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## **Submission of Comments on TRAI Consultation\_Paper**

***Consultation Paper No. 6/2017***

***On***

### ***Data Speed under Wireless Broadband Plans***

**Q1: Is the information on wireless broadband speeds currently being made available to consumers is transparent enough for making informed choices?**

At present information on wireless broadband speeds currently not transparent enough as it is too technical for Consumers to understand. It is also observed that use of certain terms such as 'up to' and 'unlimited' for data speeds and data limits are misleading and creates confusion and dissatisfaction among wireless broadband consumers.

In a 2016 study<sup>1</sup> by CUTS International and IIT Delhi it was reported that respondents were well aware of their data plans but had little information regarding the exact quantity of data being used every month. The level of awareness was significantly low in case of bandwidth usage. Most of the respondents clearly expressed a desire to know more about these issues.

Information on wireless broadband performance in consumer friendly format must be available to Consumers for making informed choices, so as to empower consumers to take informed decision while purchasing or using broadband service plan.

**Q2: If it is difficult to commit a minimum download speed, then could average speed be specified by the service providers? What should be the parameters for calculating average speed?**

It may be a challenging for TSPs/ISPs to commit a minimum download speed at any particular time however It is possible to calculate average speed by certain

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<sup>1</sup> CUTS (2016), IIT Delhi, Mobile Internet Services in India: Quality of Service, CUTS, Jaipur. The study covers two key points – (i) evidence from select States on the quality of mobile internet services (based on data); and (ii) perception and awareness of consumers in select States regarding the quality of mobile internet services and relevant policies and regulations. Accessible at <[www.cse.iitd.ernet.in/~aseth/1615\\_QoS\\_Report\\_CUTS\\_IIT.pdf](http://www.cse.iitd.ernet.in/~aseth/1615_QoS_Report_CUTS_IIT.pdf)>



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measurement tools, applications which have been developed by academics, regular auditing also needed to ensure average download speed.

TSPs/ISPs may conduct their own measurement by methodology prescribed by the 2012 Wireless Data Service Regulations issued by TRAI.

Two benchmark measurement sets may be explored to assess the speeds being offered:

- a. Upper-Bound: TSPs/ISPs may conduct their own measurements by downloading data on a long-lived Transmission Control Protocol (TCP) connection as specified in

the measurement methodology prescribed by the 2012 Wireless Data Service Regulations issued by TRAI. These speeds, observed over multiple tests and across multiple locations, will give an upper bound to the speeds offered because such measurements in controlled test environment ensure that server or user device are not bottlenecks. Thus, speeds attained are entirely dependent on the combined effect of Backhaul and RAN network capacity.

- b. Lower-Bound: TSPs/ISPs may measure the speeds experienced by different consumers by instrumenting the data downloaded during active times of the connection. This information is already collected by them for billing and traffic shaping purposes as per the location-specific plans purchased by consumers. These speeds will give a lower bound to the speeds offered because user device, server bandwidth or application requirements may not utilize the network in full capacity, thus, projecting an estimate lower than what the network infrastructure may provide.

For both measurements, distribution may be considered in the form of deciles<sup>2</sup> or quartiles<sup>3</sup>, rather than just the average. Difference between the two distributions will give some sense of a measure of unused capacity, which may ideally differ by more than a 50% ratio. With such a measurement technique, a reasonable commitment from providers may be taken to rationalise values. It may be noted that such commitments may not be evaluated on per-consumer or per-connection basis, but may be averaged-out across consumers and across times



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**Q3: What changes can be brought about to the existing framework on wireless broadband tariff plans to encourage better transparency and comparison between plans offered by different service providers?**

Information must be available to consumers in simple format about pricing details, including all of the various charges that seem mysterious to consumers – overage fees, equipment fees; early termination fees also other monthly fees beyond service fees, defined plan limit after which consumers will incur additional charges etc.

A system of ranking on QoS Performance should be introduced for TSPs/ISPs to instill competition and enhance QoS efficiency. Ranking parameters may include reported QoS indicators. Data usage and pricing slabs, specific performance enhancing methods deployed by different providers such as data compression and transcoding proxies ,content delivery network linkages ,fast DNS servers, network capacity, backbone connectivity, etc.

The parameters values may be displayed on labels and ranks may be presented as star ratings for each provider.

**Q4: Is there a need to include/delete any of the QoS parameters and/or revise any of the benchmarks currently stipulated in the Regulations?**

There is no need to delete any of the existing QoS Parameters benchmark currently stipulated in the regulations.

According to “The standards of Quality and services regulations 2012” certain QoS parameters have been adopted but still Consumers are not satisfied with the Broadband speed and other performance metrics, Network management practices etc. Availability of all the information about QoS parameters in simple and consumer friendly format will generate awareness among consumers.

Inter Radio Access Technologies (IRAT) Switching Reports: Several studies have shown that due to improper configurations, IRAT handovers occur extensively and impede performance by forcing devices to switch from 3G to 2G then back to 3G, etc. This must be considered as a parameter in the current reporting structure.



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**Q5: Should disclosure of average network performance over a period of time or at peak times including through broadband facts/labels be made mandatory?**

Yes, it will be in Consumer Interest, However a phased approach may be considered while implementing it, Once a certain percentage of consumers are actively and consistently using these label basis, TRAI may consider to mandate the mechanism as it will help consumers in making informed choices while purchasing a broadband services/plan, also will establish a formal contract between consumers & service providers as well as empower consumers to compare the advertised QoS with actuals.

**Q6: Should standard application/ websites be identified for mandating comparable disclosures about network speeds?**

Yes , Standards application websites be identified for mandating comparable disclosures about network speeds for making informed choices to Consumers also existing platform like TRAI Website, Trai My speed Mobile App, TSP/ISP Website and Mobile App , Website of registered consumer Advocacy Groups must be utilized.

**Q7: What are the products/technologies that can be used to measure actual end-user experience on mobile broadband networks? At what level should the measurements take place (e.g., on the 26 device, network node)?**

a. **Technology:** White box by SamKnows<sup>4</sup> is a prominent solution used by many regulators and consumers globally to capture QoS experienced by consumers and extrapolate the indices to measure the overall QoS in a particular geographical region. TRAI may explore this option to measure user experience.

b. **Reporting Level:** The spatial granularity for existing QoS reports must also be increased to allow for good comparisons. Currently these reports are prepared at circle-level and expanding them to district and city levels, categorically separated into rural/urban areas, should provide greater information to consumers specific to their geographies.

c. **Crowd-Sourced Measurements:** As outlined in this study<sup>5</sup>, different aspects related to QoS should be measured in different ways:

- Crowd-sourced measurements for throughput and latency should be aggregated in large numbers given the variability that may arise due to short-term and long-term shadowing in



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wireless connections. The alternate to ask providers for reporting data aggregated across all user sessions is a more viable and may be measured from within the providers' networks.

- Metrics such as availability however, should be measured from an end-user perspective by capturing data from user device. Conducting such measurements via crowd-sourced applications, however, requires root permissions on the phone to access radio layer protocol information, and hence the same metrics should be monitored and reported from the provider's network such as number of attempts made, failed attempts, etc.

Therefore, crowd-sourced measurements through tools like TRAI's MySpeed app should serve the purpose of cross-checking values reported by providers, if obtained at very large scale.

Their distribution should tally with the reported data as test methods of downloading large files, measuring IP packet latency, etc. are very similar. Crowd-sourced measurements should however not be the basis for labelling the performance of providers unless they can be obtained at very large scales.

**Q8: Are there any legal, security, privacy or data sensitivity issues with collecting device level data? a) If so, how can these issues be addressed? b) Do these issues create a challenge for the adoption of any measurement tools?**

There are no security or privacy issues in reporting user performance in aggregate, measured through the network, Crowd-sourced information similarly has no liability attached as long as aggregate data is revealed for performance comparison, and data even at the backend is stored through anonymization. However it should be ensured that consumer consent is taken into account while sourcing user level information to protect privacy and maintain transparency in the system. However there might be applications collecting sensitive data than required. Thus there has been vigilance to ensure that such malign practices are not adopted by applications.

**Q9: What measures can be taken to increase awareness among consumers about wireless broadband speeds, availability of various technological tools to monitor them and any potential concerns that may arise in the process?**

To raise awareness about wireless broadband speeds, Train the Trainers workshops and awareness programs for Consumers on benefits and usage of broadband services data speeds, broadband labels may be organized by authority.



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Multimedia Campaign can be started to create awareness amongst consumers about wireless broadband speeds.

TRAI could consider Capacity building of Consumer advocacy Groups registered with TRAI to increase awareness about wireless broadband speeds among Consumers.

CAGs and TSPs/ISPs can also work together on awareness generation about broadband speeds.

### **Q10: Any other issue related to the matter of Consultation.**

a. Speedy & Seamless Grievance Redressal:

It has been repeatedly voiced by TRAI and consumer groups that the quantum of grievance related to data speeds and the time-effort taken to resolve the grievance is not cost-effective and unfavourable towards consumers as per current mechanism, leading to high dissatisfaction and negative experience. Hence, broadband labels may be provisioned and implemented in such a manner that speeds up the grievance redressal mechanism and consumers are able to transact seamlessly to resolve their complaints and concerns.

b. Periodic Review of Labels:

It is also vital to maintain standards and quality once the label is introduced. It is important to note that technology is evolving rapidly. Thus, to keep pace with the changes, the labelled wireless broadband service should be regularly assessed to determine if an increase in efficiency criterion is required, along with monitoring quality features and evaluation of QoS parameters.

c. Data Provisioning for CAGs, Academia & Think-tanks:

An issue remains of how to audit of existing data being reported by TSPs/ISPs is been conducted. Therefore, standardized log collection formats, anonymization and use of large scale analytics on this audited data (along with crowd-sourced data) may be enabled and made accessible to academic institutions, consumer advocacy groups registered with TRAI, global/domestic think-tanks so that periodic, independent and unbiased audit, research and data analytics are performed for consumer benefits.

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**28/06/2017.**