ETNO-GSMA Position Paper on the BEREC Guidelines for the implementation of the Open Internet provisions of the TSM Regulation (2015/2120)

Introduction

In addition to the GSMA and ETNO papers delivered to BEREC last December, we would like to share Internet access service providers' (ISPs) views on the implementation of the open Internet provisions of the Telecoms Single Market (TSM) Regulation and we ask BEREC to consider the following elaborations when drafting guidelines for National Regulatory Authorities (NRAs).

BEREC's guidelines for NRAs should seek to ensure legal certainty, comparability of networks' performance and avoid detrimental effects for end-users, ISPs, innovation and investment.

The scope of the Regulation is Internet Access Services (IAS). Services other than IAS (SoIAS) are not governed as such by the Regulation, and the BEREC guidelines should avoid adopting a definition or a restrictive approach to these services, which enable innovation that addresses consumers' needs.

The provisions within the TSM Regulation can increase end-users' confidence in the usage of Internet access services (IAS). End-users' trust is a precondition of demand for the services, which drives ISPs' businesses. However, the new provisions could, if not properly applied, decrease end-users' trust, innovation in new services (especially around the Internet of Things or following the launch of 5G services) and ISPs' incentives to invest in high-speed networks.

The future guidelines should also avoid a systematic or rigid approach to traffic management, as networks can be managed in multiple and innovative ways.

The involvement of ISPs in discussions at EU and national levels is crucial to include specific technical knowledge and a business-driven perspective, based on the experience of consumers' demands and expectations. To that end, GSMA and ETNO would welcome a further exchange with BEREC, prior to the consultation that will end the BEREC process in June 2016.

1. Scope of the Regulation

1.1 The Regulation governs Internet Access Services

According to the Regulation, "Internet Access Services" have two key attributes; they are publicly available communications services and they provide access to virtually all end points of the Internet. It means that services that do not meet those criteria fall outside the scope of the corresponding rules.

Publicly available services

The Regulation applies to providers of electronic communications to the public and to providers of IAS. In both cases, the definitions refer to a service being provided "publicly". As a consequence, private networks, bespoke services and virtual private networks (VPNs) fall outside the scope of the Regulation, as mentioned in recital 17, but also any other type of services that are not provided to the general public[1].

In other words, any service that only targets a limited number of pre-defined users or a closed group of persons is not covered by the Regulation. Although some such services may also provide access to the Internet via Wi-Fi, this functionality is ancillary to the primary purpose of the private network, which should still fall outside the scope of the Regulation.

Examples of services that are not covered by the Regulation include universities' private networks, and also many Internet of Things applications or services already available or still to be developed, such as a smart agriculture networks that would not include IAS, or a smart car with internet access but only available to the passengers of the car; see for more details the AIOTI policy paper on this matter[2].

In fact, operators provide a range of services that are not publicly available. These services, which are provided to specific categories of end users, include customised enterprise services, for example. Such services can offer different speeds, and/or other quality parameters to address end-user demand, and may involve prioritisation of services in the event of congestion. Such services should be considered to fall outside the scope of the Regulation. Enterprise solutions are characterised by a high degree of transparency over quality characteristics and it should be noted that the Federal Communications Commission (FCC) in the US has excluded business offers from the scope of its order on Net Neutrality. The FCC order only governs "mass market" services defined as "a service marketed and sold on a standardized basis to residential customers, small businesses, and other end-user customers, such as schools and libraries." It excludes "enterprise service offerings", typically offered to larger organizations through customized or individually-negotiated arrangements.

Services other than IAS

The Regulation does not define services other than IAS (SoIAS), as it is not possible to have a future-proof and flexible definition. Instead, it characterises these services as optimised for specific content, applications or services, or a combination thereof. As SoIAS will evolve along with future innovations, it would go beyond BEREC's mandate under Article 5 (3) of the Regulation to define them in the BEREC guidelines. For example, it is not yet clear what kinds of services will be enabled by 5G and whether they will be SoIAS or not. These services can coexist with IAS without compromising innovation or openness, and can be a driver to promote innovative services, such as eHealth, for example.

Thus several categories of services will co-exist within a single network:

- IAS as defined and regulated by the net neutrality Regulation;
- Non publicly-available services, which may support IAS as an ancillary service, which are not covered by the Regulation;

[1] http://stakeholders.ofcom.org.uk/telecoms/ga-scheme/general-conditions/general-conditions-guidelines/. These provide that "Providers of Public Electronic Communications Services or Networks" are a smaller category of providers of Electronic Communications Services or Networks and exclude those who provide services or networks which are not available to members of the public (typically, private networks and the services run on private networks, and other bespoke services which are not offered to the general public).

[2] See for more details the AIOTI policy paper available at http://ec.europa.eu/newsroom/dae/document.cfm?action=display&doc_id=11815

- SoIAS, which are only covered by the Regulation in terms of their relations with IAS.

1.2 For SoIAS, only their relations with IAS are regulated

SoIAS are not regulated per se. The Regulation only covers the impact they can have on IAS. The Regulation stipulates that the network capacity has to be sufficient to provide them in addition to IAS and those services should not be provided to the detriment of the "availability or general quality" of the IAS. This reflects the Regulation's goal to "guarantee the continued functioning of the Internet ecosystem as an engine of innovation". It lists examples such as new machine-to-machine services.

Note, the application of the Regulation to ensure that the general quality of Internet access services is not detrimentally affected is ex post. Such an assessment can only be made on a case-by-case basis. This is confirmed by Article 5 of the Regulation that does not foresee any specific process for SoIAS but foresees that "*At the request of the national regulatory authority, providers of electronic communications to the public, including providers of internet access services, shall make available to that national regulatory authority information relevant to the obligations set out in Articles 3 and 4, in particular information concerning the management of their network capacity and traffic, as well as justifications for any traffic management measures applied*." The information provided under the Regulation as well as the NRAs' monitoring of IAS quality will allow NRAs to control compliance of SoIAS provision with the rules of the Regulation.

It is important to note that the Regulation acknowledges that the provision of SoIAS can have a temporary effect on the quality of IAS (s. Recital 17), and that the impact on the "general" quality of IAS is monitored by NRAs, as opposed to the quality of each individual IAS of a customer. This becomes relevant for instance in case a customer opts to use an optimised service, resulting in a lower performance of the IAS for that particular user (i.e. on a dedicated access line). Such impact on the IAS is clearly compatible with the Regulation. This is confirmed by Article 4 (1) c) which foresees that ISPs should include in their contracts *"clear and comprehensible explanation of how any services referred to in Article 3(5) to which the end-user subscribes might in practice have an impact on the internet access services provided to that end-user"*.

Finally, and in particular, the Regulation does not call for an allocation rule to be defined between IAS and SoIAS. As explained in the GSMA's previous contribution, such an approach would be overly rigid and damaging for the smooth functioning of networks. Flexibility is essential to allow a smart and efficient sharing of the capacity between the various types of services provided to customers.

1.3 Commercial Agreements and End User Rights

The Regulation in Article 3 (2) explicitly allows the providers of internet access services to conclude contractual agreements on tariffs for specific data volumes and speeds as well as other commercial and technical conditions. Recital (7) describes the requirements for such agreements and outlines under which circumstances NRAs may intervene. By basing those considerations on end-users' choice the Regulation links back to established competition law standards. This is further reinforced with the reference to "respective market positions" of the involved providers of content, applications and services.

We consequently expect BEREC to acknowledge that the Regulation allows the zero rating of specific services and categories of services within the IAS as long as the end-user is not "materially" limited in exercising its right of choice. Potential violations of end user rights as specified in Article 3(1) may only

be evaluated ex-post, (see Recital 7) and interventions would require a careful evaluation of actual economic effects in the relevant markets.

Recommendations

- Given the goals of the Regulation, the future guidelines should confirm that only IAS provided to the public fall within the scope of the Regulation;
- The guidelines should acknowledge that specific and customised offers to business clients, which are not publicly available, are not within the scope of the Regulation;
- Services other than IAS, which are optimised to meet the needs of the content or application provider or the end user, should not be further defined or specified in the BEREC guidelines;
- The guidelines should confirm that the impact of services other than IAS on the general quality of IAS can only be assessed ex post and that only the impact on the "general" quality of IAS should be monitored by NRAs, as opposed to the quality of each individual IAS of a customer;
- The Guidelines should be aligned with the Regulation that acknowledges the possibility for providers of IAS to launch sponsored data offers and zero rated offers, as long as the end user choice is not materially impacted, which should be assessed ex post;

2. The Regulation acknowledges the need for traffic management measures

The Regulation makes a distinction between reasonable traffic management and other traffic management measures.

Reasonable Traffic Management

In Article 3(3) sub paragraph 2 and recital 9, the Regulation clearly acknowledges the necessity of reasonable traffic management by ISPs, and the possibility to differentiate objectively, in a non-discriminatory manner, between different categories of traffic, to ensure the smooth functioning of networks and meet consumers' needs.

Different types of traffic management mechanisms can be used to meet the requirements of the device; eg: the quality and presentation of a video or website could be adjusted, compressed or altered based on the size of the screen; to react to external conditions, such as network congestion, specific weather conditions and coverage.

Such provisions should not lead to a definition of "objectively different categories of traffic" as such "categories" would vary between different technologies and change over time.

As the development and operation of telecoms networks benefit from ongoing innovation, the Regulation and forthcoming guidelines should ensure this innovation is not restricted. For example, 5G networks, which are in the early stages of standardisation, will enable innovative services whose format and need for traffic management is not fully defined yet. Similarly new technologies, such as SDN and NFV[3], may introduce new traffic management techniques. Consequently, while ensuring compliancy with the Regulation, the guidelines need to be flexible and future-proof.

Finally, when looking at the "necessity" criteria, it should be clear that traffic management measures have to apply as long as the service is provided. It is the outcome of a specific measure that should be looked at and not its duration.

[3] SDN and NFV refers to software defined networks and network function virtualisation

Traffic management is also reasonable in cases where it is required to provide the service requested by the customer. For example, a customer may select a tariff plan with specific bandwidth. Article 3(1) of the Regulation makes it clear that customers should be free to access and distribute information or content of their choice. By extension they should also be free not to access information or content if they choose not to, and for example, to agree to a limited bandwidth. Traffic management is reasonable to the extent that it enables compliance with Article 3(1) and the ability of the customer to exercise choice.

Traffic management going beyond reasonable

When it comes to identifying traffic management that goes beyond reasonable measures, there is a limited list of exceptions provided for by the Regulation.

Cases should be assessed in the light of the objective and outcome of the measures implemented. For instance, the reasonableness of any traffic management measure implemented by an operator to tackle congestion will depend on each specific situation and network. Therefore, NRAs' assessment should focus on whether the measure under scrutiny aims to preserve the ability of the network to continue working and carrying the maximum possible traffic and to benefit the maximum of end users, i.e. avoiding a situation where a single bandwidth-hungry application monopolises the available capacity at the expense of others. It should, therefore, analyse the likely situation if such a measure would not be implemented, for the networks, operator and its customers.

Recommendations

- The guidelines should not pre-define categories of traffic, as innovation is ongoing.
- The guidelines should take a principles-based approach, allowing for an assessment of the outcomes of any measure on a case-by-case basis.
- As traffic management measures are diverse, the guidelines should avoid limiting or restricting the use of specific techniques as long as they comply with the requirements of the Regulation, especially where the only differentiation is between objectively different categories of traffic;
- The guidelines should confirm that traffic management is reasonable where it ensures that end users' rights under Article 3(1) are protected.
- The guidelines should acknowledge that traffic management measures are not implemented on a switch on/off system; i.e. they apply as long as the relevant service is provided, as long as it is necessary to deliver that service.

3. Transparency on traffic management measures and quality parameters (Art. 4, para 1 (a) (b))

The new obligations included in the TSM Regulation broadly overlap with many national rules, which are partly based on obligations relating to the Universal Service Directive with respect to inter alia information on ISPs' traffic management activities – to be provided publicly and within the contract.

Recommendations:

- ISPs should provide the required information in a way that is easy to understand, possibly illustrated by practical use cases, drawing as much as possible on established good practices, instead of replacing them.
- A further prescription of the new detailed information requirements is neither necessary nor proportionate.
- Instead, priority should be give to good practice sharing among ISPs and voluntary commitments on joint standards for communications towards customers.

4. Transparency of speed parameters (Art. 4, para 1 (d) (e))

4.1 Minimum speed for fixed IAS

Congestion of networks is inevitable: Even though ISPs continue to invest in improving the performance of mobile and fixed networks, in response to the growing demands of customers, network performance can fluctuate as a result of congestion.

The actual performance of a fixed IAS depends on local factors: The speed of a fixed line IAS depends on the specific network infrastructure that connects the individual end-user to the Internet. In practice, the ISP's infrastructure performance depends heavily on local technical factors, such as the length of the "last mile", which connects the end-users' access point with the street cabinet, the existing building cabling, and the customer's premises equipment (CPE).

Mobile IAS has additional performance restrictions: The performance of a mobile IAS is determined by a wide range of factors and, thus, performance is much more variable than in the case of fixed line Internet access. The mobile IAS's performance is determined by a number of variables, such as the end-user's current location and distance to the nearest antenna, the capacity and usage of the cell in the specific moment (depending on the number of current users within the cell) and the weather. Accordingly, an agreed speed range has to be broad, with minimum speeds close to or at zero and maximum speeds that are available under optimal conditions. Any measurement at a specific point in time is only a selective snapshot. Accordingly, the TSM Regulation does not include an obligation for ISPs to indicate minimum speed for mobile access, acknowledging the specific characteristics of mobile networks in recital 15 and elsewhere. BEREC also notes that: "The majority of network performance problems occur in or near the users' computer".[4]

Speed ranges as key commitments: ISPs cannot agree a specific performance rate with their customers. For fixed services, ISPs agree speed ranges, consisting of fixed minimum and maximum bandwidths. For mobile services, ISPs can only reasonably agree the estimated maximum speed and how significant deviations from this will impact consumers' rights.

<u>Recommendations:</u>

- If end-users require additional contractual rights relating to technical parameters, national good practices should be taken into account and any new contractual right should not go beyond speed ranges.
- For fixed IAS, agreed ranges of minimum and maximum possible speeds have to be the only key parameters for assessing compliance with contractual obligations relating to the speed delivered to individual customers.
- For mobile IAS, the agreed estimated maximum speed has to be the only key parameter for assessing compliance with contractual obligations relating to the speed delivered to individual customers and should be evaluated as outlined in paragraph 4.4 below. For good reasons, the TSM Regulation does not oblige ISPs to also indicate minimum speeds for mobile IAS in the contract, since committing to a minimum speed for mobile IAS is not feasible (see explanation above).

4.2 Indication of normally available speed for fixed IAS

The newly introduced quality parameter "normally available speed" for fixed Internet access needs to be met "most of the time", according to the Regulation. However, as described above, ISPs cannot ensure a specific speed performance for an individual end-user, either for fixed or for mobile access of

[4] Annex of Monitoring of Quality of Internet Access Services in the context of net neutrality, 25.09.2015

an individual end-user. Fixed ISPs can only commit to deliver throughput within a speed range, which reflects the ISPs' actual performance.

Moreover, ISPs do not have valid information on whether the Internet access performance experienced by individual end-users is more in the lower or higher area of the agreed speed range.

Recommendations:

- A "normally available speed' parameter can only be defined as a general average parameter of a specific tariff, as the speed can continuously and frequently deviate, depending on local variables.
- However, any significant difference between the average parameter per tariff, indicated in the individual contract, and the average parameter per tariff measured by a certified robust monitoring system has to lead to remedies for the individual end-user. Reasonable definitions of the terms "significant deviation" as well as of "continuously" and "frequently" are key to ensure legal certainty for both businesses and consumers.
- The measured average value should be based on a sufficiently large volume of measurements.

4.3 Indication of advertised speed for fixed and mobile IAS within contract

Contractually agreed speeds with an individual, which are key parameters for compliance, must not be mixed up with advertised speeds, which are non-individual parameters. As advertisements have to, per se, address more than one end-user, rather than an individual household, the advertised speed may differ from individually agreed parameters. Whereas fixed IAS operators can agree speed ranges with their customers, mobile operators tend to advertise estimated speeds services (due to the technical factors described above).

In many markets, the advertised speed highlights the maximum actual performance in a network based on the investments of the ISP. Advertising maximum speeds helps network operators to differentiate their services from those of competitors. Crucially, advertising such a comparative advantage helps to justify the investment in high-speed networks.

There are already effective tools available, based on the Unfair Commercial Practices Directive, for example, to tackle any possibly misleading advertisements.

Recommendations:

- Given that maximum and advertised speeds are only available under optimal conditions, they are usually not available most of the time. Accordingly, a continuous or frequent difference between these parameters and the actual performance (measured by a robust monitoring system) cannot reasonably lead to individual remedies.
- In the event that such discrepancies lead to remedies, ISPs would have to indicate maximum and advertised speed parameters that are close to the minimum speed parameters. Consequently, ISPs would have less scope to differentiate themselves from competitors by advertising high network performance and end-users would have less transparency on what speed they can expect under good or optimal conditions.
- However, any significant difference between the maximum and advertised parameter per tariff, indicated in the individual contract, and the maximum parameter per tariff measured by a certified monitoring system has to lead to remedies for the individual end-user. Reasonable definitions of the terms "significant deviation" as well as of "continuously" and "frequently" are key to ensure legal certainty for both, businesses and consumers.

4.4 Indication of estimated maximum speed for mobile IAS within contract

As described above, maximum speed is an actual speed under optimal conditions. This applies equally to mobile and fixed networks.

Recommendations:

- The TSM Regulation's obligation to indicate the "estimated maximum" speed for mobile IAS reflects the fact that mobile performance depends on a broad variety of factors (as described above), which influence the maximum available speed under optimal conditions. Accordingly, an "estimated maximum" speed should reflect a practically-available speed rate, excluding all interfering factors. Although the maximum speed performance of fixed IAS also fluctuates, there are less interfering factors.
- With respect to compliance and remedies, please see recommendations related to the advertised speed, which are essentially the same.

5. Complaint mechanisms (Art. 4, para 2 (b))

ISPs typically already provide their customers with a variety of points of contact – including online customer care, hotlines, emails or shops. ISPs' customers are well aware of these communication channels, use them if required and choose the most convenient point of contact.

Recommendations:

- The TSM Regulation should not oblige ISPs to establish a new dedicated point of contact, in parallel to the well established ones. An obligation to establish additional touch points, dedicated to only one specific kind of complaint, would be costly for ISPs and confusing for end-users.
- There should be an obligation to offer clear information to the end-user on how to submit complaints with regard to open Internet access and the quality of the Internet access services. This clear information could be provided through online consumer care channels, while end-users should also be able to address such complaints via customer care hotlines or face-to-face within a shop.
- ISPs should have to set up adequate internal processes that ensure they effectively deal with respective complaints. However, such an obligation should not be prescriptive, but leave flexibility to companies on how to the best design internal processes.

6. Monitoring systems certified by the NRA (Art. 4, para 4)

ISPs can only ensure the performance of their own networks: To effectively measure the quality of the operator's network (in terms of speed as well as traffic management), other factors that interfere with the IAS' performance must be excluded. These interfering factors frequently determine end-users' actual experience. These factors can be the end-user's infrastructure (e.g. the performance of the device and other hardware and their operating systems), as well as the performance of the Internet beyond an ISP's backbone: Third party's content delivery networks and other servers outside of the ISP's backbone, as well as bottlenecks within the Internet, can all negatively impact the end-user's experience.

The factors that determine the performance of mobile Internet access differ significantly from the factors that determine the performance of fixed Internet access with respect to speed: The performance of mobile access can greatly depend on the end-users' location and the number of end-users within the same cell, for example.

Any monitoring system should provide transparency on possible shortcomings in the measurement setup that could influence the results. Otherwise, the generated measurement results are misleading for the end-user.

Recommendations:

- BEREC should provide guidance to NRAs on how to define certification criteria for robust monitoring systems. These criteria should be equally valid, irrespective of whether a NRA builds an own monitoring system or certifies a third party's monitoring system.
- The certification procedure for third party measurement systems should be lean, non-bureaucratic and non-discriminatory. Also ISPs should have the option to provide certified measurement systems, given that they are often the first point of contact for access-related matters.
- Only a robust monitoring system can deliver measurements that provide transparency of an ISP's actual performance. To be robust, the system needs to exclude external factors that interfere with the IAS's performance, such as infrastructure beyond the ISP's backbone and the end-user's infrastructure (see examples above). Accordingly, a robust monitoring system needs to measure only the performance between a server within an ISP's backbone and the Internet access point.
- With respect to end-user infrastructure, the monitoring system needs to exclude any potential external bottlenecks, such as a Wi-Fi Internet connection and insufficient performance of the Internet access device, which could be a handset, PC or laptop running a specific operating system or browser, as well as background software (e.g. firewalls), which can affect the Internet experience of the end-user.
- To ensure that measurements are valid, a large volume of measurements is necessary across an adequate timeframe.
- If external factors are not properly excluded, this needs to be transparent to end-users. Respective measurement results cannot reasonably lead to any legal remedies for the ISP.
- Due to the technological characteristics of mobile networks, monitoring systems and processes applied to mobile IAS may need to differ from systems applied to fixed IAS. They should, at least, take into account the different kinds of specific interfering factors.
- Given the high volatility of mobile network performance (as described above), "drive test measurements" can complement single measurements. Drive tests performed by independent third parties provide a more robust indication of a network performance at different times and different locations. The use of this complementary transparency measure should be supported by Member States.

About ETNO

ETNO (the European Telecommunications Network Operators' Association - www.etno.eu, @ETNOAssociation) represents Europe's telecommunications network operators and is the principal policy group for European e-communications network operators. ETNO's primary purpose is to promote a positive policy environment allowing the EU telecommunications sector to deliver best quality services to consumers and businesses. ETNO members account for 60% of the total investments in European networks.

About the GSMA

The GSMA represents the interests of mobile operators worldwide, uniting nearly 800 operators with more than 250 companies in the broader mobile ecosystem, including handset and device makers, software companies, equipment providers and internet companies, as well as organisations in adjacent industry sectors. The GSMA also produces industry-leading events such as Mobile World Congress, Mobile World Congress Shanghai and the Mobile 360 Series conferences.

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