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June 29, 2020

Follow-up Comments after the TRAI Open House on June 24, 2020 on TRAI Consultation Paper on "Traffic Management Practices (TMPs) and Multi-Stakeholder Body for Net Neutrality"

I welcome the opportunity to submit follow-up comments on the TRAI Consultation Paper on "Traffic Management Practices (TMPs) and Multi-Stakeholder Body for Net Neutrality" after the TRAI Open House on June 24, 2020.

I submit these follow-up comments as a professor of law and, by courtesy, electrical engineering at Stanford University whose research focuses on Internet architecture, innovation and regulation. I have a Ph.D. in computer science and a law degree and have worked on net neutrality for the past twenty years. My book "Internet Architecture and Innovation," which was published by MIT Press in 2010, is considered the seminal work on the science, economics and politics of network neutrality. My papers on network neutrality have influenced discussions on network neutrality all over the world.¹ I have testified on matters of Internet architecture, innovation and regulation before the California Legislature, the US Federal Communications Commission, the Canadian Radio-Television and Telecommunications Commission, and BEREC.² The FCC's 2010 and 2014 Open Internet Orders relied heavily on my work. My work also informed BEREC's 2016 net neutrality implementation guidelines as well as the 2017 Orders on zero-rating by the Canadian Radio-Television and Telecommunications Commission, and TRAI's 2016 Order on zero-rating. Finally, I served as technical advisor for California's net neutrality law, which took effect in January 2020. I have not been retained or paid by anybody to participate in this proceeding.³

These comments draw heavily on my existing writings on net neutrality. I would welcome the opportunity to discuss these important issues further.

¹ See, e.g., van Schewick (2007); Frischmann & van Schewick (2007); van Schewick (2015b).

² See, e.g., van Schewick (2008); van Schewick (2010c); van Schewick (2010b); Federal Communications Commission (2014).

³ Additional information on my funding is available here: <http://cyberlaw.stanford.edu/about/people/barbara-van-schewick>.

Overview

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There is a need for TRAI to explicitly spell out some of the requirements for traffic management already included in the existing license conditions. 3

TRAI should adopt the clarifications recommended in my comments and reply comments. Most importantly, it should clarify that to be “proportionate” and, therefore, “reasonable”, traffic management measures need to be as application-agnostic as possible. This requirement is already implicitly included in the current license conditions. 5

TRAI should explicitly reject ISPs’ invitation to change the Indian net neutrality framework in response to 5G. 7

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At the Open House, TRAI rightly stressed that it does not intend to re-open the Indian net neutrality framework. I strongly support that approach.

However, the recommendations included in my earlier comments and reply comments in response to this consultation do not re-open the net neutrality framework. As I explain there, my recommendations merely clarify requirements that are already included in the existing framework, although they have not been spelled out explicitly.

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As the Open House demonstrated, there is a need for TRAI to explicitly spell out some of the requirements for traffic management already implicitly included in the existing license conditions. Doing so would reduce uncertainty in the market, respond to DoT's request that led to this consultation, and add important details explicitly set out in other leading net neutrality regimes, including in the FCC's 2015 Open Internet Order, the California net neutrality law, BEREK's net neutrality guidelines, and the Canadian Order laying out requirements for traffic management in Canada.

As the discussion at the Open House demonstrated, significant uncertainty exists as to the requirements for reasonable traffic management under the current framework for net neutrality in India. Civil society groups and others agree with my comments and reply comments that the current license conditions already require traffic management practices to "be as application-agnostic as possible." Traffic management measures that fail that test would not be proportionate and, therefore, reasonable, under the existing license conditions. By contrast, speakers representing providers of Internet access service or their trade groups repeatedly suggested that differentiating among classes of applications would constitute reasonable traffic management.

As TRAI recognized in its 2016 Order on prohibiting discriminatory tariffs for data services,⁴ such uncertainty has many harmful effects.

For example, providers of Internet access services do not know how they are allowed to manage their networks, while providers of Internet applications, content, and services do not know whether they will be protected against discriminatory traffic management, which affects their incentives to innovate and their ability to get funding.

Not resolving these uncertainties now will require DoT to resolve these uncertainties case-by-case in the future, which increases the costs of regulation and distorts the playing field against smaller stakeholders including start-ups, small businesses, low-cost speakers, or civil

⁴ TRAI 2016 Discriminatory Tariffs for Data Services Order, p. 13.

society groups which often lack the funds and resources to bring costly complaints in the future. I lay out the problems resulting from uncertainty on pages 23, 70-83 of my 2015 paper entitled *Network Neutrality and Quality of Service: What a Non-Discrimination Rule Should Look Like*, which was attached to my original comments in this consultation. Rather than copy the relevant text into this document, I include it by reference here.⁵

Reducing the existing uncertainty around what counts as reasonable traffic management is exactly what DoT asked TRAI to do in this consultation. In its letters, DoT asked TRAI “to recommend necessary Traffic Management Practices (TMPs) for consideration of DoT.”⁶ As multiple commenters on all sides of the network neutrality debate have pointed out in this consultation, it is not feasible to adopt a list of traffic management practices that constitute reasonable traffic management practices under the license conditions for a number of reasons. In particular, whether a traffic management problem can be solved in an application-agnostic way may depend on the network technology or the specific conditions in the network. Listing specific practices would also make it harder for technology to evolve by limiting providers of Internet access services to the specific practices listed as reasonable by DoT.

By contrast, providing additional detail about how to evaluate whether a traffic management practice is reasonable does not limit providers of Internet access services to a pre-defined set of traffic management practices, allowing innovation in traffic management practices, while also allowing them (and equipment vendors) to determine whether a new practice will be reasonable or not.

As the experience in the U.S. since 2009 and in Canada since 2010 has shown, clarifying that traffic management has to be as application-agnostic as possible is specific enough to give guidance to the market without constraining innovation in traffic management practices. In fact, the FCC’s 2009 Order requiring Comcast to manage congestion in an application-agnostic way resulted in the adoption of application-agnostic congestion management practices by all providers of fixed Internet access services in the U.S. and triggered renewed interest in application-agnostic congestion management by the Internet Engineering Task Force and equipment vendors, resulting in significant innovation.

Thus, while providing an exhaustive list of specific traffic management practices that qualify as reasonable traffic management practices is neither possible nor advisable, clarifying the criteria used to determine whether traffic management is proportionate and, therefore, reasonable, gives DoT and market participants the tools they need to evaluate traffic management practices in specific cases. It answers DoT’s request for guidance on what counts as reasonable traffic management without limiting ISPs to a list of predefined practices.

Finally, adopting the clarifications recommended in my comments and reply comments would bring the Indian network neutrality regime in line with other leading network neutrality

⁵ van Schewick, 2015, *Network Neutrality and Quality of Service*, pp. 23, 70-83.

⁶ TRAI 2020 Consultation Document, p. 3-4.

regimes in the U.S. (the 2015 Open Internet Order and the California network neutrality law, which took effect in January 2019), Europe and Canada, which all found it necessary to specify the requirements for reasonable network management in more detail than is currently included in the existing license conditions. The recommendations in my comments and reply comments are based on these regimes.

TRAI should adopt the clarifications recommended in my comments and reply comments. Most importantly, it should clarify that to be “proportionate” and, therefore, “reasonable”, traffic management measures need to be as application-agnostic as possible. This requirement is already implicitly included in the current license conditions.

At the Open House, TRAI explained that “content” also includes applications and services and that “discriminatory treatment” includes a broad range of practices.

However, the terms “content” and “discriminatory treatment” are not explicitly included in the definition of reasonable traffic management. Thus, while the current licensing conditions implicitly include the requirement for traffic management to be as application-agnostic as possible, they do not yet specify it explicitly.

It seems worth clarifying that TRAI uses the word “content” in the way that other net neutrality regimes use the word “applications and class of applications” – as an umbrella term that denotes content, applications, and services.

To see this, consider the language I proposed in my comments in this proceeding, which is taken from the California network neutrality law SB 822. That law codifies the net neutrality protections that were in place at the federal level after the adoption of the 2015 Open Internet Order.⁷ The law took effect on January 1, 2019.

Proposed language:

*To be considered “proportionate,” network management practices has to be primarily used for, and tailored to, achieving a legitimate network management purpose, taking into account the particular network architecture and technology of the broadband Internet access service, and **be as application-agnostic as possible.***

“Application-agnostic” means not differentiating on the basis of source, destination, Internet content, application, service, or device, or class of Internet content, application, service, or device.

“Class of Internet content, application, service, or device” means Internet content, or a group of Internet applications, services, or devices, sharing a common characteristic, including, but not limited to, sharing the same source or destination, belonging to the same type of content,

⁷ https://leginfo.legislature.ca.gov/faces/billTextClient.xhtml?bill_id=201720180SB822.

application, service, or device, using the same application- or transport-layer protocol, or having similar technical characteristics, including, but not limited to, the size, sequencing, or timing of packets, or sensitivity to delay.

The net neutrality regimes in the U.S. (2015 Open Internet Order and California net neutrality law), Canada, and Europe all explicitly specify that the term “discrimination against applications” also includes discrimination against classes of application. While the Indian licensing conditions do not say so explicitly, in India the term “applications” in the definition of “content” has always been interpreted to also include classes of applications (e.g., online video). For example, the prohibition on discriminatory tariffs for data services, which includes the same term, has always been interpreted to also prohibit zero-rating programs that zero-rate all applications in a class (e.g., all online video).

Thus, TRAI’s reference to “content” is not different from other regimes’ reference to “applications.” If TRAI wanted to maintain the word “content” as the umbrella term, it could change the proposed language as follows:

Modified Proposed language:

*To be considered “proportionate,” network management practices has to be primarily used for, and tailored to, achieving a legitimate network management purpose, taking into account the particular network architecture and technology of the broadband Internet access service, and **be as CONTENT-agnostic as possible.***

“CONTENT-agnostic” means not differentiating on the basis of source, destination, Internet content, application, service, or device, or class of Internet content, application, service, or device.

“Class of Internet content, application, service, or device” means Internet content, or a group of Internet applications, services, or devices, sharing a common characteristic, including, but not limited to, sharing the same source or destination, belonging to the same type of content, application, service, or device, using the same application- or transport-layer protocol, or having similar technical characteristics, including, but not limited to, the size, sequencing, or timing of packets, or sensitivity to delay.

However, the additional detail included in the foregoing definition is important for the day-to-day application of the reasonable traffic management exception.

The additional clarifications that TRAI should adopt are listed on pp. 14-22 of my reply comments.

Finally, TRAI should clarify that specialized services are only “necessary” if the content, application, or service in question cannot function on the normal internet. As I explained in my reply comments and at the Open House, this is a critical clarification to ensure that the specialized service exception cannot be used to circumvent the ban on paid prioritization in license condition 2.5.(ii) or the ban on discriminatory treatment of content in license condition

2.5.(i).⁸ This clarification is particularly important in the context of the debate over net neutrality and 5G.

TRAI should explicitly reject ISPs' invitation to change the Indian net neutrality framework in response to 5G.

Finally, I welcome and strongly support the Chairman's clarification at the Open House that TRAI does not see a need to change its net neutrality framework for 5G.

As the Open House demonstrated, Indian providers of Internet access services would like TRAI to take a different approach. Given the explicit invitation by ISPs in their comments and reply comments in this consultation to change the Indian net neutrality framework in response to 5G, explicitly rejecting this invitation as part of TRAI's response to the consultation seems critical. Doing so in writing would provide much-needed certainty to the market and unequivocally resolve this question.

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In 2016, TRAI adopted the world's leading net neutrality framework for differentiated pricing practices.

However, technical discrimination and economic discrimination by providers of Internet access services have the same negative impact on competition, innovation, free speech, and user choice. Thus, the great framework for differentiated pricing practices that TRAI adopted in 2016 will ultimately be meaningless if it is not complemented by an equally strong net neutrality framework for technical practices.

In 2017, TRAI took important steps to close this gap by adopting meaningful license conditions that protect Indian Internet users against discriminatory technical practices by the companies they pay to get online. In this consultation, TRAI has the chance to finish the work it has already done to adopt an equally strong framework for technical practices by clarifying necessary details of its framework.

The recommendations I made in this consultation are already implicitly included in the existing license conditions and do not require TRAI to make any changes to its existing policies. They would bring the Indian framework for technical discrimination in line with other leading net neutrality regimes around the world. I hope TRAI can adopt them.

⁸ van Schewick 2020 Reply comments, pp. 26-33.