

TCL Response to Consultation Paper on Net Neutrality

Q.1 What could be the principles for ensuring nondiscriminatory access to content on the Internet, in the Indian context?

TCL Response: Most of the issues concerning net neutrality from a network layer perspective revolve around subjects such as neutral traffic treatment and management by Network Service Provider (NSP), NSP's network management practices, consumer privacy, QoS aspects such as broadband congestion and delivery speed, encouraging future innovation by all the players in the internet value chain, promoting internet access to new users (universal service aspect) and startups, and of course profit and investment of the various players in the internet value chain. Net neutrality is the principle that data packets on the Internet should be moved impartially, without regard to content, destination or source. Network Neutrality should be defined as the open internet where consumers can make their own choices about what applications and services to use, and where consumers are free to decide what content they want to access, create, or share with others irrespective of mobile operating systems, mobile device platforms and basic internet access service the consumers are using. Impartiality means content/packets moving on the internet should neither be throttled/blocked nor be prioritized by the ISP/TSP on the basis of type of packets/content with the exceptions of when it is required to be done from the perspective of traffic management applied uniformly and/or when it is required to be done under instructions of the Government Authorities/Court Orders.

From a network layer perspective, for end consumers, all internet traffic should be treated on an equal basis, no matter its type or origin of content or means used to transmit packets. All points in a network should be able to connect to all other points in the network and service providers should be able to deliver traffic from one point to another seamlessly. From the perspective of the end consumer, there would be no blocking, no throttling and no prioritization of the information packets sent and received by the end consumer. The definition should also be expanded to say that the consumer should be able to access any legal content (as defined by the prevailing laws and regulations of the country in which the consumer resides) available on the open Internet.

The policy objective of Net Neutrality should be about assuring a great user Internet experience, about granting users an open, unrestricted and non-discriminative access to Internet content, applications and services of their choice which would in turn entail extending the neutrality principles beyond the network layer, to the Internet layer, transport, application and content layers. Fair and future-proof policies need to tackle all abuses in the digital economy, across all platforms.

Thus, the overarching approach of the policy should be that of protecting consumer rights and access to the open Internet. The basic Internet access service towards consumers should follow the principles of net neutrality in the context of effective competition, transparency, and low switching costs. Internet sessions should only be manipulated with uniformity and fairness across all users for non-commercial network management, and not for QoS or preferred flows.

Q.2 How should “Internet traffic” and providers of “Internet services” be understood in the NN context?

(a) Should certain types of specialised 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.

TCL Response: The pursuit of Net Neutrality should focus on giving retail users an open, unrestricted and non-discriminative access to Internet content, applications and services of their choice. It is all about ensuring customers an Open Internet experience. The India Basic Internet Access Service towards retail consumers should be net neutral in the context of effective competition, transparency, and low switching costs. Internet sessions should only be manipulated with fairness across all retail users for non-commercial network management.

Additionally, within the scope of net neutrality TSPs/ISPs must be enabled to grow revenues from data by enabling business innovations such as:

1. Innovative pricing and bundling of data and other services to win a more sustainable share of wallet.
2. Digital services offerings to increasingly earn value from more than PSTN services and internet access, for example:
 - Mobile payments and mobile banking
 - Internet of Things (IoT) infrastructure services
 - IoT applications services (smart city, health, energy, etc.)
 - Unlicensed OTT services
3. Non-Internet digital services that are carried “alongside” the internet service
 - Television and entertainment
 - Dedicated IoT data networks

Enterprise Services and Net Neutrality

Furthermore, contracts with corporates, enterprises, B2B customers should be kept out of the purview of net neutrality in line with global practice. TSPs should be able to prioritize traffic, offer differentiated service levels, provide customize network solutions, offer quality-of-service etc. for corporate/enterprise/B2B customers on the basis of commercial agreements (or otherwise) as long as the TSP/ISPs makes available sufficient network capacity such that the availability and general quality of Basic Internet Access Service (BIAS) is not impaired.

It is our submission that Enterprise/Corporate/B2B business and/or contracts with corporates, enterprises, B2B customers should be strictly kept out of the purview of net neutrality regulations. We believe there are good reasons behind not regulating enterprise internet access:

- Regulation should always be the minimum needed to protect consumer interests. Mass market individual consumers are the population who need their internet access protected to be open and non-discriminatory.
- Enterprises are more sophisticated and typically manage their own wide area networking needs across a mix of internet, VPN, and CDN. They are generally capable of assuring their own internet access in the form that they need.

Examples:

- Enterprise networks require service characteristics customized differently for different facilities such as:
 - Offices
 - Data centers
 - Factories
- Enterprises often use multiple Wide Area Network options, so any one network provider has less influence over them
 - Parallel providers or primary and backup providers
- Enterprises negotiate service terms appropriate to their specific business needs, possibly encompassing
 - Availability SLAs
 - Performance SLAs
 - QoS (quality of service) whereby certain specific enterprise traffic is tagged to be prioritized over other enterprise traffic
 - QoE (quality of experience) whereby the traffic of specific applications is actively managed to assure user experience of those applications
 - These service terms may thus often include cases where the enterprise CHOOSES to not have neutral internet access.
- Enterprises frequently configure access services in special ways
 - They may use an MPLS or Ethernet VPN between their facilities, with “internet breakout” from the VPN to the internet.
 - They may use the internet as a special purposes VPN, eg for Machine to Machine communications Enterprises or Corporate customers have specific business needs from ISPs/TSPs which are catered to by creating customized network solutions which are capable of delivering the specific service level requested for by the enterprise/corporate

customer. These business needs may stem from the business environment in which the enterprise operates and may be essential for its business sustenance. Some examples are as follows - web based intra-office applications, on-demand cloud applications, geography targeted latency, specific service levels for time-sensitive/latency sensitive traffic, network availability etc.

In order to provide these service levels to enterprise customers, the ISPs/TSPs will need to treat the enterprise traffic differently within the network, maybe even to the extent to creating and deploying a customized network architecture though this will vary by the specific need and requirement of the enterprise customer.

Further, there should not be any fears from a consumer protection perspective for enterprise/corporate customers. It should also be noted that enterprise/corporate customers are well equipped to handle the technology and business agreements with the ISPs/TSPs because most typical enterprise/corporate customers have a dedicated team/person (IT, Network etc.) who handles the sourcing and who has an adequate understanding of the quality levels, technical parameters etc. of the service offered by the TSPs/ISPs.

Hence, it is imperative that TSPs/ISPs are given the freedom to operate outside the purview of any applicable net neutrality regulations so as to provide its enterprise/corporate/B2B customer the liberty choose a specific service level from the ISP/TSP that will best make sense for its business operations.

Most of these distinctions between “mass market” and “enterprise” services were captured by the FCC when it explicitly excluded enterprise services from the scope of its 2010 Net Neutrality ruling. Notably, the FCC defines the scope of the Order’s rules as any broadband Internet access service provided to the mass market, and states: “The term (“mass market”) does not include enterprise service offerings which are typically offered to larger organizations through customized or individually negotiated arrangements.

The April 13 US FCC final rule applies only to BIAS [broadband internet access service]

- para 26 states that “BIAS does not include enterprise services, virtual private network services, hosting, or data storage services.”
- par. 187 defines BIAS as “A mass-market retail service....”
- Par. 189 defines mass market as “a service marketed and sold on a standardized basis to residential customers, small businesses, and other end user customers such as schools and libraries.
- Par 189 concludes “The term ‘mass market’ does not include enterprise service offerings, which are typically offered to larger organizations through customized or individually-negotiated arrangements, or special access services”

A similar approach was taken in the UK where the voluntary code of practice as well as Ofcom's statement on Net Neutrality, both refer to retail consumers only.

Content Delivery Networks

Services offered by CDNs should be kept outside the purview of the net neutrality and regulation as it is neither a consumer based offering nor is it a licensed service such as Internet Services. Note that while CDNs help deliver content in a more efficient manner to end users, the service arrangement or contract is actually between the content provider and the CDN. As such the even the direct interconnection arrangements between CDNs and TSPs should be left to the market forces.

Q.3 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.

Q.4 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?**

TCL Response: We recommend the broad approach i.e. option a.

“Fair Usage” Traffic management is acceptable where all sessions are throttled fairly to cure or prevent congestion that damages the network for all users. No use of Deep Packet Inspection (DPI) technique for traffic management by the TSP/ISP.

Different classes of users might select different grades of fair usage packages (e.g., bronze, silver, gold), with proper expectations set for each grade (e.g., different average speed, different data quota).

In our view, the following traffic management practices should be permitted –

- Techniques used for application agnostic congestion management.
- Technical network protection for network security and integrity.
- Techniques applied (blocking/limiting access) in compliance to legal and regulatory requirements.
- Maintain different service level agreements possibly including QoS for Enterprise services/customers as a specific exclusion.
- Data Caps

Again, any discrimination against traffic of any category or kind must be reasons of reasonable traffic management.

Any arrangement between the consumer and the TSP may be allowed subject to the condition of technical and commercial viability.

Q.5 If a narrow approach, as suggested in Q3, is to be followed what should be regarded as non reasonable TMPs?

TCL Response: We do not recommend the narrow approach.

Q.6 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.

TCL Response: Yes, the above (a through d) may be treated as exceptions to any regulation on TMPs. In addition, enterprise services/solutions, application agnostic congestion management and data caps (fair usage policies) should also be treated as exceptions to any regulation on TMPs.

Q.7 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?).**

Q.8 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?

TCL Response: In addition to the existing disclosure requirements as per the licensing norms, we would recommend two approaches:

- a. Disclosures provided directly by a TSP to its consumers.
- b. Disclosures to the general public (potential consumers).

For both of the above, we recommend that the TSP put up the relevant information on its website and update the information as and when the applicability changes.

Q.9 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.

TCL Response: Disclosures for a licensed operator (except those required as per the licensing norms towards any authorized body) should only be for the benefit of consumers and potential consumers. While Table 5.1 is a step in the right direction however each individual field needs to be discussed and debated for its applicability and real usability from a consumer perspective and thus feels too prescriptive at this initial stage.

Q.10 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?

Q.11 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).

Q.12 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?

Q.13 What mechanisms could be deployed so that the NN policy/regulatory framework may be updated on account of evolution of technology and use cases?

TCL Response: We do recommend a path of “Tentative refinement” – a light handed approach towards policy and regulation.

The industry and the eco-system is undergoing a lot of change – much of it has to be attributed to the ability of TSP to provide access to most geographies which in turn has helped the consumption of content and online services. The omnipresent mobile phone has changed the lives of millions of people who now have at the touch of their fingers access to communication tools, information, entertainment, services etc. However, the bringing together of the content and users is possible because of the TSP platform which in turn is changing rapidly with the advance of technology and business models.

Shopping at malls/grocery stores is slowly moving towards shopping on the phone/tablet, consultations with professionals are slowly moving from in-person to on-screen, business that used to be conducted over CUG networks is now done over the internet, on-premise software and server models are being disrupted by the cloud, content which used to reside in the US and Europe are slowly getting localized and delivered from in-region, downloads which used to take hours are getting done in minutes due to improved caching solutions, content players are getting closer to the users by building their own network and developing relationships with closest service provider and co-locating within their network. The internet is no longer a simple communication pipe/network – it is a myriad of possibilities and these possibilities and opportunities keep changing to meet the need of the current user. Thus, hoping to create a set of rules and regulations in the ever changing eco-system is detrimental to both the development of the eco-system and its stakeholders – the content, the TSP and the users.

In summary, we strongly advocate for –

- a. A path of “tentative refinement” – light handed approach towards policy and regulation
- b. A broad principles based approach rather than one of granular rules and framework
- c. Allow for self-regulation
- d. Appropriate regulatory intervention only when absolutely necessary - ex-ante mechanism.

Q.14 The quality of Internet experienced by a user may also be impacted by factors such as the type of device, browser, operating system being used. How should these aspects be considered in the NN context? Please explain with reasons.

TCL Response: We believe that the quality of the internet may also be impacted by factors such as the type of device, browser, operating system we use and that these aspects have as much importance in the formulation of net neutrality policy as that is being allocated to TSP/ISP.

The Internet experience starts when you turn on your device that it starts with your smartphone, tablet or computer. The device has an operating system, which enables installing software

programs or apps to provide a service connected by networks which give access to other networks and servers and ultimately devices. Companies, individuals, governments or NGOs connect to this web to offer their services, contents and products. Clearly, the Internet is not just the access network; the Internet Value Chain is comprised of device manufactures, Operating Systems developers, Apps and software programmers, network access providers, network carriers, content producers and owners and many more. All are equally relevant within their role; if one fails, the Internet Value Chain fails. If access networks providers prevent users from accessing a service the user experience will be impaired; if operating systems or apps prevent users from accessing or downloading specific content, the user experience will be impaired as well. In order to secure an open and neutral customer experience, a non-discriminatory, neutral and fair treatment needs to be guaranteed across the whole Internet value chain, to the whole digital experience of consumers. Any net neutrality legislation must take a holistic view of the entire playing field, addressing both carrier neutrality and content/application neutrality. If we want to keep an open internet, policymakers should make policies/rules to ensure openness not just at the traffic/transport layer, but also at the content/applications layer of the ecosystem.

According to Blackberry it seems that not ISPs and telecom operators are deciding on that, but rather others are exerting its powers in discriminatory ways: while BlackBerry has made its BlackBerry Messenger service available to users of other mobile Operating Systems (such as iOS/iPhone and Android), for example Apple does not allow BlackBerry or Android users to download and install Apple's iMessage messaging service. Or, Netflix has discriminated against BlackBerry customers by refusing to make its streaming movie service available to them while offering it only to Android and Apple users. The results of this discrimination by dominant Internet companies is described by Blackberry in blunt words: "This dynamic has created a two-tiered wireless broadband ecosystem, in which iPhone and Android users are able to access far more content and applications than customers using devices running other operating systems. These are precisely the sort of discriminatory practices that neutrality advocates have criticized at the carrier level."

The policy objective of Net Neutrality should be about assuring a great user Internet experience, about granting users an open, unrestricted and non-discriminative access to Internet content, applications and services of their choice which would in turn entail extending the neutrality principles beyond the network layer, to the Internet layer, transport, application and content layers. Fair and future-proof policies need to tackle all abuses in the digital economy, across all platforms.
