



## Association of Unified Telecom Service Providers of India

AUSPI/12/2012/143

31<sup>st</sup> August, 2012

**Shri Rahul Khullar,**  
Chairperson  
Telecom Regulatory Authority of India,  
Mahanagar Door Sanchar Bhawan,  
Jawahar Lal Nehru Marg, Old Minto Road,  
New Delhi - 110 002

**Sub: AUSPI's Response to TRAI's Draft Regulations on "The Standards of Quality of Service for Mobile Data Services Regulations, 2012"**

Dear Sir,

We are pleased to enclose herewith AUSPI's Response to TRAI's Draft Regulations on "The Standards of Quality of Service for Mobile Data Services Regulations, 2012"

AUSPI requests the Authority to take its views into consideration while coming out with the final regulations on the subject.

Thanking you,

Yours faithfully,

  
**S.C.KHANNA**  
**SECRETARY GENERAL**

Encl: As above

Copy to :

- 1) Shri R Ashok, Member, TRAI
- 2) Shri R K Arnold, Member, TRAI
- 3) Prof. H S Jamadagni, Member, TRAI
- 4) Prof. Pankaj Chandra, Member, TRAI
- 5) Shri Rajeev Agrawal, Secretary, TRAI
- 6) Robert J. Ravi, Advisor (CI & QoS), TRAI



## AUSPI Response to TRAI's Draft Regulations on "The Standards of Quality of Service for Mobile Data Services Regulation, 2012"

1. AUSPI is pleased to submit its views on the draft Regulation on Quality of Service for Mobile Data Services.
2. There is strong competitive pressure on service providers to attract new customers and retain existing customers. Thus in a competitive environment it is in the service provider's best interest to address the needs and concerns of its subscribers regarding QoS.
3. Service Providers have only recently started rolling out mobile internet service. TEC has not even devised test schedule for 3G services and therefore it would be premature to mandate any QoS benchmarks for Mobile Internet Service.
4. However we do appreciate that the markets work best when consumers are informed about the quality of service they are buying. Therefore there is need to give the relevant information to the consumer about the QoS so that consumer makes an informed choice.
5. We believe that QoS is driven by market forces rather than by Regulatory intervention. Telecom Service Providers may be asked only to monitor and maintain the performance of specified QoS parameter for consumer's information. . The Authority may also limit itself to the monitoring and making appropriate information available for the consumer and therefore, the suggested Regulation 3 is as follows:-

***Suggested Regulation 3: Quality of Service parameters for mobile data services. – (1)***  
*Every Cellular Mobile Telephone Service provider or Unified Access Services provider shall monitor and maintain performance of the following Quality of Service parameters for mobile data service which will be benchmarked against performance mentioned against these parameters:*

6. In case TRAI believes that Key Performance Indicators (KPIs) are to be mandated then our suggestions are as follows.

	<b>Name of Parameter</b>	<b>Benchmarks</b>	<b>Comments/Recommendations</b>
1	Service Activation/ Provisioning	Within 3hrs with 95% success rate.	

	Name of Parameter	Benchmarks	Comments/Recommendations
2	Successful data transmission download attempts	>90%	<p>2.1 The TRAI has proposed the test methodology for this parameter that File should be downloaded from File Transfer Protocol (FTP) test server from stationary location. A data download is successful if a test file is uploaded completely and with no errors. If cannot be downloaded then it is to be considered as failure. <b>The suggested methodology of test set up does not give the customer experience for complete circle and therefore we do not support it.</b></p> <p>2.2 The proposed test set up methodology of downloading file may at most be used and applied as Audit mechanism by TRAI.</p> <p>2.3 Operation System Support (OSS) based KPIs are the ideal QoS measurement for Mobile data services as currently being applied for 2G Voice services. These have already been implemented successfully for 2G voice services.</p> <p>2.4 <b>Methodology:</b> - We suggest that <b>instead of proposed test methodology, OSS based KPI 'HSDPA RAB Setup Success Rate' may be used.</b> We suggest this KPI should be based on the aggregate value for all cells/sites for the circle during Busy hour (Data TCBH). As this KPI is aggregate value of all cells in the circle (the number of attempts made and nos of successful data channel allocation for download in all cells are pegged on the counters), the QoS delivered to customers for the complete circle would be captured. The counter will peg the values automatically in OSS for the busy hour and no manual intervention is required (system generated report). <b>This methodology of measurement</b></p>

	Name of Parameter	Benchmarks	Comments/Recommendations
			<p>from OSS counters converted to KPI will common for all technologies, as applicable.</p> <p>2.5 <b>3G - Data (HSDPA/R99) RAB Setup Success Rate</b> is defined as under:</p> $\frac{\text{Data RAB Successful counts}}{\text{Data RAB Setup Attempts}} \times 100\%$ <p>We suggest the benchmark <math>\geq 85\%</math> during Data Busy Hour (DBH) for HSDPA RAB Setup Rate. This will be the average value for the month for circle level (methodology should be same as is being done for GSM Voice service as per TRAI policy on QoS 7/2009).</p> <p>2.6 <b>GSM Data Service:</b> - The recommended KPI parameter to be measured from OSS is TBF (Temporary Block Flow) success rate. TBF is the data session establishment which happens when a subscriber sends a request for GPRS data services download. The overall measurement methodology is the same as is being mentioned at SI no 2.4. The GPRS/EDGE service is an add-on service on voice channels and performance depends on nos of variables like radio conditions (C/I), Coding scheme allotted to user on radio channel, Nos of concurrent users, Handset type etc. The formula is as follows:-</p> $\frac{\text{TBF Successfully established}}{\text{Total TBF establishment request}} \times 100\%$ <p>We suggest the benchmark <math>\geq 80\%</math> during Data Busy Hour (DBH) for GSM.</p> <p>It should be noted that EDGE/ GPRS service also shares the same voice</p>

	Name of Parameter	Benchmarks	Comments/Recommendations
			<p>resources, but voice is always given higher priority. The QoS on data service in GSM networks will always dependent on voice network utilization and other dynamic variables.</p> <p>Hence this parameter is not recommended compliance for QoS</p> <p>2.7 CDMA Data service: - The recommended KPI parameter to be measured from OSS is Data Call Setup Success Rate. When a subscriber sends a request for data session, the Fundamental Channel (FCH)/Traffic Channel (TCH) is allocated and subscriber can start download/upload data. The overall measurement methodology is the same as is being mentioned above at Sl No. 2.4. The formula is as follows:-</p> <p><u>Total FCH/TCH successfully established</u>  X 100%  Total FCH/TCH for data service request</p> <p>We suggest the benchmark <math>\geq 80\%</math> during Data Busy Hour (DBH) for CDMA Data Service.</p> <p>As CDMA voice channels are given priority this parameter is not recommended compliance to be mandated QoS</p>
3	Successful data transmission upload attempts	>85%	3.1 The TRAI has proposed the test methodology for this parameter that File should be uploaded from FTP test server from stationary location. A data upload is successful if a test file is uploaded completely and with no errors. If cannot be uploaded then it is to be considered as failure. The suggested methodology of





	Name of Parameter	Benchmarks	Comments/Recommendations
			<p>test set up does not give the customer experience for complete circle and therefore we do not support it.</p> <p>3.2 We suggest that instead of proposed test methodology OSS based KPI 'HSUPA RAB Setup Success Rate' may be used. We suggest this KPI should be based on aggregate of all cell counters.</p> <p>3.3 <b>3G</b> :- HSUPA RAB Setup Success Rate is defined as under:</p> $\frac{\text{HSUPA RAB Successful counts}}{\text{HSUPA RAB Setup Attempts}} \times 100\%$ <p>3.4 <b>GSM GPRS:</b> - No separate measurements are available for these technologies. The upload attempts are also included in the Download attempts formula as mentioned in SI No 3.2.</p> <p>This parameter should not be a mandate for QoS compliance and hence is not recommended.</p> <p>3.5 <b>CDMA Data service:</b> - Even in CDMA no separate measurements are available as uploaded attempts are included in the downloaded attempts. However based on deployment if BTS allocates the TCH (Traffic Channel) The formula is as follows:-</p> $\frac{\text{Total TCH successfully established}}{\text{Total TCH data service request}} \times 100\%$ <p>3.6 We suggest the benchmark <math>\geq 75\%</math> during Data Busy Hour (DBH) for 3G and CDMA technologies where available should be 75%.</p> <p>This parameter may not be a mandate for</p>

	Name of Parameter	Benchmarks	Comments/Recommendations
			GSM and CDMA as relevant parameter is not available.
4	Minimum download speed	To be measured by TSP and reported to TRAI	<p>4.1 The speed of the packet data is dependent on 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 being used, external factors like website behaviour, etc., which are dynamic in nature and service provider does not have any control on the same. TRAI has also acknowledged this fact in its draft Regulation.</p> <p>4.2 Also, Internationally, no regulator has 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. We, therefore, recommend that measurement of this parameter should be strictly based on the test results (using dedicated server and dedicated bandwidth within the operator's Network) being conducted under controlled conditions at few locations in a circle. Also, as per the definition this is to be measured by downloading a specified test file from a test server to a user's device. This will help to discard/ address the user behaviour related issues</p>

	Name of Parameter	Benchmarks	Comments/Recommendations
5	Average Throughput for Packet data	>90% of the subscribed speed	<p>5.1 The Authority is proposing that an average throughput for packet data should be 90% of the subscribed speed. In this regard, it should be noted that the subscribed speed is a theoretical maximum speed at ideal conditions and should not be compared/used for measuring QoS. Also, it is technically not feasible to specify a uniform average speed for Wireless data services across all wireless networks covering all service providers as data speed is being determined basis various factors which may be beyond service provider's control at any point of time.</p> <p>5.2 Informing Average data speed to the customer to may not be useful and it may be construed as misleading information since same is dependent on various factors which are dynamic in nature and service provider does not have any control on the same.</p> <p>5.3 We, therefore, suggest that we may inform the peak speed in the communication to the customers with the disclaimer.</p> <p>5.4 As far as this parameter is concerned, it is recommended that this KPI/parameter should not be made a part of QoS Regulation.</p>
6	Percentage of Node B/ BTS carrying less than 80% of the average throughput in a license service area	< 10%	<p>6.1 We suggest that the KPI may be dropped from QoS KPI -list as throughput is dependent on user payload /usage/type of service/dependency on device and applications.</p> <p>6.2 This parameter may be dropped.</p>



	Name of Parameter	Benchmarks	Comments/Recommendations
7	Latency	Audio < 150ms; Video <100ms, Data < 250ms; Data (interactive) <75ms	<p>7.1 We suggest 500 msec for all categories. The measurement methodology and test set up as published by TRAI will be followed.</p> <p>7.2 Recommended that this should be part of Audit &amp; not a Monthly reporting KPI</p>
8	PDP Context Activation Success Rate	≥95%	<p>8.1 This parameter can be measured through OSS/counter statistics for GSM and 3G data services.</p> <p>8.2 In CDMA Data session set up success rate is the equivalent parameter. The methodology of measurement will be same as mentioned above.</p> <p>8.3 Formula from OSS counter (All technologies)  <math display="block">\frac{\text{Nos of Data session successful} \times 100}{\text{Nos of Data session Requested}}</math></p> <p>8.4 We suggest a Benchmark of 90%. However, there must be exclusions for cases like IP address occupied, User authentication failure, insufficient balance and wrong password in computing the success rate.</p>
9	Drop rate	≤2%	<p>9.1 The specified benchmark at this stage is too challenging considering current rollout stage of 3G services. Coverage levels are still poor in rural areas as deployments are in progress. Few sites only are available in cantonment areas. After Roll out is achieved the TRAI may consider specifying this KPI with the proposed benchmark.</p> <p>9.2 Measurement from Counter statistics from OSS is ok.</p> <p>9.3 For drive test based measurement may be dropped as OSS based data is</p>

	Name of Parameter	Benchmarks	Comments/Recommendations
			<p>adequate to give customer experience. Drive Test based can be done for audit purpose.</p> <p>9.4 GSM/3G/CDMA : - Data Drop Rate can be used for measuring data Drops in all technologies in network from OSS counters.</p> <p>9.5 Formula (All technologies): - It can be measured as a ratio of No. of Dropped data calls / No. of successful data calls establishment X100. This can be measured during Data Busy hour. (Data TCBH).</p> <p>9.6 We suggest a Benchmark of &lt; 5% for all technologies.</p> <p>9.7 It is not only a network feature but also dependent on subscriber behaviour in terms of the usage, longer session duration, Cell shrinkage with more nos of users, in building limitations, sites non availability in military/cantonment areas creating coverage holes. For non real time applications like data a benchmark of &lt;5% is highly recommended</p>