



To

The Advisor (QoS)

Telecom Regulatory Authority of India,
Mahanagar Doorsanchar Bhawan,
Jawahar Lal Nehru Marg,
(Old Minto Road), New Delhi-02

No: RegIn/1-35/2015/ 9813

18th
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{Kind Attn: Shri. Asit Kadayan}

Sub: Comments on Consultation paper on "Traffic Management Practices (TMPs) and Multi-Stakeholder Body for Net Neutrality."

Kindly refer to your office press release dated 02-01-2020 vide which a Consultation paper on "Traffic Management Practices (TMPs) and Multi-Stakeholder Body for Net Neutrality" was released and sought inputs/ comments from the stakeholders. In this context, it is requested to condone the delay in submitting comments and consider the BSNL comments on the above mentioned consultation paper:

Question 1(a): What are the broad types of practices currently deployed by the Access Providers (APs) to manage traffic?

BSNL Reply: The broad types of practices already used by Access providers include approaches such as Crowd sourced Measurements, Field Measurements, and Audit of traffic management practices. There are many methods to manage as well as audit the Service Provider's network traffic. Traffic management methods have been continuously evolving. The baselines of these methods are the three principles:

- Technical measures of proportionate, temporary or transient nature to deal with such unexpected issues of networks cannot be static. It must be dynamic and sometimes may only be known by experience.
- The measure should not be service specific that allows throttling of heavy service data for lighter service data to flow. This can come under the principle of non-discriminatory treatment.
- DOT has to be informed every time a violation is triggered, with proper justification from ISPs for initiating a TMP, in order to ensure a proper audit of all such activities.

However, for controlling the traffic, different QoS had implemented mechanisms packet core nodes like GGSN. For example control over individual customers is implemented using PCRF to control the speed beyond the volume allowed as per tariff opted by customer. In the case of prepaid customers, the data volume is controlled by IN system whereas other parameters are controlled by PCRF.

At present Mobile Traffic is segregated into different classes and DSCP marking is applied. This DSCP is further mapped against QCI values for assigning priority such as highest priority assigned for conversational voice which is allowed as it gets terminated in the network itself and does not land on ISP end.

Question 1(b): Out of these practices, which ones can be considered as reasonable from perspective of Net Neutrality?

BSNL Reply: Traffic Management Practices must abide by the above three principles to ensure Net Neutrality. It should also be ensured that service providers are not levying Traffic Management Services as a Quality of Service. Clear distinction must be provided with unforeseen and emergency measures with TMPs and such practices must not be added as a measure to augment the Quality of Service.

It may be essential for maintaining certain QoS levels in the network. If the perspective of Net Neutrality is only taken into consideration, it may ultimately result in customer dissatisfaction due to diminished network QoS. But practices applied only to traffic carried by certain service providers are to be considered as non-reasonable from the perspective of Net Neutrality. TMPs are generally applied for improvements in network and also for the benefit of customer and hence the reasonableness may be interpreted by considering a lot of factors also other than *Net Neutrality*. A baseline specification in terms of qualitative and quantitative aspects of Internet Service shall be established on per-access technology basis in the context of Net Neutrality and compliance to the specification shall be considered while deciding whether a TMP is neutral or not. As such the presence of a TMP shall not deteriorate the experience of Internet Service below the baseline specification.

Question 1(c): Whether list of Traffic Management Practices (TMPs) can be prepared in advance or it would be required to update it from time to time?

BSNL Reply: As a general principle, the framework for assessing the reasonableness / proportionality of TMPs must be one that ensures that technically similar traffic is treated similarly by a TSP, for a limited period only as required, and for a legitimate reason such as network integrity or security, legal restrictions, or emergency measures. The traffic categories should typically be defined based on objective quality of service requirements. Accordingly, any traffic management measures that arise out of commercial rather than technical considerations should not be considered reasonable. There should be no application-specific discrimination (except when done under reasonable TMP) as there are reasonable chances of a TSP engaging in this behaviour with a commercial intent.

Question 1(d): If later is yes, then what framework would be required to be established by Multi-Stakeholder Body to keep it up to date? Please suggest with justification.

BSNL Reply: Extraordinary situations such as access emergency services, legal restrictions, and security and network integrity may be treated as exceptions to any regulation on TMPs. To avoid regulatory uncertainty, the Authority may consider laying down the parameters within which one of these limited exceptions to TMPs can be issued. With respect to any public body having the ability to notify certain services that are in public interest as exceptions to TMPs, there should be clarity on which body can issue such exceptions, and under which legislative or executive authority.

The Multi-Stakeholder Body can watch the new developments related to TMPs (because this body contains experts from concerned fields) and can take initiative to collect the details of availability/ implementation of such practices among TSPs the website of TSPs. Based on practices DOT can further provide instructions to TSPs for updating the details of new TMPs adopting by them in a periodic manner.

Question 2(a): Whether impact of TMPs on consumer's experience can be interpreted from its name and short description about it or detailed technical description would be required to interpret it in objective and unambiguous manner?

BSNL Reply: The impact of TMPs on consumer's experience cannot be interpreted from its name. A detailed technical description would be required. Some of the TMPs can negatively affect a minor percentage of customers, but advantageous to a major percentage. TRAI should be commended for taking a granular and technical approach to this issue rather than a purely rhetorical, high-level based on principles. Effective enforcement of net neutrality would require both quantitative and qualitative approaches to document consumer experiences. Therefore, allowing consumers and other interested stakeholders to submit qualitative descriptions of experiences while also simultaneously creating detailed technical descriptions and formats for submitting such data would enhance effective monitoring of access provider (TSPs and ISPs) practices at scale.

Question 2(b): In case of detail technical description, what framework need to be adopted by Multi-Stakeholder Body to document it. Please suggest with justification.

BSNL Reply: The qualitative descriptions alone, when not accompanied by the quantitative technical description, could then be used to further investigate that particular provider and geographical region by the Multi-Stakeholder Advisory Board, TRAI, or DoT as appropriate using technical tools.

A standard format of reporting the impact can be specified by the Multi-Stakeholder Body. It should clearly specify the requirement of TMP, Impact based on network performance. The name of TMP and basic method only remain the same, the effects in network as well as customer experience feedback will vary depending upon the scenario and requirement in which TMP was applied.

Specifically, BERC's Net Neutrality Regulatory Assessment Methodology lists out technical specifications categorised into speed measurements, delay and delay variation measurements, and packet loss measurements categories that can serve as a framework for the detailed technical description that can be notified by TRAI and DoT.

Question 3: What set up need to be established to detect violations of Net Neutrality, whether it should be crowd source based, sample field measurements, probe based, audit of processes carried out by access providers or combination of above? How to avoid false positives and false negative while collecting samples and interpreting Net Neutrality violations? Please suggest with justification.

BSNL Reply: Regulators may use crowdsourcing of consumer complaints in conjunction with data analytics to identify such TMPs in violation of principles and create a list of prohibited TMPs on this basis. TMPs which are not part of this list may be allowed, subject to periodical update of the list as mentioned above.

TRAI could consider adopting or developing applications that detect violation of net neutrality. For example, researchers from North eastern University and the University of Massachusetts Amherst in the USA have developed a mobile app, known as Wehe, which informs users if their network providers are giving differing levels of quality of service (QoS) to different apps on their phones.

This enables users to see if a provider is throttling based on specific content, and empowers users to be aware of net neutrality violations that they otherwise might not be able to detect, and can serve as an effective and efficient reporting tool.

Question 4: What should be the composition, functions, roles and responsibilities of Multi-stakeholder Body considering the decision of DoT that Multi-stakeholder body shall have an advisory role and formulation of TMPs and Monitoring & Enforcement (M&E) rest with DoT? Please suggest with justification.

BSNL Reply: Multi-stakeholder approaches are important to promote the developmental potential of the Internet and to maintain its universal character. In this regard, added clarity of the scope of Multi Stakeholder Body's advisory functions would be desirable, especially with respect to a monitoring and enforcement framework for net neutrality.

The Multi-stakeholder body may comprise of members representing different categories of TSPs and ISPs, large and small content providers, representatives from research and academia, civil society organizations and consumer representatives. The members need to be from a broad cross-section of the Internet community to discuss and opine on technical issues pertaining to the operation of the Internet.

It needs adequate representation of all service providers and content providers along with consumer representatives to ensure transparency and inclusion of all perspectives.

Such a mechanism exists in the United States in the form of the Broadband Internet Technical Advisory Group¹ which has produced many important reports on technical aspects of Internet access service and network management. A similar process may be fruitful in India.

Also, the MSB should have an advisory role which can propose standards and same can be reviewed and enforced by the licensor i.e DOT. Since DOT is directly interacting with TSPs as licensor at present very effectively, this architecture is preferred. Hence it is preferred that all

interactions with TSPs are through DOT who can take a view on the advice of MSB before passing it to TSPs.

Question 5: Whether entry fee, recurring fee etc for membership need to be uniform for all members or these may be on the basis of different type or category of membership? What may be these categories? What policy may be adopted for initial set up of Multi-stakeholder Body? Please suggest with justification.

BSNL Reply: In order to ensure that the agenda and functioning of the multi-stakeholder body does not get captured by its richest members (which would typically be access providers), there should be one uniform category of memberships and no membership fee to participate in the body.

The membership fees and other contributions can be determined using a mechanism based on the operating costs of the MSB, such that it is divided among the members in a prorated manner based on the category to which they belong.

The body should be funded by the Indian Government, with a provision for members and other interested parties to be able to donate funds to the body without any corresponding increase in their rights or privileges in the body.

These operational funds could be provided by the DoT, the TRAI, or from other funds that focus on the telecom sector such as the Universal Service Obligation Fund (USOF). The USOF is currently transferred to the Consolidated Fund of India and parliamentary approval could be obtained for using a small fraction of the large pool to fund the multi-stakeholder body.

Question 6: What mechanism may be prescribed to determine fee and other contributions from its members towards expenditure in a fair and non-discriminatory manner? Please suggest with justification.

BSNL Reply: Same as replied in question 5.

Question 7: What should be the guiding principles and structure of governance of Multi-stakeholder Body? What may be the roles and responsibilities of persons at different positions such as chairing the organisation or working groups, governing the functioning, steering the work etc. Please suggest with justification.

BSNL Reply: The fair, reasonable, and non-discriminatory principle should ideally be incorporated into the founding charter of the body and be made an integral part of its standard operating procedures.

The multi-stakeholder body should be supported by a full-fledged secretariat, with dedicated departments for its various functions, in order to ensure that its members have sufficient personnel and resources to effectively fulfil their mandate.

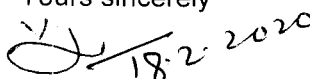
Such a secretariat could have staff and office bearers which could, in turn, report to the multi-stakeholder body.

The procedures and processes of the Brazilian Internet Steering Committee (which can be condensed for the net neutrality context, since the CIG has a much wider mandate) can be studied and adopted as appropriate.

Question 8: Any other issues which is relevant to this subject?

BSNL Reply: No Specific Comments.

The Hon'ble Authority is requested to kindly consider the BSNL's views/ comments on above mentioned Consultation paper.

Yours sincerely

(Ved Prakash Verma)
AGM (RegIn-II)