



Date: 5th July 2016

Advisor (QoS)

Telecom Regulatory Authority of India
Mahanagar Door Sanchar Bhawan
Jawahar Lal Nehru Nagar, New Delhi - 110002

Dear Sir,

Re: Comments on Pre-Consultation Paper on Net Neutrality

1. We would like to thank Telecom Regulatory Authority of India ("TRAI") on progressing the debate on Net Neutrality by issuing this pre-consultation paper and providing an opportunity to all the stakeholders to register their opinions on this very important matter concerning Internet in India.
2. As you are aware, India with a population of more than 1,250 million has more than 331 million Internet subscribers, out of which more than 135 million are Broadband subscribers. This reflects that Internet penetration is still relatively low in India and growth, connectivity and coverage are the areas which the industry needs to focus on. Given the stage of Broadband Internet penetration in India, it will be very useful if TRAI is able to resolve and provide complete clarity on all the aspects of Net Neutrality. We feel that such clarity will go a long way in inviting investments into the sector, which investments in turn will enable faster Internet penetration and economic development of the country. However, considering the relative stage of development of the ecosystem in India, the rules should not be rigid but flexible in order to promote innovation rather than stifle growth in this sector.
3. Following are few key aspects which we believe are particularly important in the context of this consultation paper.

4. Clarity on the concept of Paid Prioritization

- a. We feel that one of the key aspects that require clarification in the discussion paper is the concept of Paid Prioritization. Some of the relevant extracts of Paid Prioritization covered in the TRAI pre-consultation paper dated 30th May 2016 are reproduced below for the sake of convenience:

" 17. The following are some practices that may be regarded as unreasonable interference with Internet traffic by a TSP:

...



- *Preferential treatment of applications, websites or any other content on the Internet;*
..."

"18. In the absence of a clear regulatory framework on net neutrality, advanced traffic management techniques can potentially be used by an operator for discriminatory or anti-competitive purposes. For instance, a TSP could use its control over internet access services to discriminate against any competitors that rely on its network or offer paid prioritization to certain services. On the other hand, adherence to strict net neutrality rules could make it difficult for TSPs to deal with congestion and deliver the desired quality of service (QoS) to their users. An appropriate policy and regulatory approach on these issues will therefore have to strike a fine balance between these competing interests."

International Experience – European Union

"31. Exemptions have been made to allow providers to offer priority to "specialised services", which are optimised to meet specific quality requirements, provided that they do not harm open internet access."

International Experience – Japan

"34. The Guideline states that its "basic concept" is that the first response to network congestion should be increasing network capacity. Only in "exceptional circumstances" should traffic shaping be used "where the traffic of a specific heavy user excessively occupies the network bandwidth and consequently degrades the service of general users"."

International Experience – United States

"36. The Open Internet Order released by the Federal Communications Commission (FCC) in February, 2015 provides an interesting precedent.... Through this order, the FCC has laid down the following bright-line rules:

...

c. No Paid Prioritization: broadband providers may not favour some lawful internet traffic over other lawful traffic in exchange for consideration of any kind from a third party or to prioritize content and services of their affiliates."

"38. Reasonable network management has been allowed as an exception. However, the network practice must be primarily used for and tailored to achieving a legitimate network management goal - and not for a business-purpose. For example, a provider cannot cite reasonable network management to justify renegeing on its promise to supply a customer with "unlimited" data."



- b. We feel that while the pre-consultation paper highlights the concept of Paid Prioritization, it will be very helpful if TRAI can clarify certain very pertinent aspects with respect to the same.
- c. In our view, Prioritization, is carried out by assigning some packets higher priority than others. In normal scenario, a packet routed through a network encounters no congestion, and is not placed in any queues. On the other hand, if the packet encounters congestion, it is placed in a queue along with other packets, and priority levels could be used to determine the order in which packets are released from the queue and advanced through the network. As a result, whenever a higher priority packet is advanced in a queue, every packet that it passes by is left worse off and suffers degraded performance, in the form of higher latency, increased risk of packet loss, or in aggregate, lower bandwidth. Therefore, prioritization is inherently a zero-sum practice, and creates fast and slow lanes and prevents a level playing field.
- d. In contrast, Network Optimization Solutions such as interconnection that involves adding capacity through new ports, or caching, or content delivery network (CDN) services that offer a benefit by reducing the total distance of travel, not only improve the quality of service for those using the solution but also for other users that share the same local network of the TSP. This is because such solutions de-congest the existing access network. Therefore, offering a benefit of improved performance through Network Optimization Solutions (such as faster interconnection, caching, or CDN services) that does not slow down other applications or application providers, rather improves their experience, representing a very distinct issue from Paid Prioritization. In this context, improving overall performance through Network Optimization should be welcomed and should not be seen as Paid Prioritization.
- e. It may be appropriate to mention that the Open Internet Order released by the FCC (FCC-15-24-A1) have also provided for such clarity under the "Scope of Rules" in Section II-A-4. Relevant extract is reproduced below for reference.

"28. BIAS ("broadband Internet access service") involves the exchange of traffic between a broadband Internet access provider and connecting networks. The representation to retail customers that they will be able to reach "all or substantially all Internet endpoints" necessarily includes the promise to make the interconnection arrangements necessary to allow that access."

"186. ... while the BIAS encompasses arrangements for the exchange of Internet traffic, the open Internet rules ..., do not apply to that portion of the BIAS."

"190. BIAS does not include virtual private network (VPN) services, content delivery networks (CDNs), hosting or data storage services, or Internet backbone services (to the extent those



services are separate from BIAS)..., they do not provide the capability to receive data from all or substantially all Internet endpoints."

- f. In view of the above and in the interest of improving the quality of service of the network, it is felt that it is absolutely imperative to distinguish Paid Prioritization from Network Optimization Solutions such as interconnection, caching or CDN services, which inherently do not degrade but enhance other communications that share the same local network and pass through the same routers. Such optimizations would lead to overall improvement in the access network without any downsides to any participant.

5. Consideration for introduction of innovative platforms and models

- a. The TRAI pre-consultation paper dated 30th May 2016 has primarily discussed the concept of Net Neutrality under a traditional industry structure. This considers TSPs providing access on one side and OTTs having content and applications on the other side. While it is felt that this view is being carried across the pre-consultation paper, it is particularly highlighted by Question 6 which is reproduced below.

"6) What further issues should be considered for a comprehensive policy framework for defining the relationship between TSPs and OTT content providers?"

- b. With the advancements in technology and innovations in the sector, there is a growing emergence of novel business models in Telecom as well as Internet domain. A prominent area is the emergence of business models based on third party intermediaries or exchanges. Few examples in this regard are provided below.
- i. Mobile Virtual Network Operators (MVNOs): These are service providers who do not own the underlying network but yet provide voice and data services to consumers. MVNOs are essentially Value-Added Resellers (VARs) who purchase voice/data resources in wholesale, bundle additional services e.g. ringtones, and resell such bundled services to retail consumers directly using their own brand.
- ii. Messaging Aggregators: Third party messaging aggregators provide a number of value added services to consumers and enterprises including premium SMS gateways which enable marketers to advertize through text messaging. These messaging aggregators may earn revenues by charging a fee per message or a share of content revenue in case of advertising.
- c. It may be observed that these platforms have existed in the telecom ecosystem in India and abroad for quite some time and have resulted in unlocking of hidden value in the ecosystem through innovation. It is felt that introduction of similar innovative platforms would also be beneficial in the area of Internet.



- d. Therefore, in the context of this discussion, a possible innovation could be in the form of a third party intermediary or exchange platform which is agnostic to both TSPs as well as OTT content providers. This platform may have following features:
- i. Provide aggregation/ bundling services for different content in a TSP and OTT agnostic manner
 - ii. Provide technology enabled high QoS for key applications (similar to CDN providers). Such a platform, by providing high quality experience based on its innovative technology, could help enable delivery of high QoS requiring services e.g. VoIP, in a TSP agnostic manner thereby leading to a new generation of digital services to consumers and enterprises.
 - iii. The Aggregation Platform may not own any access network like TSPs; however, would have to be integrated with billing support systems of TSPs and OTTs. The platform would likely own its datacenter, switching and cloud infrastructure in order to enable delivery of content.
- e. Such an intermediary or exchange platform will enable further innovations in the ecosystem from OTTs in terms of improving their offering to the consumers.
- f. **In summary, the fundamental recognition of the need for an innovative third party TSP and OTT agnostic platform is significant towards the growth of the Internet services ecosystem. It is felt that existing business models in the telecom domain could be easily adapted to serve a new purpose in the context of Internet and thereby create a smarter Internet value-chain. Therefore, TRAI should create appropriate provisions in order to enable the development of such third party independent platforms which would spur new innovations in the sector leading to faster and equitable growth of Internet in India.**
6. May we request TRAI to consider the submission favourably and issue a clarification in this regard. We will be happy to meet and/or provide clarifications or share further thoughts with respect to the same.

Yours faithfully,

For Saxena & Saxena Law Chambers
Advocates & Attorneys


Partner

