

RESPONSE TO CONSULTATION PAPER
ON
“NET NEUTRALITY”

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At the outset we thank the authority for coming up with a consultation paper on Net neutrality and for inviting views of all the stake holders on this important topic.

Major submissions:

1. An umbrella Regulation/ tailored regulatory approach applicable for the Indian context that would encourage the market innovations without compromising on customer choice/interest while preventing conflict of interest / exploitation by market dominant players.
2. Scope for TSP/ISPs to generate fair revenue out of their investments.
3. The regulation should allow ISPs to offer and charge for enhanced network services by way of network optimization with the regulatory oversight to prevent the abuse of market power.
4. There should be Regulatory/Licensing framework for OTT/content providers in line with TSP/ISPs. There should be reasonable benevolent supervision mechanism over OTT / content providers (for period of one year) till the time market evolve that the consumer interest safeguarded by the market forces.
5. In view of the convergence of all kind of contents, the Regulator hereby requested to look at the comprehensive regulatory covering Broadcasters also.
6. Such regulatory frame work, as described above, should have three prongs –
 - a. **Effective consumer protection measures,**
 - b. **Sound competition policy oversight, and**
 - c. **Conditioned tax incentives.**
7. The regulatory framework may prescribe rules that allows the TSP/ISPs charging for its enhanced quality of services as follows:
 - It can charge only its internet service customers;
 - Service provider is not allowed to charge anyone for the use of quality of service (though it can increase the general price for internet service);
 - It can charge its own internet service customers and/or application and content providers, but is required to offer the service to application and content providers on a non-discriminatory basis;

- Service provider is allowed to charge for Quality of Service has an incentive to degrade the quality of the baseline, best-effort service to motivate users to pay for an enhanced type of service.
- The Rule should set minimum quality standards, if the quality of the baseline service drops below appropriate levels, the Regulator may take appropriate actions.

Introduction:

1. As you are aware, India with a population of more than 1250 million has 432 million Internet subscribers, out of which broadband subscribers are 236.09 million as of December 2016. Given the low stage of broadband penetration in India and considering the relative stage of development of ecosystem in India, adoption of overly aggressive rules could limit the opportunity for TSP/ISPs to capture revenues to support their continuing infrastructure investments, as well as give rise to unintended consequences (such as costly and slow legal proceedings). Only a more focused and carefully tailored regulatory response will ensure that the Internet remains an open platform for innovation and as a dynamic medium.
2. The present attempt to frame the network neutrality rules should aim to foster innovation in applications, protect users' ability to choose how they want to use the network, without interference from Service Providers, and preserve the Internet's ability to improve democratic discourse. However, while doing so care should be taken to protect the investment made by the ISPs/TSPs, sufficient opportunities/platforms available for such ISPs to generate revenue out of their investments and ensure that content providers / OTT application providers should not exploit the network established by the TSPs/ISPs.
3. Regulatory framework/ net neutrality principles should be framed that would allow broadband providers to offer and charge for enhanced network services while providing for some form of regulatory oversight to ensure that the current broadband providers do not abuse their market power. This would also assure that a reasonably sized, open, and best-efforts Internet pipe is available for innovators.
4. The Net Neutrality principle restriction should not overly impinge on the ability of broadband carriers to earn a return from their infrastructure investments. Net Neutrality principle should not interfere with the special advantages that a service provider gains from building its own infrastructure.

Now we would like to respond to each of the queries raised by the Authority in the consultation paper.

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

We are of the view that legitimate traffic management practices may be allowed subject to the core principles. The broader approach envisaged by DoT Committee seems appropriate in this matter defined by the following principles.

- Adequate disclosure to users about traffic management policies and tools to allow them to make informed choices.
- Application-agnostic controls may be used but application-specific control within the Internet traffic" class may not be permitted.
- Practices like deep packet inspection should be allowed only under the regulation prescribed by Authority.

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

Our definition of internet services would be any service that provides generic connectivity to all published internet public IPs without any preferential QoS for public content.

a. Should certain types of specialized services, enterprise solutions, Internet of Things, etc be excluded from its scope? How should such terms be defined?

We are of the view that Yes, it would be prudent to exclude some services from the NN purview.

Enterprise Solutions: Enterprise solutions are very dependent on guaranteed QoS towards certain services and servers. Hence it might be prudent to exclude enterprise solutions from NN purview.

IOT: In our view, a vast majority of IOT services will be generic and should come under NN purview. Exception might be provided for only IOT for Emergency Services which will require guaranteed QoS.

b. How should services provided by content delivery networks and direct interconnection arrangements be treated? Please provide reasons.

It is our view that content from CDN networks and direct interconnection arrangements be treated as Network optimization solutions and as a special case. This will improve the network quality to the customer and reduce the end price to the subscribers.

Network optimization solutions such as interconnection arrangements, caching or content delivery network (CDN) services that offer a benefit by reducing the total distance of travel, not only improve the quality of service for those using the solution but also for other users that share the same local network of the ISP/TSP. This is because such solutions decongest the existing access network. Therefore, offering a benefit of improved performance through network optimization solutions (such as faster interconnection, caching or CDN services) that does not slow down other application or application providers, rather improves their experience, representing very distinct issue from paid prioritization. In this context, improving overall performance through network optimization should be welcome and should not be seen as paid prioritization.

Services provided by the CDN networks and direct interconnection agreements are in the right direction since it enhances the end user experience. These should be allowed and no restrictions should be applied for these.

Hence, provisioning of services by network optimization solutions by establishing CDN networks and direct interconnection agreements are in the right direction since it enhances the end user experience. These should be allowed and no restrictions should be applied for these.

- 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.**

In our view it would be good to have the narrow approach regulations of explicitly stating what is not acceptable this would allow the ISPs/TSPs to frame their own approach of network optimization and market innovation.

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?

We submit that all kinds of traffic should be treated equally for this purpose.

b. Should application-specific discrimination within a category of traffic be viewed more strictly than discrimination between categories?

We are of the view that both the kinds of discrimination shall not be allowed.

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?

We are of the view that preferential treatment of any particular content shall not be allowed.

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

The following may be considered as non-reasonable Traffic Management Practice:

- i. Providing differential QoS toward a certain CDN, IP Pool for internet traffic.
- ii. Giving preferential QoS to a specific application, and/or
- iii. after application identification giving preferential QoS to an application of Vendor A and retarded QoS to an application from Vendor B.

6. Should the following be treated as exceptions to any regulation on TMPs?

a. Emergency situations and services;

Yes, but what amounts to emergency services shall be strictly defined and elaborated.

b. Restrictions on unlawful content;

Yes

c. Maintaining security and integrity of the network;

Yes

d. Services that may be notified in public interest by the Government/ Authority, based on certain criteria; or

Yes

e. Any other services. Please elaborate.

None.

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;

Blocking is currently being done based on directives that the ISP/TSP's receive from the DOT/ Licensor, competent court order and Law Enforcement Agencies. Apart from the above requirements TSPs/ISPs do not need to carry out any blocking and the same duly upholds the principles of Net Neutrality.

b. Throttling (for example, how can it be established that a particular application is being throttled?); and

We are of the view that throttling of a particular application will be hard to detect unless there are test devices which are available in neutral network beyond the TSP network wherein these test devices can, in tandem with user clients, do a performance/throughput test between point A and B across various applications. As long as the IP throughput regardless of the application is the same, there is no throttling. This needs to take into account things like packet rate and frame size etc.

c. Preferential treatment (for example, how can it be established that preferential treatment is being provided to a particular application?).

In principle, Preferential treatment is almost similar to what has been stated in point 7(b) above where one looks for applications with higher performance/throughput compared to others. However, in all probability TSP will

direct preferred traffic to a specific network and it might not come to a neutral network or in other words preference may not be detectable.

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?

In our view a combination of 'a' and 'b' would be preferable in the Indian context. Disclosure to the general public might not be necessary as the disclosure sought here are more technical in nature and it may not be necessary for a TSP to disclose its TMP etc., if any to general public at large who is not its subscriber per se.

We are of the view that positive assurance by way of declaration or disclosures by TSPs to Authority/Regulator shall be made mandatory. Disclosure to a subscriber shall be provided upon specific request being made by the Subscriber in writing. While considering the above, we would also request the Authority to take into consideration the provision of safeguards for trade secrets and information that might give a competitive advantage to a TSP over another.

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.

The information disclosure template is exhaustive and covers all aspects well. In our view it would be difficult to mention typical latency and packet loss unless a standard endpoint is defined.

In our view the template is good for the regulator and some aspect can be shared with customers on request. Items like Application specific/Agnostic data should be shared only with the regulator as this information might be used for competitive advantage or generating application specific DDOS attacks.

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?

In our view the Given the stage of Broadband internet penetration and considering the relative stage of development of ecosystem in India, adoption of overly aggressive active reforms could limit the opportunity for TSP/ISPs. We would suggest the Authority to come up with an umbrella regulation duly covering the core principles of net neutrality with subsections addressing tariffs and other related transparency requirements.

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:

Our response to queries 7(a) and 7(c) clearly highlight the technological constraint in monitoring violation of NN framework.

a. *Disclosures and information from TSPs;*

In our view this would be the most effective method and TSP's would be diligent in disclosing the correct information to the regulator. A time frame may be prescribed for TSP to respond to the query/complaints of subscriber in this regard.

b. *Collection of information from users (complaints, user-experience apps, surveys, questionnaires); or Collection of information from third parties and public domain (research studies, news articles, consumer advocacy reports).*

In our view, this approach has the potential for lots of false positives.

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?

NO Comments.

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?

No Comments.

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.

The user experience based on end device, browser, OS, processing power should be outside the purview of NN. The network, TSPs or the content provider would not be able to influence this in anyway.

Number of complaints (minimum threshold of customer complaints based on the total subscriber base of TSP) may be prescribed for the NN context rather than complaint by one user/subscriber.
