CIS Submission to TRAI Pre-consultation on Net Neutrality

Question 1

What should be regarded as the core principles of net neutrality in the Indian context? What are the key issues that are required to be considered so that the principles of net neutrality are ensured?

The core principles of Net neutrality are universal to all market contexts. CIS has catalogued over three dozen disparate definitions of Net neutrality proposed by different regulators, academics, activists, and research bodies. The definition we have previously offered to TRAI and to the Department of Telecom is:

- Net neutrality is the principle that Internet gatekeepers ought not to be able to use their gatekeeping power to unjustly discriminate between similarly situated persons, content or traffic.

The mode of application of this principle will vary as per the context in each and every market and jurisdiction. In some, *ex-ante* regulation would be needed: in others, regulator-set standards with *ex-post* review would be desirable: in yet other cases, co-regulation would be needed.

The rules or standards that result from the application of this principle (such as "no blocking, no throttling, no paid prioritization") will also vary depending on the market context in each jurisdiction, depending on the level of competition in the last mile (including switching costs for customers, availability of an open-access last-mile, availability of a "public option" neutral ISP, increase or decrease in the competition, both in wired and mobile ISPs), on the interconnection market, technology and available bandwidth, and on the question of whether ISPs have other business interests other than providing Internet connectivity (such as telephony, entertainment, etc.)?

For instance, in their submission to the FCC on NPRM 14-28 Protecting and Promoting the Open Internet, Profs. Richard T.B. Ma (NUS) and Vishal Misra (Columbia) note that "Our work has shown that whether regulations are needed really depends on whether market competition exists or

not", and further go on to note that the results of Wang et al.'s study on "paid prioritization on edge providers and from a social welfare perspective ... support the use of priority-based pricing and service differentiation rather than imposing Net neutrality regulation".

In our submission last year we have provided extensive background on the kinds of conditions and factors that Net neutrality regulations would depend on, and how a regulator ought to approach the issue.

Question 2

What are the reasonable traffic management practices that may need to be followed by TSPs while providing Internet access services and in what manner could these be misused? Are there any other current or potential practices in India that may give rise to concerns about net neutrality?

Before answering this question, one ought to know about the kinds of traffic management practices that TSPs in India currently follow, and the reasons for those practices. TRAI should also collect complaints over a prolonged period from TSP customers as to practices that they perceive violate Net neutrality.

Further, TRAI ought to consider whether it can independently monitor the traffic management practices of TSPs and violations of any rules that TRAI sets down in this regard. On this, a paper commissioned by Ofcom on traffic management detection methods and tools and their shortcomings ought to be studied by TRAI. TRAI should commission a similar paper, which specifically looks at traffic management in Indian TSPs.

It is only after analysing these that one can say what precise regulations are needed, the form such regulations should take, and whether any regulations can be enforced at all.

Some instances that we believe violate Net neutrality include:

- Reliance Communications blocking file-sharing websites on the request of Reliance Entertainment
- Reliance Communications blocking websites relating to corruption by Reliance executives
- Airtel blocking SRV queries on their DNS server, thus preventing the usage of protocols like SIP and XMPP.
- Airtel potentially having throttled Ogle, a competitor in the video streaming space to Airtel's Wynk, or even having throttled UDP packets in general.

- BSNL injecting ads into a user's HTTP traffic without its users' consent.

As a general rule, all TSPs ought to be required to make it clear to their customers what traffic management practices they follow. TRAI could come up with a uniform format in which they can present this information, and the format that UK TSPs use for reporting their traffic management practices would provide a useful model. The TSPs must disclose their general policies with regard to contention ratios, deep packet inspection, congestion periods, non-congestion periods, etc. The disclosure should be sufficient for a consumer to form an informed opinion about the TSP's practices vis-à-vis her own needs, and be able to compare it to other TSPs.

As a general standard, discrimination between classes of traffic for the sake of network management should be permissible, but only if:

(a) there is an intelligible differentia between the classes which are to be treated differently, and
(b) there is a rational nexus between the differential treatment and the aim of such differentiation

Additionally, when the asked to judge the reasonableness of any particular form of differentiation (and whether it amounts to discrimination), the regulator could look into whether the aim sought to be furthered by the TSP was legitimate (for instance, it is related to the security, stability, or efficient functioning of the network, or is a technical limitation outside the control of the TSP), and whether the measures adopted by the TSP were narrowly tailored.

Question 3

What should be India's policy and/or regulatory approach in dealing with issues relating to net neutrality? Please comment with justifications.

Some aspects of Net neutrality may be outside of TRAI's mandate. TRAI should therefore look towards both multi-stakeholder co-regulatory options (with inputs from consumer organizations, research organizations, and academia as stakeholders) as well as the possibility of regulation by the Department of Telecommunications. Governmental intervention would only be required if a multi-stakeholder co-regulatory option does not work.

Question 4

What precautions must be taken with respect to the activities of TSPs and content providers to ensure that national security interests are preserved? Please comment with justification.

Insofar as the above question concern non-communication content providers, it exceeds the mandate of TRAI.

Insofar as licensees are concerned, TRAI should recommend to the Deparment of Telecom that it should remove all restrictions on encryption, and particularly bulk encryption, that are contained in the UASL and UL. These clauses (41.12 of UASL, and 37.1 of UL) end up jeopardising India's national security by making interception and spoofing of communications data by third parties, such as foreign intelligence agencies, easier.

Question 5

What precautions must be taken with respect to the activities of TSPs and content providers to maintain customer privacy? Please comment with justification.

TRAI should specifically seek inputs from all TSPs as to their usage of privacy-invasive technologies such as deep-packet inspection (DPI). TRAI should additionally commission a study on this issue.

Question 6

What further issues should be considered for a comprehensive policy framework for defining the relationship between TSPs and OTT content providers?

The most important issues that TRAI should be studying include competition among TSPs, competition among Tier 1 and Tier 2 ISPs in India, termination/carriage charges imposed on OTT content providers by TSPs, "paid peering", the opacity of interconnections agreements, and efficient functioning of Internet exchange points in India (including the ability of OTT content providers to peer at such IXPs).

The issue of differential pricing by TSP for access to the networks has not been addressed by TRAI so far, but is very important. There are some situations with "multihoming" (say, for customers with multi-SIM phones), but in most wired line broadband, this isn't the case. Further, even

when this is the case, it is impossible for the OTT to say whether any customer is multihoming or not. Given this, each ISP, effectively, has a termination access monopoly since they are they only route for an OTT to reach the customers using that ISP; each ISP is a gatekeeper. In markets without effective competition, this allows ISPs to charge content providers for access to its customers. This should be strictly prohibited. However, this does not prohibit the ISP from having differential pricing agreements with different networks (discriminating on the basis of networks instead of discriminating on the basis of the content carried by the networks). However, to ensure that this does not result in an abuse of each ISP's termination access monopoly, we need to first ensure transparency.

Thus, every interconnection agreement — except for settlement-free peering — needs to be made available to the regulator.

1. No termination charges or carriage charges may be levied by any ISP upon any Internet service. No Internet service may be negatively discriminated against with regard to carriage conditions or speeds or any other quality of service metric.
2. All interconnection agreements, when they involve settlement, should be deposited with TRAI.
3. TRAI should remind ISPs that so far it has been forbearing from regulating ISP interconnection and pricing, but that it has the power to do so if it finds ISPs abusing their termination access monopolies.