

Report on OTT services

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1 Executive Summary

Technological developments, especially the transition to the IP technology, which enables a growing range of services to be consumed online, has implied the emergence of new services and business models operating over the Internet. The provision of Internet-based services commonly known as “over-the-top” (hereafter: OTT) is of increasing importance in the rapidly evolving information- and communication technology industry, and of great value for consumers and businesses. BEREC acknowledges that availability of OTT services is also driving a change as for the competitive dynamics and technology scenarios in communication markets and, therefore, the BEREC 2015 Work programme has identified OTT development as a strategic area of investigation. This BEREC report focuses on the relation between OTT services and electronic communication services (hereafter: ECS).

This report provides an analysis of OTT services, their definition and their impact on the electronic communications sector, both in terms of competition and consumer protection, as well as their impact on the current EU regulatory framework for electronic communications (hereafter: ECN/S Framework). Although net neutrality is also important in this context, this is covered in specific BEREC reports and therefore not addressed in depth in this document.

OTT is a term frequently used but often not clearly defined. Some use this term to define a group of actors; others to qualify a category of services. In this report BEREC defines an OTT service as “content, a service or an application that is provided to the end user over the public Internet.” This means that the term OTT does not refer to a particular type of service but to a method of provision, namely provision over the public Internet. The provision generally occurs independent of the Internet access provider in control or distribution of the service. BEREC distinguishes three types of OTT services. This results in a taxonomy of OTT services that consists of (a) OTT-0 services, which are OTT services that qualify as ECS, (b) OTT-1 services, which are OTT services that do not qualify as ECS but do potentially compete with ECSs and (c) OTT-2 services, which are the remaining category consisting of OTT services that are not an ECS and do not potentially compete with ECSs.¹

Due to the current and expected evolution of new services taking place on-line, the boundary between ECSs and the content services provided over electronic communication networks (these latter out of the scope of the Regulatory Framework) becomes more and more blurred. Whilst the ECS definition, elaborated in a different moment of technological evolution –with Internet-based services at a very early stage of development–, has served its purpose in the context of traditional services, it poses challenges in the OTT environment. As it is unclear to what extent the current ECS definition covers some types of OTT services, different conclusions can be drawn regarding whether specific OTT services are qualified as ECS. This is also reflected for example with regard to OTT voice services that have the possibility to make incoming or outgoing calls to the Publicly Available Telephone Service (hereafter: PATS).

¹ Although whether an OTT service “qualifies as ECS” and “potentially competes with ECSs” are both elements that define the taxonomy, it should be noted that whether an OTT service qualifies as ECS does not depend on whether it potentially competes with ECSs. These are different things.

The ERG Common Position on VoIP (2007) gives an interpretative indication although in practice rather few implementing measures have been adopted.

In BEREC's view the definition of ECS should be clarified and/or reconsidered in order to ensure that it keeps pace with the current technological developments, that it is future proof and that still is the correct foundation that determines which services are regulated under the ECN/S Framework. The lack of clarity in the definition of ECS opens the door to different interpretations that reduce the harmonisation between Member States and provide uncertainty to providers in the market or those that consider entering it. The review of ECN/S Framework is an opportunity to examine the validity of the definition taking into consideration the evolution of the services and the markets. On the other hand, further court rulings of the ECJ on the implementation of the current ECS definition could also contribute to provide more clarity, especially in a context where no further guidance is provided and/or no legal changes to the definition are decided by the legislator.

BEREC notes that Article 5 (1) of the Framework Directive provides NRAs competence to collect information, but that this is limited to collect data from ECN/S providers. Some countries have implemented the ECN/S Framework in a way that gives NRAs power to gather all information from all relevant parties necessary for their task. However, a majority of NRAs have no legal competence to request information from OTT-1/2 providers. This impacts on the work of NRAs for example in the execution of market analyses. In BEREC's view this issue should be addressed in the ECN/S Framework review. A logical remedy for this problem would be to extend the scope of Article 5 (1) of the Framework Directive to "all information from all relevant parties necessary for fulfilling the tasks of NRAs" and thus remove the current limitation to ECS providers.

A central theme in the discussion about OTT services are the differences in the regulatory treatment of ECS and OTT services. BEREC notes that although there is general appreciation of the idea that services of the same type should preferably be subject to broadly the same regulatory obligations, there can also be reasons for different regulatory treatment of services. The range of services to which any specific obligation should apply, must be considered in light of the goals of the obligation and the proportionality of that obligation being applied to any specific service or service type. The proportionality of that obligation and its scope follows from whether the social benefits of the obligation are proportionate to the economic costs entailed for each regulated provider, and the static and dynamic competition effects of partial or universal application of the obligation. A preference for a level playing field can be part of the assessment of proportionality, but it is only one of the many elements.

OTT-2 services have been defined as services provided over the Internet but that do not compete with ECSs. The scope of OTT-2 related issues under debate is very broad, including issues such as social platforms, e-commerce, search engines. At this stage OTT-2 issues are not in the scope of NRA's competences. Their impact on operator's activity and position, in particular as regards their relationship with end users, may nevertheless need to be taken into account by regulators when analysing market situations. Other issues might fall within the scope of interest of NRAs because of their connection with electronic communications regulation.

Finally, partnerships between ECS and OTT providers have become more common in recent years and the area will likely continue to evolve in different ways in the near future. As ECS providers continue to look for revenues beyond traditional voice services, partnerships with different OTT providers may become increasingly attractive to help boost data traffic or to get a competitive edge through differentiation and added value to end users. OTT providers on the other hand are probably likewise interested in partnerships that enable them to promote their brand and their service by making it easier to find and access it. Considering the partnerships between OTT and ECS providers, it's still too soon to conclude on their effect on competition and consumers in the ECS markets.

2 Introduction

The OTT services are of increasing importance, providing new services that are of great value for consumers and businesses. It is estimated that the annual worldwide revenue of digital services – which for a large part consist of services provided over the Internet, so OTT services – is about €700 billion in 2015, about one percent of world GDP.² The value (willingness to pay) for users and contribution to the overall economy is even greater than that. The importance of the Internet to consumers was appraised in a study by the Boston Consultancy Group that sought to measure the value consumers receive from the digital economy. This study estimated the value of the Internet and OTT services in Europe at €2,600 to €3,700 annually per connected consumer. According to the same study, in Europe the Internet economy will contribute €880 billion, or nearly six percent, to the GDP of the EU in 2016.³

BEREC has previously looked at OTT developments. An example of this is the work on net neutrality-related issues, especially the ‘Report on differentiation practices and related competition issues in the context of Net Neutrality’ (BoR (12) 132) and in the recent report ‘How do consumers value net neutrality in an evolving Internet marketplace?’ (BoR (15) 65). Also the European Regulators Group (ERG), a predecessor of BEREC, issued a relevant report related to OTT: the ERG Common Position on VoIP (ERG (07) 56rev2).

OTT is a term frequently used but often not clearly defined. Some use the term to define a group of actors; others use the term to qualify a category of service. In this report, BEREC defines OTT services as content, services or applications that are provided to the end user over the public Internet (see section 3.3.1). This means that the term OTT does not refer to a particular type of service but to a method of provision, namely provision over the public Internet.

BEREC acknowledges that the term OTT might be regarded as incorrect or having a negative connotation⁴. BEREC in no way intends this as a negative term, but chose this term because it is well-known and covers the object of this report: services provided over the Internet. An alternative term like “services provided by content and applications providers” (CAP services), has a broader scope covering also services not provided over the Internet.

In order to prepare this report BEREC collected data and information from NRAs (hereafter: the data collection) about their experience with OTT services, the definitions used, the impact

² BCG, Reforming Europe’s Telecoms Regulation to enable the Digital Single Market, 2014.

³ BCG, The Internet Economy in the G-20, 2012. This study estimated consumer value of the Internet and OTT services at €3,700 annually per connected consumer in France, €3,000 in Germany, and €2,600 in the UK.

⁴ See for example: <http://disruptivewireless.blogspot.se/2014/11/retiring-term-telco-ott-digital.html> and comments received within the public consultation on the BEREC Work Programme 2015 (in particular, the contribution by VONEurope, available at http://www.berec.europa.eu/eng/document_register/subject_matter/berec/public_consultations/4753-contribution-by-von-europe-to-the-berec-public-consultation-on-the-draft-berec-work-programme-2015).

of OTT in Significant Market Power (hereafter: SMP) decisions, the possible disputes that involved OTT services and the observed partnerships between ECS and OTT providers.

Aim of this report

This BEREC report provides an analysis of OTT services, their definition and their impact on the electronic communications sector, both in terms of competition and consumer protection, as well as their impact on the current EU regulatory framework for electronic communications (hereafter: ECN/S Framework). This report is focused on the relation between OTT services and ECSs. Although OTT services are often related with net neutrality in the public debate, this latter topic is covered in specialized reports that specifically focus on regulatory issues arising from the use of traffic management by ECN/S operators. In light of the extended work done by BEREC in this area, net neutrality is not addressed in depth in this document.

A first objective is to define OTT services and provide a taxonomy for OTT services. Part of this task is to identify which OTT services also are ECSs in a legal sense and therefore should comply with the current rules and regulations set out in the ECN/S Framework. A second objective of the report is to assess if the OTT phenomenon has implications for the application of the current ECN/S Framework or for any adaptations of it that could be considered within the ECN/S Framework review. As part of this second objective, BEREC looks at differences in the regulatory treatment of ECSs and OTT services that potentially compete with ECSs and whether or not this could distort the level playing field. Finally, BEREC also looks at (a) OTT services that do not potentially compete with ECS and (b) partnerships between ECS and OTT providers. Although both in general lie outside the scope of NRA's competence currently, they could have an effect on competition and consumers in the markets for ECSs.

Structure of the report

The report is structured as follows.

Chapter 1 consists of the executive summary.

Chapter 2 provides an introduction and description of the aim and scope of this report.

Chapter 3 describes the Internet value chain, provides the definition of ECS, defines OTT services and provides a taxonomy for these services.

Chapter 4 deals with ECSs and OTT services that potentially compete. First, it provides a description of whether NRAs currently consider OTT as substitute for ECS in SMP decisions. Secondly, it describes the current regulatory approaches to OTT services, especially OTT voice and text services. Finally, it addresses the issue of difference in regulation between ECSs and potentially competing OTT services.

Chapter 5 deals with ECSs and OTT services that do not potentially compete. First, it considers the impact that these OTT services may have on ECS providers. Second, the impact of the ECN/S Framework on these OTT services is considered.

Chapter 6 touches lightly upon the partnerships between ECS and OTT providers. This chapter gives a general overview of these partnerships in Europe, identifies the possible incentives that drive these partnerships, assesses the impact of these partnerships on competition and consumers, describes the legal limits for these partnerships and draws conclusions.

Chapter 7 summarizes the findings of this report and the conclusions regarding the question whether the OTT phenomenon has implications for the application of the current ECN/S Framework or for adaptations of it that are considered in the ECN/S Framework review.

3 OTT description, definition and taxonomy

To meet the objectives of this report all descriptions, assessments and findings need to be based on a clearly defined scope and terminology of OTT. A common understanding of the definition is a pre-condition for any further assessment when it comes to OTT related questions, potentials and regulatory challenges. For example questions such as whether OTT services might require specific treatment with regard to their prominent role and future impact, can only be assessed when the OTT characteristics are clear. Therefore, this chapter clarifies the terminology and definitions used later in this report.

3.1 Internet value chain

Technological changes have led to a transformation of the commercial landscape for the past years and also with regard to the commercial relationship between the current actors in the electronic communication market. For a better understanding of the whole market setting and to further approach a common understanding of OTT services and categories, BEREC starts by considering the Internet value chain and its relevant players. The Internet value chain has been represented earlier by BEREC in its report ‘Differentiation practices and related competition issues in the scope of net neutrality’.⁵ BEREC summarizes this earlier work in this section.

In the Internet value chain, three major economic entities are active.

Internet service providers (ISPs) or Internet access providers (IAPs), namely network operators (including fixed and mobile network operators, FNOs and MNOs) and virtual operators (including resellers and mobile virtual network operators, MVNOs), which provide Internet access services to end users, as well as other intermediary operators or business connectivity providers. ISPs/IAPs are usually paid for their traffic services by CAPs or end users.

Content and applications providers (CAPs).⁶ CAPs offer a wide array of activities such as content aggregation and search engines, messaging applications, entertainment and transactions, and include different players such as media companies, right-holders and users that generate content. CAPs are paid for their services by their end users and/or by advertisers. Google, Facebook and Amazon are among the CAPs whose websites are the most highly trafficked in the EU.

⁵ BoR (12) 132, 26 November 2012.

⁶ The terminology “Content and Application Providers” (CAPS)” has been used in previous BEREC documents, and also in BoR (12) 132. This broadly overlaps with the term OTT which is used in this report – notably due to the fact that in the current debate, at national as well as EU levels, OTT has become the more common understanding. In this section which is based on BoR (12) 132 we have kept the CAP as part of the common understanding of the value chain.

End users (both consumers and business users) who purchase access to the Internet provided by IAPs and use (free or paid) content and applications provided by CAPs. An Internet user belongs to the category of “end users” which the EU Framework directive 2002/21/EC defines as a legal entity or natural person using or requesting a publicly available ECS, but which does not provide public electronic communications networks (hereafter: ECN) or publicly available ECSs.

Manufacturers of devices, software and hardware solutions also play an important and ever-increasing role in the Internet access market because, among other things, they are interested in developing new solutions and new equipment to facilitate the dissemination of data services. This actors category covers manufacturers of mobile phones and tablets (like Samsung, Apple, LG, Nokia, Archos), computers (such as HP, Lenovo, Dell, Acer, Apple), routers, connected TV sets and servers (including Cisco, Huawei, Alcatel-Lucent), excluding, however, from those of the latter, equipment for carrier networks.

It should be noticed that some companies operate both on the devices market and on the content and applications market, either through an integrated firm (thereby Apple sells terminals, controls a platform for applications and provides content and services on the Internet) or by capital links.

The interaction of the economic entities described leads to the provision of services to end users who (i) purchase access to the Internet from ISPs and (ii) use (free or paid) content and applications provided by CAPs via handsets, devices and goods produced by information- and communication technology (ICT) manufacturers.

In the value chain for the Internet as a whole, ISPs have a particular role. On the one hand, ISPs provide access to ECSs to end users and, on the other hand, they enable interaction between CAPs and end users. ISPs thus play the role of enablers or intermediaries, making possible the interaction between end users and CAPs. It must be emphasised that CAPs interact with end users on so-called content and application markets, but typically these interactions do not necessarily involve a direct connection and do not involve ECS markets. The physical link between CAPs and end users goes through the ECS markets with ISPs acting as an intermediary.

ISPs can be further distinguished in three categories:

- **IAPs (Internet Access Providers)** are ISPs for end users, in ‘retail internet access markets’;
- **CPs (Connectivity Providers)** are ISPs providing services to CAPs in ‘Internet connectivity markets’. In some cases IAPs and CPs could be the same ISPs;
- **ISPs** interact with each other in ‘wholesale interconnection markets’.

3.2 Definition of ECS

As defined in Article 1 of the Framework Directive⁷, the scope of ECN/S Framework is meant to cover ECNs, ECSs and associated facilities and services. In this sense, from the regulatory perspective, one of the key issues is to determine whether or not some OTT services shall be qualified as ECS as set out in Article 2 (c) of the Framework Directive in order to determine if the ECN/S Framework is applicable to them. Article 2 (c) of the Framework Directive provides the following definition of ECS:

“ ‘Electronic communications service’ means a service normally provided for remuneration which consists wholly or mainly in the conveyance of signals on electronic communications networks, including telecommunications services and transmission services in networks used for broadcasting, but exclude services providing, or exercising editorial control over, content transmitted using electronic communications networks and services; it does not include information society services, as defined in Article 1 of Directive 98/34/EC, which do not consist wholly or mainly in the conveyance of signals on electronic communications networks”.

Thus, according with the previous definition, there are three basic criteria according to which and ECS should:

1. normally be provided for remuneration;
2. consists wholly or mainly in the conveyance of signals;
3. exclude services providing, or exercising editorial control over, content.

Although this definition has been transposed by all Member States in equal or very similar terms, those criteria are, nonetheless, interpreted differently by NRAs when assessing whether specific types of services qualify as ECS. The analysis of the interpretation of these criteria is focused on the first two, the third being a “negative” one, that excludes services providing content but does not indicate which services are qualified as ECS.

3.2.1 Remuneration

The criterion “normally provided for remuneration” mirrors Article 57 of the Treaty of the Functioning of the European Union (hereafter: TFEU) that establishes that services subject to the Treaty are the ones normally provided for remuneration. Due to the similarity of concepts the Court of Justice of the European Union (hereafter: ECJ) case law issued within the scope of Article 57 TFEU is relevant.⁸ In this case law the concept remuneration has been interpreted by the ECJ in very broad terms and includes any benefit that constitutes consideration for the

⁷ Directive 2002/21/EC of 7 March 2002 on a common regulatory framework for electronic communications networks and services.

⁸ See, for instances, C- 263/86 *Belgium v. Humbel*, C-180/98 *Pavlov* or C-206/98 *Commission v Belgium*.

service. The remuneration criterion implies that the service should consist of an activity of an economic nature, opposed to the social services of non-economic nature provided usually by the State. In the context of the definition of “Information society services” (hereafter: ISS) which includes as well the term “normally provided for remuneration” the ECJ has stated that remuneration must not necessarily be provided by the recipient of the service himself but can also be provided by “income generated by advertisement posted on a website”.⁹

This case law suggests that the provision of personal data or financing through advertising, as is often the case for OTT services, would be qualified as a relevant economic consideration. As a result the criterion “normally provided for remuneration” will be usually met for OTT services in practice.

3.2.2 Conveyance of signals

According to Article 2 (c) of the Framework Directive, the definition of ECS requires that the service consist wholly or mainly in the conveyance of signals on electronic communications networks. However, the ECS definition does not provide further guidance on how to apply such a criterion to specific types of services, leaving such an assessment to NRAs.

In the remainder of this section BEREC explores possible interpretations of this requirement. BEREC emphasises these are possible interpretations and by no means BEREC’s recommended interpretations. The starting point for interpretations should be the case law of the ECJ in this regard.

The ECJ has recently addressed the question regarding the conveyance of signals in its judgments in *UPC v. NMHH*.¹⁰ In this case UPC was supplying packages of radio and audio-visual broadcast services by satellite from Luxembourg to subscribers in other Member States, particularly in Hungary. For the purpose of classifying this service as ECS the ECJ found it irrelevant that the signals were transmitted using infrastructure that did not belong to UPC. According to the ECJ *'All that matters in that regard is that UPC is responsible vis-à-vis the end-users for transmission of the signal which ensures that they are supplied with the service to which they have subscribed'* (para. 43). The ECJ continued *'Any other interpretation would considerably reduce the scope of the NRF [New Regulatory Framework], undermine the effectiveness of its provisions and therefore compromise the achievement of the objectives pursued by that framework'* (para. 44).

The judgement in *UPC v. NMHH* shows that the ECJ considers defining criterion of ECS whether the service provider is responsible vis-à-vis end users for the transmission of the signal which ensures that they are supplied with the service to which they have subscribed. The fact that the transmission of signals is by means of an infrastructure that does not belong to the service provider, is of no relevance to the classification of the nature of the service.¹¹

⁹ ECJ, 11 September 2014, C-291/13.

¹⁰ ECJ, 30 April 2014, C-475/12, *UPC v. Nemzeti Média*.

¹¹ *Ibid*, paragraph 43.

However, although this ECJ ruling has further clarified the criterion that an ECS should consist wholly or mainly in the conveyance of signals, its application to concrete services still remains unclear. A first issue regarding the interpretation is whether signals on electronic communications are 'conveyed'. A second issue is the meaning of 'responsibility' for the conveyance of signals. A third issue is the interpretation of 'mainly'.

Concerning the first issue whether signals on electronic communications are conveyed, a possible interpretation is that this is limited to activities that take care of the conveyance of signals between network termination points of ECNs.

Regarding the second issue of the meaning of *responsibility*, an interpretation could be that a provider becomes responsible for conveyance vis-à-vis end users when he buys services consisting of conveyance of signals from a provider and then sells this – possibly in combination with additional services – to his end users.¹² This interpretation would cover the cases of reselling, services provided by virtual network operators, termination services, etc.

Regarding the third issue of the interpretation of *mainly*, the following considerations can be made. When the service does not consist wholly in the conveyance of signals, the definition of ECS implies that the elements of the service that are conveyance and for which the provider is responsible, should be weighed against the elements of the service that are not conveyance. However, the relative importance of conveyance within a service, compared with the non-conveyance part, requires judgement from the regulator (qualification against mere quantification). In this judgement several factors can be relevant among which technical and/or 'functional' characteristics – demand-side related aspects such as the end user perspective with regard to the contractual responsibility of the OTT provider vis-à-vis the end-user.

Such an assessment can be done in different ways, leading to narrower and broader interpretations of the definition of ECS. The narrower interpretations of ECS are those asking for more stringent requirements regarding the relative weight of the conveyance of signals for which the provider is responsible, than the broader interpretations require. In BEREC's view there is considerable difficulty in applying the 'mainly' criterion, since it is usually not possible to quantify the amount of conveyance and non-conveyance elements in a service. Some OTT providers are responsible for a part of the network end-to-end transmission path towards end users (cf. section 3.3.2) and therefore responsible for some conveyance of signals. Broader interpretations therefore lead to more OTT services that qualify as ECS.

3.2.3 Conclusion

In conclusion, the Regulatory Framework does not provide clear-cut guidance on whether specific types of services fall within the ECS definition, the criteria provided being to some extent flexible and leaving its concrete interpretation to NRAs.

¹² At least this seems the case in the UPC v NMHH case.

BEREC notes that the definition of ECS has especially become relevant in the latest years with the evolution of new services such as OTT services. Due to this evolution the boundary between conveyance and content services becomes more blurred and makes the ECS definition more difficult to interpret.

As it is unclear to what extent the current ECS definition covers some types of OTT services, different conclusions can be drawn regarding whether for example specific OTT voice services are qualified as ECS. In section 4.2 BEREC looks at whether this leads to different interpretations of NRAs in practice.

3.3 Definition and taxonomy of OTT

BEREC emphasizes that the definition of OTT does not have a legal status: OTT is not a term that has a meaning in the ECN/S Framework. OTT services do however have relevance in debate on the new ECN/S Framework. OTT services are also relevant as far as they qualify as ECS and therefore have to comply with the current ECN/S Framework. A precise definition is useful in both contexts.

3.3.1 Definition of OTT

BEREC in this report defines OTT service as “content, a service or an application that is provided to the end user over the public Internet.” Including in the definition that what is provided can be either content, a service or an application, means that *anything* provided over the public Internet is an OTT service. This provision generally occurs without involvement of the IAP in the control or distribution of the service. BEREC defines a further OTT taxonomy in section 3.3.2.

OTT services include the provision of content and applications such as voice services provided over the Internet, web-based content (news sites, social media etc.), search engines, hosting services, email services, instant messaging, video and multimedia content, etc.

Because the service is provided over the Internet this definition implies that OTT refers to content that usually arrives from a third party (OTT provider), not being provided by the IAP to which the end user is connected. However, it is also possible the IAP offers its own OTT services or partners with OTT providers (see section 6).

A second implication of the definition is that OTT refers to a way to deliver a service and thus does not say anything on the nature of the service itself.

A third implication of the definition of OTT is that it does not exclude OTT services from qualifying as ECS. OTT services are provided over the network of an IAP, which means an independent OTT provider (not being this IAP) would not be responsible for the transmission

in the IAP network. Nevertheless, for example for voice termination the OTT provider could be responsible for other parts of the transmission, such as voice termination on the PATS.

A fourth implication of the broad definition is that some OTT services could potentially compete with ECS services (like OTT voice services and email) and others clearly not (like Uber or Airbnb).

3.3.2 Taxonomy of OTT

Many taxonomies of OTT services can and have been defined. Taxonomies can be based on the type of services offered, a recent OECD report mentions the following categories: real-time communications, entertainment video services, telework/telepresence, cloud computing and storage, financial services, Internet of Things and Smart Homes.¹³

Other taxonomies could be based on the business model used, for example, direct payment from end users, advertising, use of personal data gathered by the use of the OTT service or a mix of these.

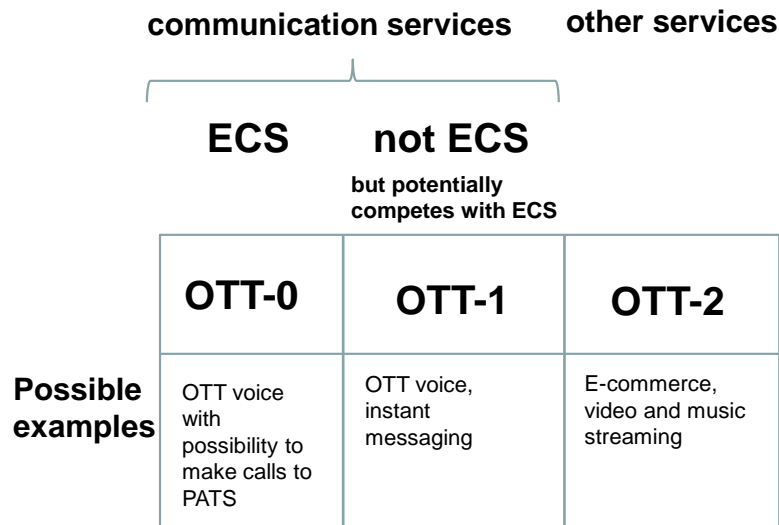
For the use of this report BEREC considers the following taxonomy the most useful one:

- OTT-0: an OTT service that qualifies as an ECS;
- OTT-1: an OTT service that is not an ECS but potentially competes with an ECS;
- OTT-2: other OTT services.

This taxonomy is illustrated in the figure below.

¹³ OECD (2014), “The Development of Fixed Broadband Networks”, OECD Digital Economy Papers, No. 239, OECD.

Figure 1. OTT taxonomy.



Although whether an OTT service “qualifies as ECS” and “potentially competes with ECSs” are both elements that define the taxonomy, it should be noted that whether an OTT service qualifies as ECS does not depend on whether it potentially competes with ECSs. These are different things. BEREC emphasizes that the categories are intended as concepts to use in the debate about the review and are not intended as legal concepts.

The relevance of the OTT-0 category is clear, since the ECN/S Framework applies to these services. Therefore, for regulators it is essential to know which services are OTT-0 services. Given the room for interpretation in the definition of ECS, this report does not answer that question but only gives an indication of what could be OTT-0 services. In the following paragraphs BEREC provides some considerations on this.

The definition of ECS is primarily based on the principle of responsibility of the service provider for the conveyance of the signals (see section 3.2). Providers of OTT services provided over the Internet may be partially responsible for the conveyance of the signal. A possible interpretation of this could be OTT voice services that have the possibility to make incoming and/or outgoing calls to the PATS. By buying the termination on the PATS, an interpretation of the definition of ECS could be that by buying termination and selling this to end users as part of a wider service, an OTT provider would be responsible for the termination and the transmission of signals that is part of it. This OTT provider could then be considered as an ECS.

Such an interpretation would be consistent with The ERG Common Position on VoIP.¹⁴ In this Common Position a service with outgoing and incoming access to the PSTN (PATS) is considered an ECS, while a service that has no access to or from the PSTN (PATS) and where E.164 numbers are not provided, is not considered an ECS. This Common Position states:

¹⁴ ERG (07) 56Rev2, ERG Common Position on VoIP, December 2007, p. 21.

“in the case of VoIP Telephony services that permit inward and/or outward connections to the PSTN, [...] most NRAs take the view that the VoIP service provider [...] provides an ECS since it has the contract with the end user, collects payment for the service and negotiates network access to allow the service to be offered, manages directory data base and the servers for call set-up signalling. [...] The VoIP Service Provider is therefore, in these cases, providing the service to the end user, even if some aspects of it are sub-contracted to various agents.”

OTT-1 services are those OTT services that are not ECSs but that potentially compete with ECSs. Because these services are not ECSs according to the current definition, the current ECN/S Framework does not apply. The relevance of these services for regulation under the ECN/S Framework is for example in their role in SMP analysis and in the debate about whether the different regulatory treatment of ECS and OTT-1 is justified.

OTT-2 services are the remaining category containing all OTT services that are not an ECS and also do not potentially compete with ECS. These services are relevant for the ECN/S Framework because they use ECNs and are sometimes bundled with ECSs (see section 6).

4 OTT services that are ECS or potentially compete with ECS (OTT-0 and OTT-1)

This section deals with the situation where ECS and OTT services potentially compete. First a description of whether NRAs currently consider OTT-0 and/or OTT-1 services as substitutes of traditional (non OTT) services in SMP decisions is given. This is followed by a description of regulatory approaches to OTT services, especially OTT voice and email services. The objective is to give an overview of different and common approaches in Europe. Section 4.4 addresses the question whether a difference in regulation between OTT-1 services and ECS could create a distortion of the level playing field.

To identify whether an OTT-1 service potentially competes with an ECS, the following indicators may be of help. Firstly, technical criteria such as the devices, technical equipment, etc. required to use a certain OTT-1 service as compared to the technical equipment underlying an ECS. OTT-1 services are typically used with a personal computer or a mobile device (smartphone, tablet or notebook). Secondly, market definition criteria such as demand-side and supply-side substitutability, and competition conditions. Demand-side substitutability refers to how the end user perceives the characteristics of the service, for which purpose it is being used and the level of prices. Supply substitutability refers to the ability of producers to switch their production to adjacent products or services. Thirdly, the impact on the relevant market players (market share, variety of offers, prices) and on the users (available offers, prices, other related services).

4.1 OTT-0 and OTT-1 in SMP analysis

This section provides a summary of how NRAs currently deal with OTT services in their SMP analysis decisions, with the aim to assess whether this has implications for the application of the current or future ECN/S Framework.

All NRAs that responded to the data collection request reported that they considered the role and impact of OTT-0/1 services on traditional voice telephony services in the context of the review of the relevant markets (such as retail markets for fixed telephony, access at fixed location market, wholesale markets for fixed calls origination and fixed and mobile call termination). Those NRAs that regulate or considered to regulate the market for SMS termination (ARCEP, DBA, AGCOM), analysed the impact of OTT services on SMS termination. One NRA (FICORA) reported it considered the role of OTT in the market for television and radio broadcasting transmission services. However, although all NRAs considered the impact of OTT-0/1 services, very few concluded OTT-0/1 services are currently substitutes to traditional ECSs. These few cases are described below.

Voice

As for the substitutability between OTT-0 or OTT-1 and ECSs, so far one NRA (NKOM) found OTT voice service with the capability to make calls to the PATS as a substitute for traditional

voice services.¹⁵ Other NRAs (CNMC and ANACOM) considered that nomadic voice services¹⁶ (OTT-0) are also part of the voice market.

NRAs that do not find OTT-0/1 voice services a substitute to ECS are mainly of the opinion that there is no clear evidence at the moment that the use of OTT-0/1 voice services may impact the provision of traditional voice. Some of the reasons of the lack of substitutability provided by the NRAs are that end users perceive OTT services as having lower quality and security, lack of interoperability among OTT voice services i.e. the caller and called party have to be subscribed to the same service.

Non-voice

Of those NRAs that regulate or considered to regulate the market for SMS termination (ARCEP, DBA, AGCOM), two NRAs (DBA, AGCOM) found that SMS can be substituted by mobile instant messaging and by emails. ARCEP did not find substitutes for SMS mainly because the interoperability is not fulfilled yet. A recent notification of a new market analysis decision on termination by ARCEP has however been withdrawn in January 2015 after an Article 7 Framework Directive phase II procedure. In this procedure the European Commission expressed serious doubts about the finding that there are no substitutes for SMS. ARCEP has indicated it will monitor the evolution of the market.¹⁷

Conclusion

In general the analyses of NRAs for voice markets lead to the conclusion that OTT voice services, at least at this moment, are not substitutes to traditional voice. With regard to SMS, only a few NRAs carried out a market review and the results are mixed. The data collection for this report did not show that NRAs have problems related to OTT and the SMP analysis part of the ECN/S Framework, apart from problems with data collection on OTT-1 services. The latter will be treated in section 4.3.2.

¹⁵ This is due to a national OTT-0 voice provider (a) having a major market share in the telephony market supporting number portability with PSTN, (b) providing adapters for PSTN telephony equipment and (c) that complies with any obligations on telephony service providers.

¹⁶ These are a two-way voice communications in real time across Internet from different access points to which end users can connect remotely, allow both the establishment and receiving calls and can supplemental include other capacities such as multimedia communication. In Spain, national regulation (Ministry Order) has qualified them as ECS and allocated them E.164 numbering sources. Specific obligations have been imposed on these type of services: (i) interoperability with the PATS, (ii) free emergency calls and (iii) provision of information to the end users on the differences in access and performance regarding the traditional telephone service.

¹⁷ ARCEP press release, ARCEP places SMS termination markets under supervision, 29 January 2015.

4.2 Current situation regarding OTT voice services and email services

This section first describes the current views of NRAs on OTT voice services and second on OTT email services. This section draws on NRAs views that were obtained through the data collection done for this report.

4.2.1 Current views on and regulation of OTT voice services

Currently there are a lot of OTT voice services available to consumers. A few well known examples of these services are Viber, WhatsApp and Google Talk. The 'pure' versions of these services only allow calling within the user group that use these services, that is: they offer no possibility to make outgoing calls to the PATS, nor to other voice services. Nearly all NRAs consider these pure OTT voice services not to be an ECS and therefore would consider them OTT-1.

For OTT voice services that do offer the possibility to make calls to the PATS, like Viber Out most NRAs have the view that OTT voice services with the possibility to make outgoing calls to PATS are an ECS. Some NRAs either indicated they do not see these OTT voice services as an ECS or had not considered the question yet. Some NRAs indicated their views, as summarized in the preceding sentences, where preliminary as they were in the process of reviewing the issue. These responses are consistent with the ERG Common Position on VoIP from 2007 (see also page 16) that found most NRAs take the view that a VoIP service with outward connection to the PATS is an ECS.

4.2.2 Current views on and regulation of email services and instant messaging

Also for OTT email services there are different interpretations regarding the qualification as ECS. Most Member States do not consider email and instant messaging as ECS, some specific cases are described below.

In Finland, according to the preparatory legislative work (Government Bill 221/2013)¹⁸ of the Finnish Information Society Code, services such as email and instant messaging are ECS if the service provider participates in the transmission of the messages. According to this Government Bill, the transmission can cover the whole transmission of the messages from end-user to end-user or just a part of it. In the Netherlands, the Trade and Industry Appeals Tribunal found in its ruling¹⁹ that email services such as Gmail and Hotmail cannot be considered as ECS. According to the Court, the providers of email services, such as Gmail or Hotmail, are usually not the party that conveys the signals that make up these email services. The court seems to have considered that it is the ISP that conveys the signals and not the

¹⁸ Government Bill 221/2013. In Finland, preparatory legislative work provides information on the legislator's intention and is used in the interpretation and application of legislation. Though preparatory legislative documents' binding force is not equal to laws in the doctrine of the sources of the law, their binding force is significant and in practice they are binding.

¹⁹ Decision of the Trade and Industry Appeals Tribunal (CBb) of 3 December 2014, Digital Magazines, ECLI:NL:CBB:2014:438 (In Dutch).

provider of the email service, and customers have separate relations with both the ISP and the email provider. In other words: the customer acquires the conveyance of signals from the ISP and the email service from the email provider.

In Germany the Administrative Court of Cologne addressed the question whether Gmail qualifies as ECS. In its ruling of 11 November 2015 it found that even if Google uses no telecommunication infrastructure of its own for the signal transfer, but rather the existing infrastructure of the “open internet”, the signals necessary for the transfer of emails via Gmail has to be, over all, attributed to the email service of Google. The Court therefore classified the OTT communication service Gmail as “telecommunication service” in the sense of the German Telecommunication Act.²⁰ However, the ruling has been appealed and therefore there is no final judgment yet. Given the importance of these questions and for the sake of harmonization it is useful that this is also addressed by the ECJ.

4.2.3 Conclusion

While all the Member States have implemented the Article 2 (c) of the Framework Directive in equal or very similar terms, there seem to be differences between the Member States regarding the interpretation of this article.

4.3 Regulatory issues

This section deals with several regulatory issues or problems regarding OTT-0 and/or OTT-1.

4.3.1 The definition of ECS

In section 3.2 BEREC concluded that the definition of ECS together with the ECJ rulings that shed light on this definition, still leaves its application to specific services unclear. This is especially acute in the assessment of OTT services, which blur the boundary between ECSs and the content services. Whilst the ECS definition, elaborated in a different moment of technological evolution –with Internet-based services at a very early stage of development–, has served its purpose in the context of traditional services, it poses challenges in the OTT environment. In this new context, the assessment of whether a specific service fulfils the criteria set out in the ECS definition is more difficult could lead to different conclusions, depending on the interpretation.

Broad interpretations of ECS could mean that more OTT services could fall under this definition. In section 4.2 BEREC showed NRAs hold different views regarding the assessment. For example the approach with regard to OTT voice services with the possibility to make calls to the PATS differs. This was also found by the ERG Common Position on VoIP from 2007, leading the ERG to conclude that the ECS definition needed to be rethought and/or clarified.

²⁰ See for example: <http://www.elexica.com/en/legal-topics/data-protection-and-privacy/26-german-court-gmail-to-be-registered-with-the-german-federal-network-agency>.

In BEREC's view the definition of ECS should be clarified and/or reconsidered in order to ensure that it keeps pace with the current technological developments, that it is future proof and that still is the correct foundation that determines which services are regulated under the ECN/S Framework. The lack of clarity in the definition of ECS opens the door to different interpretations, which reduces harmonisation between Member States and provide uncertainty to providers in the market or those that consider entering it. The review of ECN/S Framework is an opportunity to examine the validity of the definition taking into consideration the evolution of the services and the markets.

4.3.2 Absence of legislation on information gathering

Article 5 (1) of the Framework Directive states that Member States shall ensure that undertakings providing ECN/S provide all the information, including financial information, necessary for national regulatory authorities to ensure conformity with the provisions of, or decisions made in accordance with, the ECN/S Framework. However, this provision does not give the competence to gather information from OTT-1/2 providers for example for the purpose of market analysis. Some countries have implemented the ECN/S Framework in a way that gives NRAs power to gather all information from all relevant parties necessary for their task. However, BEREC's data collection showed that a majority of NRAs have no legal competence to request information from OTT-1/2 providers.

A lack of legal competence to gather information on OTT-1/2 providers can for example affect the execution of market analyses. For example BEREC data collection showed that NRAs do not have a clear picture of the volume of OTT voice traffic. This affects the assessment of the impact of OTT services on traditional ECS services.²¹

In BEREC's view this issue should be addressed in the ECN/S Framework review. A logical remedy for this problem would be to extend the scope of Article 5 (1) of the Framework Directive to "all information necessary from all relevant parties for fulfilling the tasks of NRAs when regulating ECN/S" and thus remove the limitation to ECS providers.

4.4 Differences in the regulatory treatment of ECS and OTT services

The "level playing field" is a central theme in the discussion about the regulatory treatment of OTT services. The idea of the level playing field is that services that have the same functionality and compete with each other should all be subject to the same regulatory treatment. After all, a different regulatory treatment could result in a distortion of competition because certain services carry regulatory costs while others do not.

²¹ In this regard, see also the Commission Recommendation of 9 October 2014 on relevant product and service markets within electronic communications sector (2014/710/EU), where substitutability of OTT is clearly mentioned as an area included in the NRA's investigation – especially as far as former markets 1 and 2 are concerned – but no specific powers are granted to NRAs to carry out a comprehensive market data collection.

There is general appreciation of the idea that services of the same type should preferably be subject to broadly the same regulatory obligations. However, there can also be reasons for different regulatory treatment of services. It is a principle of the ECN/S Framework that the range of services to which any specific obligation should apply, must be considered in light of the goals of the obligation and the proportionality of that obligation being applied to any specific service or service type. The proportionality of that obligation and its scope follows from whether the social benefits of the obligation are proportionate to the economic costs entailed for each regulated provider, and the static and dynamic competition effects of partial or universal application of the obligations. A preference for a level playing field (“similar regulatory treatment”) can be part of the assessment of proportionality, but it is only one of the many elements.

The proportionate scope of an obligation could be limited to certain services and not to other, similar, services. The reason for this could be that given the goal of the obligation it is not necessary to regulate all similar or competing services, or the obligation would be particularly costly or technically difficult to implement on certain type of services or difficult to enforce on certain types of services. For example, under Ofcom’s rules on the provision of subtitles, a UK-regulated television channel may have an obligation to carry subtitles on between 0% and 100% of its output. BEREC notes that in a review that assesses the future scope of rules, the proportionality of rules regarding currently regulated services and currently not regulated services (like OTT-1) should be considered in the same way. In other words: the proportionality assessment does not only apply to an extension of the scope but also to a continuation (or reduction) of the current scope.

From the end-user protection or public safety perspective, there is merit in analysing the suitability of envisaging that the general obligations foreseen in the ECN/S Framework (e.g. access to emergency numbers, legal interceptions, transparency obligations, interoperability obligations, switching and contract information and data protection) apply to all equivalent services. These obligations pursue important general interest objectives. So, it is important to examine whether or not these obligations are fulfilled by the current general Directives in which these obligations are addressed. If not, then it is relevant to analyse the convenience of extending the obligations of the ECN/S Framework to those OTT services equivalent to the ECS taking into account the proportionality criteria.

However, it is for the legislator to define the goal of regulation and to make and assess the proportionality of the obligation and its scope (although the regulator may have some delegated responsibility). In the following sections BEREC mentions the elements that could be relevant when assessing proportionality of the scope of obligations. To make this more concrete two obligations are used as an illustration, namely the obligation to provide access to emergency services and obligations that warrant transparency of services.

4.4.1 Emergency calling

Article 26 of the Universal Service Directive (hereafter: USD) obliges undertakings providing end users with an ECS for originating national calls to a number or numbers in a national numbering plan, to provide access to emergency services (‘112’) free of charge. Therefore,

OTT-1 voice services, not being an ECS, do not have to provide access to emergency services.

The general considerations which might determine the application of this obligation to any specific type of service, or service provider should include an assessment of (a) the extent to which the obligation will further the interests of citizens and consumers (in this case, by ensuring that they can access the emergency services in an emergency) and (b) the cost of this obligation to the types of service provider potentially covered, whether direct costs of complying with the obligation or indirect costs in the form of constraints on operators' ability to offer services.

An essential question regarding the application in the light of consumer interest is whether this obligation is necessary and, if yes, whether it is necessary that all providers of voice services provide access to emergency services or whether it is sufficient that this is limited to a narrower group of providers. There are several regulatory options for the legislator to consider.

A first option is to completely withdraw this obligation. In that case access to emergency services could be provided either by providers voluntarily offering this service or - in absence of voluntary offers - by an application that makes the 112 number accessible and that is provided by the organisation operating the public-safety answering point²² (PSAP).

A second option is that this obligation is limited to the provider that provides both voice services and access to the ECN. The provider that provides access to the ECN could be a good candidate to offer the service, since this provider is best positioned to make emergency calling easily accessible and could also take care of a possibility to bypass the usual unlocking procedure of mobile handsets when calling 112.

A third option is that the obligation is limited to providers of ECS that provide national calls to a number or numbers in a national numbering plan. This is the obligation as codified in the current legal framework. This obligation applies to all providers of voice services that provide outgoing calls to national numbers and does not apply to OTT-1 voice providers that only offer calling within a user group of a specific application. The legislator should consider whether the increased reach in application is proportionate given the extra cost of applying the obligation to more providers and the potential impact on the range of services available to consumers. In assessing the proportionality, consumer behaviour and consumer expectations are also relevant to the scope of the obligation: the provision of emergency services access by voice communications providers is a very long-established practice, e.g. first established in the UK in 1937 in central London. Consequently, consumers have a well-established expectation of easy access to emergency services – and any approach to the scope of the obligation should take that into account. However, consumer expectations are not fixed: expectations can and

²² Public-safety answering point, sometimes called "public-safety access point", is a call center responsible for answering calls to an emergency telephone number for police, firefighting, and ambulance services.

do change over time, as a result of practices in the market and consumer information campaigns, etc.

A fourth option is that the obligation is applied to all providers of voice services (so including OTT-1 voice). Again here the legislator should consider whether the increased reach in application is proportionate given the extra cost of applying the obligation to more providers.

An important question when considering these options is how the market and technologies will develop. Particularly relevant in that regard is whether ECS and OTT voice services will remain available alongside each other or that OTT services will at some point completely replace ECS voice services or that it is OTT voice services that will eventually disappear. If it would be likely that OTT voice services would largely replace ECS voice services during the expected duration of an updated ECN/S Framework, this should be a crucial element in the considerations. This could be a reason to change the application of this obligation to all providers of voice services (including ECS and OTT-0/1). Another relevant question – related to the level playing field issue - is whether ECS and OTT voice services will really compete with each other. The current assessment of NRAs in nearly all SMP decisions is that this is not the case (see section 4.1).

These considerations have in the past also led to changes in the application of the obligation to provide access to emergency services. The revised 2009 ECN/S Framework extended the scope of the emergency services obligation from the PATS to cover ECS which can originate calls to numbers in a national telephone numbering plan, but still did not make a blanket provision that all ECS (or all voice services) should be subject to the relevant obligation.

4.4.2 Transparency

Article 20, 21 and 22 of the USD obliges providers of ECS to make their offers transparent.²³

The general considerations which might determine the application of this obligation to any specific type of service, or service provider, also here in principle are about the balance between serving the consumer interest and the cost of compliance with these obligations. On a more practical level two issues seem to be key questions in this assessment.

The first question is whether sector-specific rules are needed or the generic rules on transparency are sufficient. Besides the sector-specific transparency obligations there are also generic rules on transparency of services. Articles 6 and 8 of Directive 2011/83/EC on consumer rights (hereafter: Directive on Consumers Rights) impose numerous obligations on every trader entering into a distance contract with consumers. ECS providers are not exempted from the application of this Directive. Obligations imposed by this Directive include: “consumer information for contracts”, “formal requirements for off-premises contracts” and “for distance contracts, “right of withdrawal” conditions. Also, Directive 93/13/EEC on unfair terms in consumer contracts (hereafter: Directive on unfair terms in consumer contracts) is

²³ These articles oblige providers respectively to comply with a list of contract specifications (Article 20 USD), provide information publicly and transparently (Article 21 USD) to provide information on the quality of service (Article 22 USD).

applicable to any contract concluded between a professional and a consumer, defined in a very similar manner than in the Directive on Consumers Rights.

The Directive on Consumer Rights and the Directive on unfair terms in consumer contracts are both applicable to OTT services and ECS providers but only when contracting with consumers. This is a difference between the general consumer protection regime and the specific legal regime set up by the USD, which applies to all end users. The E-commerce Directive (2000/31/EC) imposes obligations on Information society services providers (e.g. information requirements and treatment of contracts), a category that includes OTT-1 service providers.

The contractual information that firms have to provide under the Directive on Consumer Rights and the USD differ. However, these differences are mostly due to the fact that a specific category of services is targeted by the USD while the Directive on Consumer Rights covers a wider range of activities. In this regard, the obligation to provide information under Article 20 of the USD appears more as a specification of a general obligation any trader has to fulfil under the Consumer Rights Directive rather than a new obligation imposed to ECS providers. However, both Directives often impose the provision of the same type of information (e.g. characteristics of the services, information on their price, information related to the service provider, to the contract, to its duration).

The above-described similarity between sector-specific and generic rules can be a consideration in assessing the proportionality of this obligation. On the one hand a consideration could be that the sector-specific rules could be withdrawn because the objectives could be reached by the generic rules in place. On the other hand, the extra burden of the sector-specific rules seems to be limited, so the level playing field does not seem distorted.

When sector-specific rules are considered proportional, a second question is whether sector-specific transparency rules should apply only to ECSs or to all services with a similar functionality, for example to all voice communication services. An issue to consider in that case is whether these voice services are sufficiently similar to ECS voice. OTT-1 voice services seem to be restricted to voice calling within the user group of the users of the voice application. Such a service is essentially different from ECS voice. The question then is whether it is essential for end users to have the same level of transparency for the voice services with this more limited functionality.

4.4.3 Conclusion

The above illustrates that there can be a lot of relevant considerations and the “level playing field” is only one of them. The determination of the types of regulatory obligations which may apply to services – even services which may at some level be in competition – is legitimately and necessarily informed by a wider range of considerations.

Furthermore, in the forward-looking perspective of a new legal framework applying to the whole digital ecosystem, there may be a need for a thorough reconsideration of the current

regulation for ECS and OTT services. In other words, in light of the potential prospective evolution of the ECN/S Framework towards a single set of legal rules for protection of all consumers of digital services, it might be appropriate to reason in terms of developing a unique and effective protection system dedicated to all consumers of digital services in order to ensure that the latter will be able to benefit from the same level of protection.

In line with the above, a precondition to a consistent digital consumer protection throughout the EU would be that all NRAs should be entrusted with the same range of institutional tasks and powers so as to maximize the BEREC harmonising action in compliance with the internal market perspective.

5 OTT services that do not potentially compete with ECS (OTT-2)

OTT-2 services have been defined as services provided over the Internet but that do not compete with ECSs. Those services are also regulated and have to abide with some obligations in a different framework, covering notably the ISS framework, data protection rules and competition law. Competition law is providing a number of legal instruments, and current cases such as the Google case at EU level, the Booking.com case. Also bundling practices can be addressed through competition law in this context. Since OTT-2 and ECS may interact, the way OTT-2 issues are regulated may also impact ECS providers, this is treated in section 5.1. Besides, OTT-2 may be directly concerned by the implementation of ECN/S regulation, this is treated in section 5.2.

5.1 OTT-2 regulation and interaction with ECS

The scope of OTT-2 related issues under debate is very broad. One could mention data protection, privacy, data portability, ownership of data, collaborative economy, interoperability, undue algorithmic discriminations, user discrimination (geoblocking), growing market power, lack of transparency, copyright, cybersecurity, cross border consumer protection etc. As it appears, in some cases, OTT-2 regulation may affect the situation of ECS providers.

For instance, in the past, the relatively strong power of mobile operators on their markets had justified a rather strong set of rules (cf. R&TTE directive) aimed at preventing them from ruling the upstream manufacturers' markets. The market situation now rather seems reversed. Through app stores, software interfaces and platforms, phone manufacturers may have more power in their relation with mobile operators. Eventually, the whole structure of the market may be determined by the way network effects and portability issues in the applications environment are dealt with.

The distribution of TV signals is another domain where the service eventually provided to the final user depends on a fragile balance of relations between ECS and OTT providers. The set of rules applicable to this relation differs significantly between Member States, as well as the type of related disputes. Whilst digital TV is, in many Member States, mostly brought to the consumer either by wireless terrestrial networks or cable networks or by their IAP through managed networks (IPTV), the Internet appears to be a growingly important distribution channel for audio-visual content. In this context, there are new types of disputes emerging.²⁴ For instance, disputes about online services that offer to record OTT TV²⁵ or distribute TV programs without the consent of the TV channels or the owners of the rights associated to the

²⁴ See Paris General Court, 25 November 2008, *Wizzgo v. TF1 et al.*, the letter of formal notice of 3 July 2013 sent by e-TF1 to captvty.fr and the dispute resolution decision taken by the French audiovisual authority (CSA) of 30 July 2013, in the case *Playmedia v. France Télévisions*.

²⁵ Paris General Court, 25 November 2008, *Wizzgo v. TF1 et al.*

programs at issue.²⁶ Others, like Playmedia, claimed to be obliged, under the French “must carry” regime, to distribute public TV channels that had been refused to them.²⁷ Moreover, there have been discussions about the sharing of network capacity (e.g. efficiency of distribution between managed and unmanaged traffic), since in many cases audio-visual contents may be brought to the end users by the same service provider (the Internet service provider), but through different routes. The TSM regulation addresses this issue by making the provision of services of a specific level of quality (not delivered over the Internet) conditional to the sufficient network capacity so as to ensure the high quality of the open Internet.

The inherent network effects in many OTT-2 services might provide an opportunity of development for the whole ecosystem, as long as it benefits to all, i.e. when they are open enough to support “innovation without permission”. This is a legitimate matter of vigilance, since some big players have the capacity to structure the market and exclude other players (all the more since they manage a large array of complementary or independent activities). Given the fast dynamics of the market, such capacity might need to be monitored on the basis of general principles (e.g. equity, objectivity, proportionality), necessarily defined at supranational level.

At this stage, such aspects and the related issues on relations between ECS and OTT-2 providers are not in the scope of NRA’s competences. Their impact on operator’s activity and position, in particular as regards their relationship with end users, may nevertheless need to be taken into account by regulators when analysing market situations (see section 4.3.2). Other issues might fall within the scope of NRAs because of their connection with electronic communications regulation.

Many OTT-2 providers operate as intermediaries facilitating interactions between consumers and other groups of customers such as advertisers and end users of other Internet services offered by the same OTT-2 provider. In this context, it may happen that OTT providers do not charge end users for their services deciding to rely only on revenues from advertising and other revenue sources such as data profiling. This business model is particularly common among some of the major Internet companies that qualify as OTT-2 provider, although a “platformisation” trend is observed even among OTT-1 providers and IAPs.²⁸ The rise of Internet platforms that have their core business in OTT-2 services but also

²⁶ Letter of formal notice sent by e-TF1 to captvty.fr on 3 July 2013.

²⁷ Dispute resolution decision taken by the French audiovisual authority (CSA) on 30 July 2013, in the case *Playmedia v. France Télévisions*.

²⁸ There is no legal definition for platforms. Also in economic theory, various descriptions and explanations can be found. The Commission’s consultation on platforms proposes that the term “platform” contains the characteristic of operating in two (or multi)-sided markets. A. Gawer proposes that a “platform, is a *technology providing a set of service capabilities on top of which many different products can be developed and deployed.*” (See A. Gawer, “Platform Dynamics and Strategies: From Products to Services,” in *Platforms, Markets and Innovation* (Edward Elgar, 2011). Reference to platform models is not new in the economic theory, and it is particularly used in the ICT sector to capture two durable and persistent features of the Internet ecosystem: the use of layered platforms to implement desired functionality; and interconnection between actors at different platform layers. This model is often

offer OTT-1 services may have an impact on market structures and competitive dynamics in the Internet value chain. The observed developments are particularly related to the “multi-sidedness” of markets where such platform models are present.

BEREC recognizes that platform models at different levels of the Internet value chain may trigger a complex competitive dynamic in ECS markets. Because IAPs can manage the interaction between OTT services and end users, NRAs should closely monitor the evolution of markets and should gather information on commercial practices. In this respect, BEREC acknowledges that, in the future, NRAs will have to address new challenges in assessing the competitive dynamics of markets and the relationships between OTT services and ECS. The one-side logic might be inadequate in market analyses and some adaptation to the traditional methodologies of analysing costs, prices and revenues might be required.

Furthermore, in its Communication on a Digital Single Market (DSM) strategy for Europe on May 6, 2015 the Commission announced a comprehensive assessment of the role of Internet platforms and intermediaries. To this end, on 24 September 2015 the Commission launched a public consultation that *inter alia* seeks evidence and input for the Commission's comprehensive analysis of the role of online platforms. In this context, complementarities between OTT-2 and ECS providers as well as the “multi-sidedness” of Internet-based markets, including access to broadband Internet, could become key elements in market analysis for both NRAs and competition authorities.

5.2 OTT-2 regulation as part of electronic communications regulation

Regarding ECN/S regulation that may concern OTT-2 providers, firstly, the Connected Continent Regulation²⁹ will give to NRAs the capacity to review the behaviour of IAPs with relation to how they manage traffic, including that related to specific CAPs. This will have to be done in a coordinated fashion. Through these net neutrality rules the access of OTT providers to IAP networks is already affected by regulation.

Secondly, it is worth mentioning that article 20 of the Framework Directive as modified by Directive 2009/140/EC expanded NRA's power to settle disputes over access or interconnection issues between actors that may include OTT-2 services providers.³⁰ But, so far, no dispute between OTT-2 and ECS providers had to be settled by any NRA. Only non-formalised disputes between OTT-2 services and ECS providers were brought to the

used in connection with theories of multi-sided markets which are a circumstance in which a provider has several classes of mutually dependent participants. (see for example the study by K.C. Claffy and D.D. Clark *Platform Models for Sustainable Internet Regulation*, August 2014).

²⁹ See the Council's 8 July 2015 press release about the political agreement, including the recitals - <http://www.consilium.europa.eu/en/press/press-releases/2015/07/08-roaming-charges/>.

³⁰ For instance, under the terms of Article L.36-8 of the French code for electronic communications and postal affairs, the Authority can settle a dispute between an operator and an “undertaking providing public online electronic communications services” when the dispute concerns “reciprocal technical and pricing terms and conditions governing traffic routing” between these two parties.

public knowledge and involved in great part the provision of video provision services, most probably because of their bandwidth consumption.

Thirdly, the ability to properly monitor or prevent any dispute, and possibly exercise any dispute settlement powers, supposes a sufficiently high degree of knowledge and understanding of the state of the markets. This is why data collection might be crucial, including when it relates to OTT-2 services.

In some Member States, national legislation has granted NRAs with the competence to request information from other providers not qualified as ECS (see section 4.3.2).

In France for instance, an Order of 24 August 2011 allows ARCEP to gather “information and documents concerning the technical and pricing terms of traffic routing applied to their services” not only from operators, but also from providers of public online communication services i.e. some categories of OTT-2 providers.³¹ In the same vein, in Spain the General Telecommunications Act 9/2014 foresees in its article 10 that NRAs may, within their scope of action, require information from natural or legal persons operating networks or providing ECSs, as well as from other agents involved within this market.

³¹ A decision was adopted on 29 March 2012, validated by the French administrative Supreme Court on 10 July 2013 and amended on 18 March 2014.

6 ECS and OTT partnerships

Partnerships between ECS and OTT providers have become increasingly common over the last couple of years. Although these commercial agreements in general lie outside the scope of NRA's competence, their indirect effect on competition and consumers on the markets for ECS are relevant to consider.

The transition made by ECS providers, from a revenue model primarily based on voice to one based on data, has been important for the development of OTT/ECS partnerships. As data traffic has become the focus of future revenue, OTT providers have come to be viewed as potential business partners by ECS providers instead of competitors to voice and SMS revenue or as the main source of cost for increasing data traffic. The business relationships between ECS and OTT providers are now taking different forms across Europe, as the different entities explore the potential synergies of cooperation. Common examples of partnerships are OTT services that are bundled with ECS services.

6.1 Overview of different practices in Europe

There are presently several types of OTT services that figure in offers linked (or bundled) with ECSs across Europe. Audio-visual streaming services, social networking services and cloud services are all examples of OTT services that sometimes are bundled with offers of fixed or mobile Internet access services by ECS providers.

IAPs offering services such as video, music, cloud storage, location based services etc. grew from 35% in 2011 to 85% in 2014.³² These OTT services are produced and offered either by the ECS provider itself or, more commonly, through different kinds of partnerships with providers of OTT services.

BEREC's data collection showed that there is a considerable variety of OTT providers involved in partnerships with ECS providers across Europe. This variety depends to some extent on the type of OTT service involved:

- In the case of OTT music streaming services a few well known providers, such as Spotify and Deezer, are present in the majority of partnerships with ECS providers;
- Offers of OTT video streaming services also have a few well known OTT providers, such as Netflix and HBO, that are present in partnerships in more than one Member State, but in this service category there is a somewhat bigger variety, with more different OTT providers visible compared to OTT music services;

³² App-Centric Operators on the Rise – Allot Mobile trends 2014 (Allot, 2014).

- Other OTT services, such as online gaming, cloud services, video telephony or instant messaging services are less common in offers together with ECS and have little in common when the different providers are compared at a European level.

A further result from the data collection is that the partnerships do not yet seem to provide any exclusive feature or content compared to if purchased and used outside of the context of the partnership. The current offers of OTT services in combination with ECS can usually be divided into two general types of offers:

Cost sponsoring

Cost sponsoring refers to situations when an OTT service is included “free of charge” or offered at a discount for a certain period of time or for the whole duration of the contract with the ECS. Trial offers (e.g. free for two months) are common in this regard. These offers are logically only relevant when the OTT service in question incurs some cost to end users when purchased over the Internet, which is typically the case for premium audio or visual streaming services. Spotify, Deezer, Netflix and HBO are examples of OTT service providers that figure in these kinds of partnerships.

Data sponsoring

Data sponsoring refers to situations when the data traffic of an OTT service is included “free of charge”, by being excluded from – or “zero-rated” – the data plan of a particular contract. As many fixed Internet access offers include an unlimited data plan, these offers are more prominent in combination with mobile Internet access services. Facebook is an example of an OTT provider that figures in these kinds of partnerships.

Although common characteristics are shared concerning how OTT services are presently offered in combination with ECS, the same doesn't apply for where and between whom these partnerships emerge. On a European level, it is rather the many differences between Member States that stand out when comparing which type of OTT service or which specific OTT provider that is present in offers with national ECS providers. As an example, even though OTT music or video streaming services are the most common service to be offered in combination with Internet access services, the extent of these offers, the parties involved as well as the conditions of the offers still seem to differ significantly between national markets. Differences are furthermore apparent in whether cost or data sponsoring is used. While cost sponsoring is common in all Member States, data sponsoring or zero-rated OTT services, are only present in a few.

One plausible reason for the many differences could be that the market still seems to be in early development, where both ECS and OTT providers test the benefits and limits of new partnerships – resulting in many different offers on a European level, between Member States as well as within.

6.2 Incentives to cooperate

ECS providers have incentives to seek partnerships that may enable them to increase data revenue and, at the same time, add value to their services and thereby attract new customers as well as reduce churn.³³ This would imply that partnerships would be sought with OTT providers that are well-known by end users (added value and to attract new customers) and that may eventually increase end-users willingness to pay for more data (increased data revenue).

The responses from NRAs as part of the data collection made similar suggestions regarding the incentives for ECS providers to cooperate with OTT providers. Most NRAs believe that ECS providers will try to differentiate themselves from competitors by different ways of including OTT services in their offers. Also general price differentiation (e.g. between the data usage of a zero-rated service and other services) could be an incentive, although the level of price differentiation is limited by the fact that the pricing structure needs to stay sufficiently simple for consumers to understand.

OTT providers on the other hand, may have somewhat different incentives to enter partnerships with ECS. The four major music streaming companies serve around 19 million paying customers, compared to 3.6 billion mobile subscribers worldwide.³⁴ Through ECS mobile delivery channels, OTT providers may get instantaneous access to an enormous market that is already accustomed to paying monthly subscription fees. In addition, OTT providers may have a better control over network quality by cooperating with IAPs. Providers of ECSs have the ability to facilitate the provision of certain services i.e. in the way they manage congested networks. However, the potential for these kinds of arrangements are limited since it is controversial in relation to net neutrality.

Last but not least, partnerships can furthermore be a way to enhance brand-loyalty to both parties.

6.3 Impact on competition and consumers

In answers to the data collection request, most NRAs report that the present cooperation between OTT and ECS providers, in the form of cost or data sponsoring, so far seems to have no or little effect on competition and consumers in the ECS markets.

³³ In the report "Operator partnerships with OTT providers: a review of operator motivations", by Analysis Mason, 13 of 14 operators mentions increased data revenue as the most important business objective for OTT partnerships. Second most important reason was to reduce churn and attract customers, December 2014.

³⁴ BEREC Report on How Consumers Value Net Neutrality in an Evolving Internet Marketplace: a report into ecosystem dynamics and demand side forces, BoR (15) 65. See also Annex 1 to BoR (15) 65, p. 37.

OTT services are in general offered under competitive conditions. Although exceptions may exist, there is in most cases usually a viable alternative available to every single OTT service – including for copyright dependent services such as video or music streaming. The fact that the OTT services that figure in these offers furthermore are openly available over any Internet connection, make these partnerships less exclusive and limits the impact on competition and consumers.

Different kind of joint offers and partnerships may strengthen competition and lead to both reduced prices and increased choice for consumers. Discounts could mean getting OTT services for free, at a reduced price or zero rated. Bundled offers could also have positive effects on ease of access to services and ease of payments. At the same time bundling may as well be a strategy for differentiation that aims to avoid or reduce switching and hence competition. There are diverging views on possible effects on competition of data sponsoring, and in particular so called zero-rated services.

6.4 Limits of cooperation

BEREC's data collection shows that - apart from competition law - only a few Member States have legal restrictions in place that may be relevant to the extent and manner in which ECS providers and OTT providers can cooperate. Restrictions on bundling and restrictions of practices that risk infringing on national laws on net neutrality, are the two most prominent examples given.

Most notable of these examples, are the legal restrictions implied by the proceedings pursued by regulators in the Netherlands and Slovenia regarding agreements on data sponsoring (zero-rating) of certain OTT services. The interventions in these two Member States are based on concerns that the current agreements are infringing on net neutrality provisions in the national law. In Norway it has been clarified that, in principle, zero-rating would be regarded as a breach of the national net neutrality guidelines. Latvia also applies net neutrality related restrictions on bundling of services in the way that bundled services may not be subject to any prioritization. Other examples of restrictions on pure bundling practices are consumer protection laws in Romania and Bulgaria that require services to also be available as stand-alone products, if technically possible.

Besides the few examples above and apart from competition law, in the majority of Member States, there are no regulatory pre-conditions that restrict bundling practices or the extent of joint OTT/ECS cooperation.

6.5 Conclusions on partnerships

Partnerships between ECS and OTT providers have become more common in recent years and the area will likely continue to evolve in different ways in the near future. As ECS providers continue to look for revenues beyond traditional voice services, partnerships with different OTT

providers may become increasingly attractive to help boost data traffic or to get a competitive edge through differentiation and added value to end users. Although differences in how and between whom partnerships materialize are likely to persist, due to competition and local variations in demand, more similarities may also be expected to show as the current experimentation starts to show what works well and what does not. OTT providers, acting on a generally competitive market, are probably likewise interested in partnerships that enable them to promote their brand and their service by making it easier for users to find and have access to it. Considering the partnerships between OTT and ECS providers, BEREC concludes that it's still too soon to conclude on their effect on competition and consumers in the ECS markets.

7 Conclusions

This chapter summarizes the findings of the report and the conclusions regarding the question whether the OTT phenomenon has implications for the application of the current ECN/S Framework or for adaptations of it that are considered in the ECN/S Framework review.

BEREC defined OTT services as content, a service or an application that is provided to the end user over the publicInternet.

Due to the current and expected evolution of these new services taking place on-line, the boundary between ECSs and the content services provided over electronic communication networks (these latter out of the scope of the Regulatory Framework) becomes more blurred.

The Regulatory Framework does not provide clear-cut guidance on whether specific types of services fall within the ECS definition, the criteria provided being to some extent flexible and leaving its concrete interpretation to NRAs. This situation becomes especially relevant with the evolution of OTT services, making the ECS definition more difficult to interpret. As it is unclear to what extent the current ECS definition covers some types of OTT services, different conclusions can be drawn regarding whether for example specific OTT services are qualified as ECS. The general interpretation of NRAs is that some of OTT services qualify as ECS, for example OTT voice services that have the possibility to make outgoing and/or incoming calls to the PATS.

In this context, BEREC's view the definition of ECS should be clarified and/or reconsidered in order to ensure that it keeps pace with the current technological developments, that it is future proof and that still is the correct foundation that determines which services are regulated under the ECN/S Framework. The lack of clarity in the definition of ECS opens the door to different interpretations, which reduces harmonisation between Member States and provide uncertainty to providers in the market or those that consider entering it. In this context, BEREC encourages the pursuit of more convergent rules and legal definitions that would empower NRAs in addressing consumer protection and competition issues arising from interactions between ECS and OTT services. The review of ECN/S Framework is an opportunity to examine the validity of the definition taking into consideration the evolution of the services and the markets.

BEREC identified that Article 5 (1) of the Framework Directive provides NRAs competence to collect information, but that this is limited to collect data from ECN/S providers. Some countries have implemented the ECN/S Framework in a way that gives NRAs power to gather all information from all relevant parties necessary for their task. However, a majority of NRAs have no legal competence to request information from OTT-1/2 providers. This can affect the work of NRAs for example in the execution of market analyses. In BEREC's view this issue should be addressed in the ECN/S Framework review. A logical remedy for this problem would be to extend the scope of Article 5 (1) of the Framework Directive to "all information from all relevant parties necessary for fulfilling the tasks of NRAs" and thus remove the limitation to ECS providers.

A central theme in the discussion about OTT services are the differences in the regulatory treatment of ECS and OTT services. BEREC notes that although there is general appreciation of the idea that services of the same type should preferably be subject to broadly the same regulatory treatment there can also be reasons for different regulatory treatment of services. The range of services to which any specific obligation should apply, must be considered in light of the goals of the obligation and the proportionality of that obligation being applied to any specific service or service type. This implies that the social benefits of the obligation and its scope need to be proportionate to the economic costs entailed for each regulated provider, and the static and dynamic competition effects of partial or universal application of the obligations. A preference for a level playing field can be part of the assessment of proportionality, but it is only one of the many elements. In section 4.4 BEREC gives an illustration of the type of considerations that could be part of such an assessment.

OTT-2 services have been defined as services provided over the Internet but that do not compete with ECSs. The scope of OTT-2 related issues under debate is very broad. At this stage OTT-2 issues are not in the scope of NRA's competences. Their impact on operator's activity and position, in particular as regards their relationship with end users, may nevertheless need to be taken into account by regulators when analysing market situations. This may imply the need for new methodologies in broadband market analysis, based on the multi-sided markets theory, in light of the increasing importance of platform models even among Internet access providers. Other issues might fall within the scope of NRAs because of their connection with electronic communications regulation.

With regard to the final aspect of this report, partnerships between ECS and OTT providers the following can be concluded. Partnerships have become more common in recent years and the area will likely continue to evolve in different ways in the near future. As ECS providers continue to look for revenues beyond traditional voice services, partnerships with different OTT providers may become increasingly attractive to help boost data traffic or to get a competitive edge through differentiation and added value to end users. OTT providers on the other hand, acting on a generally competitive market, are probably likewise interested in partnerships that enable them to promote their brand and their service by making it easier to find and access it. Considering the partnerships between OTT and ECS providers, BEREC concludes that it's still too soon to conclude on their effect on competition and consumers in the ECS markets.

Finally, BEREC would like to emphasize the excellent opportunity provided by the next review of the ECN/S Framework to take into account the considerations and conclusions drawn in this report regarding OTT services. The review should ensure that the Framework both fosters future developments of the electronic communications markets and provides adequate protection of end users rights.