## TENDER TO DEVELOP THE CONSUMER EMPOWERMENT TOOLS FOR MEASURING QUALITY OF SERVICES (QOS TOOLS)

## **Questions & Answers**

No.	Questions	Answers
1	Is MCMC looking for a managed service outside MCMC facilities?	Referring to Para (7.3), the vendor is required to install servers and associated infrastructure at a managed facilities/Data Centre e.g. AIMS.
2	Is 24/7 mandatory?	Referring to para 7.4, operations need to run 24/7. Customer service need not run 24/7.
3	How do MCMC propose to deploy the clients to end consumers and how do they propose to incentive or encourage consumers to install the client?	The clients are to be made available at the app store or downloadable from the web site. It is a part of the plan to engage and promote the empowerment tools via various mediums and social media.
4	10.1.2. is the "Server Module at Portal" the same as the "QoS Self-Assessment Portal" in the diagram?	No, the diagram shows the overview of the overall system. "QoS Self-Assessment Portal" is amongst one of them that makes up the complete solution.
5	10.1.2. The functionality is unclear — e.g. what runs the tests? Is it MCMC's desire that the Server Module at the Portal configures active tests (e.g. speed test and throughput) on user's handsets? If so, how does the user of the Server Module select which handsets are to run the tests? Or will MCMC leave this design to the vendor?	The vendor may propose the design that will best meet the test requirements.

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6	10.1.2. i) calls for automated testing by location, duration, time of testing, etc How is this intended to work? E.g. is the test configuration to be deployed to all user devices and the user device will automatically run the test if at the correct location at the indicated time? Or something else? Is the device user to be made aware of such automatic tests deployed by the Server Module Portal? E.g. it may have an impact on the user's data costs and battery life.	Referring to Para (10.1.1 e)). Calls can be manually and/or automatically configured by the end user. For example a user can initiate a test or sets up a scheduled of automated tests over a period subject to limits of not generating a lot of test traffic or use too much of the subscribed user data quota.
7	10.1.2 d) To respond with compliance (or otherwise) to this traffic load requirement we need to know the value.	The vendor has to propose the estimated traffic load based on their experience and best practice. Basically the test should consider minimum test generated traffic, should be quick/ short tests that use minimum resources of the phone and the network/servers. The server configuration should specify the maximum number of concurrent test users and be scalable modularly.
8	10.1.5. Clarify of social media engagement required. Is this to be a Client Module feature on the user's device and intended for user by the device user? Or is it integration with Facebook or provision of a Twitter feed at the Server Module Portal?	The social media engagement must be featured and accessible to the consumer and may be done by integration with Facebook or Twitter.
9	11.2. Consumer's Reporting. Are these to be available (a) only on the consumer's device, or (b) via a browser on any device on the internet? That is, can a user see their IP/MAC/IMEI only on their device, or is there to be a facility whereby they can see their IP/MAC/IMEI from any other internet connected device?	The reporting must be available at both.
10	11.3.1. What is meant by "packages"? Is this installed apps, or operator subscription bundles, or what?	The name of package subscribed by the users, i.e: Streamyx BB Deal 2Mbps, DG SmartPlan 50.
11	11.3.1.I From where is this personal data (Name, age, NRIC, Mobile Number, Personal email, etc) to be obtained? Note that this information is not generally available to third party apps on smart phones for privacy reasons. Have MCMC	Please refer to Para 11.2.1 d). After a client apps or module is downloaded to user device, the installation may require user to key in specific user details that captures end user personal information.

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	considered that consumers are typically less likely to use handset QoS tools if personally identifying information is collected?	
12	11.4 g and k. Does MCMC have a preferred method of calculating "Rating"?	The tenderers must propose the "Rating" calculation based on a transparent set of criteria used in the said tests. The vendor has to propose based on best practice.  11.4.1 g) Rating based on the Throughput, Latency, and Packet Loss.  11.4.1 k) Rating of all operators based on the network performance (signal strength and quality for nationwide and specific areas)
13	Clause 10.1.1 What does the "user terminal for Fixed" mean in the tender?	The device/terminal for fixed is like desktop/laptop computer which are usually use while not moving.
14	What does MCMC mean for Packet Loss Testing?	To collect and published the result on the percentage of the packet loss.
15	10.1.1 (a)(v) what does the voice quality mean ? Does MCMC mean MOS?	The vendor has to propose/recommend the design based on best practice for such a consumer tool.
16	10.1.1 (a)(vi) Causes affecting poor quality. Does MCMC require L3 messages for Analysis or only signal strength will do.	The vendor has to propose/recommend the design based on best practice for such a consumer tool.
17	10.1.1 (c) Does MCMC mean user are enable to view the drop call log, speed test from the apps that installed?	Users can view the data generated by him/her. Consumers can further view a consolidated report contributed by other users who have contributed/participated.
18	What does MCMC mean by test initiator?	It is like a "Start Button" to initiate the test in a manual test. In the case whereby, the user sets up an automatic test schedule, the test will initiate automatically at the set time and schedule.

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19	10.1.2 (d) Do the traffic load mean the number of subscriber that install QoS apps?	No. It is the traffic generated by the concurrent users who are doing the tests with the QoS apps. Many may download but may not be active users. The vendor has to propose the estimated traffic load (and server configuration) based on their experience.
20	What is the number of subscribers that install QoS MCMC targeted?	The vendor has to propose the estimated number of subscribers and the traffic load based on probability of simultaneous/concurrent use from their experience. The estimate shall be based on the recommended server configuration and bandwidth that is to be offered and if the need to scale up, the next modular server upgrade or configuration and the new number of concurrent users that can be added/supported.
21	What does clause 10.1.5 mean?	The result from the tests (Throughput, Latency, and Packet Loss) can be shared on social media.
22	For Consumer reporting, MCMC is looking for a portal that consumer can access/login and view on the report or MCMC to generate a consumer report for the public to view?	Yes.
23	11.2.1 (b) causes that contribute to the problem, does MCMC require analysis?	Yes, vendor may propose the approach and analysis of the problem i.e. whether it is due to the low signal strength, interference, or others.
24	11.2.1 (e) what is the rating mean ?	The tenderers must propose the "Rating" calculation based on a transparent set of criteria used in the said tests. The vendor has to propose based on best practice.

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25	11.2.1 (k) Does the voice quality refer to MOS ?	The vendor has to propose/recommend the design based on best practice for such a consumer tool.
26	11.2.1 (m) User to login and view or MCMC to generate the report to the consumer upon user request?	Yes. For MCMC reporting see 11.4.
27	What does MCMC mean by clauses 11.3.1 (a)? When the subscribers install the QoS apps, it will record the package that subscribe by the subscriber?	The application could automatically/manually record the package subscribed by the customer.
28	For 11.3.1 (j) does the reporting of problem need L3 messages or only signal strength?	Please propose/recommend best approach.
29	MCMC Reporting: - Clause d: - does L3 messages require for analysis?	Please propose/recommend best approach.
30	MCMC Reporting ((k)) does the rating mean benchmarking and comparison table?	Yes.
31	3.5.3 - "What is the level of acceptance of the Malaysian Service Providers with this project? How MCMC will get the Service Providers to adopt it?"	Very high as they see it as a positive effort to improve service delivery to consumers

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32	10.1.1 - "It is important to highlight that a QoE tool is Operating System and device dependent. Collected KPIs may change depending on the OS (and/or device) limitations.  The selected deployment strategy may have a direct impact on KPIs collection capabilities. For instance, deploying an app using Apple Store requires a strict respect of Apple policy which may create some limitations on solution capabilities. One of the Apple limitations is related to functionalities to automate detection of drop calls.  1. IOS required developer license to access high level of phone information, will MCMC provide this?  2. Android and IOS will give different set of information, is it alright?  3. For IOS, if developed using developer license, it won't appear in Apple App Store. Is it ok?	The vendor has to propose/recommend the design based on best practice for such a consumer tool.
33	"Due to OS limitations, it is impossible for an application to collect L1/L3 messages on commercial smartphones.  In order to access to L1/L3 messages, the provider needs to root, flash the device and change the firmware. This is, for instance, the way drive-test tools work.  If MCMC wants to monitor quality of services as perceived by the end users, selected solution has to be deployed on commercial smartphones without any firmware modification for multiple reasons:  1- A modified firmware change the behavior of the device and has a direct impact on the quality of experience  2- Rooting a device or modifying a firmware is not an easy task and requires:  a- End-users acknowledgement in order to protect his privacy  b- Manual access to the device which is obviously not possible in the case of mass deployment	The vendor has to propose/recommend the design based on best practice for such a consumer empowerment tool.

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	3- Collecting L1/L3 message has a huge impact on the battery life and cannot be done OTA (due to big size of log files)	
	4- Once you root a device, you cannot anymore install OS updates which may be an issue for the end-user	
	Our understanding of MCMC's project is to deploy massively an application on the end-users devices. In our opinion, the best way to do it is to select a QoE application (as deploying massively a drive-test tool is costly and not feasible due to multiple constraints) with no L1/L3 message collection.	
	However, please note that on some smartphones, it is possible to have access to additional radio KPIs such as RSRP, RSRQ, SNR	
	1. Rooting (Modify) commercial phone is it acceptable?"	
34	11.3.1 - "Collection of Name, age, NRIC numbers Is this information entered manually by the end-user in the application?"	Please refer to Para 11.2.1 d). After a client apps or module is downloaded to user device, the installation may require user to key in specific user details that captures end user personal info.
35	38 - "Title and ownership to the QoS tools Source code is governed by a Source Code Escrow process. Our intended solution is already used by some other customers but customization is required for MCMC specification. If we cannot comply fully with this clause (title and source codes cannot be transferred fully to MCMC but based on Escrow process only), will MCMC still consider us if we participate in this tender?"	Yes.
36	In order to configure an optimized HW environment, what is the estimated targeted volume of this application?	The vendor has to propose the estimated number of subscribers and the traffic load based on probability of simultaneous/concurrent use from their experience.
37	Do we need to comply to all line items in order to participate in this tender?	Yes.

No.	Questions	Answers
38	Capacity of the expected traffic .  a. We need a range at least  b. How many connectivity to licensee/operator from MYIX  c. Bandwidth Capacity for each licensee/operator	The vendor has to propose the estimated traffic load based on their experience and best practice. Basically the test should consider minimum test generated traffic, should be quick/ short tests that use minimum resources of the phone and the network/servers. The server configuration should specify the maximum number of concurrent test users and be scalable modularly.
39	We need to know the features of MyIX which we need to incorporate.	MyIX is a domestic internet peering arrangements run by the ISPs.
40	Also we need to know the type of interfaces required and what is the traffic feed which we will be given by licensee/operator. for example: If it is already a processed and stripped down traffic we won't get the app info from that	The traffic feeds from licensee/operators are already at the MyIX for domestic peering/internet exchange. The test traffic will use the same channels to the MyIX and routed to the QoS test servers (preferably located at the MyIX).