Response to
TRAI Consultation Paper
on
Net Neutrality
Released on January 04, 2017

PREAMBLE:

I. INTRODUCTION:

1. At the outset, we would like to state that **Industry is fully committed towards connecting the 1 Billion Unconnected Citizens of India and fully supports the Digital India vision** of the Government of India. The Industry suggests adoption of policies and promoting ecosystem which enables fulfillment of this vision.

II. SCOPE OF THE CONSULTATION TO BE ENHANCED:

1. **Need for comprehensive discussion and holistic view**

   a. Any discussion on Net Neutrality needs to be comprehensive and should not focus only on traffic management which is just one aspect of Net Neutrality.

   b. The comprehensive discussion should cover the following issues:

      i. Issues relating to OTT Communication Service Providers: Same Service Same Rules
      ii. Economic Issues
      iii. Security and Privacy Related issues
      iv. Pricing aspects of traffic
      v. Treatment of free data

   c. Further, we would like to express our concern regarding the piece-meal addressal of the issue of Net Neutrality and re-commencement of de novo consultations on Net Neutrality confined only to traffic management without dealing with the key issues related to OTT Players.

   d. The Authority had issued a detailed Consultation Paper in March 2015, covering the larger subject of Regulatory Framework for OTT Services, where Net Neutrality was

also dealt with as an inter-linked issue. The comments and counter comments were duly submitted by all the stakeholders but no Open House Discussion was held in the matter and nor did the Authority submit any recommendations on the subject. Thus, the well-established Consultation process was not completed by the Authority.

e. In contrast, a special high-level Committee of the Department of Telecommunications (DoT) held consultations with all stakeholders at the same time and came out with its detailed Report and Recommendations in May 2015 on the technical, regulatory and public policy related measures required with respect to the Net Neutrality issue. The DoT/Government while seeking the views of the stakeholders on the Committee Report noted that TRAI was also engaged in consultations on the issue and its recommendations were awaited so that the Government could take an appropriate decision on the issue. It is reasonable to presume that the Policymaker, DoT, had taken cognizance of all issues relating to OTT & Net Neutrality but is awaiting TRAI's recommendations to take a final decision in this matter.

f. However, in December 2015, TRAI initiated a Consultation on pricing aspects of data services that were a part of its March 2015 consultation; and in February 2016, issued a Tariff Regulation prohibiting differential tariffs based on content.

g. Further, TRAI, in 2016, initiated fresh Consultation and in a pre-consultation Paper raised issues that were already a part of the earlier consultation viz. core principles of net neutrality, reasonable traffic management practices, security and privacy issues related to OTT services. Regarding its earlier 2015 consultation on Regulatory Framework for Over-the-top (OTT) services, it was stated that the views on the framework are under consideration by the TRAI.

h. **It is submitted that by adopting the piece meal approach, as highlighted above and not addressing the larger subject in a holistic manner; the TRAI is only adding ambiguity and uncertainty to the regulatory framework.** We note that in the present consultation, the TRAI has further dropped the security and privacy related issues pertaining to OTT players that were raised in the pre-consultation and has now confined itself to traffic management practices and the implementation of the NN framework only.

i. It is submitted that it is important to first have a final view on the core principles of Net Neutrality that will be laid down by the Government before engaging in discussions on how those core principles will be implemented. Needless to say, a decision on the regulation of OTT players is a critical and inter-linked issue.

j. **We, therefore, request the Authority to take a holistic view on the subject of Net Neutrality and OTT services. All the interim consultation/decisions on**

differential pricing, free data, etc. should get subsumed into the final decision taken by the Government.

2. **Defining the relationship between TSPs and OTT communication providers**

a. We note that the TRAI by not dealing with the issues arising out of OTT communication services is placing licensed entities on a lower footing than unlicensed entities and allowing the regulatory arbitrage to continue. This is despite the fact that both the TRAI and the DoT Committee recognize the adverse impact of OTT communication services and the need to regulate these, which is evident from the following.

i. **TRAI Consultation Paper on Regulatory Framework for Over-the-top (OTT) services dated March 2015:**

"3.3. From the national perspective, the public policy issues can be broadly classified into the following three categories:

- *Regulatory Imbalances*
- *Impact on the economy*
- *Security Issues*

The TSPs fall under a regulatory regime whilst OTT players are simply bypassing such a regime

3.19. The revenue losses of the TSPs will also lower various Government revenues. It will also result in lower accumulation of Universal Service Obligation Fund (USOF) for the Government, which is a percentage of the revenues earned by the TSPs. The loss in revenue for the TSPs will also lead to less return on their network investments which could substantially derail their investment capability. This will lead to less investment in the infrastructure.

3.20. Communication services that use internet for transmission like VoIP and instant messaging have security implications primarily because they bypass the regulatory regime enforced on conventional voice and messaging services provided by TSPs

3.21…..In terms of regulation, LI reposes an obligation on TSPs to grant Law Enforcement Agencies (LEAs) access to their network/services. However, no such provision exists for OTTs.

3.26. Besides security challenges at the national level, OTT communications and OTT media can pose a threat to privacy.

3.27. To sum up, national policy issues arising from the rapid growth of OTT services need to be addressed

6.6 …. There is a need for the Government to ensure proper regulatory balance to ensure a level playing field in terms of regulatory compliance."

ii. **DoT Committee Report on Net Neutrality dated May 2015:**

***"8.9** The problem is further exacerbated from the regulatory angle when viewed in the context of a licensed service provision co-existing with an unregulated service both competing for the same set of customers especially when the regulated service provider rides on the network infrastructure of the licensee to deliver the service. The existence of a regulatory arbitrage in addition to the pricing arbitrage adds a degree of complexity that requires a calibrated response to bring about a level playing field.*

***8.11** In view of the above discussions, the committee recommends the following:*

(iv)The existence of a pricing arbitrage in VoIP OTT communication services requires a graduated and calibrated public policy response. In case of OTT VoIP international calling services, a liberal approach may be adopted. However, in case of domestic calls (local and national), communication services by TSPs and OTT communication services may be treated similarly from a regulatory angle for the present. The nature of regulatory similarity, the calibration of regulatory response and its phasing can be appropriately determined after public consultations and TRAI's recommendations to this effect.

***9.8** The Committee also feels that existence of a regulatory arbitrage and a price arbitrage between TSPs services and OTT communications services resulting from a non-level playing field needs to be taken note of. ….Consequently, ensuring a policy and regulatory level playing field in OTT domestic voice communications is extremely important at the present juncture.*

9.10 To summarize, the Committee favours regulatory oversight on OTT communication service providers …."

iii. **TRAI- 2016 Pre-consultation on Net Neutrality dated May 2016:**

"22….. The absence of a detailed regulatory framework governing OTT communication services can have a number of implications, including for telephone number management, public safety, emergency number access and national security.

23. Besides security challenges at the national level, OTT communications and OTT media can also pose a threat to the privacy of individual users…. This calls for a need to examine the legal and regulatory framework required for governing the privacy of users of OTT services."

b. In view of the above, it is a matter of deep concern that OTT communication players continue to be unregulated whilst the TSPs who hold valid licenses issued under law and operate under a very strict and rigorous regulatory framework are being treated on a lower footing. Further, while TSPs are subjected to strict data privacy rules and confidentiality provisions, however, the OTT communication players are not subject to such rules.

c. **Principles of Equality under Article 14 of the Constitution of India require - Same Service same Rules**

i. We would further like to highlight that services offered by OTT players are a perfect substitute of PSTN/ Voice Services, but with no prescribed QoS standards.

ii. OTT players are outside the licensing regime. This disturbs the level playing field;
- Lower consumer protection
- Lower control on illegal/ harmful internet content
- Business models which exist by not paying license fee payments and other related revenue charges

iii. Article 14 requires all stakeholders who offer similar/ substitutable services to be brought within the same licensing / regulatory regime. Ref. *United Cable Operators Welfare Association vs. Telecom Regulatory Authority of India Appeal no. 3 (c) of 2012 dated 19th October 2012 (TDSAT) : The Apex Court in its judgment in Reliance Energy Ltd. vs. Maharashtra State Electricity Development Corporation Ltd. reported in (2007) 8 SCC 1.* ***By reason of providing such level playing field, it is essential to give equal opportunities to the concerned parties. An atmosphere must be created so as to enable the players similarly situated to compete with each other....***

..... The concept of level playing field, therefore, has been held to attract not only Article 14 of the Constitution of India, but also Articles 19(1) and 21 thereof. Keeping that point of view this Tribunal will have to consider as to whether by reason of the Impugned Tariff Order, the Regulation is violative of the concept of 'level playing field' ....

d. In light of above, we request the Authority not to differentiate between One Class of Service Providers over the others. **In this regard, the industry has put forth that the principle of "Same Service, Same Rules" should apply on OTT communication service providers.**

e. **<u>We recommend the introduction of a light touch and future fit regulatory framework for all communication services.</u>**

3. **National Security and Privacy:** National security and privacy issues are of paramount importance, regardless of treatment of net neutrality. Accordingly, the regulatory framework must ensure their primacy and it is strongly recommended that no exception should be made for any service provider, including the OTT communication service providers, while subjecting them to the rules to meet the national security and privacy norms, i.e. same service same rule should be established for similar service providers.

4. **Differential Pricing and Free Data:**

   a. With respect to the pricing aspects, TRAI issued Consultation paper on 9th December 2015 and issued a Regulation on "Prohibition of Discriminatory Tariffs for Data Services Regulations, 2016" on 8th February 2016. In the Press Release to the Regulation, TRAI submitted that:

   "While formulating the Regulations, the Authority has largely been guided by the principles of Net Neutrality seeking to ensure that consumers get unhindered and non-discriminatory access to the internet. These Regulations intend to make data tariffs for access to the internet to be content agnostic".

   b. In this regard, we would like to submit that since the core principles of the Net Neutrality is yet to be recommended by TRAI and notified by the Government, we are of the view that the issue of the discriminatory pricing should be taken up again for discussion under the consultation paper of Net Neutrality.

   c. With respect to the Free Data, TRAI issued its Recommendations on 19th December 2016 on "Encouraging Data usage in Rural Areas through Provisioning of Free Data after having consultation with the stakeholders".

   d. These Recommendations are under consideration by DoT. In this regard, we would like to submit that both the FCC and the EU do not see all instances of free data as a violation of Net Neutrality principles.

   e. In its statement date February 3, 2017 FCC Chairman Ajit Pai issued the following statement at the end of the investigation into wireless carriers' free data offerings:

   "Today, the Wireless Telecommunications Bureau is closing its investigation into wireless carriers' free-data offerings. These free-data plans have proven to be popular among consumers, particularly low-income Americans, and have enhanced competition in the wireless marketplace. Going forward, the Federal Communications Commission will not focus on denying Americans free data.

Instead, we will concentrate on expanding broadband deployment and encouraging innovative service offerings."

f. In light of above we are of the view that the aspect of Free Data should be again reviewed under the present Net Neutrality Consultation.

g. Further, to ensure regulatory consistency, TRAI should amend and merge the Tariff Regulation on Differential Pricing with its recommendations resulting from the present consultation. COAI supports the objective of ensuring that consumers have non-discriminatory access to content on the internet. Differential treatment, however, is not inherently the same as discriminatory treatment. Differential pricing – more specifically, zero rating – can be offered in a non-discriminatory manner that is both consistent with the principles of net neutrality and beneficial to consumers. For example, it is not discriminatory if a zero-rated offer includes any content that meets the same, uniformly applied technical requirements. Similarly, it is not discriminatory if a zero-rating arrangement is available to all content providers on the same terms and conditions, even if some content providers choose not to participate.

h. As both the U.S. and E.U. have found, zero rating is not a per se violation of net neutrality. In the U.S., zero rating programs were subject to case-by-case evaluation under a flexible general conduct rule, and now, with the recent announcement, even this evaluation is likely to be done away with. The E.U. also has adopted a permissive regime for zero rating, and has rejected any categorical ban. Similar to the examples of U.S. and E.U., **we submit that TRAI should adopt a flexible approach, with only ex- post intervention.**

i. We believe differential pricing, including zero rating, are powerful tools to promote the objectives of access and affordability to the users within the ambit of Net Neutrality.

5. **The principles of net neutrality should apply for all stakeholders in Internet ecosystem:**

The consultation paper is dealing with the aspects of net neutrality only in the context of TSPs whereas other stakeholders have been left out. The Internet ecosystem is not limited to TSPs only but it involves other critical players such as content providers, handset manufacturers, OTT players, operating system, cloud players, CDN players, etc. We believe that all these players should be subject to the same net neutrality rules to ensure that all entities are treated equally. For example, the rules of privacy, which is applied on TSPs, should be made applicable on other players also dealing with customer data. Similarly, throttling can be done by the content provider as well. Other practices such as preferential access, default messaging applications, pre-burning etc. needs to be reviewed under net neutrality framework.

III. NET NEUTRALITY IN INDIAN CONTEXT:

1. Net Neutrality is not a defined concept and while its meaning may remain the same i.e. consumers free to choose content/ operators however, the principles of implementing and ensuring Net Neutrality will have to be necessarily viewed in the context of the relevant internet market. E.g. when Internet was still new in the developed countries there was no debate on Net Neutrality because the focus was access and exposure to as many subscribers along with investment for internet expansion. India is at a nascent stage of its expanding internet industry. While the minuscule digital equipped individuals have moved on to the debate of freedom to choose content and operators, the digitally handicapped majority does not even understand the difference in forms of content.

2. **Importance of Broadband:** As per a Brookings Research Paper[1], extending internet access to levels seen in developed countries today means that long run productivity could be enhanced by as much as 25% in developing countries. It is estimated that the resulting economic activity could generate $2.2 trillion in additional GDP, a 72% increase in the GDP growth rate, and more than 140 million new jobs. As per Analysis Mason, an increase in broadband penetration of 1% is estimated to have contributed INR 162 billion, or 0.11% to Indian GDP in 2015.

Economic and Social Impact of Improved Internet Access in the Developing World	
Productivity Gains	+25%
Total GDP Improvement	$2.2 Trillion
GDP Growth Gain	+72%
New Jobs	140 Million Jobs
Personal Income Gains	$600 Per Person Each Year
Number Lifted Out of Extreme Poverty	160 Million People
Lives Saved Through Improved Health Care	2.5 Million Lives

Source: Brookings, Deloitte, Value of Connectivity: Economic and social benefits of expanding internet access, February 2014.

3. **State of Broadband/Internet Penetration in India:** India is a market where 70% of the population still does not have the benefit of mobile data services. In comparison to other BRIC countries, India ranks the lowest with respect to the Internet adoption rate. The internet adoption rate in other member-nations of BRIC is more than 3 times that of India.

4. **Priority for India:** The immediate priority in India is to ensure that the affordable broadband services are adopted and utilized by a vast mass of unconnected and low net usage citizens. The roll-out of Broadband and Internet services requires enormous investments to the tune of INR 500,000 crores over the next 3-5 years.

[1] Source: http://www.brookings.edu/~/media/research/files/papers/2015/02/13-digital-divide-developing-world-west/west_internet-access.pdf

5. **Equality in internet/Broadband access to all:** India's internet/Broadband access problem cannot be solely solved by private sector business models. Government policy and regulatory priority in the Indian context should be focused on welfare measures that result in Internet/Broadband penetration. Thus, instead of focusing on 'Net Neutrality' which is a concept of digitally privileged, the Regulator must insist on equality in internet/Broadband access to all.

   The Supreme Court in the Constitution bench judgment ***Indra Sawhney etc. vs. Union Of India and Ors. (1992)3SCC217*** held that:

   "It is no longer necessary to emphasize *that equality contemplated by Article 14 and other cognate Article including Article 15(1), 16(1), 29(2) and 38(2) of the Constitution, is secured out only when equals are treated equally but also when unequals are treated unequally. Conversely,* ***when unequals are treated equally, the mandate of equality before law is breached.*** *To bring about equality between the unequals, therefore, it is necessary to adopt positive measures to abolish inequality. The equalising measure will have to use the same tools by which inequality was introduced and perpetuated. Otherwise, equalisation will not be of the unequals."*

6. **Digital India program objectives of Government of India:**

   a. India wants to move towards a digitised economy. Digital India can only be made possible when there are broadband services made available to all including deep rural pockets and investments are made in broadband infrastructure.

   b. An absolute Net Neutrality policy might curtail universal digital access, hurt expansion of coverage, and result in **a gap between India's digital have's vs. have nots**.

   c. Incentivisation of infrastructure expansion should be ensured as infrastructure expansion will be the backbone of internet penetration in India.

   d. India can be made digital only with innovative internet/Broadband expansion. A one size fits all solution on internet by a regulated Net Neutrality policy can stifle innovation and discourage companies from implementing unique ideas/ business models into successful products.

   e. The policy objective of ensuring digital India will be achieved by covering the entire universe of subscribers.

7. **Objective for India:** Thus, to facilitate and encourage connectivity, facilitate Internet/Broadband penetration, meet Digital India Objective and adopt an evolving regulatory framework that intervenes in case of any instances of anti-competitive

behavior, **the Government /Regulator should thus look Net Neutrality, from the holistic view of framework of Internet Governance and should put its immediate priority towards providing data connectivity and rolling out broadband networks.**

8. **Principles of Net Neutrality:** Thus, keeping in view of the objective of improving broadband penetration, we are of the view that in the "Indian Context", the core principles of net neutrality should be to promote the investments in the telecom infrastructure and in line with the recommendations of the High Level Committee of DoT on Net Neutrality. **Further, there should be voluntary approach towards adopting the principles of Net Neutrality Principles.**

IV. TRAFFIC MANAGEMENT PRACTICES:

1. Traffic management is essential to - manage volumes, manage emergency and time critical services, protect against malware, control in case of data usage exceeding the threshold, congestion control etc. **Even the DoT Committee has recognized this legitimate requirement.**

   "By treating different types of data traffic differently, traffic management allows the performance of services to be managed individually so that the most Quality of Service (QoS) sensitive services receive the better QoS from the network. In an unmanaged situation, consumers would not understand and predict the factors that affect their experience, whereas in traffic managed situation there is potentially more certainty and more transparency, and a better overall quality of experience for the majority of customers"

2. Traffic management encompasses a range of techniques used by network operators, ISPs to ensure the smooth flow of data traffic across the networks between the end users and content /service providers. Network operators and ISPs use traffic management to minimize the incidence and impacts of congestion, ensuring that as many users as possible get the best online experience possible. Examples of current and anticipated network management practices include:

   a. Management of congestion
   b. Fair Usage policy implementation
   c. Blocking spam, malware, denial of service attacks and other security threats to the network or to user devices
   d. Ensuring that time sensitive services such as voice, video, online gaming and enterprise services can be delivered in a way which ensures optimal performance of those applications (without the calls dropping, buffering videos and time lags in games)
   e. Network Performance: Network Management practices
   f. Peak Load Management

g. Lawful restrictions directed to be imposed by the Government/ Legal court orders/LEA agencies.
h. Prioritization for communications for emergency and disaster management services

3. **Reasonableness of Traffic Management – Light Touch approach need to be adopted by Regulator:**

a. In this regard, we would like to submit that the Authority should adopt a light touch Regulatory approach with respect to Traffic management and should not micromanage this aspect by prescribing standards of reasonableness.

b. We would hereby like to submit that there have been no instances wherein the telecom operators in India have adopted a discriminatory practice with respect to Traffic management or have indulged in the unreasonable Traffic management practices.

c. We would again like to highlight that Traffic management is a tool for consumer benefit and not for consumer harm and should be permitted to help network operators to maintain and improve the quality of service provided to end users. If such management is not allowed, we are creating a situation where all consumers would experience a deteriorated quality of service.

d. **Thus, <u>we believe that the Authority/Government should not prescribe standards of reasonableness but only lay down the principle of reasonableness.</u>**

4. **Specialized Managed and Enterprise services to be outside the purview of Net Neutrality:**

a. We are of the view that Net Neutrality rules must allow TSPs to offer Specialized Services such as enterprise solutions, Internet of Things, Content Delivery Networks and Commercial arrangements, Virtual Private Network (VPN), and services, with a clear need for a designated high or low quality of service.

b. Similar to the approach adopted by the E.U. and U.S. Thus, there is need to enable Specialized Services to cater to legitimate demands for higher or lower quality of services different from “best effort” QoS typically available on the public internet.

5. **Prioritization of the Traffic:**

a. ‘Internet is network of networks’ working on a packet based protocol known as Internet Protocol. With the passage of time, many developers, technology and research organizations have adopted this technology and have developed various

innovative applications on the top of this common underlying Internet Protocol technology.

b. The advantage of using a common technology is the ease with which these applications can be integrated and hosted on public Internet. Various devices use this common technology to communicate over the network.

c. But it is to be emphasized here that although underlying network infrastructure is the same, but due to different 'use cases', different applications demand different flexibility from the networks.

d. To put it perspective, we would like to give an example of self-driving cars. In a very near future, self-driving cars would become a part of daily lives. However, in order to turn this application into a reality and at the same time make it as safe as human driven cars, this application would require a very low latency (of the order 1 millisecond) over the network in order to communicate to other devices, servers terminals etc. to enable the vehicle to make fast real-time decisions.

e. However, the following basic fundamentals are to be kept in mind:

   i. No one is going to build networks exclusively for these applications and these would use the common underlying cellular network only.

   ii. As the network resources are not infinite it is not possible to scale and upgrade a network to provide the same flexibility and capabilities to all users on a network.

   iii. Lastly and most importantly, to support these special use cases or applications, costs would be incurred by operators who need to be suitably compensated.

f. Therefore, Innovation on technology and pricing will be required to make these applications viable from a commercial point of view and these would come under B2B arrangements.

g. **The best approach to foster innovation is to give flexibility to operators and network designers to configure networks as per the requirements of various applications and the business needs.**

6. **Aspects related to Throttling:**

a. Every service provider wants to provide the best of quality/speed to its consumers. Hence, no service provider would want to throttle any traffic going through its network if sufficient resources are available to transport every packet traversing the network.

b. However, Internet protocol or any packet based technology works on 'best effort' principle which implies, that the network tries to the best of its ability, to deliver every packet from source to the destination. Sometimes due to certain exceptional circumstances, such as major technical disruption, on Internet backbone or sudden increase or burst in traffic etc. quality of service may degrade. This is even more important in India given the huge take up of data and the still sub-optimal spectrum allocation becomes even more vital to ensure QoS experience for customers. We believe that there should be no intentional impairment or degradation of Internet traffic basis commercial arrangements other than traffic management.

7. **Disclosure of Information:**

a. It is submitted that traffic management is highly technical and complex exercise, thus requiring that it be shared with consumers, may not be very useful. However, if at all, it is to be shared, service providers should have the flexibility to communicate their traffic management practices in a manner that is meaningful and relevant for their customers.

b. In this regard, we submit that principles published by OfCom – viz. appropriate, accessible, understandable, verifiable, comparable and current, may be adopted to meet the requirements of transparency.

V. EX-ANTE REGULATION IS NOT REQUIRED:

1. Ex-ante regulation works best when there is corroborating evidence of harm being done by any TSPs. But, TRAI has wrongly chosen this principle in anticipation of such harm rather than addressing any instances of discrimination in the event that they occur. We would like to submit that the TSP business is usage driven, thus TSP has every incentive to increase the data usage. Further, TSP derives value not only from the data revenue generated, but also from the appeal of its diverse range of content available to its current and potential customers. In the competitive market such as India TSP will have an incentive to ensure that it offers as much diversity of content as demanded by consumers. In this regard, the consumer demand will drive the shape of offerings and not the TSPs.

2. Also, a TSP does not have the ability to exercise unilateral market power and set prices and/or quality independently of other entities in the ecosystem.

3. **Thus, we would like to submit that in a competitive market such as India, Regulator should not restrict market flexibility without having any evidence of market distortions or competitive harm. No ex-ante regulation is required since the market is vibrant enough.**

4. **On ex-post basis, TRAI can examine tariff plans on a case by case basis after giving a reasonable opportunity to the operators of being heard.**

VI. CONCLUSION:

1. To develop a coherent policy on the subject of Net Neutrality, there is a need for adopting a holistic approach rather than a piece meal approach

2. At our stage of development, our highest need is internet adoption and increased data usage and whatever facilitates the same needs to be supported.

3. Definition of Net Neutrality in the Indian context may be as enunciated by the DoT Committee. **Further, there should be voluntary approach towards adopting the principles of Net Neutrality Principles.**

4. The economic, privacy and security aspects of OTT Communication service providers need to be included in the discussion on Net Neutrality.

5. Previous Recommendations/ Regulations on Discriminatory Pricing and Free data have to be aligned with the holistic approach adopted for Net Neutrality in India.

6. Policy/Regulation should lay down a principle based approach rather than adopt a prescriptive approach – either in terms of what is permitted or what is prohibited.

7. Authority should not prescribe standards of reasonableness but only lay down the principle of reasonableness.

8. There is need to enable Specialized Services, managed services, IOT, etc. to cater to legitimate demands for prescribed quality of services different from “best effort” QoS typically available on the public internet. Such services should be excluded from the purview of Net Neutrality and should continue to be guided based on mutual agreements.

9. No ex-ante regulation is required since the market is vibrant enough. Ex-post approach should be adopted and TRAI can examine tariff plans on a case by case basis after giving a reasonable opportunity to the operators of being heard.

Query wise Response:

The above preamble should be read as a part and parcel of our response below:

Q1. What could be the principles for ensuring non-discriminatory access to content on the Internet, in the Indian context?

Comments:

1. Various administrations all over the world are looking for the right solution to ensure the continued growth of the internet whilst managing the unique challenges of a mobile environment. Every country has to define its own core principles of Net Neutrality to suit the country-specific requirements.

2. In the Indian context, it needs to be kept in mind that more than 70% of the population still does not have the benefit of broadband connection and only 12% of the subscribers are availing mobile broadband services. Significant investments are required to meet the broadband targets of the nation. Further, affordability of data services is the most critical factor and hence 'pricing of data services' should be left to the competitive market.

3. The stage of development of the Indian Telecom Market described above and the mammoth task of achieving national connectivity and broadband objectives, warrant that the definition of Net Neutrality in Indian context should facilitate rather than impede public policy objectives. The immediate priority in India is for rolling out broadband networks to provide connectivity as envisaged in the Digital India programme.

4. We would like to submit that any definition of Net Neutrality in the Indian context, should consider the factors of 'Affordability' and 'Spread of Service''. A Net Neutrality regulation which focuses on 'Affordability' and 'Proliferation of the data network' shall contribute towards fulfilling all the key objectives such as connecting the next 1 billion unconnected citizens to the internet; providing non-discriminatory internet access to every citizen; implement same service same rules for the service providers; assess and mitigate the potential revenue loss to the Government owing to non-regulation of the OTT communication players offering same services as licensed telecom operators; evaluate the critical security requirements of the country, as well as the data privacy developed outside of a holistic framework of Internet Governance.

5. The DoT Committee has also noted that "*Investment in networks is a sine qua non condition for spread of broadband and through broadband, the growth of the Internet economy. Innovation and infrastructure have both to be promoted simultaneously and neither can spread without the other.* ***The endeavor in policy approach should be to identify and eliminate actions that inhibit the innovation abilities inherent in an open Internet or severely inhibit investment in infrastructure*****."**

6. The need for investment in networks to spur innovation has also been recognized by the DoT Committee, which has concluded and recommended as below:

   "*6.14 To conclude, the primary goals of public policy in the context of Net Neutrality should be directed towards achievement of developmental aims of the country by facilitating "Affordable Broadband", "Quality Broadband" & "Universal Broadband" for its citizens.* *The approach accordingly should be*

   i. *Expand access to broadband;*
   ii. *Endeavour through Digital India, to bridge the digital divide, promote social inclusion;*
   iii. *Enable investment, directly or indirectly, to facilitate broadband expansion;*
   iv. *Ensure the functioning of competitive markets in network, content and applications*
   v. *by prohibiting and preventing practices that distort competitive markets;*
   vi. *Recognize unbridled right of users to access lawful content of their choice without discrimination;*
   vii. *Support the Investment-Innovation Virtuous Cycle and development of applications relevant and customized for users."*

7. The Government /Regulator need to take a holistic view on Net Neutrality, and should put its immediate priority towards providing data connectivity and rolling out broadband networks.

8. In light of the above, we support the following principles, which have also been outlined by the High Level Committee of DoT in its report on Net Neutrality released in May 2015, as the core principles of Net Neutrality along with our suggestions.

1. User Rights	Subject to lawful restrictions, users should have the right to access content and services of their choice
2. Blocking	No blocking of any lawful content unless needed for legal/security/congestion purposes or to provide parental controls
3. Throttling	No intentional impairment or degradation of internet traffic basis commercial arrangements other than traffic management
4. Prioritization	There should be no improper preferential treatment which creates discrimination. This definition does not include specialized services.
5. Transparency	Transparent disclosure of information to the users for enabling them to make informed choice
6. Competition	Competition to be promoted and not hindered

7. Congestion and Traffic Management	Reasonable and legitimate traffic management subject to ensuring core principles of Net-Neutrality
8. QoS	QoS to be ensured as per best practices and national regulations
9. Privacy	Online privacy of the individuals to be ensured
10. Security	Scrupulously follow the extant security guidelines
11. Data Protection	Disclosure of user information only with consent of the user or on legal requirements

9. The industry conforms to and supports these principles and requests that these principles be adopted as core principles of Net Neutrality. As requested above, all rules of net neutrality should be applied on all stakeholders operating in Internet ecosystem.

10. Further, from the recent media reports we understand that FCC Chairman aims to scrap the 2015 net neutrality rules by this June, and may ask Service providers to voluntarily adhere to Open Internet principles. (Copy of the Media report is enclosed for reference). As per the media report, FCC Chairman wants to introduce new Regulations under which the Internet providers would voluntarily agree in their terms of service to not obstruct or slow consumers' access to web content.

11. **We are of the view that a similar approach of voluntary adherence to the Net Neutrality Principles by the Service providers needs to be adopted in India as well.**

Q2. How should "Internet traffic" and providers of "Internet services" are understood in the NN context?
(a) Should certain types of specialized services, enterprise solutions, Internet of Things, etc. be excluded from its scope? How should such terms be defined?
(b) How should services provided by content delivery networks and direct interconnection arrangements be treated?
Please provide reasons.

Comments:

1. We are of the view that there is a need to explicitly define the scope of the internet Access service in the context of the Net Neutrality framework.

2. We are of the view that definition similar to E.U can also be adopted in India i.e.

> *"a publicly available electronic communications service that provides access to the Internet, and thereby connectivity to virtually all end points of the Internet, irrespective of the network technology and terminal equipment used".*

3. Along the lines adopted in US and EU, Net Neutrality rules must allow TSPs to offer Specialized Services such as enterprise solutions, Internet of Things, Content Delivery

Networks and Commercial arrangements, Virtual Private Network (VPN), and services, with a clear need for a designated quality of service.

4. Further, Content Delivery Networks, caching, direct interconnection arrangements are all options used by content providers to deliver a more optimal user experience to the customers and should be encouraged based on mutual commercial arrangements without any regulatory intervention.

5. Furthermore, the net neutrality framework needs to promote future investments in 5G technology. A fundamental enhancement brought by 5G is the possibility of delivering virtual "network slices", offering different capabilities according to specialized needs. 5G network slices are meant to run on shared infrastructure without deteriorating the agreed-upon levels of service. To promote investments in 5G, collaboration between TSPs and other stakeholders will be required to ensure that 5G can create substantial value by offering digital solutions that meet the actual business needs of the stakeholders.

Q3. In the Indian context, which of the following regulatory approaches would be preferable:
(a) Defining what constitutes reasonable TMPs (the broad approach), or
(b) Identifying a negative list of non-reasonable TMPs (the narrow approach).
Please provide reasons

&

Q4. If a broad regulatory approach, as suggested in Q3, is to be followed:
(a) What should be regarded as reasonable TMPs and how should different categories of traffic be objectively defined from a technical point of view for this purpose?
(b) Should application-specific discrimination within a category of traffic be viewed more strictly than discrimination between categories?
(c) How should preferential treatment of particular content, activated by a users choice and without any arrangement between a TSP and content provider, be treated?

&

Q5. If a narrow approach, as suggested in Q3, is to be followed what should be regarded as non reasonable TMPs?

Comments:

1. The Internet was never designed to be neutral as different traffic types have different delivery needs. Traffic management of different types of traffic is a core aspect of

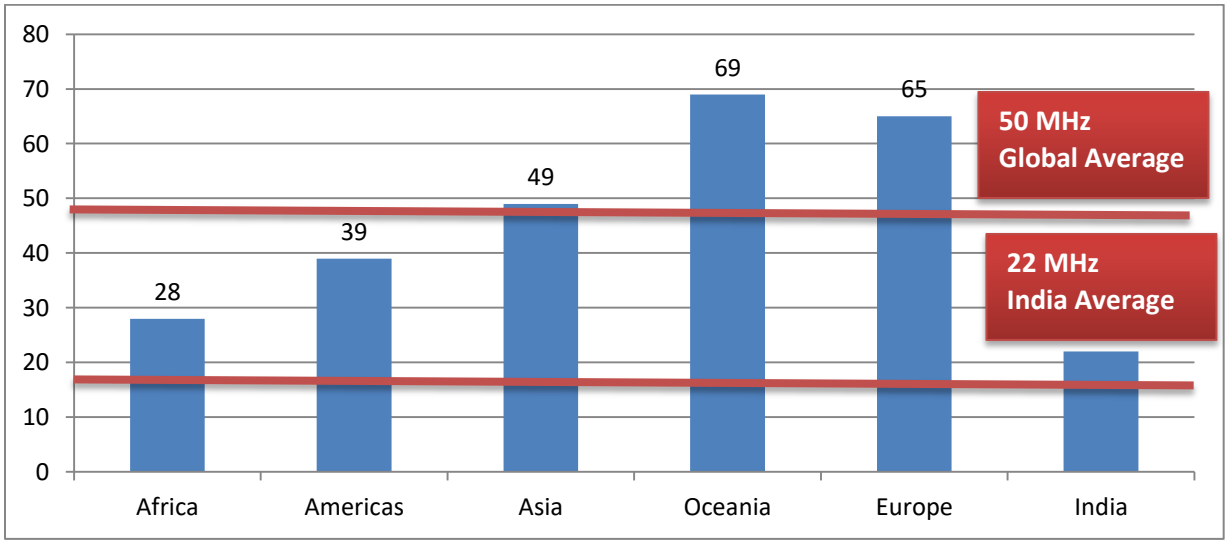
internet technology right from its earliest days and different types of services such as e-mail versus IP telephony versus video versus PPDR (Public Protection and Disaster Relief) services have different QOS and speed requirements for the desired end-user Quality of Experience.

2. Thus, Traffic management is a tool for consumer benefit and not for consumer harm and should be permitted to maintain and improve the quality of service provided to end users. Absence of reasonable traffic management could lead to an overall degradation in the quality of customer experience. In this regard, we would like to draw your kind attention to the Paper titled, "Network Neutrality or Internet Innovation?" by Mr. Christopher S. Yoo, University of Pennsylvania Law School. **Copy enclosed.**

3. The core principles mentioned above for Net neutrality do not exclude reasonable network management practices. Traffic management has long been an important tool in meeting the needs of users of internet services and will become increasingly important with the development of newer technologies such as LTE.

4. Further, we would like to submit that mobile network operators in India face capacity constraints due to spectrum scarcity and the high costs of infrastructure investment including backhaul networks. Any principles governing traffic management should take into account the challenges faced by mobile operators and should be sufficiently flexible to accommodate them.

Spectrum allocation per operator is low in India:



Source: TRAI and COAI Estimates

5. We are of the view that the service providers should be allowed to take the measures or actions necessary for the traffic management and network management, provided that the same does not affect the free competition and impede user choice.

6. Thus, we are of the view that any restrictions on the traffic management should be principles based and not on the prescriptive based, so as to enable the future development of networks.

7. As highlighted in the preamble, we are of the view the Regulator should adopt a light touch Regulatory approach with respect to Traffic management and should not micromanage this aspect by prescribing standards of reasonableness.

8. However, in case Regulator still wants to regulate Traffic Management practices, we are of the view that laying broad principles that has its foundation in curbing anti-competitive practices should be the way forward, especially given that the Internet access service is a dynamic technology with changing functionalities.

9. **Thus, we believe that the Authority/Government should not prescribe standards of reasonableness but only lay down the principle of reasonableness.**

Q6. Should the following be treated as exceptions to any regulation on TMPs?
(a) Emergency situations and services;
(b) Restrictions on unlawful content;
(c) Maintaining security and integrity of the network;
(d) Services that may be notified in public interest by the Government/ Authority, based on certain criteria; or
(e) Any other services.
Please elaborate.

Comments:

1. Please refer our answer to previous questions.

2. We are of the view that the above highlighted services should be treated as exceptions and not come under the purview of TMPs.

Q7. How should the following practices be defined and what are the tests, thresholds and technical tools that can be adopted to detect their deployment:
(a) Blocking;
(b) Throttling (for example, how can it be established that a particular application is being throttled?); and
(c) Preferential treatment (for example, how can it be established that preferential treatment is being provided to a particular application?).

Comments:

1. We agree to the following approach w.r.t Blocking /Throttling/Preferential Treatment i.e.

a. **No Blocking:** access to legal content, applications, services *unless needed for* legal/security/congestion-management purposes or to provide parental controls.

b. **No Throttling:** that intentionally impairs or degrades Internet traffic based on commercial arrangements unless required for legal/security/congestion/fair usage policy purposes or traffic management

c. **No improper preferential treatment** which creates discrimination. This definition does not include specialized services.

Q8. Which of the following models of transparency would be preferred in the Indian context:
(a) Disclosures provided directly by a TSP to its consumers;
(b) Disclosures to the regulator;
(c) Disclosures to the general public; or
(d) A combination of the above.
Please provide reasons. What should be the mode, trigger and frequency to publish such information?

&

Q9. Please provide comments or suggestions on the Information Disclosure Template at Table 5.1? Should this vary for each category of stakeholders identified above? Please provide reasons for any suggested changes.

Comments:

1. We would like to submit that first the principles and definition of Net Neutrality need to be decided by the Government, before the TRAI seeks views on the implementation of the same. It is very difficult at this stage to opine on whether the disclosure should be to the consumers or the Regulator. And it is also difficult to comment on the mode, trigger and the frequency to publish such information.

2. Further, it may be pertinent to note that the disclosure of the traffic management practices will be very difficult for the user to understand due to the technical nature of the subject. The information disclosure to the consumers should be with reference to transparency, so as to enable the consumers to make an informed choice.

Q10. What would be the most effective legal/policy instrument for implementing a NN framework in India?
(a) Which body should be responsible for monitoring and supervision?
(b) What actions should such body be empowered to take in case of any detected violation?

(c) If the Authority opts for QoS regulation on this subject, what should be the scope of such regulations?

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Q11. What could be the challenges in monitoring for violations of any NN framework? Please comment on the following or any other suggested mechanisms that may be used for such monitoring:
(a) Disclosures and information from TSPs;
(b) Collection of information from users (complaints, user-experience apps, surveys, questionnaires); or
(c) Collection of information from third parties and public domain (research studies, news articles, consumer advocacy reports).

Comments:

1. We again submit that the above issues can be answered only once the contours of net neutrality are known. As the TRAI itself has pointed out, the approach adopted for dealing with NN, can be:

   a. **Cautious observation**: take note of NN issues and currently choose not to take any specific measures.

   b. **Tentative refinement**: follow a light-handed approach, with some refinements to the existing regulatory regime governing communication services, but not going so far as to prohibit certain behaviors.

   c. **Active reforms**: prohibit specific behaviours by TSPs, most often subject to an exception for reasonable TMPs.

2. The DoT Committee has recommended that a clause, requiring licensee to adhere to the core principles of Net Neutrality, as specified by guidelines issued by the licensor from time to time, should be incorporated in the license conditions of TSP/ISPs. The guidelines can describe the principles in detail and provide applicable criteria to test any violation of the principles of Net Neutrality.

3. We believe that at the present stage, it may be prudent for India to adopt a cautious observation approach or at the most go in for tentative refinement. India's internet penetration and broadband rollout is at too nascent a stage at present and the first priority is to ensure availability of and access to the Internet before looking at concerns related to net neutrality.

4. A final decision in this regard is yet to be taken by the Government which is awaiting the TRAI's recommendations in the matter.

5. In view of the above, we believe that it will be premature to opine on the most effective legal/policy instrument for implementing a NN framework in India or make submissions on the challenges in monitoring for violations of any NN framework

Q12. Can we consider adopting a collaborative mechanism, with representation from TSPs, content providers, consumer groups and other stakeholders, for managing the operational aspects of any NN framework?
(a) What should be its design and functions?
(b) What role should the Authority play in its functioning?

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Q13. What mechanisms could be deployed so that the NN policy/regulatory framework may be updated on account of evolution of technology and use cases?

Comments:

1. We again reiterate that it is premature to raise implementation issues at this stage. We would urge the Authority to await a final decision on Net Neutrality is this regard.

2. Further, to the above we would again like to submit that in order to have a holistic framework, the interlinked issue of regulation of OTT Communication service players also needs to be addressed. The role of each stakeholder in the Internet market structure needs to be clearly defined w.r.t to licensing and Regulatory framework.

3. The TRAI is aware that the services that are offered by the OTT communication players such as messaging/instant messaging and VOIP telephony are perfect substitutes of the services that are being offered by the TSPs under UASL/UL, which is impacting the revenues of TSPs and also their incentive and ability to invest in infrastructure. There is thus an urgent need to address the various regulatory imbalances and ensure Regulatory Neutrality, between TSPs and OTT communication players.

4. Thus, we request TRAI to also consider our response to TRAI Consultation Paper No.2 /2015 on Regulatory Framework for Over-the-top (OTT) Services dated 24th April 2015, and come out with its Recommendation at the earliest along with this consultation process.

Q14. The quality of Internet experienced by a user may also be impacted by factors such as the type of device, browser, and operating system being used. How should these aspects be considered in the NN context? Please explain with reasons

Comments:

1. The quality issues w.r.t devices are experienced by both consumers and service providers, and manifest in several ways:

    a. Unacceptable ratio of dropped calls causing service disruption and customer complaints.

    b. System selection issues causing ping-ponging between networks and excessive battery drain

    c. malfunctioning of voice and data services, including IMS based services due to incompatibility of device configurations with backend networks

    d. degradation of the quality of services including lower data throughput and audio quality issues

    e. Capacity issues due to high load on networks due inefficient device implementations.

2. India's high tele density exacerbates these symptoms, and therefore quality assurance of these devices is paramount. With the increasing complexity of the evolution of 3GPP radio technologies from 2G/3G to 4G LTE, and now towards 5G, verification of the device implementation prior to commercial launch in the market is getting more and more critical. While some manufacturers may offer to push device updates post-launch, a minimum level of performance of devices must be guaranteed when the product is first placed on the market.

3. Device certification seeks to prevent these types of interoperability issues that have impact on networks by having, on an ongoing basis, the inclusion of requirements for the evolution of 3GPP mobile standards, as suggested by the participating operators. In addition to functional conformance testing, live network testing of these features and functionality ensures that the end user experience is optimal by eliminating any network interoperability issues before the device gets in the consumer's hands. This in turn also reduces the total cost of management of these devices from the operator perspective due to less calls to customer service, post-launch service support, and reduction of internal operator testing.

4. It is appropriate at this stage to examine and discuss inputs for allowing device certification to cover the requirements of the Indian market, as well as to discuss how such certification can be applied to the devices sold in the Indian market.

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