

Comments on BEREC's Draft Work Programme 2017

by the C² Coalition, November 2016

The Communications & Connectivity (C²) Coalition welcomes the opportunity to comment on the BEREC Draft Work Programme 2017 (BoR (16) 169) (hereafter 'the Work Programme'). Launched in July 2015, the C² Coalition is the voice for Internet enabled innovation and the policy framework that enables it, and hence represents what is now commonly branded as 'over-the-top' (OTT) service providers.

C² is notably interested in the work items below, and looks forward to collaborating with the BEREC on their elaboration/finalisation of the:

- BEREC Report on the impact of content markets and devices on fixed and mobile ECS markets;
- BEREC Report on IP interconnection practices in the context of net neutrality;
- BEREC regulatory toolkit for QoS assessment for the implementation of articles 4 and 5 of the Regulation 2015/2120;
- BEREC Report providing practical guidance regarding the technical implementation of a QoS monitoring system;
- Report analysing contractual, commercial and technical practices for the implementation of article 3 of Regulation 2015/2020, including recommendations to NRAs; and,
- Review of the BEREC Mid-Term Strategy 2018-2020.

The C² Coalition regrets that the BEREC does not consult upfront on what stakeholders expect from the BEREC as building blocks for its next work programme. Currently, stakeholders only get a chance to give input once the details of the work programme have already been set out and agreed upon, leaving little to no room for adjustment and hence making the consultation process feel more like a procedural exercise rather than a substantial one.

SECTION A.1.1. THE IMPACT OF CONTENT MARKETS (INCL. PREMIUM AUDIOVISUAL) AND DEVICE ON FIXED AND MOBILE ELECTRONIC COMMUNICATION SERVICES (ECS) MARKETS

The C² Coalition welcomes the BEREC's intention to provide an analysis on device openness in its Report on the impact of content markets and devices on fixed and mobile ECS markets, as the BEREC rightly acknowledges that while there are net neutrality obligations for telecom operators, that "no specific obligation applies to device manufacturers in terms of openness".

SECTION A.2.4. IP INTERCONNECTION PRACTICES IN THE CONTEXT OF NET NEUTRALITY

The C² Coalition welcomes the BEREC's ambition to update its 2012 report on IP Interconnection Practices in the Context of Net Neutrality.

We note that the BEREC already remarked in its 2014 Work Programme that the IP-interconnection market currently seems to function well without any significant regulatory intervention, and pointed out that any measure could potentially be harmful, and therefore be carefully considered.¹

We continue to support this analysis, but we would like to stress that bottleneck access providers' connections are still the only gateway users have to access everything else online; as a result of this unique place in the network, these providers can manipulate and interfere with users' Internet experience, including by determining whether users have access to certain content and applications at all. This is recognised by the BEREC, as the Work Programme acknowledges that:

"A disruption of interconnection could lead to a situation where end-users cannot reach all destinations of the Internet, or where the quality of service from the end-user's perspective is not satisfactory."

In this context, C² would like to highlight that many content and application providers (CAPs) invest heavily in a network of data centres and high capacity backbone infrastructure to connect to the national internet exchanges and other traffic aggregation points around the world. Analysys Mason concludes, in a 2014 Report,² that content, application and service providers make a significant and on-going contribution to the 'physical fabric of the Internet', as they invest in hosting, transport and delivery. Significant investments are made in, for example, content delivery networks (CDNs), through which approximately 60% of the Internet traffic travels with the aim of optimising the efficiency of the transport and delivery networks.

C² subscribes to the view that CDNs lead to an improvement of the quality of Internet for all Internet users without violating the best effort principle. Some access providers assert that CDNs are 'non-neutral', but we consider these allegations to be incorrect. The function of a CDN is to enhance users' overall Internet experience by hosting and serving content from a location more proximate to end users, thus avoiding points of possible congestion and reducing latency. By definition, they do not and cannot involve or interfere with other traffic flows to end users.

¹ See, BEREC. (2013, December). BEREC Work Programme 2014 (BoR (13) 196). p. 12. Retrieved at, http://berec.europa.eu/eng/document_register/subject_matter/berec/download/0/3939-berec-work-programme-2014_0.pdf.

² See, Analysys Mason. (2014, September). Investment in Network, Facilities, and Equipment by Content and Application Providers. p. 3. Retrieved at, <http://www.analysismason.com/Research/Content/Reports/Content-application-provider-Internet-infrastructure-Sept2014/Report/>.

C² also notes that in some debates, access providers also mistakenly (or deliberately) conflate caching one's content with last-mile prioritization of all Internet traffic. CDNs allow CAPs to have their applications and content provided from location that is more proximate to the end-user, but neither CDNs, nor CAPs themselves, have the ability to interfere with the routing of other entities' traffic. CDNs and CAPs have no ability to make some packets go faster (which necessarily slows other packets) at the last-mile router, the critical area of control. In terms of ability to control end-user Internet traffic, there are sharp distinctions between last-mile broadband provider access and router control over all traffic on the one hand, and servers, CDNs, and aggregation facilities limited to one's own data on the other.

SECTION A.3.2. SPECTRUM NEEDS TO FOSTER INNOVATION IN EUROPE

The C² Coalition notes the BEREC's recognition of the role of new spectrum shared access schemes in fostering innovation in Europe. The Work Programme mentions several schemes including LSA, 3-tier SAS and unlicensed mechanisms.

In particular, there is a need to adopt greater emphasis on schemes which provide for greater flexibility and innovation than the current LSA sharing scheme. Three-tier sharing offers a more flexible balance between conventional licensing and licence-exempt access. As BEREC correctly identifies, this fosters greater spectrum efficiency, but it also provides a wider range of benefits in enabling new business models, new sources of infrastructure funding and sharing, and lower barriers to entry for new entrants, thereby promote competition. It protects investments via a locally licensed tier, but also avoids licensees holding spectrum which is unused via 'use it or share it' provisions. Finally it offers greater protection of incumbent spectrum holders via database-driven access which can respond quickly and effectively to changing needs and technology capabilities, rather than relying on hypothetical interference calculations.

Europe currently foregoes those benefits and others in the absence of a three-tier sharing scheme, to the detriment of the European economy and of citizens' access to fixed and mobile broadband.

We welcome BEREC's intention to work with RSPG to study such schemes in the context of both 4G and 5G networks, and to address this deficit in a timely fashion.

SECTION B.1 FRAMEWORK REVIEW

The C² Coalition looks forward to the BEREC's assessment of the European Commission's (EC) Telecoms Framework Review proposals. We encourage the BEREC to take a pro-active role during the legislative process in order to share its valuable on-the-ground expertise with the EU institutions.

In this context, we would like to suggest that the BEREC takes the initiative to produce an in-depth analysis of the EC's proposal to overhaul the ECS/ISS definition, and the impact this will have on current market players and new entrants.

SECTION C.2. SAFEGUARDING AN OPEN INTERNET

The C² Coalition notices that operators are already starting to test the boundaries of Regulation 2015/2020 and the BEREC's net neutrality guidelines (e.g. T-Mobile, which just launched a new zero-rated music streaming offer, 'Music Freedom', in the Netherlands³; Proximus, which just introduced its new Tuttimus offer⁴; etc.).

Therefore, we are keen to see how NRAs will handle these cases, and hope that the experience and lessons learned from these cases will flow back into the BEREC's Reports:

- On the implementation of Regulation 2015/2020 and related BEREC guidelines, including possible recommendations; and,
- analysing contractual, commercial and technical practices for the implementation of article 3 of Regulation 2015/2020, including recommendations to NRAs.

SECTION D.6. REVIEW OF THE BEREC MID-TERM STRATEGY 2018-2020

The C² Coalition remarks that numbering has been an element that has been missing from the BEREC's work programme for the past years, and would encourage the BEREC and National Regulatory Authorities (NRAs) to focus more of their attention to this area, especially in light of the migration to an all-IP environment. Therefore, we would be keen to see this work item integrated into the BEREC's Mid-Term Strategy 2018-2020.

In the interest of European citizens and the European economy as a whole the BEREC and NRAs need to start today to put in place the building blocks of a forward looking numbering framework. Such a framework should focus on delivering choice and innovation to consumers, rather than sticking to obsolete principles, with the ensuing compliance issues.

The current Electronic Communications Framework requires a wider availability of numbers but no adequate enforcement mechanism has been put in place so far. The BEREC should make the numbering

³ See, TeleGeography (2016, October 12). Dutch net neutrality law goes too far say critics. Retrieved at, <https://www.telegeography.com/products/commsupdate/articles/2016/10/12/dutch-net-neutrality-law-goes-too-far-say-critics/>.

⁴ See, Proximus (n.d.). Tuttimus. Retrieved at, http://www.proximus.be/nl/id_cr_packcomposer_tuttimus/particulieren/producten/tuttimus.html?rid=res_ph-tb-2_nl_tuttimus.

issue a priority in its efforts to improve regulatory consistency and harmonisation within the EU, and in order to work on the [Recommendations](#) identified by the European Conference of Postal and Telecommunications Administrations' (CEPT) Electronic Communications Committee (ECC) Working Group on Numbering and Networks (WG NaN).

Though we realise numbering is not necessarily a BEREC core competence, the BEREC does look at the flaws/shortcomings of numbering in the context of IoT/M2M. These shortcomings could hence be looked at more broadly.

C² therefore urges the BEREC to swiftly adopt a vision that goes beyond what the Electronic Communications Committee (ECC), part of the European Conference of Postal and Telecommunications Administrations (CEPT), describes in its 2010 [Report](#) on the Evolution of Geographic Numbers (hereafter 'the ECC Report') as:

"The design of NGNs [Next Generation Networks] implemented today is very much 'PSTN on IP based networks' with the features and restrictions of the PSTN being copied." – p. 24

The ECC Report actually identifies multiple benefits associated to the removal of all constraints regarding geographic information in the numbering plan, namely (p. 17-19):

1. It would allow a more innovative use of geographic numbers;
2. It decreases the possible barriers of entry for new parties in the telephony market;
3. It gives consumers the option to keep their number when they are moving; and,
4. It allows a more efficient use of numbering resources.

The ECC Report also remarks that the removal of geographic information could have wider benefits than a mere efficiency increase, as it would also allow the introduction of wider area location portability, a possibility that is very appealing in a society where both businesses and individuals become more and more mobile (see p. 2 and 10).

The C² Coalition hence encourages the BEREC to look at numbering beyond the challenges of M2M, and to:

- Adopt numbering principles and plans that are user-centric (*i.e.* technology- and service neutral) and take into consideration the reality of a switch to an all IP environment;
- **Go down the same path of rethinking its approach to numbering and to take an approach that ensures the fullest possible retail price transparency and that removes the link between location information and geographic numbers;**
- Be supportive of innovative applications and consider that there should be a flexible approach that ensures the availability of numbering resources to cope with the needs of M2M applications; and,

- Reduce the sizes of the number blocks being allocated, which would have a positive impact towards lowering barriers to entry especially as regards smaller and innovative communications providers.

We thank you in advance for taking consideration of these views. Feel free to contact Herman Rucic, C² Coalition, by phone (+32 (0)478 966701) or email (hrucic@c2coalition.eu) should you need further information.

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About the C² Coalition

The Communications & Connectivity (C²) Coalition is the voice for Internet enabled innovation and the policy framework that enables it. Its current members are Google, Microsoft, Rakuten and Voxbone.

The C² Coalition believes that with the right public policies, Internet-enabled communications, services, applications and content, can benefit consumers, increase competition, provide a platform for innovation, drive broadband demand, and enable economic growth.