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To: "Craig John Nesty" <cnesty@ectel.int>
Cc: rstjohn@cizmicconsulting.com, stanleyd@cizmicconsulting.com
Sent: Wednesday, July 22, 2015 12:27:22 AM
Subject: FW: Consultastion -TOR on the Quality of Service Regulations

Craig,
Good day.

Please see attached Cizmic's response to the Consultation document you sent for comments. Some comments are in red and also in the edited (yellow) box.
The QOS requirements appear to be comprehensive and if anything quite stringent.
At a quick glance for wireless (fixed or mobility) the following points can be onerous to the operator:

- Drop Call rate during peak periods <2%.
The access network is normally designed for a 2% GoS which means the dropped call rate should be < than or = to 2%.
- Service coverage > than 90% of population coverage.

This is a good position to strive for, and a mature operator should be covering more than 90% of the population, however defining what constitutes indoor / in car / outdoor coverage acceptability levels can be very onerous. The levels that have been recommended will provide good quality, however if one has to guarantee these levels, especially indoor then there will be many unique situations where the level is not achievable unless additional equipment such as small cells, wifi nodes, etc. are put in place.

- Net neutrality;
For whole sale and external network transmission or MVNO purposes we agree, however an operator should have the ability to offer their end users various class of services which by default should allow the operator to degrade or block an OTT service.

- SMS Promotion.
We are in agreement that end users should be able to decide if they want to receive promotions over SMS, however this means that an operator must have a method of quickly eliminating / blocking unsolicited SMS which will cause further investment in Hardware and Software.

While the intent of the document is good, the onerous conditions would put potential "start-ups" at a disadvantage, if for example, they had to cover 90% of pop day one with what the government has defined as indoor level QoS. If the governing body is going to define these requirements then that body must also provide a time period and perhaps even a fund of sorts to allow / help operators achieve the requirements. Another question that comes to mind is - how will they measure these QoS levels? Will it become mandatory that all end users have a APP such as Speed test installed on their terminals? Does the operator have to perform a series of drive / walking tests to prove service levels are met? And do you have the tools or resources to ensure that operators are in fact complying.

I hope our comments are helpful.

Regards,
Paul

Quality of Service Performance Standards Indictor

1. Public Fixed Voice Telecommunications

PUBLIC FIXED TELECOMMUNICATIONS	
PROPOSED QoS KPI	**Proposed Target Level – Over period of 1 quarter**
Availability of Telephone Service	≥ 99.99%
Supply Time for Connection	90% within 5 working days
Fault Repair Time	80% in 24 hours 95% in 48 hours 100% in 72 hours
Service Availability	>99.00%
Call completion success rate	>98%
Fault Rate per Access Line	≤ 3% per 100 lines per month
Reconnection of service after payment of overdue amounts within period (Business Hours)	85% within 3 hours **100% IN 24 HOURS or next business day**
Advance Notice of planned disruption	Notification of 95% of planned disruptions should be issued within a 36-hour timeframe before the event.
Call Set Up Time (Post dialing delay to ring tone)	National calls @ busy hour 3 seconds; International calls @ busy hour 8 seconds
Customer Care Accessibility	100%
POI Congestion	< 1%
Grade of Service	< 1%

2. Public Mobile Telecommunications

PUBLIC MOBILE TELECOMMUNICATIONS	
Proposed QoS KPI	**Proposed Target Level – Over period of 1 quarter**
Supply Time for Connection	On demand for pre-paid. Within 3 hours for postpaid
Call Completion Success Rate	>95%
Service Availability	>99.00%
Response Time for Operator Service	80% within 10 seconds 90% within 15 seconds
Reconnection of service after payment of overdue amounts within period	95%
Advance Notice of planned disruption	Notification of 95% of planned disruptions should be issued within a 36-hour timeframe before the event.
Drop Call Rate (during peak periods)	< 2%
Blocked call rate (during peak periods)	SDCCH congestion <1% TCH congestion <2%
Service Coverage (> 90% populated coverage)	In door ≥-75 dBm In-Vehicle ≥-85 dBm Outdoor – in city≥ -95 dBm
POI Congestion	< 0.5%
Prepaid Credits Complaints	<0.5% complaint over 1000 pre- paid credit top-ups
Call Set Up Time (Post dialing delay to ring tone)	National calls @ busy hour 5 seconds; International calls @ busy hour 10 seconds
Handover Success Rate (%)	>95%
Traffic Channel Congestion Ratio (for Busy Hour)	≤ 2%
Customer Care Accessibility	100%
Net Neutrality	All traffic on the internet should be treated equally and that internet service providers should not degrade or give preferential treatment to certain services.
Advanced Notice of Rate change	Notice to be publicized in two weekly newspapers, over a two week period using a quarter page Ad

Note: It is to be noted that all the measurements of performance parameters should be carried out during the "Time Consistent Busy Hour (TCBH)". TCBH is defined as "the one hour period starting at the same time each day for which the average traffic of resource group is greatest over the days under consideration". ITU recommends analysis of 90 days to establish TCBH. http://www.nta.gov.np/en/2012-06-04 05-30-21/cellular-mobile

3. SMS Service

SMS SERVICE	
Proposed QoS KPI	**Proposed Target Level – Over period of 1 quarter**
SMS Service availability	>99%
SMS end-to-end delivery time	<5 sec, for 99% conditions: The receiving mobile equipment should be ON, have coverage and have adequate storage.
SMS Completion Ratio	>95%
SMS Promotion	ALL persons receiving SMS promotional text must have expressly given authorization that they are interested in receiving promotions from a specific entity.

- SMS Promotion: Consumers who receive SMS marketing promotions must consent to receiving the promotions from the specific advertiser. Therefore the network provider must have a list of numbers from the specific advertiser to whom marketing promotions can be sent and not just send promotions to random numbers. Exceptions to this requirement would be calls or texts from the consumers provider such as text related to billing, top-ups etc., informational notices and healthcare-related calls.

4. Fixed Broadband Service

FIXED BROADBAND SERVICE	
Proposed QoS KPI	**Proposed Target Level – Over period of 1 quarter**
Service Availability	>99.00%
Supply Time for Connection	90% within 5 working days
Fault Repair Time	95% within 24 hours 100% within 72 hours
Fault Rate per Access Line	≤ 3% per 100 lines per month
Ratio of Packet Loss (Upload and Download)	≤ 3% Packet loss
Average Throughput for Packet data	>90% of the subscribed speed ~~less stringent standards sometimes applied;>= 50% of advertised speeds~~
Latency	< 150ms for Audio; <250 ms for Data < 75 ms for Data (interactive)
Drop Rate	<1%
Jitter	< 30 ms
Reconnection of service after payment of overdue amounts within period (Business Hours)	85% within 3 hours
Advance Notice of planned disruption	Notification of 95% of planned disruptions should be issued within a 36-hour timeframe before the event.
Customer Care Accessibility	100%
Net Neutrality	All traffic on the internet should be treated equally and that internet service providers should not degrade or give preferential treatment to certain services.

8. Subscriber Television Service

SUBSCRIBER TELEVISION SERVICE	
Proposed QoS KPI	**Proposed Target Level – Over period of 1 quarter**
Installation time of service after application	< 5 working day
Signal to Noise Ratio (DVB-C)	26 dB for min 64 QAM 32 dB for min 256 QAM (43dB)
Operating Margin (Noise Margin) – DVB-C	Higher than 4 dB
Maximum and Minimum Carrier Levels (DVB-C)	47 dB micro volts min for 64 QAM 67 dB micro volts max for 64 QAM 54 dB micro volts min for 256 QAM 74 dB micro volts max for 256 QAM
MER (DVB-C)	30 dB (64 QAM) min 34 dB (256 QAM) min
Complaints by subscribers of "No Signal"	90% redress in 48 hours 100% redress in 72 hours
All installation and service related complaints (except those related to billing)	90 % in 48 hours 100% in 72 hours
Notice to consumers of preventive maintenance of not more than 24 hours	A minimum of 36 hour notice to consumers
Change in regulated subscription package(s)	Not less than 6 months' notice to regulator and consumers from date of enrollment of subscriber to package
Removal of channels from regulated subscription package(s)	Not less than 15 days prior notice to regulator and consumers (published in local newspapers and on TV screen)

Noise Margin – the margin between the signal to noise ratio (SNR) leading to quasi error free (QEF) operation after Reed Solomon Decoder (BER < 2 x 10 -4 before Reed Solomon Decoding) and the SNR of the system.

Higher than 4 dB is as per IS 13420 (Part I):2002, IEC 60728-1(2001), para 5.11.1.2 page 54.

MER as clarified in ETSI: Technical Report: Measurement guidelines for DVB Systems.

Maximum and minimum carrier levels are as IS 13420 (Part 1):2002 IEC 607278-1 "Cabled distribution system for sound and television signals – Part 1 measurement and system performance.