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Shri A. Robert J. Ravi,
Advisor (CA&QoS)
Telecom Regulatory Authority of India
Mahanagar Doosanchar Bhawan
Jawahar Lal Nehru Marg
New Delhi 110002

Subject: **Response to Consultation Paper on 'Amendment to the Standards of Quality of Service for Wireless Data Services Regulations, 2012' (No 03/2014) dated 21.04.2014**

Dear Sir,

Please find enclosed our response to the Consultation Paper subjected above.

We hope that the Authority will find our response useful and consider our inputs while formulating the recommendation on the subject.

Thanking you,

Yours sincerely,
For **Telewings Communications Services Private Limited**

(Pankaj Sharma)
Sr. Vice President and
Head Regulatory

Encl: a.a.

Uninor Response
to
Consultation paper on Amendment to the Standards of Quality of Service for Wireless Data Services Regulations, 2012 (CP 3 of 2014)

Preamble

1. The Indian cellular mobile market is characterised by intense competition having 8-10 service providers in each telecom service area coupled with the lowest tariffs and availability of MNP as an option for customer to switch from one service provider to another service provider. The mobile market is growing with 5-6 mn monthly subscriber additions and telecom industry is facing resource constraints including spectrum to cope with the high subscriber additions. The telecom service providers are vying for more customers by ensuring regular up gradation of their networks to provide good quality of service at affordable rates. Moreover, comparable tariffs & equivalent services are putting additional pressure on TSPs to maintain QoS to attract new customers as well as retain their existing customers. This clearly depicts that **QoS for both voice and data services are driven by market forces rather than regulatory intervention.**

2. We restrict our submissions to 2G data/ mobile internet services. The 2G network has been designed mainly to meet the voice service requirements exclusively where after initial signalling handshake, a traffic channel is dedicatedly allotted to a subscriber till end of a voice call. Thus a QOS can be ensured. Whereas, in a data session several subscribers are latched to the same IP address and multiple PDP sessions are initiated simultaneously. This is depended on variable like time of the day, location, specific event. For lower Carrier to Interference Ratio (C/I) while this might not have an impact on the voice transmission, there is every possibility in the case of data transmission a lower coding rate is adopted and retransmission of packets is restoted in that location itself, thus degrades the data speed, hence any guarantee on QoS for data services in 2G network may not be feasible. **To provide a minimum guaranteed speed in 2G network, the redesigning and redimensioning of the complete 2G Radio network is required which is a mammoth task and will further increase the financial burden of the service provider and hence will also the end price to customer.**

3. The 2G data users are essentially the small screen users and in most of the events, this is their first screen. Their requirement is not of excessive data download / steaming video /internet based gaming, rather functional. The usage is primarily for low capacity applications like messenger services and viewing social networks while other functional aspects like train ticket booking and bill payments etc. Moreover, 2G networks are predominately built for voice service and time slots allocated for data service is primarily on demand or spare capacity available after catering to the voice requirements. Therefore, **there is no need for prescribing such benchmark at least for data services offered based on 2G technology.** TRAI has also focused for ensuring QoS monitoring for higher data services technologies in their consultation paper and explicitly mentioned that the data services are taking off only after advent of higher wireless data technologies like 3G and BWA.

4. The benchmark specified by TRAI for GSM 2G Services as stated in the table contained in para 2.4 of the consultation paper is on the very high side. In addition to propagation condition being one of the principle factor, data throughput is also a function of, if GPRS or Edge technology / device is

being used. EDGE service is also sensitive to signal strength and type of coding used. In case of EDGE at the cell fringe region (low coverage area or deep indoor region) the signal strength is low and higher coding scheme is not feasible - hence lower throughput. Further, the type of handset being used by the subscriber also impacts the data browsing speed and overall experience. Mostly, 2G data users are using old model handsets / feature phone handsets including Chinese handsets and many of such handsets in the network only support GPRS and not the EDGE. It is also to mention that the data download speed also depends upon the multi slot class configuration of the handset. 1. **The maximum theoretical down load speed of GPRS is 20 Kbps/Time Slot (TS) (Coding Scheme (CS)-4) and minimum speed is 8 Kbps/TS (CS-1) and there is good number of handsets (around 35-40%) which supports only two or three simultaneous TS in the down link.** A conservative estimate for benchmark figure for GSM 2G should not be more than 20 kbps (under specific conditions) with reference to MCS-4 coding scheme in EDGE which is highest in absence of 8-PSK modulation.

5. However with regard to prescribing benchmark for minimum download speed for wireless data access, **internationally, majority of the regulators has not prescribed/set such benchmarks and has left it to the operator's discretion to adopt a measurement methodology that best reflect their operating environment and conditions.** Countries like South Korea and Japan where data market is a very mature market, no such regulation exist. Even in European markets like Denmark, Sweden, UK, France, Netherland etc, doesn't have any specific regulation on communication of mobile data speed to the customers considering the fact that Service provider has no realistic possibility to control in advance what speed can be obtained by an end user at a specific location and for transparency purposes, customer is to inform various factors which impact the data browsing speed. Moreover, communication of such minimum download speed, if advertised, will create confusion in the market leading to customer dissatisfaction. We believe that there is no need for further regulations on this subject, as this is ensured by strong competition in the markets and wide selection of offers in the market.

6. Transparency in the offerings: **Over a period of time, service providers have taken several tariff transparency measures to ensure that customer is fully informed about the services and applicable charges to make informed choice.** For internet access, customer generally opt for data STVs wherein data quota is clearly specified along with the validity period. Customer is upfront conveyed that after exhausting the data quota, xx data browsing speed will be made available along with volume based charges applicable after exhausting of committed data usage. These details are being conveyed to the customers through website, recharge coupon, advertisements, SMS communication etc. in a transparent manner.

In view of above, following are our key submissions:

*   **No benchmark should be specified for minimum download speed for wireless data services especially for the data services offered through 2G technology network.**

*   **Considering availability of different category of data users as well as handsets and dependence of data speed on various factors, it will not be feasible to inform minimum data download speed to the customers.**

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 to Q1 & Q2:

In view of above submissions, we disagree with the views of Authority for prescribing a benchmark for minimum download speed. It is very challenging to guarantee minimum speed for mobile internet access. For example, at a concert or cricket match, mobile operators will typically not have the necessary infrastructure capacity to guarantee minimum speed for all users simultaneously.

The speed of the packet data is completely dependent on various factors such as number of subscribers browsing the data services, distance to an antenna, low coverage area, number of active users in the same cell, location of the customer, peak/ off peak time, kind of device being used, external factors like availability of link between web server and the telecom network, load and transmission bandwidth between the URL server and ISP, availability of web server, website behaviour, etc., which are dynamic in nature and service provider does not have any control on the same. It is to be noted that the concept of minimum download speed cannot be there in a multiple access scenario due to unknown behaviour of the location/number of customers and behaviour of radio signal due to interference, fading, etc.

The Authority itself in the Consultation Paper vide para 2.1 has noted the variation in the data download speed amongst the TSPs even for the same technology. The Authority has analyzed the data for three quarters and it is evident from the data that there is wide variation in the speeds being provided by different operators. This shows clearly that it is not possible for the service providers to specify a particular minimum download data speed and communication of the same to the customers.

The Singapore Info-communication Development Authority (IDA) vide its Information Paper issued on 30 Jan'2012 in lieu of clarification sought by the Industry on the publication of typical speed, agreed that there are factors which affect the data speed which are beyond the control of the service provider. The excerpt of relevant text from this document is reproduced below:

"Notwithstanding IDA's Publication Requirement, IDA acknowledges that various factors can affect the broadband Internet access speed experienced by an end user and some of these factors may be beyond the ISPs' control. For example, the location of the web content and the capacity provided by the content owner may negatively affect one's surfing experience if the content owner has not provided adequate capacity to meet the demand. Other factors like the device being used to surf the Internet (e.g., PC, mobile handset), the number of concurrent end users accessing the same content at that time and the types and number of concurrent applications running on one's device can also slow down one's Internet access speeds. For mobile broadband plans, access speeds may be further constrained by the inherent nature of wireless technologies. One's mobile broadband Internet surfing experience may be affected by

the strength of radio signals at different locations. Different building structures may also weaken radio signals thus affecting users' surfing experience. End users should bear these factors in mind when accessing broadband Internet services."

In view of above, **it is suggested that we should not advertise / communicate any such information which may create confusion in the market leading to customer dissatisfaction.** However, if TRAI still feels that there should be some additional measures required in this regard, we would like to suggest the following alternative approaches which can suitably address the TRAI's concerns raised in the consultation paper -

Approach 1:

It is suggested that TSPs should be mandated to inform the peak browsing / downloading speed for each tariff plan on their website as well as in other customer facing communication channels with following disclaimer –

"The data browsing speed specified above is a peak speed. Actual Speed experienced by the Customer may vary and depends upon various factors such as Number of subscribers browsing the data services, low coverage area, location of the customer, peak/ off peak time, kind of device is being used, external factors like website behavior etc."

Internationally, regulators of United Kingdom ("UK") and Hong Kong have introduced some measures to enhance information transparency on typical broadband Internet access speeds. The UK's Office of Communications ("OFCOM") and Hong Kong's Office of the Telecommunications Authority ("OFTA") have introduced voluntary codes of practice for their ISPs to disclose the typical broadband Internet access speeds that they provide and the surfing conditions under which such speeds are likely to be achieved. Some ISPs there have started to voluntarily disclose the typical broadband Internet access speeds that they provide.

For instance, IDA of Singapore has not prescribed any methodology that ISPs should use for measuring and compute typical download speeds. It is up to the ISP to adopt a measurement methodology that best reflect their operating environment and conditions. However, it is mandated that the adopted measurement methodology should be clearly explained and published for the information to end users. Similarly in Hungary, TSPs are communicated peak data download speed as disclaimer to their customers through advertisements & website.

Approach 2:

TRAI has started collecting performance data for Wireless Data QoS parameter namely "Minimum download speed (Kbps)" from all the TSPs on qtrly basis for monitoring purposes. It is suggested that TRAI may publish the average value of this parameter of all the TSPs on its website as well as in other communication channels like in report, newspaper, customer workshops etc for the information to the customers and TSPs should be mandated to inform the website link of TRAI in all its wireless data services related communications incl. website, advertisements, customer education workshops etc.

While publishing the information as suggested above, TRAI should also put a disclaimer along with the information on its website. Suggested text is as follows:

"The above average values displayed for minimum download speed are indicative and measured by the respective service provider in a test environment as per the methodology defined by TRAI. Actual customer experience may differ due to various factors such as number of subscribers browsing the data services, low coverage area, location of the customer, peak/ off peak time, kind of device is being used, type of application consuming data, external factors like website behavior etc."

Suggested text for TSPs to mention in their customer facing communication is as follows in:

"For information on minimum download speed for your data services, please visit TRAI (Telecom Regulatory Authority of India) website www.trai.gov.in".

Internationally, various regulators are publishing the results of data download speed measurements on their website periodically. Some of them are listed below for reference:

- In Brazil, the regulator, Anatel, started publishing the results of its measurements in August 2013 on monthly basis.

- IDA Singapore is publishing average peak download throughput on its website for all the service providers basis the test carried out by them following their own test procedures and methodology. (website link http://www.ida.gov.sg/applications/rbs/chart.html)

- Italian regulator, AGCOM, published its first results in October 2013. - http://www.zdnet.com/who-offers-italys-best-mobile-broadband-the-results-are-in-7000022662/

- Ofcom in the UK (the first regulator to launch a broadband monitoring program) – soon to be introduced.

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