

Aircel/TRAI/Corr/2014/ 100

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Mr. A. Robert J. Ravi
Advisor (CA & QoS)
Telecom Regulatory Authority of India
MTNL Telephone Exchange Building
Jawahar Lal Nehru Marg (Old Minto Road)
New Delhi – 110 002

Sub: Response to Consultation Paper on "Amendment to the Standards of Quality of Service for Wireless Data Services Regulation, 2012".

Dear Sir,

This is with reference to TRAI's Consultation Paper on "Amendment to the Standards of Quality of Service for Wireless Data Services Regulation, 2012" dated 21st April, 2014.

In this regard, we hereby enclosed our response to the above mentioned Consultation Paper. The response has also been sent through e-mail at advqos@traai.gov.in.

We hope TRAI will take our inputs into consideration.

Yours Sincerely
For Aircel Group

A handwritten signature in blue ink, appearing to read "Ramesh K".

Ramesh K
Sr. General Manager –Corporate Regulatory Affairs

Encl.: As stated above (Total 6 Pages)

Aircel Limited :

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

At the outset we believe that before the proposal to prescribe minimum download speed for data services, the regulator should give due consideration to the technical factors as well as the external factors beyond the control of operators, that are responsible for providing such download speed.

Further, we also urge that there should be a cost-benefit analysis before issuing any regulation or making the policy related decision. This practice is being followed by the regulators in many countries.

Our question-wise response to the TRAI's consultation paper on 'Amendment to the Standards of Quality of Service for Wireless Data Services Regulations, 2012', is as follows:

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

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.

Response:

We disagree with TRAI prescribing any benchmarks for minimum download speed. It is not feasible due to various technical & architectural factors beyond the control of telecom access operators.

To support our averments, we would like to state as following:

1. Flawed approach of Benchmarks based on Test reports:

- a) We note that TRAI has used benchmarks from the reports submitted by operators. In this regard, we state that it is not right to cite the reports submitted by operators to prescribe any minimum download speed.
- b) As per TRAI's regulations itself, the reports have to be based on test scenarios i.e. test results taken through a test number accessing test server (operator's ftp location – sort of an "Intranet") by downloading/uploading a file. This is done generally from a stationary location and many a times very near to a MSC location thus, very much comparable to an ideal scenario.
- c) However, the customer accesses the "Public Internet cloud", maybe while on move and under a low coverage zone, and could be with high-end or low-end device, which is completely in an uncontrolled environment (No QoS assurance).
- d) Moreover, even the table provided in the consultation paper itself clearly shows that operators do not have uniform speed constantly and there are lots of variance, which of course, depend on various factors as highlighted in this response.
- e) Since, the mobility of the user cannot be restricted in a mobile scenario; it is technically not possible for the TSPs to commit any download speed to the customer.

Indu

Therefore, it is very clear from above that the test reports being submitted to TRAI can't be used for calculating or arriving for any minimum download speed for customers.

2. Technical aspects on Minimum Download speed

- Technically, 2G/3G do not support to have assured minimum download speeds for subscribers. GSM and UMTS do not have technological concept of Guaranteed Bit Rate.
- The subscribers latched or camped on a site, are provided with the Radio Access medium, on a shared as well as best effort basis only.
- There are various external and internal factors, which contribute & lead to changing and dynamic bandwidth across subscribers like Number of subscribers, location/coverage, device type, transmission bandwidth, external interference, spectrum/carrier limitation, QoS based bill plan and external factors like availability of website/server etc. These can be further categorized broadly into two categories viz:-

A. Network Related

- i. **Limited Spectrum availability:** There is very limited spectrum available with operators in 900/1800/2100 MHz bands. This impacts and limits the maximum site capacity to serve. Higher subscribers per site (which is necessary for voice optimization) would lower per subscriber capacity beyond TRAI suggestion.
- ii. **Capacity and coverage of Sites:** The critical challenges with growing capacity and coverage of sites due to EMF, site acquisition challenges in certain areas should also be factored.
- iii. **Backhaul availability:** Limitation with the backhaul capacity due to low penetration of fibers and limited microwave spots.

B. User Related

- i. **Coverage:** Subscribers present in low coverage zones such as basement or cell boundaries cannot be assured a minimum download speed.
- ii. **Device:** Subscribers device also impose a limitation on maximum supported speed, as well maximum data rate which can be used by explorer/browser on device.
- iii. **Website/application:** The user data speed also depends on the website/application server's speed where it is hoisted. For example, one of the online ticket booking site provides a very slow data speed during morning hours even if it is accessed from a dedicated 2 Mbps line. This can be true to many other websites/application and is clearly beyond the control of TSPs.

Rishi

3. Impact on Number of Sites & Connectivity

- Technically, a site provides for 200-250 Kbps of data speed at a peak data browsing rate in ideal conditions. Now, if Indian telecom operators have to provide an assured data speed as per TRAI's consultation paper to more than 900 mn subscribers (assumption – 800 mn for GSM), it would need approx. 45 terabits of ISP connectivity and approx. 17 crores Radio sites as per simple arithmetic calculations (enclosed at Annex-1).
- In case, even minimum 10% subscriber are considered to be active for use of 2G data, it would need approx. **huge 1.7 crores BTS** to support the TRAI's proposed benchmarks. Again, assured data speed at customer end, will still not be available due to external factors beyond control of operators.

Therefore, it will be difficult to support the QoS on minimum download speed due to sheer technical impossibility and mammoth proportions of capex & opex involved.

4. Data throttling

In the current market scenario & with huge growth in low-cost smartphones availability, there is a big segment of mobile customers who use the mobile connection for being always online on the social networking platforms. These social networking applications/platforms push updates/events 24x7 and also work well on nominal data speed availability.

To meet this requirement, more and more customer segments are moving towards the convenience of unlimited data packs wherein speed is throttled after certain usage, to keep the overall usage of network under control and provide acceptable data connectivity to customers. In case such throttling is not done, it would choke the entire data network elements leading to huge customer dissatisfaction and loss of revenue.

Even now, the customers who do not opt for such unlimited data packs, do have the option of 'pay as you use' model without any throttling applicable on it and customer can get normal throughput of data speed through the BTS, on a shared basis.

Therefore, we state that there is enough customer demand available, for unlimited data packs with throttled speeds and no minimum download speed to be prescribed.

5. What if minimum Download speed is not possible?

There would be few more aspects which can be better analyzed & responded, once TRAI's clearly clarifies the scope of assured Data speed stated in the consultation paper for e.g. what would be the action expected from TSP's if the minimum download speed is not possible?

- ***Should mobile subscribers be denied Data connectivity as minimum speed cannot be assured for various reasons cited above?***

Rude

It is pertinent to mention that especially in far flung and rural places, where fixed / assured connectivity is not at all possible, it would deprive subscribers even the best effort connectivity also, a situation alike internet blackout.

6. International Practices

We are yet to come across any successful international practice of minimum download speed.

Submission:

Considering all above, we request TRAI not to fix any minimum download speed and instead, a joint approach may be worked out for consumer awareness, if required.

Rashid

Annexure-1

Sr. No	Title	Calculation
1	2G Peak data speed throughput from one site	Assumed 250 Kbps, with remainder capacity for Voice
2	Minimum Data Speed as per TRAI consultation paper	56 Kbps per 2G subscriber
3	Total Telecom Mobile Customers	930 mn (800 Mn for 2G, assuming split from CDMA/3G etc)
4	Total Data speed throughput required from BTS level for assured services to 800 mn customers	3×2 i.e. $800 \text{ mn} \times 56 \text{ kbps}$
5	Total number of BTS required to provide 56 Kbps to 800 mn customers	$(3 \times 2) / 1$ i.e. $(800 \text{ Mn} \times 56 \text{ kbps}) / 250 \text{ kbps} = \mathbf{17 \text{ crores}} \text{ BTS}$
6	Even if only 10% of the 2G Subscriber have Data connectivity	$(3 \times 2 \times 10\%) / 1$ i.e. $(800 \text{ Mn} \times 56 \text{ kbps} \times 10\%) / 250 \text{ kbps} = \mathbf{1.7 \text{ crore}} \text{ BTS}$
7	Total ISP connectivity required for 2G alone	3×2 i.e. $800 \text{ mn} \times 56 \text{ kbps} = 44 \text{ Tbps}$

- Above figures are in approximate and based on certain assumptions & considering 2G network only.
- Effectively each 2G BTS can only provide service for ~5 subscribers if the minimum Data Speed is mandated, even in best of network conditions etc.
- 2G BTS provides shared data access for all subscribers connected to it.
- Thus even if such a high number of BTS were to be deployed, presence of 6th subscriber on any BTS would reduce the data speed of all, even while assuming all other network remain excellent.

End