Nepal Telecommunications Authority

Kamaladi, Kathmandu, Nepal

Clarification No. 1

Invitation of Bids

for

the procurement of Supply, Installation and Commissioning of the Probing based Quality of Service Measurement System under international competitive bidding procedures specified in Public Procurement Act and Regulations

(Date of issue Clarification No 1:16th July, 2020)

Pursuant to Clause No. 8 of ITB of Bidding document, all prospective Bidders are hereby informed that following are the Clarifications on Bidding Document

S.N.	Bidding Document Clause	Bidding Document Statement	Query	Answer
1	TS - page 81, General Requirement, Point No #1	The test tool shall support 2G, 3G, LTE, LTE-A technologies and shall be extendable to 5G Technology.	Does the present system support 5G? What are the HW/SW assumptions to be considered it as expandable to 5G? Does it need 5G modem support?	The offered system should be 5G ready with all required necessary provision
2	TS Page - 83, Air/Radio, PSTN and LAN Interfaces, point No 1b	It shall be possible to place the test probes on fixed, fast-changing and mobile locations	Same probe to be used in Fixed, Fast Changing (Walking) and Mobile locations. Is this valid for Ethernet based broadband probe with LAN interfaces too?	No changes to the clause. Not valid for Ethernet based broadband probe with LAN interface.

3	TS Page - 83, Air/Radio, PSTN and LAN Interfaces, point No 1q, 1r	It shall be possible to place multiple test probes in one box without affecting the efficiency of testing of the any particular service. It shall be possible to use different test probes in the same box or unit.	Please clarify ? How many probes mandatorily to sit in one box.	It shall be possible to place multiple (at least three) measurement units in one box without affecting the efficiency of testing of the any particular service. It shall be possible to use different test probes in the same box or unit.
4	TS Page - 86, Real Devices, point No 6a	It shall be possible to connect real phones to provide user perception level KPIs.	How many real phones needs to be connected and test to per Probe? What is the interface permitted between probe & phone? Does this test data also to be part of the reporting through the central server?	Bidders can provide any other solution which can simulate Real phones at the probe end to carry out at least three concurrent test.
5	Section V. Schedule of Requirements Page 75 - List of Goods and Related Services, Point No A1	Probe with at least 3 measurement unit per chassis (SW+HW) and communication interfaces for SIM Multiplexer/SIM Server such that each unit supports2G/3G/LTE/LTE-A (Voice & Data).	Can Ethernet based probing for Broadband with LAN be a part of the same Probe proposed for 2G/3G/LTE/LTE- A	**Yes. In that case the total unit shall be sum of radio probes and Ethernet based probe mentioned in list of goods**
6	Section V. Schedule of Requirements Page 75 - List of	Ethernet based Probing system (HW+SW) for Broadband with LAN Interface 10/100/1000.		

	Goods and Related Services, Point No A2			
7	Section V. Schedule of Requirements Page 75 - List of Goods and Related Services, Point No A3	SIM Multiplexer/ Server to store SIMs centrally with capacity to host at least 75 SIMs and expandable when required. The SIM Multiplexer/ Server must support all kinds of SIMs like Micro- and Nano. The SIM Multiplexer/ Server must have hot swap SIM Card replacement feature.	Expandable to accommodate how many more SIMs? Would you propose the composition of distribution of type of SIM in Micro and Nano category or each slot have the capability to accommodate any type?	SIM Multiplexer /Server to be expandable upto at least 200 SIM when required. SIM-Server shall have the standard size SIM slots with suitable provision to use Micro- and Nano-SIMS in any SIM slot.
8			What is the subscriber base for which the solution needs to be Deployed - Will it be required to be done for sample set of customers - Is there any sampling to be done for certain set of customer/ operators data?	As per bid document
9			What is the total data traffic passing through Gn interface pipe per sec. on which probe model shall be deployed	As per bid document
10			Traffic details in terms of Top Domain , Protocol, Traffic Usage Type,	As per bid document

11			Will the solution need to be deployed in NTA owned premise or any Operator Premise	Probes shall be deployed at testing points defined by NTA and it shall be changeable, and rest shall be in NTA owned premises.
12			What is capacity of servers needs in-terms of memory, storage, processor etc.	As per bid document
			List of deployed core network elements across regions/ network wherein the probe deployment shall be required	Probes shall be deployed independently
13			Does an existing probe deployed on any live network? Does it covers voice and data traffic, both.	Not related to current bidding
14			If a probe system exists in place, then on which layer they have deployed it and who is the potential customer for the same.(Cybe Security, Fraud analytics etc.)	Not related to current bidding
15			Information on Core network deployment shall be required (Huawei, Ericsson, etc)	Not related to current bidding
16			Will there be dedicated databases with access to relevant tables for data records	Yes the system shall have the database

17			A confirmation on the deployment options shall be needed whether mirroring of data is captured by the probe vendor or copy of data is made.	Data shall be captured by probes
18			For data Integrity test purpose, network OSS counters for data traffic shall be required at the beginning of the project	Not required
19			Is there any futuristic service that NTA envisages on the same platform apart from probing	Yes, futuristic service shall be supported
20			For what duration the data generated during the engagement is expected to be with the vendor/ service integrator	Data shall be stored in our own server
21	Section IV :Technical Specification General Requirements S.No. 1	The test tool shall support 2G, 3G, LTE, LTE-A technologies and shall be extendable to 5G Technology.	The latest global trend WiFi is playing an important role in service provider network. Can wifi be included as part of the test tool solution?	Will be acceptable
22	Section IV: Technical Specification General Requirements S.No. 17	Scheduling/Automatization of testing (a) Automatization for testing different services in order to achieve more efficient use of the system. (b) A scheduling application shall be able to provide overview of all the test executions scheduled at the system.	As the initial requirement is to have 4 probes connected to the central server to meet the existing service provider capacity. The solution should be scalable to support	Central server shall have spec as per bidding document

		(c) With an integrated scheduler it shall be possible to setup testing of different services on any time of the days as required. (d) It shall be possible to prioritize the testing based on different user profiles. (e) Capability to configure measurement periods: i. Absolute start time, stop time; ii. Daily start time, stop time; iii. Scheduled intervals (e.g. predefined days of the week). (f) Capability to configure the repetition of measurements between selected start and stop times and based on failure of desired results.	country wide deployment for example the central server should support up to 640 probes.	
23	Section IV: Technical Specification Test interfaces S.No 1	Air/Radio PSTN and LAN Interfaces (a) The main aim of the probe is to check if network services are running and raise alarms when failures occur; and also to capture the real-life experiences of a customer while in different geographic areas. (b) It shall be possible to place the test probes on fixed, fast-changing and mobile locations. (c) The system shall support the transmission of data through LAN/WAN and GPRS/3G/HSPA/LTE for connecting the	The latest global trend WiFi & 5G are playing an important role in service provider network. Can these technologies be included as part of the test tool solution. Globally there is a decline of PSTN services & interface, As the tender objective is on QOS over mobility network for example in clause no Technical Specification	Will be acceptable

| | | probes to the central server.
(d) The supplier shall state the maximum number of probes which can be supported by the system
(e) The functioning of probes shall not be affected in case of a temporary outage in the central server.
(f) There shall not be any data loss in case of interruption of LAN/WAN or GPRS/3G/HSPA/LTE connection between the probes and the central server. The probes shall independently capture and store data and whenever the connection to the central server is restored the probes shall be able to send the data to the central server.
(g) The probe shall be operational 24x7 unattended; an alarm shall be generated in case of probe interruption.
(h) The probe shall be capable of scanning the network for available access technologies (e.g. GSM, WCDMA, LTE...). The probe shall be configurable either automatically or manually to select the radio access technology.
(i) The probes shall support GPS (Global Positioning System) and GIS (Geographical Information System).
(j) The radio environment measurements shall be available in both dedicated and idle modes. | Test interfaces S.No 6 AMR-WB CODEC is required which is only used for mobility networks and PSTN is mainly related to circuit switch network over wireline therefore this is not as per objective of the tender. Is PSTN optional? | |

(k) Radio interface layer 3 traces shall be integrated with 2G and 3G and LTE probes. The traces shall be stored in the system for analysis of any abnormal call setup failure or call drop.
(l) The system shall generate a status report indicating the probes status.
(m) It shall be possible to restart the probe remotely.
(n) Each probe will be able to be locked by software within test sequence to be:
    i. GSM 900/EDGE only;
    ii. GSM1800/EDGE only;
    iii. UMTS only;
    iv. LTE only;
    v. GSM900/GSM1800/EDGE/UMTS/LTE auto switching.
(o) The probes shall support 2G, GPRS, EDGE, 3G, UMTS, HSDPA, HSUPA, HSPA+, DC-HSDPA, LTE, LTE Advanced, PSTN, ISDN, LAN, DSL and WLAN interfaces.
(p) It shall be possible to test single technology such as 2G-2G and cross technology such as 2G-3G-LTE testing for various services.
(q) It shall be possible to place multiple test probes in one box without affecting the efficiency of testing of the any particular service		

		(r) It shall be possible to use different test probes in the same box or unit.		
24	Section IV: Technical Specification Test interfaces S.No 6	Real Device (a) It shall be possible to connect real phones to provide user perception level KPIs. (b) It shall be possible to test applications that can run on a smartphone such as, WhatsApp, YouTube, Line, Speedtest.net, Facebook, Twitter, Viber, Instagram, Dropbox etc (c) Itshall be able to test CSFB through a real device. (d) It shall be able to test Multi RAB support through a real device. (e) It shall be able to test VoLTE through a real device. (f) It shall be possible to support AMR-WB through a real device. (g) It shall be able to test HTTP, FTP and SMS through a real device. (h) Smart phones shall be integrated with probes to ensure robustness of real device and battery emulation	The global trend of service provider using variety of CODECS in the network. The following CODECS AMR, EVRC, EVS, G711, G722, G729, iLBC,OPUS, H.263, H.264, H.265, VP8 and with feature service MSRP should be considered.	Additional features will be acceptable
25	Section IV: Technical Specification services to be tested S.No 1	Basic test scenarios The tool shall be able to support basic service scenarios: (a) Network registration. (b) The tool shall be able to perform a network attach (location update) test.	The latest global trend WiFi & 5G are playing an important role in service provider network. Can these technologies be	Will be acceptable

		(c) This test scenario shall be supported by following test interfaces: i. GSM; ii. UMTS; iii. LTE. (d) The test scenario shall support the following test specific KPI sets: i. Duration of the network registration process; ii. RX Levelor equivalent; iii. Service Type of the tested network (e.g. GSM/ EDGE/ UMTS/LTE). (e) The test results shall be available for the reporting solution of the tool. (f) In case of a failure, a corresponding failure message shall be stated by the tool.	included as part of the test tool solution.	
26	Section IV: Technical Specification services to be tested S.No 2	Basic call tests (a) The tool shall be able to perform a voice call establishment test. The test scenarios shall check the call bearer establishment by sending specific tone sequences. (b) The test scenarios shall be as flexible to send or receive calls from external parties (none system interfaces e.g. real handsets). (c) The test scenarios shall support call scenarios where the calling and the called party are controlled by the tool. It	1. The latest global trend WiFi & 5G are playing an important role in service provider network. Can these technologies be included as part of the test tool solution. Globally there is a decline of PSTN services & interface, As the tender objective is on QOS over mobility network for example in clause no	Additional features will be acceptable

		shall be possible to release the call by the calling or the called party. (d) This test scenario shall be supported by following test interfaces: i. GSM; ii. UMTS; iii. LTE; iv. PSTN. (e) The test scenario shall support the following test specific KPI sets: i. Call establish duration; ii. Duration of the call; iii. Call setup alert duration; iv. Used Carrier; v. Speech CODEC on the calling and the called party site. (f) The test results shall be available for the reporting solution of the tool. (g) In case of a failure, a corresponding failure message shall be stated by the tool.	Technical Specification Test interfaces S.No 6 AMR-WB CODEC is required which is only used for mobility networks and PSTN is mainly related to circuit switch network over wire line therefore this not as per objective of the tender. this is not meeting the said tender requirement. Is PSTN optional? 2. To add capability of supporting Supplementary service as per spec 3GPP TS 22.173 for call test. Service providers offer supplementary services as well over call.	
27	Section IV: Technical Specification services to be tested S.No 3, S.No 8, S.No. 9, S.No 10, S.No. 11, S.No 14,S. NO 15, S. No 16,	Call scenarios no charging (a) The tool shall be able to perform a voice call establishment test. The test scenarios shall check the call establishment without answer or pick the call. (b) The test scenarios shall be as flexible to send or receive calls from external parties (none system interfaces e.g. real	1. The latest global trend WiFi & 5G are playing an important role in service provider network. Can these technologies be included asas part of the test tool solution Globally there is a decline of PSTN services &	Additional features are acceptable

	S. No 17,S, No 18, S. No. 19, S. No. 20, S. No 21, s. No 28 Probes (Measurement Unit) S.No 1	handsets). (c) The test scenarios shall support call scenarios where the calling and the called party are controlled by the tool. (d) This test scenario shall be supported by following test interfaces. i. GSM; ii. UMTS; iii. LTE; iv. PSTN (e) The test scenario shall support the following test specific KPI sets: i. Call setup alert duration; ii. Used Carrier. (f) The test results shall be available for the reporting solution of the tool. (g) In case of a failure, a corresponding failure message shall be stated by the tool.	interface, As the tender objective is on QOS over mobility network for example in clause no Technical Specification Test interfaces S.No 6 AMR-WB CODEC is required which is only used for mobility networks and PSTN is mainly related to circuit switch network over wireline therefore this not as per objective of the tender. Is PSTN optional? 2. To add capability of supporting Supplementary service as per spec 3GPP TS 22.173 for call test, as we see across service providers that they offer supplementary services as well over call.	
28	Section IV: Technical Specification services to be tested S.No 4	Basic Data calls (a) The tool shall be able to perform a call establishment for the DATA test. The B-Channel shall be checked for this service. (b) The test scenarios shall support call scenarios where the calling and the called party are controlled by the tool.	1. The latest global trend WiFi & 5G are playing an important role in service provider networks. Can these technologies be included as part of the test	Will be acceptable

		(c) This test scenario shall be supported by following test interfaces: i. GSM ii. UMTS iii. LTE (d) The test scenario shall support the following test specific KPI sets: i. Call establish duration; ii. Call setup alert duration; iii. Call duration; iv. Used carrier. (e) The test results shall be available for the reporting solution of the tool. (f) In case of a failure, a corresponding failure message shall be stated by the tool.	tool solution. 2. To add i-mix data pattern flow test as well, as this is a command test case for Data used widely.	
29	Section IV: Technical Specification services to be tested S.No 12	Hyper Text Transfer Protocol (HTTP) Speed-test (a) The tool shall be able to perform the flash-based HTTP speed-test application on the speedtest.net webpage. (b) This test scenario shall be supported by the following test interfaces: i. GSM; ii. UMTS; iii. LTE; iv. LAN or DSL. (c) The test scenario shall support the following test specific KPI sets: i. Download rate to the used test server in kBits/s; ii. HTTP code of the first server response; iii. Ping duration to the used test server in milliseconds; iv. ID of the used test server; v. Upload rate to the used test server in kBits/s; vi. Warning popup if any occurs during download. (d) The test results shall be available for the reporting solution of the tool. (e) In case of a failure, a corresponding failure message shall be stated by the tool.	1. The latest global trend WiFi & 5G are playing an important role in service provider network. Can these technologies be included as part of the test tool solution. 2. To add HTTPS protocol as that is widely used across networks for web browsing due to security	Will be acceptable

| 30 | Section IV: Technical Specification services to be tested S.No 22 | Video streaming tests – HTTP Adaptive Bit Rate Streaming
(a) The tool shall be able to perform video streaming tests by accessing an ABR stream (live or on demand) by using the particular URL of the stream. The supported CODECS can be any of HLS (Apple), DASH (Universal), MSS (Microsoft) & HDS (Adobe).
(b) This test scenario shall be supported by the following test interfaces:
i. GSM;
ii. UMTS;
iii. LTE;
iv. LAN or DSL
v. WLAN, WLAN_EAP_SIM.

(c) The test scenario shall support the following test specific KPI sets:
i. Number of downloaded video chunks;
ii. URL of the .m3u8 file with the streaming file list;
iii. Data rate of the video file downloads;
iv. Veristream value.
(d) The test results shall be available for the reporting solution of the tool.
(e) In case of a failure, a corresponding failure message shall be stated by the tool | 1. The following CODECS are not widely being used across mobility networks of service provider: HLS (Apple), MSS (Microsoft) & HDS (Adobe). Do not consider the same?
2. The latest global trend 5G is playing an important role in service provider network. Therefore to include 5G as part of the test tool solution. | 1.As per bidding document

2. will be acceptable |

| 31 | 4. Technical Specification services to be tested S.No 23 | Voice quality Test based on ITU Recommendation
(a) The tool shall be able to perform a voice call test and exchange a reference file between the calling parties. The algorithms recommended by ITU shall be used to evaluate the service quality.
(b) This test scenario shall be supported by the following test interfaces:
i. GSM;
ii. UMTS;
iii. LTE;
iv. PSTN.
(c) The test scenario shall support the following test specific KPI sets whenever applicable:
i. Length of the speech stream;
ii. Attenuation value;
iii. Detected delay value (average and max);
iv. Background noise level;
v. Five grade impairment (Excellent, Good, Fair, Poor, Bad);
vi. MOS (Noise value and MOS speech value;
vii. Number of drop outs;
viii. Recorded audio file;
ix. Call establish duration;
x. Duration of the call;
xi. Call setup alert duration;
xii. Speech CODEC on the calling and the called party site;
xiii. Used Carrier;
xiv. Received Command Line Interface (CLI) Information.
(d) The test results shall be available for the reporting solution of the tool.
(e) In case of a failure, a corresponding failure message shall be stated by the tool. | 1. The latest global trend WiFi & 5G are playing an important role in service provider network. Therefore To include both these technologies WiFi & 5G as part of the test tool solution In addition we see globally there is a decline of PSTN services & interface, As the tender objective is on QOS over mobility network for example we notice in clause no Technical Specification Test interfaces S.No 6 AMR-WB CODEC is required which is only used for mobility networks and PSTN is mainly related to circuit switch network over wireline therefore this not as per objective of the tender. Is PSTN optional?
2. To add capability of supporting Voice Quality test based on ITUT P.683 as the same is used | Will be acceptable |

			networks to qualify the QOS	
32	Section IV: Technical Specification services to be tested S.No 24	Video Quality Test based on ITU Recommendation (a) The tool shall be able to perform a video call test and exchange a reference file between the calling parties. The Algorithms Recommended by ITU shall be used to evaluate the service quality. (b) This test scenario shall be supported by the following test interfaces: i. UMTS; ii. LTE. (c) The test scenario shall support all standard KPI sets for Video Quality Testing:	1. The latest global trend WiFi & 5G are playing an important role in service provider network. Can these technologies be included aspart of the test tool solution. 2.To add capability of supporting Video Quality test based on ITUT J.248 as the same is used networks to qualify the QOS	Will be acceptable
33	Section IV: Technical Specification services to be tested S.No 25	Voice over LTE (VoLTE) Call The tool shall be able to register to the IMS network to establish VoLTE calls and perform a speech quality test between IMS subscribers, IMS and Mobile subscribers, IMS and FixedNet and IMS and external parties (none system interfaces e.g. real handsets) (a) The test scenarios shall support call scenarios where the calling and the called party are controlled by the tool. It shall be possible to release the call by the calling or the called party.	The latest global trend WiFi & 5G are playing an important role in service provider network. Can these technologies be included as part of the test tool solution. In addition to recommend to add VoWiFi and VoNR to support Voice call over Wifi and 5G.	Will be acceptable

		(b) This test scenario shall be supported by the following test interfaces: i. LTE (c) The test scenario shall support the following test specific KPI sets: i. IMS registration duration; ii. End to end session establishment duration; iii. IPsec algorithms; iv. End to end alert duration; v. SIP INVITE duration; vi. SIP send BYE duration; vii. Audio CODEC used; viii. Received SIP To and From header; ix. MOS for listening quality; x. MBR (dedicated and default) for UL and DL; xi. PCSF used address; xii. Quality of Service Class Identifier (QCI) for dedicated and default EPS bearer. (d) The test results shall be available for the reporting solution of the tool. (e) In case of a failure, a corresponding failure message shall be stated by the tool		
34	Section IV: Technical Specification	Video over LTE (a) The tool shall be able to register to the IMS network to establish ViLTE calls and perform a speech and video quality	The latest global trend WiFi & 5G are playing an important role in service provider networks. Can	additional features Will be acceptable

| services to be tested S.No 26 | test between IMS subscribers and IMS and external parties (none system interfaces e.g. real handsets).
(b) The test scenarios shall support call scenarios where the calling and the called party are controlled by the tool. It shall be possible to release the call by the calling or the called party.
(c) This test scenario shall be supported by the following test interfaces:
i. LTE
(d) The test scenario shall support the following test specific KPI sets:
i. IMS registration duration;
ii. End to end session establishment duration;
iii. IPsec algorithms;
iv. End to end alert duration;
v. SIP INVITE duration;
vi. SIP send BYE duration;
vii. Audio CODEC used;
viii. Video CODEC used;
ix. Received SIP To and From header;
x. PCSF used address;
xi. Quality of Service Class Identifier (QCI) for dedicated and default EPS bearer.
(e) The test results shall be available for the reporting solution of the tool.
(f) In case of a failure, a corresponding | these technologies be included as part of the test tool solution. In addition, it is recommended to add ViWiFi and ViNR to support Video over Wifi and 5G. | |

		failure message shall be stated by the tool.		
35	Section IV: Technical Specification Probes (Measurement Unit) S.No 2	The unit shall support external USB modem	There would be further requirement in the future for expansion. A recommendation of such unit supporting up to 4 modems.	Will be accepted
36	Section IV: Technical Specification Processing and Reporting System for QoS S.No 1	General features for reporting and alarming (a) The report solution shall be fully integrated into the test system. (b) The report solution shall be supported by a graphical user interface. (c) The user shall be able to create reports. (d) The user shall be able to view reports. (e) The user shall be able to forward reports. (f) The user shall be able to save / backup report definitions as well as import them. (g) The system shall support user friendly drag and drop functionality for reports, report definitions. (h) Reports shall be forwarded by e-mail. (i) Reports shall be exported to an external FTP server via FTP/SFTP. (j) The reporting system shall support different graphical chart types.	Recommendation to include the support of live reporting on the device modem / Handset with probe agent that will give flexibility to check the reporting at user end.	Will be accepted

		(k) The reporting system shall support an interactive dashboard. (l) The reporting solution shall be customizable to restrict users to work with the reporting solution. This shall be possible on user level and supported by an administrator. (m) The reporting tool shall support following data aggregation timings for data collection. (n) The user shall be able to save reportable data in any format (table, trace, pcap, etc.) (o) The user shall be able to zoom in to the reports to have a better view of a specific portion of the report. (p) The user shall be able to move backward or forward within the report in order to see the comparison between the values given in the report. (q) The user should be able to get the live reporting of the modem / handset on probe agent		
37	Section IV: Technical Specification Processing and Reporting	The reporting tool shall support 2G, 3G, LTE, LTE-A technologies and Extendable to 5G	The latest global trend WiFi & 5G are playing an important role in service provider network. Can these technologies be	Will be acceptable

	System for QoS S.No 5		included as part of the test tool solution.	
38	Section IV: Technical Specification Processing and Reporting System for QoS S.No 16	The system shall be able to record traces of layer 3 messages; For 2G/3G/LTE: Non-Access Stratum (NAS). For 3G: Radio Resource Control (RRC). For LTE: E-RRC (E-UTRAN RRC).	The latest global trend WiFi & 5G are playing an important role in service provider network. Can these technologies be included as part of the test tool solution.	Will be acceptable
39	Section IV: Technical Specification General Requirments S.No. 1	The test tool shall support 2G, 3G, LTE, LTE-A technologies and shall be extendable to 5G Technology.	The latest global trend WiFi is playing an important role in service provider network. Therefore To include WiFi as part of the test tool solution.	Will be acceptable
40	**Section IV: List of goods 1**	**Probe with at least 3 measurement unit per chassis (SW+HW) and communication interfaces for SIM Multiplexer/SIM Server such that each unit supports2G/3G/LTE/LTE-A (Voice & Data).**	**This equipment would provide 12 test interfaces. Would it be acceptable to proved alternative configuration s(i.e. 12 single interface units or 6 deal interface units rather than 4 3 interface units.**	More than three test interface per probe will be acceptable but the quantity of probe units shall remain as per the schedule of requirements
41	Section IV: **List of goods 2**	Ethernet based Probing system (HW+SW) for Broadband with LAN Interface 10/100/1000.	Please confirm this is to assure Broadband services and if so can you supply KPI requirement?	As per the bidding documents

42	Section IV: **List of goods 6**	VPN server (to connect fixed measurement units, probes).	Does this have to be as specified or could we provide an industry standard VPN endpoint as long as it is capable of maintaining connections to all units?	As per the bidding document
43	Section IV: **List of goods 21**	Laptop with Latest version of 64-bit Genuine Operating System, Antivirus, 8th Generation i7Processor, at least 16GB RAM, at least 1TB storage space (including at least 256GB Solid State Drive), Up to 13.3- in. touch display, Weight less than or equal to 1.25 kg).	Is this a requirement?	As per Bidding Document
44	Section IV: **List of Goods**	General Question	The requirement is primarily QoS based with some Revenue Assurance(RA). Separation of RA and QoS modules allowed? Offering to propose 2 systems is acceptable under one RFP?	Will be acceptable if it meets all technical requirements of bidding document.
45	Section IV: **List of Services 2**	Factory Inspection in Country of Origin for two Personal from NTA.	Is this to be budgeted for in the RFP response or will NTA pay for this separately?	TA/DA and Travel Allowance will be borne by NTA, other cost associated with factory inspection shall be borne by bidder
46	Section IV: **List of Services 3**	Training in manufacturers' Testing Lab in Country of Origin for three Personnel from NTA for ten working days.	Is this to be budgeted for in the RFP response or will NTA pay for this separately?	TA/DA and Travel Allowance will be by NTA, other cost associated with training

			shall be borne by bidder
47	Section IV: **List of Services 4**	One Technical Expert for three months support at NTA office.	This may be difficult due to restrictions of COVID-19 lockdown and future restrictions. Please indicate if this can be a dedicated engineer remotely made available?	As per bidding document
48	Section IV: **List of Services 5**	AMC after warranty period of one year for four years, to be paid on annual basis.	Please confirm AMC is annual maintenance contract?	Yes
49	Section IV: **Delivery & Completion**	Reporting System - training in manufacturers' Testing Lab in Country of Origin for three Personnel from NTA for ten working days.	Is this in addition to factory inspection time period? Will NTA pay for travel and accommodation etc?	Yes
50	Section IV: **Delivery & Completion**	Voice Call Terminating Unit with at least eight channels placed at fixed location.	What is the layout required for the test interfaces (i.e. ISDN, PSTN, GSM, etc)?	As per bid document.
51	Section IV: **QoS Requirements**	Test Tool shall support Multiple simultaneous data transfers on a single terminal.	Is this multiple connections over a single test interface or multiple interfaces doing downloads at the same time?	Multiple connections over a single test interface will be supported.
52	Section IV: **QoS Requirements**	Test Tool shall support several types of map applications like Google Map, Bing Map, Open Street Map etc.	Please confirm this is a requirement? Maybe related to Drive testing?	Probe locations shall be displayed in map in central server application

53	Section IV:**Test Interfaces 1**	(k) Radio interface layer 3 traces shall be integrated with 2G and 3G and LTE probes. The traces shall be stored in the system for analysis of any abnormal call setup failure or call drop.	Do NTA already own Licences for POLQA and Layer 3 or will these be supplied by the vendor?	Successful bidder shall provide it
54	Section IV:**Test Interfaces 6**	Real Device (a) It shall be possible to connect real phones to provide user perception level KPIs. (b) It shall be possible to test applications that can run on a smartphone such as, WhatsApp, YouTube, Line, Speedtest.net, Facebook, Twitter, Viber, Instagram, Dropbox etc. (c) It shall be able to test CSFB through a real device. (d) It shall be able to test Multi RAB support through a real device. (e) It shall be able to test VoLTE through a real device. (f) It shall be possible to support AMR-WB through a real device. (g) It shall be able to test HTTP, FTP and SMS through a real device. (h) Smart phones shall be integrated with probes to ensure robustness of real device and battery emulation	Is it expected that real phones will be connected at all times?	Yes, during the test period.

55	Section IV:**QoS Probes 1**	The unit shall support 2G Mobile, 3G Mobile, 4G Mobile and LAN at the same time.	LAN? To talk back or to test?	For communication purpose
56	Section IV:**Services to Test**	Basic Data calls (a) The tool shall be able to perform a call establishment for DATA test. The B-Channel shall be checked for this service.	Please explain what is meant by "The B-Channel will be checked for this service"?	
57	**Services & Tech Manpower 3**	The supplier shall provide support anytime during the warranty period.	Is 24/7 support mandatory or can this be scaled to support local office working with some provision for outside hours support with extra cost?	Yes 24/7 support is mandatory
58	**Services & Tech Manpower 4**	The supplier shall provide after sales support for next 5 years as per NTA requirement.	This will be covered in our Opex annual support contract. Please also confirm difference between AMC and after sales support?	Same
59	**Services & Tech Manpower 5**	Supplier shall be ready to provide AMC for 4 years after warranty period (if requested by NTA), payment will be made by NTA on an annual basis.	Our support contracts are renewable every year so we will cost this based on 4 years total cost of ownership.	Bidders have to provide cost of AMC for 4 years and it will be renewed every year.
60	**Issuance of Certificates**	Proof of Consent After the issuance of Letter of Intent (LoI), the Supplier/ Successful Bidder shall be ready to demonstrate the features and requirements complied in the technical specifications within one week. PoC shall be	What is the qualification process for successful completion for this?	Features and requirements of Technical specifications shall be checked for issuing POC

		concluded by the Supplier/ Successful Bidder within 2 weeks from the date of LoI. After the successful completion of PoC, Nepal Telecommunications Authority shall issue Proof of Consent Certificate within 7 days from the completion of PoC.		
61	**Issuance of Certificates**	After the issuance of the provisional acceptance certificate (PAC), the stabilization period of 30 days shall commence.	Please share tests and acceptance criteria - Also, Please confirm that if we are reading this correctly it will be 75 days until sign off ?	It shall be decided at the time of contract.
62	**Issuance of Certificates**	Training Completion Certificate shall be issued after the successful completion of respective service.	We will issue standard training certificates. Is NTA saying that they will too issue a certificate? If so please provide more detail around criteria and sign off procedure.	Successful Bidder shall issue certificate upon completion of the training
63	**Issuance of Certificates**	Factory Inspection Certificate Factory Inspection Certificate shall be issued after the successful completion of respective service.	If so please provide more detail around criteria and sign off procedure.	As per bidding documents

64	Qualification Criteria (g)	The minimum supply value of goods under a single contract in the last three years shall be US dollar 700,000,00 (seven hundred thousand)	Is this criteria only for the bidder or it is required from the manufacturer as well ?	Only for bidders

65	Qualification Criteria (h)	Minimum amount of liquid assets or working capital credit facility shall be US Dollar 1.00(one million)	Is this criteria only for the bidder or it is required from the manufacturer as well ?	Only for bidders
66	Qualification Criteria (k)	The bidder provide the record that the products from the manufacturer supports all available technology and shall be compatible with emerging new technologies including 5G Technology The bidder can use manufacturers credentials .	Since very few telecom operators have rolled out 5G Technology therefore providing record /reference certificates for 5G Technology will not be possible. Can the manufacturer submit or self declaration to certify that its product supports 5G Technology ?	As per bid document
67	Qualification Criteria (f)	The bidder shall submit satisfactory performance certificate for at least two same or similar type of project experience in which at least one in telecom regulator in last three years can use manufacturers credentials.	We request you to include experience of public Telecom operators as in many countries the Telecom regulator passes on this responsibility to the public Telecom operator(i.e. Operator owned by the government /public sector undertaking).	As per bid documents
68	Qualification Criteria (p)	The bidder must be ISO Certified.	Are the manufacturer required to be ISO Certified ?	As per the bidding document

69	Eligible Bidder 4.1	The bidder may be a natural person, private entity, government owned entity(subject to ITB 4.4)or any combination of them with a formal intent to enter into an agreement or under an existing agreement in the form of joint venture (JV)	Please clarify the maximum number of members allowed in the JV.	The lead firm shall have at least 40% stake, and each JV partner shall have at least 25% stake
70			As per price schedule price for goods (Group C) need to be offered on CIP basis. Please confirm that NTA will arrange the customs clearance and pay the required duties to clear the goods	Yes. NTA shall bear all the national taxes (Except Income gain tax).
71			As per schedule, prices for goods (Group C) we also need to offer the cost for inland transportation and required services to deliver the goods to NTA office .The clause 16.1(b) ask to quote this cost in NPR. We can offer this cost to Euros. please confirm if this is fine as we cannot quote in NPR as we are a foreign company and don't have a bank account in Nepal.	Bidder can offer in NPR, or USD or Euros. For evaluation and comparison purposes, the price quoted in different currency(ies) of the bid shall be converted into Nepalese Rupees using the selling exchange rates established by Nepal Rastra Bank and on the date of bid opening.