Public debriefing
32nd BEREC Plenary Meetings

Sébastien Soriano, BEREC Chair 2017

Johannes Gungl, Incoming chair 2018

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Body of European Regulators
for Electronic Communications

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Outcomes of BEREC 32nd Plenary

1 **Enhancing connectivity**

- Preliminary report in view of a Common position on monitoring of mobile coverage
- BEREC/RSPG Report on facilitating mobile connectivity in challenge areas
- Report on fixed/mobile convergence

2 **Safeguarding an open environment**

- Net neutrality regulatory assessment methodology
- Net neutrality opt-in measurement tool
- Report on impact of content and devices on ECS markets

3 **Reinventing BEREC from within**

- BEREC work on the framework review
- BEREC Strategy 2018-2020
- BEREC Work programme for 2018

① Enhancing connectivity

Q3 Hot Topics

BEREC/RSPG report on facilitating connectivity in challenge areas

Preliminary report on monitoring of mobile coverage towards a Common position

Report on fixed/mobile convergence

Use our interactive tool to provide your inputs until 8 November !

Facilitating mobile connectivity in 'challenge areas'

- Compilation of initiatives to provide mobile connectivity in four types of "challenge" areas:

  – Indoor coverage: evaluation of building loss, wi-fi, repeaters, small and femto cells, distributed antenna systems, construction regulation, private mobile networks;

  – Transportation means: network sharing, coverage obligations, public and localised information on coverage;

  – Non-profitable areas: coverage obligations in licences, concerted approach between public and private sector (including funding programs), network sharing;

  – Other areas: protected areas, areas with not all operators, areas with low quality of service;

- The report recognizes that there are limitations to the solutions described.

- A BEREC and RSPG joint report drafted by experts from both entities.

- The public consultation on the draft report will be launched when it is adopted both by BEREC and RSPG.

Monitoring mobile coverage towards a Common Position

- A preliminary report in view of a common position

- There are variations in estimating and presenting mobile coverage because of different ways to measure it.

    – It leads to inconsistencies for MNO and for digital service providers present in different countries

- Some NRAs seek to provide reliable information on mobile coverage.

Monitoring mobile coverage towards a Common Position

- The preliminary report aims at :
  - Defining a common vocabulary with a list of characteristics constitutive of mobile coverage
    - Service (Voice, Internet, SMS, specialized services, …)
    - User location (outdoor, indoor, in transport)
    - User equipment (handset performance)
    - Performance indicators (RF signal levels, QoS, QoE)
    - Service time availability
  - Describing some key features of coverage maps
    - Accuracy and transparency
- It is a first step toward a BEREC common position.

- **Next steps:**
  - Views of stakeholder will be collected during the public consultation to be held **from 11 October to 8 November** and will serve as inputs.
  - Further internal work will be performed to prepare a Common position to be submitted for a second public consultation in the first quarter of 2018.

Convergence of fixed and mobile networks

- Based on the results of two surveys among operators and NRAs, this report presents the **convergent** utilisation of **fixed network** infrastructures to transit **mobile** data streams, as part of mobile backhaul.

- **Main findings**:
  - Increasing requirements in terms of **speed and availability** because of the increase of users' traffic and of the evolution towards 5G technologies
  - This drives MNOs to **gradually switch** from legacy solutions to **higher capacity fibre-based solutions**.
  - Regulated mobile backhaul access is generally implemented by **extending fixed remedies to mobile backhaul** and/or by enlarging the scope of network usages by **eliminating any restriction** on them.
  - In the current European regulatory framework, NRAs can take into account fixed-mobile convergence into their fixed market analysis. The report finds that NRAs, via various remedies, have enabled mobile operators to access SMP operators' **dark fibre or other infrastructures** that can boost their backhaul capacity.

② Safeguarding an open environment

Q3 Hot Topics

NN regulatory assessment methodology

BEREC NN opt-in measurement tool and specification report

Report on impact of content and devices on ECS markets

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② Safeguarding an open environment

1) Publication of NN regulatory assessment methodology

Objectives of the Net Neutrality regulatory assessment methodology:

- Support implementation of Regulation 2015/2120 by national regulators

- By providing a measurement methodology for Internet access services

- Methodology is also used for the BEREC NN measurement tool

Main topics addressed

- **Speed, delay and packet loss** measurements are defined in more detail

- Measurements on **net neutrality compliance** are defined at a more general level

- **Accuracy of the measurement results** is important and is covered in the end-user environment and assessment chapters

- **Certification** is a new and complex topic and therefore high-level guidance is provided

Stakeholder consultation

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Main issues raised by stakeholders

1. Reliability of the measurement results (e.g. crowdsourcing)

2. Use of standards

3. QoS measurements (e.g. the use of TCP and HTTP and the number of required measurements)

4. Questions more related to the interpretation of the Regulation / guidelines (e.g. certification)

Conclusions

- Maintaining the core measurement principles
  - ➤ Measure in multiple environments from web browsers to mobile apps
  - ➤ Measurements performed by ordinary end-users
  - ➤ Reflect as closely as possible end-user experience of Internet usage

- Standards not available for crowdsourced setup
  - ➤ However, it is foreseen that BEREC measurement methodology can contribute to the work of standardization bodies

- Clarifications and modifications
  - ➤ E.g. explaining design decisions better

2) NN measurement tool and specification report

BEREC NN measurement tool

- BEREC publishes a report on specifications for measurement tools.

- In parallel, BEREC has decided to initiate software development that:
  – measures IAS quality (mobile and fixed), and
  – assists in detecting potential net neutrality issues;

  Key features:
  – Open source software;
  – End-user can initiate measurements;
  – Based on the BEREC regulatory assessment methodology;

  – Modular opt-in approach: NRAs decide whether to use the system and, if so, which parts of the system

Open source software development

- ➢ Measurement server
- ➢ Measurement of individual applications (blocking, DNS manipulation, proxy detection, performance of web browsing, video streaming, VOIP and P2P)
- ➢ Measurement client for mobile app (Android, Apple)
- ➢ Measurement client for fixed web client
- ➢ Data collection and storage and Open Data interface

Reference system and a portal for BEREC Office

This means: NRAs have to implement the system before an end-user in the particular member state can use this tool.

High-level project timeline

- Preparation of tender starting now

- Launch of tender planned early 2018

- Development project starting 2018

- Development project finalizing 2019

- NRAs could start implementation in 2019

Impact of content markets and devices
on the fixed and mobile ECS market

- Analyse effects from **2 sectors**:

  – **"Premium" content**: Rising trend of convergence strategies between content and ECS, typically based on bundling practices and exclusive offers. Question of impact on ECS markets.
  – **Devices**: Objective to analyse whether devices may challenge the general objective of an open Internet in terms of how end-users can practically use Internet on their devices.

- **Next steps**: Public consultation, from the **11th of October to the 8th of November**: objective to collect views from stakeholders regarding the analysis conducted in the report.

1. Premium content

– Definition of « premium » content tailored for the report: content sufficiently valued by consumers to have the capacity of inciting them to switch ECS providers. Usually sports, films, TV series; in the form of TV channels, OTT services, etc.

– Practices observed in Europe:
  • bundling premium content with broadband access, but also mobile services
  • offering discount for joint purchase (mixed bundling) or restricting access to content to consumers that also purchase an ECS (tying).

– Benefits and drawbacks, among which:
  • Convergence strategies relatively more affordable for bigger ECS players : risk of leveraging market power and foreclosure on the ECS markets?
  • Possible innovation and synergies
  Overall: analysis to be conducted on a case-by-case basis.

– Report elaborates on regulatory responses taken accross Europe. Mainly NCAs.
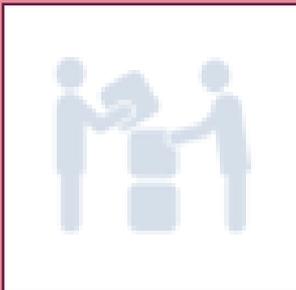
2. Devices

- Issue discussed not in terms of access services (safeguarded by the European regulation 2015/2120). Term of "openness of the Internet _use_" to avoid possible confusion with openness of the Internet _access_. Outside of the scope of NRAs' regulatory power provided by the Regulation 2015/2120.

- Growing importance of the app format: gate-keeper role for app stores.

- Among the limitations identified, most are unavoidable. Some others are rather hypothetical but could have the capacity to be concerning:
  - App stores: possibility to pick and choose the content published. Not too concerning as long as end-users can turn to an open app store (conscious choice made by the consumer to stay in a more restricted environment).
  - In theory, there could be incentives for a dominant OS provider to limit openness. Possibly counterbalanced by incentives to maximise consumers' use of the device.

- Proposal to monitor the evolution of the market (either by NRAs, NCAs, or any other relevant authority). As technology rapidly evolves, light-touch options based on the publication of collected or crowd-sourced data could be a well-fitted possibility to explore. Empower consumers, low administrative costs.

③ Reinventing BEREC from within

Q3 Hot Topics

BEREC work on the framework review

BEREC Strategy for 2018-2020 adopted

Kick-off : Public consultation on BEREC Work programme for 2018

Use our interactive tool until 8 November !

BEREC work on the framework review

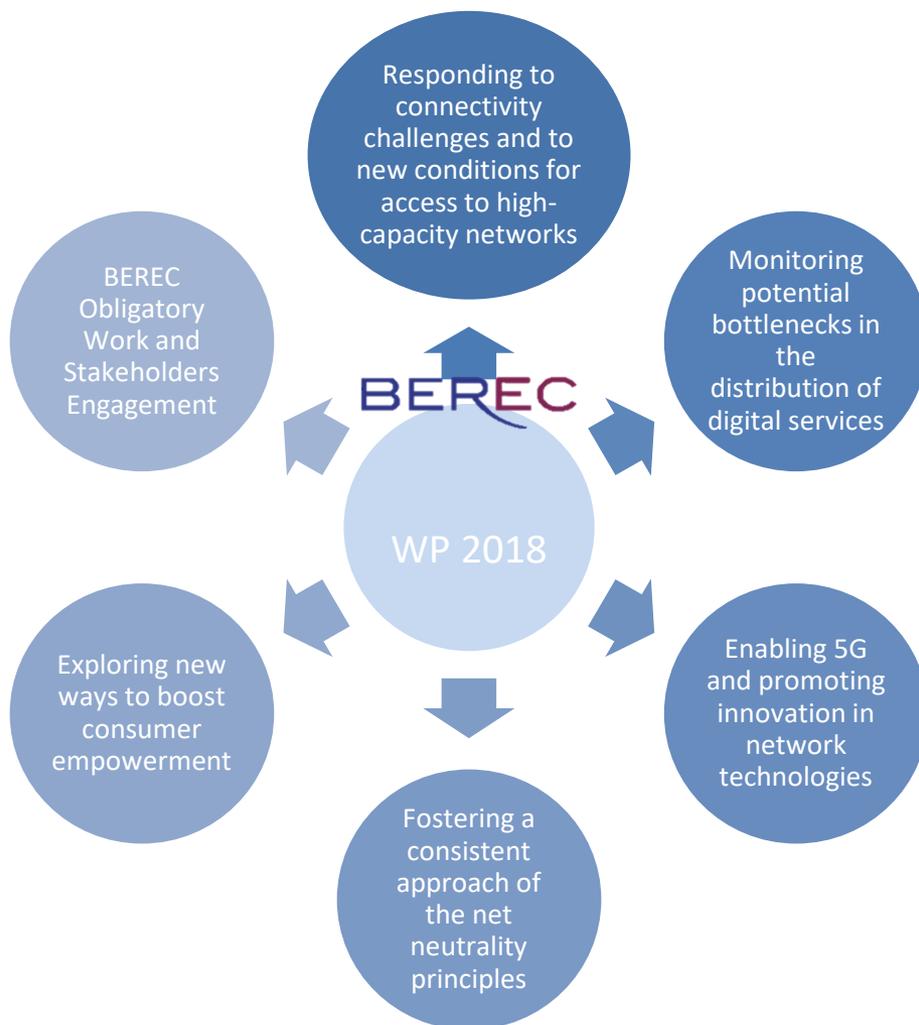- Legislative process on the framework review enters in a new phase

BEREC raises concerns on NRAs competencies in a high level statement

- Support to initial EC proposal which recognised that technical expertise of NRAs is crucial to promote the internal market and DSM stategy

- Independence of NRAs is key to ensure predictability to support investments and innovation

- Need for a minimum common set of competences to ensure the consistent application of the framework and that the completion of internal market works

- BEREC stays at the disposal of the EU institutions for technical inputs

BEREC Strategy 2018-2020

BEREC Strategic Priorities in 2018-2020

1. Responding to connectivity challenges and to new conditions for access to high-capacity networks.

2. Monitoring potential bottlenecks in the distribution of digital services

3. Enabling 5G and promoting innovation in network technologies

4. Fostering a consistent approach of the net neutrality principles

5. Exploring new ways to boost consumer empowerment

➢ BEREC is also committing to enhance stakeholder engagement (better information on BEREC work, early public consultations…)

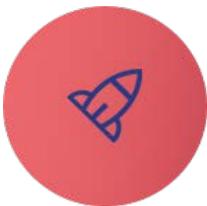➢ A video explaining the strategy is available on BEREC website

Basis for the WP 2018:
BEREC Medium-Term Strategy 2018-2020

- BEREC within the scope of its competence
  - proactively prepares itself for the upcoming challenges
  - supports the consistent 5G deployment across the MS

- Projects on
  - 5G / IoT and network security
  - Coverage obligations
  - Award and authorisation procedures
  - Infrastructure sharing
  - Follow-up work on monitoring coverage obligations

- Close cooperation with and building upon the work of other institutional bodies such as RSPG, ENISA,…

BEREC has also adopted and published

- Report on IP-interconnection practices following public consultation

- Report New forms of sharing passive optical networks based on wavelength division multiplexing

- Regulatory accounting in practice report

- 19th International Roaming BEREC Benchmark Data Report

- Report on BEREC study trip to India

Your inputs on the 3 public consultations on mobile coverage, content and devices report and WP 2018 launched today are most valuable.

Please participate through our online consultation until 8 November !

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1 **Enhancing connectivity**

- Adoption of Preliminary report on monitoring of mobile coverage and Report on facilitating mobile connectivity in 'challenge areas'

- Report on the implementation of BB cost directive

- Assessment of the need to review the BEREC Common Positions (CPs) on Markets 3a, 3b and 4

2 **Safeguarding an open environment**

- Publication of BEREC report on the implementation of Net neutrality rules

- Report on Net neutrality supervision tools and methods

3 **Bring agility and transparency to regulation**

- Report on business market indicators for the European Commission's Digital scoreboard