

19th May 2014

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Telecom Regulatory Authority of India
Mahanagar Doorsanchar Bhawan
Jawahar Lal Nehru Marg
New Delhi 110002

Subject: TRAI Consultation Paper on Amendment to the Standards of Quality of Service for Wireless Data Services Regulations, 2012

Dear Sir,

Please refer to the TRAI's Consultation Paper No 03/2014 dated 21st April 2014 on Amendment to the Standards of Quality of Service for Wireless Data Services Regulations, 2012 wherein comments of stakeholders have been invited.

In this regard, please find enclosed the response to the Consultation Paper from Bharti Airtel Ltd for your reference.

We trust our submissions will be favourably considered by the Authority.

Thanking you,

Yours faithfully,

For **Bharti Airtel Ltd**



Ashwani Rana
Chief Regulatory Officer – Operations

Encl: a.a.

Airtel Response to TRAI Consultation Paper on Amendment to the Standards of Quality of Service for Wireless Data Services Regulations, 2012

We give below our responses to the questions raised in the Consultation Paper released by TRAI:

TRAI Question 1: What are your views on prescribing benchmarks for Minimum download speed as above? Please give your comments with Justification.

Airtel Response:

We understand that mandating minimum data download speeds through QoS benchmarks will not be a right decision due to the following reasons:

1. **Data download speed depends on multiple variables:** There are numerous variables which are dynamic in nature and are key determinants of data download speeds. Some of these are mentioned below:
 - **Device capability:** Device capability plays an important role in data speeds. For example, devices which support HSPA+ can get upto 21 Mbps as peak speed in ideal conditions, while Release 99 type of handsets only support peak speeds upto 384Kbps. So, the type of handset used by a customer drives the data experience and speeds. India is predominated by open market handsets, where service providers do not control the type of handsets being used by their customers and hence cannot guarantee the data speeds on these handsets.
 - **Location of customer within the cell:** Data speeds vary with the signal strength and signal quality, which vary based on location of the customer in the cell. Hence the speeds would vary depending upon where the customer is - at the cell edge or near to the site. Customers at cell edge will experience lower speeds as compared to the customers at near site locations.
 - **Outdoor / Indoor / basement location:** The mobile network coverage is not uniform across the entire service area. Due to the inherent propagation characteristics of the radio waves, data speeds also vary in bad coverage areas like basements, inside tall and dense buildings and at outdoor locations where there are constraints in deployment of sites such as cantonment areas and other restricted areas. This varying RF coverage will impact data speeds that the customer will experience in these areas.
 - **Response from Internet / Web / Application servers:** Data speeds are dependent on the performance and response from internet servers which is beyond the control of the service providers. The internet eco-system has servers which are located within and outside India hosting various websites. It would be seen that generally sites hosted outside India have higher latency thereby impacting customer experience in terms of access. Many websites administer the download speeds as well which will lead to degraded customer experience. The response and speed from the web servers also depend on the number of users / hits on these servers, which again is not in control of the service providers.
 - **Type of OS of the handset (IOS / Android / Windows):** Handsets perform differently basis the OS version used in the device. For example, Android 4.2 gives higher speed than Android Sandwich version.



- Background applications & number of applications used in the smart phone: Background traffic such as auto updates, backups, data synchronization with cloud servers impacts the speed for the customer.
- High footfall locations: Data speeds experienced by the user in a cell vary with the concurrent number of users in the cell. With the unexpected concentration of customers in a single location, the total cell throughput gets distributed across multiple users, thus resulting in reduced data speeds. This can be witnessed when there are sudden crowd gatherings in places like shopping malls, traffic jams, stadiums, mass events like rallies / demonstrations, protests, etc.
- Smart phone features: - Data speed is also a function of features in smart phones which are controlled by the device manufacturers. For example, at low battery levels, smart phones have features to reduce data performance in order to improve the battery standby time.
- Peak and off-peak hours: Data speeds in the cell vary in peak and off-peak hours due to the concurrent number of users. Hence, speed experienced by the customers will vary depending on when they are accessing the system and load of the system at that point of time.

In summary, it is technically not feasible to specify minimum download speed for data services across wireless networks as data speed is being determined basis various factors which are beyond service provider's control at any point of time.

2. **Inadequate spectrum:** With current levels of BTS utilization at approx 60% (pan-India average) and considering the relatively lower tariffs in India, we are going to witness higher uptake of 3G data services in future. While we benchmark with many of the developed countries for better customer experience, it will be seen that in India 3G spectrum is limited to 5 MHz per operator only as compared to 10-20 MHz per operator in countries like South Korea, Japan, UK, Hong Kong, Sweden, Brazil and Germany to name a few. As a result, mandating minimum download speeds would work at cross purposes against the Government's avowed policy objectives of growing the mobile internet subscriber base with cheaper tariffs given the spectrum constraints Indian operators have to contend with. Accordingly, it will be grossly unfair to lay down QoS benchmarks for minimum download speeds with such low spectrum allocation as compared to other developed countries of the world where there may not be any such mandate by the Regulator.
3. **Misleading information through Averages method:** The reporting that is being done to TRAI is basis test conditions specified by TRAI. This is also done in stationary mode. However, the ground reality is different where the customer is moving with changing conditions. TRAI needs to view the test data speeds reported by the operators in each circle operator-wise and not the averages which would be misleading as in many circles the minimum speed is not near to what TRAI is proposing. This cannot be averaged out for the whole country given the different conditions of each network which vary across different circles and service providers. TRAI's methodology to arrive at the minimum download speeds for 2G and 3G is fallacious because it has been derived basis average over three quarters and across all the operators in different circles. Therefore, to specify minimum download speeds for wireless data services for 2G and 3G technologies basis this test data will lead to distorted picture and create more confusion in the minds of customers rather than achieving the objectives of transparency through advertised speeds. Instead, there should be efforts towards customer awareness that the data speeds in wireless environment are dynamic in nature and depends on various factors some of them may be controlled and some may not be controlled by the customers and the service providers.

4- **Global Practices:** We scanned through the global practices and the findings reveal that any kind of prescription of minimum download speeds has not been mandated as a quality of service performance benchmark in developed countries. Many of the regulators like FCC in USA, OFCOM in UK apart from the regulators in EU countries like France and Italy collect data for monitoring purposes only which is used for analysis and policy formulation. In Australia, they are still in the process of formulating fixed broadband performance benchmarks and still debating whether or not mobile broadband needs to be monitored. IDA (Singapore) which has asked ISPs providing fixed and mobile broadband services to publish information on typical download speeds (not minimum download speeds) for plans with 2 Mbps and above. It's advisable to follow examples of FCC and OFCOM and the wireless data operators in India may continue with the reporting of their data to the regulator for monitoring and as an input for policy formation.

Therefore, to specify benchmarks as QoS parameter for minimum download speeds would be misleading to the consumers. Hence, no benchmark should be prescribed for the minimum data download speeds for wireless data services in India.

TRAI Question 2: *Should the service provider be mandated to inform the minimum download speed to customers along with each tariff plan? Please give your comments with justification.*

Airtel Response:

1. There should be no mandate to advertise minimum data download speeds / typical speeds experienced by operators. In a fiercely competitive market like India's, where there are more than 7-8 service providers in each circle, this will only lead to confusing the customer as the same will not be static and verifiable.
2. In order to address transparency issues, service providers while advertising their data plans / packs should put a disclaimer wherein customers will be educated that the data speeds on the network are dynamic in nature and dependent on variety of factors such as number of subscribers browsing the data services, coverage area, location of the customer, peak / off-peak time, kind of device that is being used, website controls and behaviour, etc. This, we believe would suitably address customer issues around transparency leading to better customer satisfaction levels.
3. TRAI may collect the data from operators as is being done presently. Like the FCC, this may be used to analyse wireless internet availability and adoption through different technologies and be a useful input for policy formulation etc.

Therefore, we recommend that it should not be mandated for the service providers to inform the minimum download speed to customers along with each tariff plan, but instead, customer should be made aware of the various factors responsible for the download speed for wireless data services through website and other means of customer communication.
