CENTER FOR DEMOCRACY & TECHNOLOGY

Before the Telecom Regulatory Authority of India
In response to the Consultation Paper on Net Neutrality

Comments of the Center for Democracy & Technology
March 15, 2017

The Center for Democracy & Technology (CDT) thanks the Telecom Regulatory Authority of India for its thorough and thoughtful consideration of the principles supporting the concept of net neutrality as well as the practical issues with implementing a regulatory scheme to preserve an open internet. CDT is a nonprofit public interest organization dedicated to promoting openness, innovation, and freedom online—a mission that closely tracks the policy objectives mentioned in the 2015 DoT Committee report on net neutrality. CDT has participated in the TRAI's consultation on differential pricing and the pre-consultation on net neutrality and now respectfully submits these comments in response to the questions raised in the TRAI's Net Neutrality Consultation.

Q.1 How should "internet traffic" and providers of "internet services" be considered in the NN context?

Although another approach may achieve similar results, the approach taken by the United States Federal Communications Commission (FCC) offers a simple, binary approach to classifying what is and what is not covered by its net neutrality regulations. Either a service meets the definition of Broadband Internet Access Service (BIAS) and is subject to regulation or it does not and is considered non-BIAS.[1] The definition of BIAS effectively captures those services at which the regulations are aimed, including services which may not be marketed as internet access services but which amount to the "functional equivalent." At the same time, it excludes existing and emerging services which may use the same transmission infrastructure, but which do not provide access to "all or virtually all endpoints" of the internet.[2]

[1] United States Federal Communications Commission, *In the matter of Protecting the Privacy of Customers of Broadband and other Telecommunications Services*, Notice of Proposed Rulemaking, at 75, para. 167 (Apr.1, 2016). ("FCC Open Internet Order")

[2] "A mass-market retail service by wire or radio that provides the capability to transmit data to and receive data from all or substantially all Internet endpoints, including any capabilities that are incidental to and enable the operation of the communications service, but excluding dial-up Internet access service. This term also encompasses any service that the Commission finds to be providing a functional equivalent of the service described in the previous sentence, or that is used to evade the protections set forth in this Part." FCC Open Internet Order at 9-10, para. 25.

While the exclusion of these dedicated, special-purpose services is intended to allow for freer innovation and growth of socially beneficial technologies like telemedicine, a carefully worded definition and vigilant monitoring help guard against the risk of such services overtaking standard internet access. For instance, non-BIAS services should not be allowed to use network capacity in a way that diminishes from the network's speed, efficiency, or ability to provide internet access services.[3] Ideally, capacity building incentives will at least match demand for bandwidth by both internet access and other services. Regulators should also be wary of the potential for various services currently available through standard internet access to be isolated and re-marketed as stand-alone "specialized" services, thereby detracting from a full and open internet, cannibalizing network capacity, and escaping regulatory control. To that end, the provision in the BEREC guidelines excluding "specialised services" from the EU regulation "unless they are used to circumvent this regulation" limits TSP's incentives and ability to take such actions.[4] Both the FCC and the EU approach require vigilant monitoring and enforcement by the regulator to guard against the risks posed by excluding some services from regulation.

It may be possible to avoid some unintended consequences and the potential complexity of including content delivery services and interconnection agreements in the scope of net neutrality regulations by framing such services and agreements in terms of their effects on end users' ability to access the internet. The FCC accomplishes this through its definition of BIAS (offered to the public) which implies contractual obligations to connect customers to all endpoints. Therefore, interconnection agreements and CDN services are only regulated to the extent that they interfere with a customer's access.[5] BEREC follows a similar approach, allowing regulators to take into account the effect of interconnection agreements on end user rights.[6]

One key feature in the EU definition of "internet access service" is the provision "irrespective of network technology and terminal equipment used by end-users."[7] BEREC suggests this provision may prevent service providers from restricting tethering because ISP's "should not impose restrictions on the use of terminal equipment connecting to the internet."[8] A similar

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[3] Body of European Regulators for Electronic Communication, BEREC Guidelines on the Implementation by National Regulators of European Net Neutrality Rules ("BEREC Guidelines") at 25, para. 102 "...specialised services are not to the detriment of the availability or general quality of the IAS for end users."; FCC Open Internet Order at 97, para. 210 "The Commission will take "appropriate enforcement action...if...these types of services are undermining...end user benefits."

[4] BEREC Guidelines at 7, para. 18.

[5] FCC Open Internet Order at 10-11, paras 28, 30.

[6] BEREC guidelines at 4-5, para. 6.

[7] Regulation (EU) 2015/2120 of the European Parliament and of the Council (25 November, 2015) Article 2(2) ("TSM Regulation"); BEREC Guidelines at 6-7.

[8] BEREC Guidelines at 9, quoting Recital 5 of TSM Regulation.

caveat may be desirable in the Indian context due to the predominance of mobile connections and the "many more opportunities to use innovative services" tethering provides for end users.[9]

Q.2 In the Indian context, which of the following regulatory approaches (broad or narrow) would be preferable?

The broad approach, in which the regulator permits differential treatment of internet traffic through the use of management practices defined as reasonable, offers more durability, flexibility, and certainty than the narrow approach. A regulation framed in terms of what network operators may do, rather than identifying certain practices they may not engage in, confines the set of acceptable traffic management practices (TMPs) to those which are in keeping with the purpose of the regulation thereby ensuring that, even as new TMPs develop and evolve, they can be analyzed in light their reasonableness. Thus, this approach is more durable than the narrow, exclusive list approach because such a list would need to be constantly updated as practices change and evolve.

Likewise, under the broad approach, consideration of a TMP's reasonableness is contextual, which would allow for specific practices to be classified as either reasonable or unreasonable, depending on the circumstances. This approach provides the flexibility to use practices (that might otherwise be excluded) when they are necessary or more efficient, so long as they are implemented in a reasonable manner. For example, practices like temporarily limiting the bandwidth available to individual subscriber accounts if they exceed certain usage parameters during times of congestion may be a reasonable way of managing network congestion, but capping bandwidth based on commercial incentives or in the absence of congestion would not be reasonable. This flexibility also allows technical choices to be made by those in the "best position to understand the technical consequences and trade offs associated with different choices,"[10] and avoids the potential for a more rigid approach to stifle network operators' ability to innovate and efficiently respond to network management issues.

Finally, the broad approach provides more certainty for both regulators and TSPs because it allows all reasonable TMPs and excludes all those that are unreasonable. Thus, regulators can be certain that undesirable practices are already prohibited, even though they may not have been explicitly described or even anticipated. Similarly, TSPs are free to innovate or differently implement management practices (as long as they conform to the reasonableness standards) with more certainty than trying a new practice under the narrow approach with the risk that the practice might later be added to the "unreasonable" list.

[9] India Department of Telecommunications, Net Neutrality Report (May 2015) at 58-59, para 10.8.4.
[10] FCC Open Internet Order at 101, para 218, and n. 563, quoting CDT's comments at 9.

Q.3 Under the broad approach, what should be regarded as reasonable?

Although the US and the EU interpretations of reasonable management practices differ slightly in both language and approach, they both encapsulate the same idea: practices are reasonable when they are intended to improve or protect network functionality but not for other "business" or "commercial" purposes.[11] In essence, the word "reasonable" in this context is what allows network operators to treat different kinds of traffic differently while maintaining the kind of neutrality the regulations intend to protect. Generally, the goal of net neutrality regulation is to prevent access providers from leveraging their position in the network to effect change or exert influence in other areas of the network or outside of it. Any exception for reasonable network management practices should preserve that goal.

The FCC definition of "reasonable network management" is perhaps broader than the EU's, allowing practices with "primarily technical" management justifications if they are "primarily used for … a legitimate network management" purpose.[12] This approach leaves more interpretative discretion for the enforcing agency by allowing it to define "legitimate" and to evaluate a practice's primary use and purpose. The FCC approach depends on case-by-case determinations, which require a relatively high level of involvement for the regulator, but also allows for more individualized and nuanced contextual determinations depending on the "particular network architecture and technology" of the access service.[13] This flexibility of this approach may be preferable when there is a unified enforcement agency with sufficient resources and expertise to sustain a high level of involvement.

By comparison, the BEREC guidelines are more detailed, requiring assessment of whether a particular practice is "transparent, non-discriminatory, and proportionate" and whether it is justified by "objectively different technical QoS requirements" as measured by latency, jitter, packet loss, and bandwidth.[14] On top of this, BEREC adds that management practices shall not be based on commercial considerations, shall not monitor specific content, and shall not be maintained longer than necessary.[15] In the EU context, this added level of detail may provide more consistency in the implementation of the regulation by various National Regulatory Authorities (NRAs). While it is unclear whether, in the Indian context, a more detailed approach like the EU's would ultimately result in a more effective preservation of net neutrality, it seems unlikely to detract from the regulation's potential efficacy so long as the enforcing agency is not constrained to a fixed set of factors in determining whether a management practice is

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[11] FCC Open Internet Order at 11, para 32; TSM Regulation, Art. 3(3).
[12] FCC Open Internet Order at 11, para 21
[13] *Id.*
[14] BEREC Guidelines at 16-17; The FCC addresses transparency separately. "A person engaged in the provision of broadband Internet access service shall publicly disclose accurate information regarding the network management practices, performance, and commercial terms of its broadband Internet access services sufficient for consumers to make informed choices regarding use of such services and for content, application, service, and device providers to develop, market, and maintain Internet offerings." 47 C.F.R. § 8.3.
[15] BEREC Guidelines at 17.

reasonable. So long as the enforcing agency retains sufficient flexibility to address undesirable management practices, a list of factors that will be considered when assessing a practice's reasonability may provide greater certainty for regulated entities and promote accountability and consistency on the part of the regulator.

The risks of attempting to define or classify traffic for the purpose of differential treatment by network operators may outweigh the potential benefits. While an objective classification system may offer some additional certainty for network operators, a system to tailored to existing technologies may lose relevance as new technologies emerge and application usage trends develop. With or without objectively defined classes of traffic, traffic management practices should be application-agnostic. That is not to say that latency-sensitive traffic may not be prioritized over other kinds of traffic, but rather that specific applications should not be prioritized over other similar applications.[16] Differential treatment of traffic on an application-specific basis inherently creates the kind of discriminatory effects net neutrality regulation strives to prevent. By contrast, user-defined traffic management policies, although perhaps difficult to implement, do not conflict with the concept of net neutrality so long as users are not subject to coercive pressures or other inappropriate influences from network operators. In general, an exception for reasonable traffic management should view favorably those practices that improve the average quality of experience (QoE) without significantly impacting any individual's QoE.

Conclusion

The interaction between traffic management and net neutrality policies is inherently difficult to negotiate. In practice, no network can be truly "neutral" and must, instead, have some policy by which to decide in what order to process and transmit packets through the network. Indeed it is desirable, from the perspective of both end users and network operators, to manage network traffic so that network capacity is maximized and the quality of users' experience is optimized. Such network management necessarily requires prioritizing some kinds of traffic over others. Though differential treatment of traffic runs counter to a strict definition of network neutrality, the goals of traffic management and net neutrality are not mutually exclusive. The current (as of the filing date in this proceeding) US and EU net neutrality regulations are both strong models from which India might draw inspiration. CDT thanks the TRAI again for its dedicated pursuit of these goals and looks forward to seeing India combine the strengths of the US and EU regulatory approaches to secure lasting open internet protections for India.

Respectfully,

Stan Adams

[16] The term "application" may, itself, be confusing. For instance, Voice over Internet Protocol (VoIP) may be referred to as an example of a latency-sensitive application, but at the same time, a company's individual VoIP offering (such as Whatsapp, Viber, Skype, etc.) is also an application. Prioritizing VoIP traffic over less latency-sensitive traffic may be reasonable, but prioritizing the VoIP traffic an individual company over other VoIP traffic is not.