BEREC consultation of the draft document 'Net Neutrality Regulatory Assessment Methodology' (BoR (17) 112), 1 June 2017

Response on behalf of CAIW Diensten, NLConnect, Tele2, T-Mobile and VodafoneZiggo

5 July 2017

1. Introduction

This response is submitted on behalf of the following Dutch ISPs (hereafter: the ISPs): [1]

CAIW Diensten,
NLConnect (an association of ISP's),
Tele2,
T-Mobile,
VodafoneZiggo.

Together, these ISP's represent the majority of the Dutch market in terms of the number of end-users that they serve. The ISP's appreciate the opportunity offered by BEREC to respond to the consultation, and welcome BEREC's aim to avoid that each NRA will adopt a different approach.

Dutch ISP's score high in international benchmarks on the extent to which end-user expectations regarding internet speeds are met. In addition, the speeds offered by Dutch ISP's count among the highest in the world.[2] To the extent that there would be gaps with regard to expected and actual QoS levels these will be very limited. Although this seems therefore not to be a major issue in the Dutch market, Dutch ISP's have demonstrated that they are constantly looking for ways to further improve their performance.

2. General remarks

In September 2016 ACM has undertaken a consultation on QoS measurements in the light of the net neutrality regulation, touching upon many of the subjects that are now covered by the current BEREC consultation document. ISP's are pleased to see that a number of the concerns that were raised in the Dutch consultation have now been addressed in the BEREC recommendations. Generally speaking the document seems to accurately reflect many of the technological aspects of QoS measurements. At the same time it can be put into question whether the level of detail of the document is sufficient to ensure that the measurement service will produce sufficiently accurate results. In other words, a system that meets the requirements laid down in this document will not necessarily produce acceptable outcomes, as there are still a lot more detailed requirements that will determine whether the system will be actually fit for purpose.

[1] KPN B.V. shares the views expressed in this response
[2] See i.a.: https://ispspeedindex.netflix.com.

3. Main comments

Detecting traffic management practices that impact individual applications

BEREC pays considerable attention to detecting traffic management practices (chapter 6). The ISP's are of the opinion that BEREC should not lose out of sight that IAS providers can and should be expected to fully comply to regulation 2015/2120 (hereafter: the Regulation). In that light the ISP's do not fully appreciate the emphasis that BEREC puts to permanent monitoring systems to detect unauthorized traffic management practices. Whereas the Regulation does provide in article 4(4) a legal basis for NRA's to certify monitoring mechanisms that can be used to establish relevant facts regarding significant discrepancies between actual and the indicated QoS performance, the Regulation does not provide a basis for monitoring traffic management practices (Article 3). In other words, the Regulation as such does not provide a direct inducement to NRA's to monitor traffic management by IAS providers. Given the fact that monitoring of traffic management practices by ISP's does not follow automatically from the Regulation, ISP's would expect BEREC to provide other justifications for this.

This motivation would be the more appropriate as it can be questioned whether the rare cases in which IAS providers might engage in illegal traffic management practices justifies including the mentioned requirements in the measurement tool(s) to detect these. Rather than automatically assuming that it is justified for NRA's to engage in this, the BEREC document should first assess whether this is necessary and proportionate.

ISP's expect that these measurements are more likely to confuse individual end-users, and will easily lead to unfounded 'suspicions' that will eventually prove false. The tools will generally be able, to some extent, to detect traffic management practices, but will generally not be capable of assessing whether these practices are allowed or not under the Regulation. That means that, apart from the significant resources needed for implementing the requirements and monitoring, considerable additional resources will need to be committed to analysing the measurements, both by NRA's and IAS providers.

In other words, the resources that would need to be committed to developing highly complex tools to monitor traffic management practices, in actually monitoring the traffic, and in analysing the measurements, do not seem necessary nor proportionate to the ends.

The first question that would need to be answered in the light of this proportionality assessment is whether it is realistic to assume that IAS providers would engage in illegal traffic management practices on a significant scale – i.e. a scale that would justify the direction of resources towards this extensive operation. The ISP's strongly question this which is also supported by the findings of NRA's. A good example is provided by the very recent report of RTR, which hails the constructive interplay between the regulator and the IAS providers to comply to the Regulation.[3] Given that in general there is limited room for concerns with regard to compliance of IAS providers, ISP's press BEREC to - at the very least - include an assessment of the costs and benefits associated with these permanent measurement tools.

[3] RTR, Netzneutralitätsbericht 2017, 30 June 2017. The report of the Austrian NRA states in the executive summary (page 6) that the overall picture with regard to the state of the open internet is basically positive: "Was lässt sich nun aber über den Stand des offenen Internets in Österreich für das Berichtsjahr feststellen? Das sich daraus insgesamt ergebende Bild ist für das Berichtsjahr grundsätzlich positiv: Dort, wo schwerwiegende Verstöße gegen Netzneutralitätsregeln vorlagen, wurden von den Unternehmen i.d.R. konstruktiv Lösungsansätze gefunden, mit der Behörde abgestimmt und auch umgesetzt (bzw. wurde deren Umsetzung angekündigt)."

Another question that needs to be answered in order to assess the proportionality is whether there are no lighter, more proportionate ways to supervise market actors. Market reality shows that 'the internet community' is well aware of the obligations of Art. 3 and signals all perceived violations.[4] BEREC insufficiently clarifies why a compliance methodology based on complaints and market information would not be sufficient and much more cost effective than permanent measurement tools.

Assessment of the measurement results

In chapter 6 of the consultation document BEREC provides recommendations for validation of the collected measurement results. BEREC acknowledges that crowdsourced measurements have limitations as it cannot be fully validated whether the client environment fulfils the requirements for an accurate measurement. BEREC adds that this can be cross-checked to some extent by the use of meta-data. This BEREC statement is in line with the concerns raised by the ISP's in the previous ACM consultation, as crowdsourced measurements are not suitable to get fully reliable outcomes and can as such by no means be taken as absolute evidence to demonstrate non-conformity.

End-user environment

BEREC states on page 5 with regard to the end-user domain the following: "Monitoring mechanisms should mitigate, to the extent possible, confounding factors which are internal to the user environment." The ISP's appreciate this wording, as 'to the extent possible' reflects the practical difficulties – if not impossibilities – to exclude that individual measurements have been influenced by such factors outside the scope of the ISP's. The ISP's are of the opinion that this constitutes a realistic starting point.

As BEREC correctly indicates in section 5 that dealing with the disturbances in the end-user domain constitutes a main challenge, affecting the reliability of the measurement. BEREC mentions a number of measures that can be taken to mitigate the potential impact. ISP's agree that providing good information to end-users is important, and do also fully support the conclusion that end-users will not always be aware of the disturbances and will not always be able to deal with these. This means that in addition to well informing end-users other measures need to be taken. BEREC considers that – when available – the measurement client could retrieve the required data from the local hardware and operating system and from the IAS provider.

Whereas this could make sense from a theoretical perspective, it is highly questionable whether this will be feasible in practice. To start with, several technical challenges would need to be overcome. In the first place it can be questioned whether all data that is needed to exclude that disturbances in the end-user domain affect the measurement is available from the local hardware and operating system. In the second place, if this data would be available, the question remains whether it is technically feasible to actually retrieve the data. Even if it would be feasible from a technological point of view, the end-user would actually need to give consent – as BEREC rightly points out. Apart from the fact that the end-user might actually withhold his consent, obtaining consent from the end-user will pose the provider of the measurement client a host of legal and operational challenges. One of the issues that need to be addressed is that the provider of the measurement client will also obtain consent to share the measurement details, including the data regarding the end-user domain, with third parties such as the NRA and – in case the measurement will be used to challenge the conformity – with the ISP.

[4] Even public websites such as https://respectmynet.eu are available where all potential violations of the net neutrality provisions can be notified without any threshold.

Further specification

In order to fulfil the objective of being technically agnostic ISP's suggest the exact technical specifications for the tooling would be best further developed by ETSI. ETSI is uniquely positioned as the only (ESO) European Standard Organisation that can fulfil this task. ETSI gathers technical expertise from all quadrants (Manufacturers, National Standardisation Organisations and Operators) which is a key element to promote such an initiative.

4. Various other points of attention

Server location

BEREC prescribes in section 3 (page 5) that the measurement server should be located outside the IAS network, and recommends that it should in general be located at the national Internet exchange point (IXP). However, this implies that the measurements will include network elements that are not controlled by the IAS provider. ISP's do not see a legal basis in the Regulation for IAS providers to guarantee QoS beyond the network elements they control. There are a number of issues to be considered in the light of this requirement and the underlying assumptions. It's not clear whether BEREC envisages that the measurement server will be connected to the IAS through individual peering agreements – which does not seem realistic - or through IP transit. However transit will imply that the 'logical distance' between the IAS provider and the provider of the measurement system will increase, as the transit provider might rout the traffic through all kinds of paths, and can also involve other transit providers. The only way on which a provider of the measurement system can obtain some form of guarantee for the connection between the IAS network and the measurement server if it would buy IP transit from each individual IAS provider separately – to the extent that the IAS providers have an IP transit wholesale offer available. However, in that case interconnecting at the IPX is not necessary.

In addition, given that BEREC aims for harmonisation and comparability of measurements, open norms such as 'adequate connectivity' should be made concrete. BEREC mentions that this adequate connectivity is 'to avoid influencing measurements'. However measurements will by definition to some extent be influenced by the fact that the server is positioned outside the network, and as such outside the control of the IAS provider.

'Measurement based on HTTP'

BEREC concludes in section 3.1 that speed can be best measured based on transfers over HTTP: "As such it is considered to be the best compromise between the competing demands of accuracy, platform agnosticism, ease of implementation and transparency." Again, the ISP's welcome the acknowledgement from BEREC that the methodology will always be a compromise, and that accuracy is only one of the demands that will be compromised by other demands. ISP's fully support the notion that the accuracy of measurements should not be taken as an absolute given, but should be rather put into perspective. It would be very helpful if BEREC also could further clarify how the weights that are attached to the various demands in order to reach this compromise.

'Measurement based on IP packet payload'

BEREC states in section 3.1.3 that "calculating speed based on IP packet payload is more complex due to the fact that most platforms don't allow clients to access this information directly, so it must be calculated based on assumptions, and the results of this calculation is an approximation." BEREC expresses a strong preference, for the reasons set out above, for measuring speed based on the TCP payload volume: "However it should be noted that BEREC considers that TCP payload volume is the most reliable one to use when calculating the upload/download speed." The fact that calculating the IP packet payload from TCP payload leads to a significant margin of error justifies to either measure the IP packet payload directly, or to fall-back on the more reliable speed measurement based on the TCP payload if this turns out not to be feasible.

Packet loss measurements

BEREC states in paragraph 3.3 that the number of IP packets (and therefor packet losses) should be based on access technology characteristics. ISP's would expect that BEREC provides guidance on how exactly the technology characteristics should be taken into account.

Conversion factors between mega and kilo

The recommendation in section 3.1.4 to refer to 1000 instead of 1024kB could have all kinds of practical consequences, including causing a departure between the actual current practice used by a part of the IAS providers. This would lead to a discrepancy between the speeds currently communicated by IAS providers and the speeds reported by the measurement system. ISP's would like to ask BEREC to reconsider this recommendation, as it is likely to lead to unnecessary confusion. To the extent that BEREC choses to maintain this recommendation, the ISP's would welcome it if BEREC provides additional guidance with regard to how a potential discrepancy between current practice and the recommended practice could be dealt with. BEREC could for example recommend that NRA's take into account a transition period during which IAS providers can adapt to the recommended conversion.