based on wireless technology



# DRAFT BEREC GUIDELINES

## *Location of the mobile NTP*

- When defining the mobile NTP location, NRAs **shall** determine that the mobile NTP is at a location (e.g. the air interface between mobile equipment and base station) which permits end-users to (continue to) use their own mobile equipment.

# GEOGRAPHICAL SURVEYS



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# Scope of the guidelines

*Enable production of consistent and georeferenced data on the reach of broadband networks*

## **Legal framework**

- For the application of state aid rules
- Determine designated areas with no (planned) deployment of a VHCN
- Verify availability of universal services and/or to impose USOs
- Allocation of public funds
- Defining coverage obligations for radio spectrum
- Information tools for end-users if they are not already available
- Defining geographical markets
- Make results available to BEREC and the EC

# A geographical survey of broadband reach is:

- A collection of data
- which characterises the capability of an ECN to deliver a broadband service of a certain quality
- that can be displayed with the use of a digital tool
- on a layer-based map, and
- at an appropriate solution

## **The Guidelines must provide NRAs and OCAs with**

- The specification of the relevant data to be produced by the authority (QoS1, QoS2 and QoS3)
- Guidance on
  - How to collect these data
  - how to aggregate these data
  - which aggregation of data should be deemed public or confidential
  - the procedure to identify the intentions of agents to deploy VHCN

# Timing

## Subject matter

- Guidelines to be issued by June 21th, 2020 to achieve consistent application across the EU
- Take potentially significant costs for data providers and authorities into account

Outcome: digital layer-based map at appropriate resolution

**Data on physical infrastructures (ducts, conduits, masts, manholes) and data on demand and take up fall outside the scope of the guidelines (but can still be requested by NRAs on the basis of the BCRD and market analysis)**

Phase one (March 2020): QoS-1 information (estimates of network performance)

Phase two (December 2020): QoS-2 and QoS-3 and forecast deployment of VHCNs

Final guidelines will propose arrangements of monitoring and revision of data as well



# Data delivery

*Each parameter further defined in the guidelines*

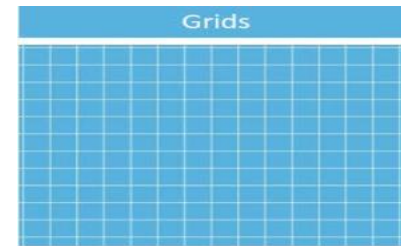
## Fixed broadband

- Homes passed
- Maximum (once a day) and normal (95%) speeds
- Access technology used
- High resolution of data (address)



## Mobile broadband

- Broadband service availability
- Maximum and normal download and upload speeds
- User location
- High resolution of data (100x100m grid of polygon\*)



**The responsibility for providing reach and performance indicators may rest directly with the operators**

\*) aligns with [BEREC Common Position](#) on information to consumers on mobile coverage – infographics source: draft BEREC guidelines

# Quality of Service

*Current task requires QoS 1 information only (but this may change over time)*

The European Broadband Mapping project developed three data categories for ‘Quality of Service’ (‘QoS’):

- Data category QoS-1: Calculated availability of Service - Theoretical network performance of existing infrastructure
- Data category QoS-2: Measured provision of Service - Measurements *via* panel probes or drive tests, excluding end user’s environment
- Data category QoS-3: Measured experience of Service - Measurements using internet access service including end user’s environment, for example via online speed tests

QoS-1: Calculated availability of service	What	Theoretical network performance of existing infrastructure (coverage, no pure infrastructure data)	
	How	<b>Wired</b> Assessment / calculation / marketed speeds by provider / geodata-based simulation models / prediction tools	<b>Wireless</b> Assessment / calculation via geodata-based simulation models / prediction tools / radio field planning
QoS-2: Measured provision of service	What	Provision of service measured at the Customer Premises Equipment (CPE), e.g. routers, mobile devices <u>excluding</u> end user’s environment	
	How	<b>Wired</b> Measurement through panel probes	<b>Wireless</b> Measurement through drive tests or speed tests
QoS-3: Measured experience of service	What	Actual user’s experience when using Internet Access Service (IAS) tests <u>including</u> end user’s environment	
	How	<b>Wired</b> Measurement via online speed	<b>Wireless</b> Measurement via online speed tests



**NRAs/OCAs may increase the number of indicators and/or of categories per indicator, if they consider that it is necessary to do so, in order to fulfil their duties. QoS-2 and QoS-3 are not a common occurrence**

# Mobile broadband

## *Theoretical calculation of speeds*

- The broadband speed classes to be provided by operators or calculated by NRAS/OCAs should focus firstly on **outdoor** spaces and a static environment
- For the purpose of these Guidelines, it is recommended to calculate the **maximum data service speeds per grid** and to allocate these maxima in the appropriate speed class
- NRAs/OCAs should provide information about the area being covered by a VHCN. For the submission of **VHCN information** network operators will need to follow the definition provided in Article 2 of the EECC and the definition to be provided in future BEREC Guidelines by the end of 2020
- The calculation of theoretical broadband service coverage when the user is in **movement**, as well as **indoors**, could be considered where appropriate and where such estimations take into account the technical specificities of such medializations
- Mobile network operators and authorities use different tools to support their coverage simulations; but their minimum common functionalities/features should take into account **international standards and recommendations** (ITU, ETSI, CEPT)

# Forecast specificities

*'No more questions asked'*

- Not mandatory
- For identifying designated areas (i.e. no VHCNs planned)
- For state aid purposes
- Information to the public (speed forecasts), market analysis and national broadband plans
- Request from all potential investors
- NRAs to verify information ex ante or ex post
- Annual collection with three years period (State Aid Guidelines)
- Fixed broadband: Y1: address Y2:  $\geq 1000 \times 1000 \text{m}$

**No forecast information is required when a VHCN is available in a certain area**

(source: BEREK Workshop 22 October)

# Data aggregation

*Calculated by NRA*

- Fixed at address level
- Mobile grid can be  $\leq 100^*100\text{m}$  with 95% broadband availability

# QUALITY OF SERVICE PARAMETERS



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# Article 104(1) of the EECC

*Obligations of providers in relation to providing information on quality of services*

## **The information obligations apply to:**

- **Internet access services (IAS) and publicly available interpersonal communication services (ICS);**
- where the **provider controls at least some elements of the network** either **directly** or **by virtue of a service level agreement (SLA)** to that effect.

## **NRAs** in coordination with other competent authorities **may require providers:**

- **to publish** comprehensive, comparable, reliable, user-friendly and up-to-date **information for end-users on the quality of their services;**
- **to publish** such **information on measures** taken to **ensure equivalence in access for end-users with disabilities;**
- **to inform** consumers **if the quality of the services** they provide **depends on any external factors**, such as control of signal transmission or network connectivity (ICS only).

That **information** shall, **on request, be supplied to the NRAs** and, where relevant, to other competent authorities before its publication.

# Article 104(2) of the EECC

## *Role of the NRAs and other competent authorities*

National regulatory authorities in coordination with other competent authorities shall **specify**, taking utmost account of BEREC guidelines:

- **the quality of service parameters to be measured,**
- **the applicable measurement methods,**
- **the content, form and manner of the information to be published,** including **possible quality certification mechanisms.**

Where appropriate, the parameters, definitions and measurement methods set out in Annex X of the EECC shall be used.

The **measures** to ensure quality of service **shall comply with the Open Internet Access Regulation** (2015/2120).

The question is WHICH parameters should be taken account and WHICH measurement methods should apply (of many available).



# Purpose of the guidelines

*Enable comparability among Member States and provide better information on the market while promoting the consistent application of regulatory obligations and improving transparency for end-users and public authorities in relation to quality of service*

- To **provide guidance to NRAs** in respect to Article 104 of the EECC
- To **contribute to the consistent application** of Article 104(2) and Annex X of the EECC, with the aim of **defining**:
  - The **relevant QoS parameters**, including the parameters relevant for end-users with disabilities;
  - The **applicable measurement methods** for these QoS, including, where appropriate, the ETSI and ITU standards set out in Annex of the EECC in relation to ICS and IAS respectively;
  - The **content and format of publication** of the QoS information; and
  - The **quality certification mechanisms**.

in order to facilitate comparability across the EU and to reduce compliance cost.

Guidelines to be adopted by BEREC by **21 June 2020**.

# QoS parameters

- QoS should be **distinguished from Quality of Experience (QoE)** parameters;
- Network performance **QoS should be consistent with indicators and measurement methods worked out by BEREC OI WG** (i.e. IAS speed in both downlink and uplink direction, round-trip delay, delay variation/jitter, packet loss);
- QoS refers to effectiveness of performance of a system in support of end-user needs or that contributes positively to another system's performance;
- Depending on the **nature of the content to be exchanged** (e.g. audio, video, text, data), **different parameters** need to be specified;
- **NRAs are free to choose among the parameters** set out in Annex X to the EECC and listed in **Table 1** of the Guidelines those that are **particularly relevant for the needs of their country**;
- NRAs who choose to specify **other parameters than those included in Annex X** of the EECC shall take utmost account of parameters listed in **Table 2** of the Guidelines;
- The EECC and the EAA define specific services targeted to address the needs of persons with disabilities that should be of concern to NRAs when deciding QoS parameters (e.g. relay services, real time text, total conversation services etc.). Such QoS parameters are **additional to other transparency measures concerning equivalent access for persons with disabilities** (Article 102(1) and 103(1) of the EECC);
- All **QoS indicators** set out in the Guidelines **should address the specific needs of end-users with disabilities**. Such specific parameters are listed in **Table 3** of the Guidelines.

# Publication of information on QoS

- The publication requirements of Article 104(1) of the EECC are **in addition to the transparency measures** provided in article 102 and 103 of the EECC and the transparency obligations set in Article 4(1) of the Open Internet access Regulation
- NRAs should be able to require publication of information on QoS where it is demonstrated that it is **not effectively available to the public**;
- **The information on QoS should be:**
  - **comprehensive** (complete/statistically representative),
  - **comparable** (between different offers and between different providers),
  - **reliable** (correct, not misleading, complying with standards/measurement methodology indicated by NRAs),
  - **user-friendly** (plain language, easily understood);
  - **up-to-date** (NRAs shall ensure that providers are obliged to regularly update information at least on an annual basis); and
  - **accessible for broadest possible group of end-users**, including end-users with disabilities (e.g. in machine-readable manner, on the websites (no more than one click from the homepage) or in mobile app).
- NRAs could require information to be published **directly by providers** via their own communication channels or **through third party and provided to NRAs to publish simultaneously on NRAs websites**.
- NRAs could require providers to publish information having regard to **different levels of aggregation** (regional, national) or **different groups of end-users** (corporate, consumers), **depending on the level of availability of information to the public, QoS parameter or service concerned**.
- To enhance overall publication, some **consideration of QoE indicators** shall be included whenever possible.

# Quality Certification mechanisms

- The EECC **does not require** Member States or NRAs **to establish or certify a monitoring mechanism;**
- The EECC anticipates the **possibility of functioning of more than one certification mechanism;**
- The EECC does not prescribe who may be a provider of a certification mechanism;
- NRAs must take into account the requirement of **independence of the provider of certification from the service providers;**
- The level of formalization of the procedure as well as additional requirements for choosing or awarding the certification of the monitoring mechanism, certification period, the conditions for certification withdrawal or extending the certification are **to be determined in national law;**
- The certification shall ensure that **quality monitoring meets the requirements of:**
  - **Accuracy**
  - **Enabling comparison of measurements** with service quality guaranteed in the contract by end-users and drawing independent conclusions;
  - **Openness** (the measurement methodology and implementation should be publicly available for example by publication of the source code)
  - **Safety** (safeguarded against attack and unauthorized access)
  - **Future-proofness** (based on the current state of technical knowledge taking into account developments)
  - **Accessibility** (for people with disabilities)

# WRAP-UP AND CLOSURE

**By Anthony Rosen**

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## Future initiatives:

- Annual Seminar in Brussels on 3 December: [Save the date!](#)
- EECC: in-house masterclasses on specific topics and Compliance Matrix
- Organising stakeholder groups around common interests
- Online trackers for key legislative files: [European Electronic Communications Code](#)  
[Audio Visual Media Services Directive](#)



# Deadlines for responses

Topic	Deadline	To be sent to
Network Termination Point	21 November 17h CET	<a href="mailto:NTP_Guidelines@bereg.europa.eu">NTP_Guidelines@bereg.europa.eu</a>
Geographical Surveys	21 November 17h CET	<a href="mailto:PC_Geo_surveys@bereg.europa.eu">PC_Geo_surveys@bereg.europa.eu</a>
QoS Parameters	5 December 17h CET	<a href="mailto:PC_QoS_Guidelines@bereg.europa.eu">PC_QoS_Guidelines@bereg.europa.eu</a>

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# Thank you & Bird & Bird

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