

BIF Submission to TRAI CP on Net Neutrality

Question.1

What could be the principles for ensuring nondiscriminatory access to content on the Internet, in the Indian context? [See Chapter 4]

BIF RESPONSE :

TRAI should be guided by Net Neutrality principles that ensure that there is no interference to customers' ability to access lawful online content, applications, and services of their choice. While protecting Net neutrality principles, TRAI must ensure consumer choice without compromising need to innovate.

The following guiding principles should be followed in formulating a net neutrality policy for India:

- **No Blocking or Throttling:** There should not be any barriers to people's ability to use, send, receive, or offer any lawful content, application, or service.
- **No Fast Lanes:** There should not be any arrangements that provide certain content to travel at faster speeds or require content providers to pay in order to provide a certain quality of service to their customers. However, non-paid prioritization based solely on technical considerations may be permitted in order to manage network congestion.
- **No Non-Harmful Device Prohibitions:** There should be no limit to the right of the user or subscriber to sign up or use any class of instruments, devices or network equipment that is not harmful.
- **Reasonable Traffic Management:**
 - The requirement for traffic management measures to be reasonable must ensure that providers of Internet access, in order to optimize the overall transmission quality, do not differentiate between same type of traffic. Any such differentiation should be permitted on the basis of objectively

different technical QoS requirements (for example, in terms of latency, jitter, packet loss, and bandwidth) of the specific classes/categories of traffic only. Reasonable traffic management activities may be permitted provided those activities (1) are publicly disclosed in detail, and (2) do not result in fast lanes for affiliated content, services, and applications (such as VoIP or video services also offered by the provider of Internet access) or blocking or throttling for specific classes of content and services.

- **Non-discrimination:** Non-discrimination is an important component of net neutrality. However, differential treatment is not inherently discriminatory. For example, it is non-discriminatory and consistent with net neutrality when a zero-rated offer includes any content that meets the same, uniformly applied technical requirements. Similarly, it is non-discriminatory when a given arrangement between a TSP and content provider is available to all TSPs on the same terms and conditions, even if some TSPs choose not to participate.
- **The Internet should be open, whether it is provided via wireless or wireline:** Providers of Internet access should abide by these open Internet principles regardless of how Internet access is provided.
- **Transparency:** Providers of Internet access should be transparent about their network practices and about the speed of the content that flows over their networks.
- **Innovative Business Arrangements to Promote Connectivity and Economic Development:** Providers of Internet access may enter into business arrangements to promote Internet connectivity, provided such arrangements do not involve (1) blocking or throttling users' ability to connect to the broader Internet under generally available terms and conditions or (2) fast lanes for certain content based on commercial considerations

Exceptions for “Specialised Services”:

Net neutrality regulations should not apply to networks that are physically or logically distinct from the Internet. Such networks may be used for provision of specialized services and managed services.

Specifically, if TRAI were to adopt an exception that permits TSPs to offer a quality of service (“QoS”) higher than “best efforts” internet, **such an exception similarly should apply to services provided with low-end technical standards optimized for slower internet connections.** For example, some operators have argued for an exception that would permit them to offer “specialised services” for delivery of reliable video

service. Further, operators may want an exception that permits them to charge a premium for such services. Similarly, internet services that render only text but no video or photos could be provided to end users at lower costs, or even for free, if capped uniformly with certain quality standards. Such “specialised services” would be non-discriminatory and consistent with net neutrality because they would apply the same technical standards uniformly to all content which is classified accordingly .

Exception for “Enterprise Services”

Enterprise services should also be exempt from any Net neutrality rules. Enterprise services, also sometimes called specialized services or business services, are typically offered to larger organizations through customized or individually negotiated agreements between the service provider and the customer. . Various jurisdictions that have reviewed open Internet policies have proposed to exempt such enterprise services from Net Neutrality rules.

In the United States, for example, both the FCC’s open Internet rules adopted in 2010 and the additional regulation adopted by the FCC in 2015 apply only to mass-market retail broadband Internet access service, with the capability to transmit and receive data from all or substantially all Internet end-points. This definition for the scope of the open Internet rules excludes enterprise service offerings and specialized services.

The market of enterprise services that merit different network performance requirements is expanding with Smart Grid, healthcare, emergency-response, and a variety of other services that may involve or require packet prioritization capabilities. These services are indispensable to key social objectives. Just as other jurisdictions have recognized the merit for keeping these services outside the scope of open Internet rules, our country should also not prescriptively regulate these services.

We at BIF reiterate that both enterprise services as well as ‘specialized services’ provided with low-end technical standards optimized for slower internet connections must be exempted from the provisions of the Net neutrality regulations

There are other compelling reasons for considering the differing business needs of high end enterprise customers as well as low end consumers who are permitted to receive specialized services. Accordingly there can’t be a one –size- fit-all approach to deal with the specific issues. We need to consider the fundamental underpinnings of Net Neutrality debate and whether there is a similar need for those rules to be applied in an enterprise setting.

Class of Service: Without the class of service prioritizing a customer’s traffic on the shared infrastructure, most enterprise customers will not be able to plan their network

requirements or ensure how their products/services end up getting consumed by their eventual end users. For example, an enterprise customer may need their voice or video packets to have priority over their web chat packets, ensuring that the quality of their video/voice interaction with their partners or customers will not suffer at the expense of a time insensitive interaction such as a web chat.

Specific Route pinning/planning: Some enterprise customers may like their traffic to move over the most suitable path – sometimes the shortest, sometimes the most reliable, sometimes to avoid certain geographies or choke points, sometimes to avoid duplication of existing paths and sometimes for ensuring complete redundancy. Mostly these options can only be guaranteed if there is a differential pricing mechanism. Not all routes are the cheapest and/or equally available.

Faster Lanes / Feature access: Some enterprise customers may want to install faster/premium access for their core locations as opposed to their second tier or remote locations. TSPs can usually provide tiered features/access offering on their network services on a site to site basis. For example, fibre or ethernet access may be required at hub sites (high capacity aggregation links) whereas technologies like copper or microwave or DSL (usually low speed links) could be deployed at remote/unimportant sites.

Service Level Agreements (SLAs): Enterprise customers usually want TSPs to back their contracts with strict SLAs and penalties and are willing to pay more to ensure that the service levels are kept high, especially when it comes to the issues of fault repair, service management, equipment replacement, redundancy etc. TSPs usually build additional levels of chargeable support to those enterprise customers that are willing to pay a premium to get the required level of support to augment their own efforts.

To sum up the needs of enterprise users differ from those of a retail consumer mass market and some of the important considerations are below:

- The key difference is contractual in nature. High-end business services present various specificities that differentiate them from mass-market services which are significantly more complex [telecom services provided across multiple locations and across countries, different access technologies, bundle of services, very demanding Service Level Agreements (SLAs), etc.
- Further, high-end enterprise users typically have sophisticated knowledge of the technology and economic implications of telecommunications services. From a consumer protection perspective, terms relating to the required quality levels, detailed service transparency, technical characteristics, and penalties for

noncompliance, are already addressed in their service \contracts with their customers..

The Net Neutrality debate, after the coining of the term ‘Net Neutrality’ in 2002, is nearly 10-13 years old in US, Europe and certain parts of South America. These countries have a few things in common i.e., matured telecom market to some extent as they have achieved a decent level of internet and broadband penetration and therefore the debate is currently how to further unlock the growth potential to foster innovation and investment. In contrast to this, our country needs to let the issue evolve in light of specific Indian context and realities of the level of internet and broadband penetration and accordingly take necessary steps.

Differential Pricing:

To ensure regulatory consistency, TRAI should subsume the Tariff Regulation on Differential Pricing with any net neutrality regulations adopted in this consultation.

BIF supports TRAI’s goal 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 non-discriminatory and consistent with net neutrality when a zero-rated offer includes any content that meets the same, uniformly applied technical requirements. Similarly, it is non-discriminatory when that type of zero-rating arrangement is available to all TSPs on the same terms and conditions, even if some TSPs & Content Providers choose not to participate.

Quoting current FCC Chairman Mr. Ajit Pai who while stating that he is in favour of Free Data and zero rating mentioned "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.”. Separately he has mentioned that “Regulators should be very sensitive to market conditions and if a particular (player) or a group of players is behaving in an anti-competitive way, then you

take targeted actions against those players, but preemptively deciding that you should apply regulations to the entire industry, even in the absence of any market failure, creates a serious risk of unintended consequences”.

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 are subject to case-by-case evaluation under a flexible general conduct rule. The E.U. also has adopted a permissive regime for zero rating, and has rejected any categorical ban. While some differential pricing offers might be found to be problematic, TRAI should adopt a similarly flexible case-by-case approach to permit those offers that are consistent with the net neutrality principles stated above.

Question.2

How should “Internet traffic” and providers of “Internet services” be understood in the NN context? [See Chapter 3]

- **(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.**

BIF RESPONSE

- In the Unified License agreement, Providers of “Internet Services” should be understood to mean Service providers who are explicitly licensed to provide Internet Access Services (UL with Access authorization)
- ‘Internet Traffic ‘should pertain to that traffic flowing over the network of Internet Access Services providers and should exclude specialized services or services which are not subject to reasonable TMPs.
- Net neutrality regulations should only be applicable for access service providers who have the ability to use their control over network traffic to block/throttle users’ access to certain lawful and legal content on the Public Internet. .
- Net neutrality rules should only be applicable to the provision of “Internet Access Services” (which are required to offer access to all end points on the Internet). By both definition and function, online apps and websites are not services that must meet the requirements for Internet Access Services and

- hence should be kept out of it's scope. Because online applications and websites do not provide independent Internet access service, they are not required to provide access to all endpoints on the internet.
- A) BIF supports the view that exceptions to Net neutrality regulations be permitted in case of both enterprises and 'specialized services' including services provided with low-end technical standards optimized for slower internet connections. Specifically, internet services that render only text but no video or photos could be provided to end users at lower costs, or even for free, if capped uniformly with certain quality standards. Such "specialised services" would be non-discriminatory and consistent with net neutrality because they would apply the same technical standards uniformly to all content.
 - B) Net neutrality regulations should not be applicable to:
 - Content and application providers- as that may amount to regulating internet
 - End users
 - CDNs, paid peering, direct interconnection and other such arrangements, provided they do not change the priority of the data packets.

As they do not touch all the end points of the Internet

Question.3:

In the Indian context, which of the following regulatory approaches would be preferable: [See Chapter 3]

- **(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.

BIF RESPONSE

- BIF is of the considered opinion that TRAI may follow a mixed approach which combines the broad approach (positive approach) and the narrow approach (negative list). The negative list should expressly prohibit practices that are known to be non-reasonable and be prescriptive in nature. The positive list should prescribe broad principles that provide the general framework within which reasonable network management should be done.

Question.4:

If a broad regulatory approach, as suggested in Q3, is to be followed: [See Chapter 3]

- **(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?**

BIF RESPONSE

(a) Reasonable TMP:

Providers of Internet access should be permitted to perform reasonable traffic management activities, provided those activities (1) are publicly disclosed in detail, and (2) do not result in fast lanes for affiliated content, services, and applications (such as VoIP or video services also offered by the provider of Internet access) or blocking or throttling for specific classes of content and services or for types of applications and services in similar category

- B) Application specific differentiation within same category should not be permitted However, discrimination between different categories of traffic maybe permitted on the basis of objectively different technical QoS requirements (for example, in terms of latency, jitter, packet loss, and bandwidth) of the specific classes/categories of traffic only. Reasonable traffic management activities may be permitted provided those activities (1) are publicly disclosed in detail, and (2) do not result in fast lanes for affiliated content, services, and applications (such as VoIP or video services also offered by the provider of Internet access) or blocking or throttling for specific classes of content and services.

(c) How should preferential treatment of particular content, activated by a user's choice and without any arrangement between a TSP and content provider, be treated?

- Differential treatment of content is not inherently discriminatory. For example, it is non-discriminatory and consistent with net neutrality when a differential pricing offer includes any content that meets the same, uniformly applied technical requirements. Similarly, it is non-discriminatory and consistent with net neutrality when a non-exclusive arrangement between a TSP and content provider is available to all TSPs on the same terms and conditions, even if some TSPs or Content Providers choose not to participate.

Question.5:

If a narrow approach, as suggested in Q3, is to be followed what should be regarded as non reasonable TMPs? [See Chapter 3]

BIF RESPONSE:

- As suggested earlier, TRAI should adopt a mix of positive list and negative list. A purely narrow approach (negative list) should be avoided for the following reasons:
 - Negative list motivates providers to circumvent
 - It is difficult to compile a complete set of items for the negative list
 - Negative list will necessarily need to be prescriptive to avoid being over-broad

Q.6 Should the following be treated as exceptions to any regulation on TMPs? [See Chapter 3]

- (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.

BIF RESPONSE :

- TMP should consider exceptions for:
 - **Maintaining security and integrity of the network and end user:** This should only be done as per the published security policy and all such interventions should be reported to CERT-IN. In this case, blocking or throttling of specific applications in a category of traffic should mandatorily be allowed in case there is specific knowledge.
 - **Emergency situations and services:** Emergency traffic requiring prioritization should only flow on networks that are logically or physically distinct from the Internet such as PSTN. This exception should not be confused with network congestion for which an exception has been endorsed.
- TMP should NOT allow exceptions for
 - **Restrictions on unlawful content:** There should **NOT** be an exception for blocking of unlawful content as it may create a situation

where TSPs block content without following due process. Blocking of unlawful content should only be possible through directions under specific statutory provisions such as Section 69A or 79 of the Information Technology Act; or a court order (within the framework laid down in the Shreya Singhal case).

- **Compliance with local laws and regulations:** A TSP should be required to throttle or block content for compliance with local laws and regulations **ONLY** under a designated court mandate. A TSP should not put on the hat of the judiciary and start adjudicating whether or not any content is not in compliance with local laws and regulations. This would create an issue similar to the chilling effect under Section 79 of the IT Act which was read down in the Shreya Singhal case.
- Any regulation on TMP should not apply to:
 - to traffic on networks that are physically or logically distinct from the Internet.
- TMP and its exceptions should be the same for fixed and mobile services.

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: [See Chapter 4]

(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?).

BIF RESPONSE :

- a) Blocking The FCC Open Internet Order in the US prevents blocking access to legal content, applications, services, or non-harmful devices", while the Brazilian law on Internet rights refers to a prohibition on blocking, monitoring, _filtering and analyzing the content of data packets".
- b) Throttling This term has been defined in various ways, which includes the following types of interferences in the access to particular content:
 - _ Slow down, alter, restrict, interfere with, degrade or discriminate" (EU)
 - _ Impair or degrade" (US)
 - _ Interfere with, discriminate, hinder or restrict" (Chile)
 - _ Unreasonable manipulation or degradation of traffic" (Norway)
- c) Preferential treatment : In addition to blocking and throttling, some countries also include a bright line rule restricting any form of content-specific preferential

treatment. However, the definitions vary. The FCC in the US uses the term "paid prioritisation", where it is required that the prioritisation was either (a) in exchange for consideration (monetary or otherwise) from a third party, or (b) to benefit an affiliated entity". The DoT Committee in its Report on NN, however recommended that "improper (paid or otherwise) prioritization may not be permitted", without imposing the kind of requirements envisaged in the US law.

- The following is suggested for actions to be taken upon detection of NN barriers /blockers
 - Investigations triggered on receipt of complaints from subscribers
 - Investigations triggered on the basis of monitoring tools
 - Investigations triggered on the basis of transparency disclosures
 - Investigations triggered by media disclosures
 - Investigations triggered on basis of reviews carried by consumer organizations
 - Self-initiated investigations by TRAI on suo-moto cognizance
 - Periodic third party audits

Q.8 Which of the following models of transparency would be preferred in the Indian context:[See Chapter 5]

(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?

BIF RESPONSE:

- Disclosures to End User (Direct) vs Disclosure via Regulator (Indirect):
 - A combination of direct and indirect may be the preferred approach.
 - The direct disclosure to customers/end-users should be simple and easy to understand; and have details pertaining to a tariff plan.
 - The indirect disclosure to the Authority needs more granular details along with technical parameters including incident reporting, compliance with QoS parameters and data collection processes. The Authority should review such disclosures and report important incidents on its website in an easy-to-understand manner.
 - Besides this, there should be disclosures via independent auditors to both public and the authority.

- Disclosure of QoS Parameters: This should be reported periodically (monthly) to TRAI.
- Disclosure of Categories of Traffic and nexus with QoS parameters used for creating such categories: This should be decided and disclosed prior to selling of a tariff plan to the end user and should not be modified later without prior intimation to the end user and without his explicit concurrence
- Disclosure of Data Collection Process
 - Like Regulation 4 of The Standards of Quality of Service for Wireless Data Services Regulations, every TSP shall maintain documented process of collection of data for each Quality of Service parameter
 - Maintain complete and accurate records of its compliance of benchmark of each QoS parameter
 - Independent audits and self-declarations/certifications

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. [See Chapter 5]

BIF RESPONSE: Covered in response to Q8 above

Q.10 What would be the most effective legal/policy instrument for implementing a NN framework in India? [See Chapter 6]

(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?

BIF RESPONSE

- Regardless of which instrument is used, it will need to provide flexibility given the nuances that will need to be addressed with these issues.
- A) TRAI, as the regulator, should be responsible for monitoring and supervision. There is no need to create a new body or to involve another regulator. The proposed roles for TRAI are discussed in Q12.
- B) The role of the Authority should include:
 - Enforcing submission/collection of transparency disclosures by TSPs

- Hiring third party auditors for monitoring TSP networks for potential violations
 - Periodically reviewing transparency disclosures by TSPs to ensure that there is compliance with NN regulations for potential violations and taking cognizance in case of non-compliance.
 - Taking cognizance on the basis of newspaper articles and reports.
 - Initiating detailed and structured investigations on the basis of complaints
 - Publishing disclosures in an open format on its website and summarizing disclosures for non-technical end-users.
- C) In terms of scoping, the differential pricing tariff regulation should be amended and made a part of the umbrella regulations on NN:
 - This will permit harmonization of terminologies across both regulations: : For example, Regulations on Differential Pricing use the term “data services” whereas the NN regulations will use the term “internet traffic”. Similarly the exception on CECN may need to be broadened from the Intranet to all networks that are physically or logically distinct from the Internet including VoLTE on PSTN besides enterprise services
 - This will allow the regulations on Differential Pricing to be updated to incorporate free data options.

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: [See Chapter 6]

(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).

BIF RESPONSE:

- The following is suggested:
 - TRAI may evolve its “MySpeed” app to permit testing of potential violations of NN regulations. These results should only be indicative and not conclusive since many factors such as type of device, operating system etc may affect the results. However, results

- aggregated over a large number of users may be used as a trigger for further investigation.
- TRAI may have a dedicated form on its website for receiving complaints for violations of NN regulations. Investigations may be triggered on receipt of such complaints from subscribers. It would be preferable if TRAI does not receive complaints using email as the responses would be unstructured and subject to potential abuse. (b)
 - TRAI may mandate the installation of third party QoS monitoring tools/platforms by TSPs that provide regular updates to TRAI officials. Investigations may be triggered on the basis of these QoS monitoring tools.(c)
 - TRAI may initiate investigations on the basis of transparency disclosures by TSPs containing QoS parameters.
 - TRAI may initiate investigations on its own by taking suo-moto cognizance from news articles, research papers and advocacy reports. (c)
 - TRAI may initiate investigations on the basis of periodic third party audits.

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? [See Chapter 6]

(a) What should be its design and functions?

(b) What role should the Authority play in its functioning?

BIF RESPONSE:

- Preferably, no new structure should be created for monitoring of NN framework. The existing institutional mechanisms should be leveraged.
- (a & b)The role of the Authority should include:
 - Enforcing submission/collection of transparency disclosures by TSPs
 - Hiring third party auditors for monitoring TSP networks for potential violations
 - Periodically reviewing transparency disclosures by TSPs to ensure that there is compliance with NN regulations for potential violations and taking cognizance in case of non-compliance.

- Taking cognizance on the basis of newspaper articles and reports.
- Initiating detailed and structured investigations on the basis of complaints
- Publishing disclosures in an open format on its website and summarizing disclosures for non-technical end-users.

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? [See Chapter 6]

BIF RESPONSE

- The regulations by TRAI should be technology neutral (for example, TRAI should not specifically mandate “network cookies” as the only option for implementing end user choice for preferential treatment)
- The regulations by TRAI should be a mix of broad principles and narrowly prescriptive
- The regulations by TRAI should prefer case-by-case determination of harms over ex-ante bans
- There should be periodic reviews of the QoS regulations
- TRAI should be allowed to designate exceptions, in line with its responsibilities under the TRAI Act, and based on a transparent criteria
- The instrument for NN should be in the form of regulations and NOT a legislation so that it can be reviewed and updated by TRAI on the basis of stakeholder consultation.
- TRAI should incrementally regulate and seek to continuously improve the regulations over time.
- In the parlance of policy instruments theory, the regulation should be a performance regulation instrument rather than a technology regulation instrument.

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.[See Chapter 4]

BIF RESPONSE

- QoS parameters should be limited to network related parameters independent of end user devices and experience.
- In case QoS parameters are collected using end user data, the results should only be indicative and not conclusive since many factors such as type of device, operating system etc may affect the results. However, results aggregated over a large number of users may be used as a trigger for further investigation.