



BIDDING DOCUMENTS

Sealed bids are invited from well reputed authorized dealers, having tier-1 or tier-2 level dealership, registered with Sales Tax and Income Tax Department having at least (03) three years of relevant business experience for supply, Installation, Configuration, Commissioning of Video Conferencing System (VCS) with 3 years Hardware warranty, Perpetual Licensing, Software updates and **Next Business Day (NBD)** support/SLA. OEM should have its own spare pool depot/warehouse in Pakistan.

SR. #	DESCRIPTION OF CENTRALIZED VIDEO CONFERENCING SOLUTION	QTY
A	The centralized Hardware based Multi-Party Calling Unit (MCU) with recording and streaming capability is required at PTA HQ's with high availability (HA) integrated with other components supporting initially unlimited concurrent meetings with the capacity of at least 45 concurrent users on perpetual licensing at Full HD1080p 60fps (transmit and receive) on IP/SIP in continuous presence (CP) with scalability to cater to future needs .	1
	Auditorium in PTA HQ requires a UHD codec with 2x2 PTZ speaker tracking cameras in cascading mode (at least 10X Optical Zoom or higher), integration with existing Audio system, 2 ceiling/desktop mics and 4 ceiling/wall mount speakers, Amplifier with up to 10-inch Touch Display Unit (same OEM) with remote control and two (02) 75" UHD SMART LED TV.	1
	Main Conference Room requires a UHD codec with 1x PTZ speaker tracking camera (at least 10x Optical Zoom or higher), integration with existing Audio system, 2 ceiling/Wall mount speakers, Amplifier with up to 10-inch Touch Display Unit of same OEM along with remote control.	1
	Chairman Chamber and Member Compliance Office in PTA HQ requires a UHD codec with 1x PTZ camera (at least 4x Optical Zoom or higher), 1 conference microphone with support of additional mic array with up to 10-inch Touch Display Unit of same OEM along with remote control.	2
	PTA Zonal Offices in Karachi and Lahore requires a UHD codec with 1x PTZ camera (at least 4x Optical Zoom or higher), 1 conference microphone with support of additional mic array, 2 ceiling/Wall mount speakers and amplifier with up to 10-inch Touch Display Unit of same OEM along with remote control, 1x65 inch UHD SMART LED TV with TV Trolley.	2
	10 X PTA Zonal Offices located at <u>Peshawar, Quetta, Muzaffarabad, Rawalpindi, Multan, Gilgit, Gwadar, Abbottabad, Faisalabad and Sukkur</u> require a UHD codec with 1x PTZ camera (at least 4x Optical Zoom or higher), 1 conference microphone with support of additional mic array along with remote control, 1x65 inch UHD SMART LED TV with TV Trolley at each office.	10
B	Main Conference Room in PTA HQ requires, 1x FHD 3x3 matrix video wall display having 46-inch panel from renowned brands (Samsung/LG/Sony/Panasonic only) to be installed on the wall (measuring 8.8 feet high and 16.8 feet wide) along with fully compatible video wall controller with complete accessories.	1

Scope of the Work

Pakistan Telecommunication Authority (PTA) has its Headquarters in Islamabad and twelve (12) zonal offices located at Karachi, Lahore, Peshawar, Quetta, Muzaffarabad, Rawalpindi, Multan, Gilgit, Gwadar, Abbottabad, Faisalabad and Sukkur. PTA intends to establish Video Conferencing System (VCS) at HQ to connect all its zonal offices. A centralized Video Conferencing Solution (VCS) including provision of hardware equipment, software, necessary licensing, installation and commissioning of VCS is required as per detailed specifications of PTA. The bidder will also be responsible for provision and installation of concealed electrical/communication wiring of best quality wherever required. Detailed specification of the VCS is provided at Annex-CI, CII & CIII of this document. Notice of the bids issued on PTA's/PPRA's websites is part of the bidding document.

Clarification of the Bidding Document

The bidders can seek further information or clarification of the Bidding Document, within 07 (Seven) calendar days of issuance of tender. The clarification and its replies will be shared with all prospective bidders on PTA Website.

Bidders should note that during the period from the receipt of the bid and until further notice from the Primary Contact given herein this document, all queries should be communicated via the Primary Contact and in writing (e.g. e-mail & letter) only.

Primary Contact

IT Officer (ICT)

+92-51-9225329 Ext (1318)

Ahtishamshah@pta.gov.pk

Secondary Contact

Director (ICT)

+92-51-9214123

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Key Terms and Conditions for Video Conferencing Solution (VCS)

1. GENERAL INFORMATION:

- a. Bidding documents duly completed in all respect will be received on or before 25th August 2020 up to 1030 AM. The submission and evaluation of bids will be carried out under the "Single Stage Two Envelop Procedure" in accordance with Public Procurement Rules, 2004, as amended from time to time ("Rules"). Technical bids will be opened by Technical Evaluation Committee, at PTA HQs on the same day at 11:00 AM, in presence of bidder's representative, who may choose to attend.
- b. Bid will comprise of single package containing two separate sealed envelopes. One envelop will contain the "Technical Proposal" and the second envelop will contain the "Financial Proposal". Technically qualified bidders will be informed the date, time and venue for the opening of financial bids. Financial bids of technically disqualified bidders will be returned un-opened.
- c. Bids should be sent at the address of Director (ICT) Pakistan Telecommunication Authority (PTA), Headquarters F-5/1, Islamabad.
- d. Bidders shall quote for all parts of the IT equipment mentioned above.
- e. Annex-A, Annex-B, Annex-CI, CII, C-III, Annex-D, Annex-E and Annex-F are integral part of technical and financial proposals, which may be read/filled carefully, signed and stamped by the bidders. Further, details of the annexures are mentioned below:
 - i. Annex-A consists of mandatory requirements for bidder(s)
 - ii. Annex-B consists of technical capabilities of bidder(s), which has total 100 marks, whereas minimum qualifying marks are 70%
 - iii. Annex-CI Annex-CII and Annex-CIII consists of technical evaluation of the product and bidder(s) may quote higher specs, however, quoting lower specs shall disqualify the bidder.
 - iv. Annex-D comprises of financial bid format, to be followed by all bidders, the bidder should quote its rates clearly for each part, in the financial proposal in both figures and words without any ambiguity.
 - v. Annex-E Non-Disclosure Agreement is the part of bidding document and will be signed by successful bidder.
 - vi. Annex-F Draft Agreement is also part of this bidding document and will be signed with the lowest financial bidder.

2. BIDDER'S INFORMATION

- a. Name of Firm _____
- b. Date of establishment of business _____
- c. (documentary proof of registration etc.) _____
- d. Address _____
- e. Telephone No _____ Fax No. _____
- f. GST Reg. No _____
- g. National Tax No _____

- h. Primary contact person Name, phone, email:

3. EVALUATION CRITERIA

- a. Technical bids shall be opened and evaluated by technical evaluation committee in view of Annex-A (mandatory requirement), Annex-B (Bidder Capability) and Annex-CI, CII, CIII (Technical Specification). Proposals obtaining at

least 70% in Annex-B and fully compliant with Annex-CI, CII, CIII shall be eligible for the participation in financial bid opening.

- b. Financial bids shall be opened and evaluated by procurement committee of PTA i.e. PC-I as the case may be, based on criteria given in Annex-D.
- c. Contract will be awarded to financially lowest bidder.
- d. If two or more bidders quote equal lowest price in financial proposals, then the work will be awarded to the one having higher technical marks, in technical evaluation.
- e. In case of refusal by successful bidder to sign the contract or commitment of any default the client may award the contract to second financially lowest bidder subject to willingness of the 2nd lowest bidder to match the lowest bid of the first lowest bidder, availability of budget and availability of time and subject to submission of retention money as specified in bidding document.
- f. The bidder should quote its rates clearly against each item including all taxes, duties etc., in the financial proposal in both figures and words. However, the total aggregate amount of bid will be considered for evaluation/competition.
- g. Technically qualified/successful bidder(s) shall be notified in advance and invited for opening of the Financial Proposal(s). The Financial Proposals will be opened at the time and venue indicated by the Client (i.e. PTA) in the presence of the Bidders or their authorized representatives if they choose to attend.
- h. Financial Proposal will be opened and evaluated according to the Rules. The Price evaluation will include all duties, taxes and expenses etc.
 - i. In cases of discrepancy between the cost/price quoted in Words and in Figures of a bid, actual quoted cost of all items will be calculated and aggregated by the PTA purchase committee and will be taken as the total bid price inclusive of all applicable taxes. This evaluated price will be shared with all participants.
 - ii. In case of discrepancy between unit price and total price of each line item, then unit price quoted for each item will be taken as a bench mark for calculation of total line item and final price will be adjusted accordingly.
 - iii. In evaluation of the price of an imported item, the price will be determined and considered inclusive of the customs and other import duties etc.
 - iv. The Client will not be responsible for any erroneous calculation of taxes and all differences arising out as above shall be fully borne by the Successful Bidder.

4. BID SECURITY/RETENTION MONEY

- a. Bid security will be equal to 4% of the total bid amount and will be in the shape of pay order / demand draft in favor of Pakistan Telecommunication Authority, Headquarters, Sector F-5/1, Islamabad. Bid security shall only be attached with the financial proposal otherwise proposal will not be accepted.
- b. Bids without Bid security will be rejected without any right of appeal.
- c. Bid security of unsuccessful bidders in financial bids will be returned after award of Contract to successful bidder.
- d. In case of refusal by successful bidder to sign contract or commitment of any default, the Bid security shall be forfeited in favor of PTA.
- e. **Retention money** equal to 10% of total bid amount will be submitted at the time of signing of contract. Bid Security (i.e. 4% of bid amount) for the successful bidder will be adjusted in retention money. Retention money will be kept against warranty and support period i.e. (3 years) and will only be released after completion of warranty period and on issuance of performance certificate from Director (ICT).
- f. Bid security will be forfeited and supply order will be cancelled if successful lowest bidder is unable to sign the Contract within twenty-one (21) calendar days of issuance of the Letter of Intent and unable to submit the retention money.
- g. Retention money shall be submitted in shape of pay order / demand draft in favor of Pakistan Telecommunication Authority, Headquarters, Sector F-5/1, Islamabad.

- h. If selected bidder is not able to commission the systems as per industrial best practices or have provided the under rated or under quality equipment, retention money will be forfeited and supply order will be rejected, further to add the following conditions shall also apply to forfeit of retention money.
 - i. If the Contractor commits a default under the Contract;
 - ii. If the Contractor fails to fulfill the obligations under the Contract;
 - iii. If the Contractor violates any of the terms and conditions of the Contract.
 - iv. If Blacklisting procedure by the client is being initiated against the contractor.

5. PRICES:

- a. The bidder should quote its rates clearly in **Pak Rupees inclusive of all applicable taxes**, levies and duties i.e. GST, Customs etc. in the financial proposal and amount in both figures and words as per format attached at **Annex-D**.
- b. The rates quoted shall remain valid for **90 days** from the date of opening of Technical Proposal.
- c. PTA will not bear transportation/carriage charges.

6. PAYMENT PROCEDURE

- a. No advance payment shall be made against the supply of equipment / software mentioned in the bidding document.
- b. Payment is subject to successful installation, configuration, testing, commissioning of the VC System and provision of training to PTA nominated officers and payment shall be made on provision of invoice/bill, after delivery of the equipment/software at PTA Headquarters and **issuance of satisfactory performance** certificate by ICT directorate and physical inspection verification certificate issued by PC-I.
- c. Payment shall be subject to withholding of applicable taxes as per government rules and after successful installation of the equipment.
- d. Payment will be released after verification of Hardware its warranty details from the principle manufacturer via official website, email or letter etc., if deemed necessary.

7. EQUIPMENT/SOFTWARE

- a. IT equipment should be new, not used or refurbished. The components of the equipment should be assembled by the manufacturer and may be verifiable from manufacturer if deemed necessary.
- b. The provided software will be perpetual with no additional renewal charges involved and can be verifiable from manufacturer verifiable from manufacturer if deemed necessary.
- c. Configuration, installation and maintenance for 3 years will be the responsibility of the contractor.
- d. IT equipment/software should be arranged through the legal channels by clearing all customs/duties/taxes (if any) levied by Government.

8. DELIVERY PERIOD/COMPLETION TIME

- a. Delivery of items shall be made within Twelve (12) weeks' time after issuance of supply order.
- b. Bidder will be responsible for the safe supply of equipment at PTA H/Qs Islamabad with the provision of warranty / support as mentioned in the bidding document and agreement.
- c. The project including installation and commissioning shall be completed within Four (04) weeks after delivery of equipment. Failing to complete the same within Four weeks shall lead to imposition of penalty as per Sr. 11 & cancellation of the contract as per terms and conditions of this document.

9. AUTHORIZED DEALER/PARTNER

Bidder shall be an authorized dealer/partner, having Tier 1 or Tier 2 partnership / dealership of the quoted brand. Current Certificate of dealership / partnership from principle manufacturer with Authorization letter (**MAL**) is required in the name of the authorized dealer / partner of the manufacturer.

10. WARRANTY/TRAINING

Contractor will be responsible for free of cost at least **3 Years onsite equipment warranty and software updates** and support with labor and parts.

- a. The warranty period will be considered from the date of actual date of delivery and instantiation of IT equipment and software's.
- b. Installation, Configuration and maintenance will be the responsibility of the contractor for three years.
- c. Contractor will be responsible for Training of three nominated resources of PTA ICT Directorate from Authorized Training center, Free of Cost (FOC).

11. PENALTY

- a. After signing of the Contract and issuance of Supply Order the supplier fails to supply the items as per supply order as mentioned in clause 8 of this document above. Then a penalty @ 1% of bid price will be charged per week up to maximum period of four weeks. (Days less than six will be considered as one week). Thereafter, its supply order will be cancelled and his earnest money will be forfeited in favour of PTA.
- b. After successful supply of the equipment, the Supplier fails to install, configure, deploy and test the system within the timeline as per Sr. 8(c) above, then penalty @2% of the contract value per week shall be charged for a period of maximum five weeks. Thereafter, the contract shall be terminated by PTA and retention money shall be forfeited in favor of PTA and equipment will be returned.
- c. A penalty of 1% of the retention money per day will be charged if the faulty hardware replacement time exceeds the time mentioned, in the certificate provided as per Annex-B- part B-(3), during the warranty period. In such cases, penalty shall be deducted from retention money at the time of its release at end of warranty period.
- d. In case of failure to perform as per PTA requirements during the maintenance and support services period, PTA reserves the right to cancel the contract and forfeit retention money in favor of PTA.

12. PTA'S RIGHTS

PTA may reject all bids or proposals at any time prior to the acceptance of a bid or proposal. PTA shall, upon request, communicate to any bidder who submitted a bid or proposal, the grounds for its rejection of all bids or proposals, but is not required to justify those grounds.

13. DISQUALIFICATIONS

Proposals will be liable to be rejected if any deviation is found from the instructions i.e.

- a. Financial bid is submitted without the required earnest money
- b. Offers are received after specified date and time.
- c. Specification and other requirements are not properly adhered to or different from those given in the bidding documents.
- d. GST and NTN certificates are not attached.
- e. Bidder is not in Active Taxpayer List (ATL) of FBR
- f. Relevant experience is less than three (03) years.
- g. Service center is not in Islamabad/Rawalpindi.
- h. Supplier is not an authorized dealer/partner and warranty provider of the principal manufacturer for Pakistan as per section 9 of this document.
- i. Any inferior product / specs / requirement that mentioned at Annex-CI and Annex-II.

- j. Non-quoting International Branded items for any of the above hardware item will lead to disqualification.
- k. Non-production of dealer ship certificate with authorization letter.
- l. Ex-Stock Equipment is not allowed; new verifiable order shall be placed for the whole equipment.
- m. Non-production of both Authorization letter and Partner certificate.
- n. **Certificate of bids security/retention money is not attached with technical proposal.**

14. AFFIDAVIT

Affidavit on Judicial Paper to the effect that the firm has not been black listed by any government/semi government/autonomous body or company.

15. CHECKLIST

- | | |
|--|----------|
| a. Earnest money in shape of bank draft/pay order. | (Yes/No) |
| b. Relevant documents for Annex A, B, C-I, C-II and C-III | (Yes/No) |
| c. List of such projects handled with copies of supply order. | (Yes/No) |
| d. List of clients with telephone numbers and addresses. | (Yes/No) |
| e. List of employees including technical staff for this project. | (Yes/No) |
| f. Affidavit on stamp for not being black listed. | (Yes/No) |
| g. Copies of authorized dealership/partnership etc. of the
principal manufacturer for Pakistan. | (Yes/No) |
| h. Manufacturer Authorization Letter (MAL) | (Yes/No) |
| i. Specification and other requirements are met | (Yes/No) |
| j. Service center is at Islamabad/Rawalpindi | (Yes/No) |

Director (ICT)

Mandatory Requirements

Mandatory Requirement *	
1	Firm has to produce Sales Tax and Income Tax Registration.
2	Bidder should be in Active Tax Payer List of FBR.
3	Firm has to produce Authorization dealer, partner, etc. Certificate of the principal/manufacture for Pakistan as per section 9 of this bidding document with Manufacturer authorization letter (MAL). Tier 1 and Tier 2 partners /resellers only. (Current Partners Only)
4	Firm shall be authorized warranty provider on behalf of manufacturer, or principle manufacturer can also submit warranty certificate. Documentary proof required.
5	Minimum three (03) years of relevant experience of the bidder
6	Sales and Service Centers at Islamabad / Rawalpindi.
7	Submission of affidavit on Stamp Paper to the effect that the firm has not been black listed by any government/semi government/autonomous body or company.
9	Submission of minimum of three supply orders & completion certificates as per Sr.No.6. Annex-B
10	All Software Licenses offered should be perpetual i.e. Software functionality shall work after the completion of 3 years support and warranty (Certificate has to be attached)
11	Certificate must to be provided stating that no part of Hardware and Software has been manufacturer/assembled or developed in India and Israel.

Annex-A is Mandatory

- ✓ Note: All supporting documents to be attached with technical proposal.
- ✓ Non-fulfilling any of the above requirement will result into disqualification of bid.

Please attach all Supporting Documents Serial wise

Technical Capabilities of Bidder

Annex-B

Sr#	Attributes	Max. Score	Points Earned	Criteria
1	Detail of Offices	10		Firm has sales and services offices at four (4) provincial headquarters with proof of authorized service provider from principal manufacturer. Two and half (2.5) points for each provincial capital head quarter.
2	Company Financial Health evaluation as per Annex G	10		5 points for all companies with financial turnover of PKR 20 million (as per audited accounts for last completed financial year) and additional 1 point for each additional 5 Million
3	Replacement time for faulty under warranty equipment/parts (Certificate for NBD has to be produced with technical proposal)	15	15	15 points for Next Business Day (NBD), otherwise NIL marks
4	Total strength of relevant Technical Staff at Rawalpindi/ Islamabad (List shall be attached with name, designation, qualification and related experience (resumes to be attached).	15	15	Firm has ten (10) or more relevant technical staff in Islamabad / Rawalpindi.
			10	Firm has more than seven (7) or more up to nine (9) relevant technical staff in Islamabad / Rawalpindi
			5	Firm has five (5) or more up to six(6) relevant technical staff in Islamabad / Rawalpindi
5	Firm Experience (minimum 3 years' experience required)	10		Two (02) points will be given for each year of experience maximum up to 10, beyond 3 years of mandatory requirement.
6	Projects/ Work completed of similar nature (documentary proof be provided i.e. Supply Orders/agreements, completion certificates etc.)	20		Four (04) points will be awarded for each project of same nature on provision of supply order/certificate. (Max Five Supply Orders) i. Supply of 1 or above VC Solution in single supply order (Covering minimum of three Sites)
7	Brief presentation / demonstration of the proposed solution	20		The perspective bidder shall demonstrate technical capabilities and complete quoted solution i.e. (Software/quoted equipment) to PTA Technical Evaluation Committee free of cost.
Sub Total		100		
<p><i>Minimum qualifying marks are 70% in above table whereas Annex "C (I, II, III)" shall be compulsory. All supporting Documents to be attached for all relevant pages of Annex-B.</i></p>				

TECHNICAL SPECIFICATIONS PART-C

Annex-C (I)

A) The centralized Hardware based Multi-Party Calling Unit (MCU) is required at PTA HQ's with high availability having following detailed features:

VC Core Infrastructure Detailed Specifications			
1. Multi-Party Calling Unit (MCU)			
Sr#	Description	Specification Parameter	Compliance
1	System	The MCU shall be a dedicated Hardware box/ VM based (compute power to be provided by bidder) providing full features of unlimited concurrent meetings and at least 45 concurrent users/device at 1080P 60fps in high availability (n +1). In case of meeting with lower resolution / fps, the number of devices/users will increase accordingly i.e. (double, quadruple etc.).	
2	System Capacity	<ul style="list-style-type: none"> The MCU should support unlimited concurrent meetings and with capacity of at least 45 users in each meeting on perpetual Licensing at Full HD1080p 60fps (transmit and receive) on IP/SIP in continuous presence (CP). MCU along with other Infrastructure should be scalable on Pay As You Grow model. MCU should support Video, Audio, and Web conference in a single box from day 1 MCU should have connectivity with at-least one MS Teams meeting till the expiry of contract. 	
3	Video Standards and Resolutions	<ul style="list-style-type: none"> The MCU should support H.323, SIP standards for communications. The MCU should support WebRTC, BFCP, RDP, HTML5, H.265/H.264 High Profile above; MCU should also be compatible with legacy protocols like H.261, H.263, H.264 AVC/ SVC. The MCU should support 1080p 60 fps, 1080p 30 fps, 720p 60 fps and 720p 30fps 	
4	Content Standards and Resolutions	<ul style="list-style-type: none"> The MCU should support content sharing using standard based H.239 over SIP with HD720 and HD1080 30fps resolution. The MCU should support H.239 and encryption in SIP & H.323 modes WebRTC participants should join meeting with audio, video and content sharing from browser without plugin or download. 	
5	Audio Standards and Features	<ul style="list-style-type: none"> It should support G.711, G.729A, G.722, G.722.1, AAC-LD or better. It should support at least 20kHz frequency or better with crystal clear audio and stereo sound. Automatic Gain Control and Automatic Noise Suppression 	
6	MCU Features	<ul style="list-style-type: none"> The MCU shall support aspect ratio of 16:9 and 4:3. The MCU shall support a mix of resolutions in both Voice Activated mode and Continuous Presence. Each endpoint shall receive at the maximum of its capacity without reducing the capacity of another. The MCU shall support user management by implementing strong password, aging rules for passwords, displaying login records/logs, implementing maximum no of concurrent user sessions and user session timeout. Dynamic CP layout adjustment (MCU will choose the best video layout according to the number of participants in the conference). Must support embedded site naming, Active speaker with border highlight and active speaker indication for active video participant. The MCU should also support the ability to view atleast 25 sites simultaneously on the screen. The MCU should support distributed architecture with intelligent and automatic call routing. The MCU must support integration with other VoIP end points like Microsoft Teams, Zoom, Blue Jeans, GoToMeeting and WebEx, etc. 	
7	Conference Feature	<ul style="list-style-type: none"> The MCU shall support conferences that permanently exist but use no resources if no participants are in the conference. Lecture and presentation mode The MCU shall allow users to create conferences on the fly from their endpoints without the need of an operator and PC. The MCU should support User and managed mute control, DTMF support, Echo cancellation and noise suppression. The MCU shall allow participants to change the layout they see using their endpoint's remote control. This shall not affect the layout that anyone else sees. The MCU must support minimum 30 conference layouts. The MCU must support scheduled, on demand calls and hybrid calls in any combination across Port capacity and it should be possible to schedule/support multiple multiparty conferences on the MCU from day one. 	

9	High Availability	<ul style="list-style-type: none"> For Local Redundancy the server should have ability to have an active system and a hot standby system. MCU should support Different location redundancy Failure of one node within HA cluster should not decrease the capacity as mentioned in point 1 of RFP 	
10	Network and Security Features	<p>The MCU shall support AES encryption using H.235 V3 for every participant without affecting any other feature, functionality or port count.</p> <ul style="list-style-type: none"> Control data is authenticated and encrypted. Media audio, video encryption using AES. The information of same should be available to end-user. The MCU must support TLS for SIP. The MCU must provide QoS standards based on method of compensating and correcting for packet loss of media streams. The MCU shall interoperate with multiple vendors' endpoints, especially the legacy systems. The supported mediums should be IPv4 and IPv6. 	

2. SIP Registrar/Gateway/Gate Keeper -

Sr#	Description	Specification Parameter	Compliance
1	System	The System shall be an integral part of MCU.	
2	System Capacity	The system should support registration of at least 200 H.323 and SIP devices and scalable upto 1000 devices.	
3	Gatekeeper Features	<ul style="list-style-type: none"> H.323 administrative zone establishment Call establishment within a zone and between zones with admission control Bandwidth and session management within a zone and between zones Address lookup and resolution, and translation between E.164 and IP addresses 	
4	SIP Features	<ul style="list-style-type: none"> Support for H.323 and SIP Interworking. The Server should have ability to create multiple SIP trunks to other SIP based call control platforms. Supported configurations include Zoom, Blue Jeans, Skype for business, GoToMeeting, MS Teams etc. and other standards based UC platforms. The server should supports full SIP proxy functionality as an extension of SIP trunking to connect to SIP Platforms for Unified Communications (UC) integration 	
5	High Availability	<ul style="list-style-type: none"> For Local Redundancy the server should have ability to have an active system and co-located hot standby system. The Gatekeeper should have ability to work in super-nodes for Geographical Redundancy 	
6	Bridge (MCU) Virtualization	<ul style="list-style-type: none"> The gatekeeper should be able to register multiple MCU, and can be configured in such a way that it could support FAIL OVER of any one MCU on other. The server can actively monitor the MCUs and know their usage level, availability and status If any of the MCU goes down, then the Gatekeeper should be able to route the call to the next available MCU without any change to the dial-in details. It should use advanced routing policies to distribute voice and video calls among multiple media servers (Multipoint Control Units, or MCUS), creating a single resource pool. The system acts much like a virtual MCU, greatly simplifying VC resource management and improving efficiency. 	

3. Device /Resource Management -

Sr#	Description	Specification Parameter	Compliance
1	System	The central management shall be an integral part of MCU, compatible with other infrastructure to schedule meeting quickly and easily manage VC infrastructure and provision of end-point device configuration.	
2	System Capacity	It should allow Multi-vendor infrastructure support across the VC network	
3	System Capacity	The Central management server must support 200 devices capacity from day one and must be scalable to support minimum 1000 devices in future through software license.	
4	Provisioning	<ul style="list-style-type: none"> The system should be capable of automatic and scheduled provisioning in which an administrator can configure one or more endpoints with the set of information (based on administratively configured user policies) the registering devices need to operate within the network. This eliminates the need to configure each endpoint individually. 	
5	Management	<ul style="list-style-type: none"> It should be possible for the endpoint to automatically pull the device and site provisioning information from the system while start up. 	

6	Software Update	It should be capable of automatic and scheduled mechanism to upgrade the software on one or more endpoints with a standard software package thereby eliminating the need to upgrade each endpoint individually.	
7	Directory Services	<ul style="list-style-type: none"> It should be possible for the endpoint to automatically pull the soft update profile and package from the device or inventory management. The complete infrastructure should be capable of integration with Active Directory and Exchange servers with SSO concept 	
8	Management	The system should Automate and simplify the management of VC meetings and VC infrastructure.	

4. High Definition Web Soft Client (PC & Mobile)

Sr#	Description	Specification Parameter	Compliance
1	Soft clients	<ul style="list-style-type: none"> Full set of security and privacy should be maintained by the application during log on. The application must support user ID/password during log on. System should self-discover registration server and should be able to use same credentials of Active directory for login as a single sign on. The soft client should be compatible with Laptop/Desktop, Tablets and smartphones The appliance should have at least licenses of 200 soft clients so that video, voice, content and chatting features can be availed by the users in the network. The soft client should be able to register from outside of Network without any additional licenses. It must be possible to have an integrated presence-awareness feature that allows users to verify contact availability and status, and seamless enterprise directory integration, which simplifies management and ensures contact list accuracy. The users must be able to use any standard based web camera and head set for the use of the soft client feature. The soft client either must also be able to share content at any time during a call with another client or with hardware based endpoint. The soft clients should be able to control the far end camera in case when connected to hardware-based endpoint. The soft client's communication should be secured on SSL/TLS. Provision of watching the self-view should also be there to facilitate the user to feel his presence during a call. The users should support making calls to endpoints within user network even when on public network. The point-to-point call between desktop/mobile/room endpoints should not require MCU ports 	

5. Video Firewall Traversal

Sr#	Description	Specification Parameter	Compliance
1	Features	<ul style="list-style-type: none"> The system shall be an integral part of MCU, must combine remote and B2B calling scenarios with SIP and H.323 capabilities for a seamless video collaboration experience within and beyond the firewall. VC endpoints deployed at other enterprise must be able to take part in VC, dial into the MCU and dial out from the endpoint and MCU. The endpoints can be of various makes such as Polycom, Panasonic, Huawei or Cisco using open standards. Interoperability with all must be possible using the Internet. The calls should be H.323 and SIP and must be able to support HD resolutions. The solution should support ability to call to public IP addresses. Should support firewall traversal solution using the H.460 and SIP protocol. Should support the ability for devices on the internet to reach using a H.323 ID or E.164 alias and SIP URI. Should support all Concurrent calls (equal to MCU capacity) in 1080p resolution from day one and must have the scalability to upgrade to any configuration with easy Pay as you grow model. Currently PTA requires 3 B2B Concurrent calls which may increase as per requirements. The solution should have the ability to call to public IP addresses. The solution should have all the H.323 and SIP functionalities such as: H.239, BFCP, AES encryption, FECC, H.235 	

		<ul style="list-style-type: none"> The solution should be able to create authentication credentials for a remote VC device, soft clients and mobile VC clients to be registered and make calls. Web-based real-time for network administration Call logging and diagnostics 	
6. Browser Based/WebRTC Video Conference			
Sr#	Description	Specification Parameter	Compliance
1	Features	<ul style="list-style-type: none"> Proposed solution should support WebRTC and Browser Based VC from any Browser. It should manage/Schedule Video Meetings with integration of IBM Lotus Notes and MS Exchange from user web browser. WebRTC based session should be secured with SSL certificate. Proposed solution must be supports plug-in free web conferencing. 	
7. Recording and Streaming Solution			
1	Application Features:	<ul style="list-style-type: none"> Records single point and multipoint conferences with full H.239 and BFCP content capture. High definition (HD) support with 720p30 and 1080p30 H.264 video. Playback of recorded video from endpoints and web browsers. H.323 standards-based for use with third party conferencing systems 	
2	Audio/Video Support:	<ul style="list-style-type: none"> Live Video Resolutions: C(S) IF, 4CIF, SD, HD and HD1080p 30/60. Audio support: G.711, G.722, G.722.1, Annex C, AAC-LD or better. Records in Window Media (WMV)/mp4 and H.264 MP4 video formats 	
3	Recording	<ul style="list-style-type: none"> Should support 2 concurrent video conferencing recording sessions at HD 1080p30 with full video, audio and content. Records audio/video at varying bit rates – 128 kbps to 4 Mbps. Up to1080p HD record and playback, record stereo calls in single point and multipoint calls. It should also be able to record point-to-point calls. Configurable recording templates to specify multiple bit rates for streaming/ recording. IVR support to provide users verbal indicators of status (recording, pause, etc.). Multiple methods for recording – direct from a video endpoint, MCU/bridge or from the admin user interface 	
4	Playback & Streaming:	<ul style="list-style-type: none"> Archived playback to H.323 endpoint. Media download option for video editing or distribution. High Definition 1080p 1 live stream, otherwise flexible enough to display 2 concurrent HD live streams. Unicast up to 200 concurrent web viewers 	
5	Security:	<ul style="list-style-type: none"> AES media encryption. TLS/SSL and HTTPS Support 	

B) The proposed system should be a codec based hardware endpoint with 2x2 PTZ cameras, two ceiling/conference microphones and 4x ceiling/wall mount speakers covering Auditorium from every dimension.

Auditorium Detailed Specifications			
Sr#	Description	Specification Parameter	Compliance
1	Package	<ul style="list-style-type: none"> A Hardware codec with 2x2 Full HD 1080p cameras or higher, two (02) Ceiling/conference Microphones, four (04) ceiling/wall mount Speakers, cables, remote control. It should be capable of integrating 2x2 PTZ cameras to form one stream for far end to cover the Auditorium without manual intervention. 	
2	Video Standards and Resolutions	<ul style="list-style-type: none"> It should support H.323, SIP standards for communications. It should support H.261, H.263, H.264 AVC/ SVC, H.265/ H.264 High Profile It should support 4k 40fps, 1080p 60 fps, 1080p 30 fps, 720p 60 fps and 720p 30fps 	
3	Content Standards and Resolutions	<ul style="list-style-type: none"> It should support content sharing using standard based H.239 and BFCP over SIP. It should also support audio from PC used for content sharing. It should transmit both video and content at 1080p 60fps or higher simultaneously to the far end location. Content from Windows, Android, IOS could be shared and viewed in multiple inputs preferably. Content from iOS, Android or MSFT could be shared wired or wirelessly. 	

4	Audio Standards and Features	<ul style="list-style-type: none"> • It should support G.711, G.728, G.729A, G.722, G.722.1, AAC-LD or better. • It should support 20KHz or better bandwidth with crystal clear audio and stereo sound. • Automatic Gain Control and Automatic Noise Suppression • Keyboard noise reduction and instant adaptation echo cancellation 	
5	Video and Audio Inputs	<ul style="list-style-type: none"> • 1 x HDMI input for connecting main HD camera • 1 x HDMI input for connecting secondary HD camera • 1 x HDMI input for connecting PC/Laptop to share HD content • 1 x HDMI/Component for connecting VCR/DVD player • 2 x Microphone Input (Support for minimum 3 mics • 2 x RCA line-in (Optional) 	
6	Video and Audio Outputs	<ul style="list-style-type: none"> • 2 x HDMI output for connecting main monitor & second monitor. • 1 x RCA pair stereo line-out • 2 x Camera streams can transport as a single camera to far end 	
7	Other Interfaces	<ul style="list-style-type: none"> • 2 x 10/100/1000 LAN port • 2 x USB 2.0 for software upgrade and connecting external devices • 1 x RS-232 mini-DIN 8-pin (Optional) 	
8	Camera	<ul style="list-style-type: none"> • It should support at least 1080p 60fps with 2x2 / = 4 speaker Track cameras in cascading mode having minimum 10x optical zoom or higher. • It should be scalable for enhancing video conferencing experience with advanced face recognition technology such that it automatically scans the room and seamlessly commands the main camera to appropriately frame the users during a call without any manual intervention. 	
9	Network Features	<ul style="list-style-type: none"> • H.323 and SIP bandwidth up to 6 Mbps • IPv4 and IPv6 support from day one • Auto Gatekeeper Discovery and IP Precedence • H.323 based Packet Lost Recovery 	
10	Touch Control	<ul style="list-style-type: none"> • IPS up to 10"-inch display screen of the same OEM; Resolution: WXGA (1280 x 800) or higher. • Intuitive user interface Tap and touch control to access call controls and admin menu. 	
11	Security	<ul style="list-style-type: none"> • Media Encryption (H.323, SIP): AES-128, AES-256 • Authenticated access to admin menus, web interface and telnet API. • Local account password policy configuration 	
12	Other Standards	<ul style="list-style-type: none"> • It may support H224/H.281, H.323 Annex Q, H.225, H.245, H.241, H.243 and should support H.239, H.460 • It should be able to connect ZOOM, Blue Jeans, Skype and GoToMeeting Video Calls on web based interface. • Auto sensing power supply 	
13	75" UHD Smart LED TV	Two 75" or above Sony/Panasonic/Samsung/LG only (renowned Brands) UHD Smart LED TV with at least 3840x2160 resolution	
14	Amplifier	<ul style="list-style-type: none"> • Two Mic inputs by phone jack type • Two Aux Inputs and 2 line inputs for spare use • Impedance: 80 dB or more • Total Harmonic Distortion: 1% or less (at rated output f = 1 kHz) • Frequency Response: 80 - 16,000 Hz, ±3 dB (at 1/3 rated output) • Short circuit, overload and high temperature protection • 100 W minimum 	
15	Wall Mount/Ceiling Speakers	<ul style="list-style-type: none"> • High-performance 30-Watt PA four (04) speakers. • Ultra-wide 50 Hz – 18 kHz frequency range (-10 dB); impedance 4 Ohms. • Overload-protection circuitry ensures optimal HF driver protection • Parallel connectors allow linking of additional speakers 	

C) The proposed system should be a codec based hardware Endpoint supporting a PTZ camera, 4 x ceiling/wall mount /Built-in speakers that should be integratable with existing mic array.

Main Conference Room Detailed Specifications			
Sr#	Description	Specification Parameter	Compliance
1	Package	Hardware codec with camera having seamless Speaker Tracking with 10x PTZ Optical zoom or higher, 2x HD Microphone Array, 4 ceiling/wall mount/built-in speakers (covering conference room from all dimensions), Amplifier, connecting cables, remote control and touch control.	
2	Video Standards and Resolutions	<ul style="list-style-type: none"> It should support H.323, SIP standards for communications. It should support H.263 or higher. It should support 4K, 30 fps (TX & RX)/1080p 60fps 	
3	Content Standards and Resolutions	<ul style="list-style-type: none"> HD (1920 x 1080p) or higher It should support Apple AirPlay, Miracast or equivalent for content sharing. 	
4	Audio Standards and Features	<ul style="list-style-type: none"> It should support G.711, G.728, G.722, G.722.1, AAC-LD or better It should support 20 kHz or better bandwidth with crystal clear audio and stereo sound. Automatic Gain Control and Automatic Noise Suppression Automatic noise reduction and instant adaptation echo cancellation 	
5	Video and Audio Inputs	<ul style="list-style-type: none"> Video at least 3 x inputs Audio at least 3 x Microphone with input through 3.5mm audio jack 1x HDMI port or higher 	
6	Video and Audio Outputs	<ul style="list-style-type: none"> 2 x HDMI output for connecting main monitor & second monitor, supports Touch Display 1 x 3.5mm line-out, 1x HDMI 	
7	Other Interfaces	<ul style="list-style-type: none"> 2 x 10/100/1000 LAN port 1 x USB 2.0, Bluetooth 5.0, Wi-Fi 802.11a/b/g/n/ac 	
8	Camera with Tracking	<ul style="list-style-type: none"> It should support at least 1080P 60fps with 10x PTZ optical zoom or higher. It should be capable of enhancing video conferencing experience with advanced face-recognition technology such that it automatically scans the room and seamlessly commands the main camera to appropriately frame the users during a call without any manual intervention. 	
9	Network Features	<ul style="list-style-type: none"> 1 x 10/100/1G Ethernet Auto/Manual Gatekeeper Discovery H.323 based Packet Lost Recovery, Dynamic Bandwidth Allocation 	
10	Security	<ul style="list-style-type: none"> Media Encryption (H.323, SIP): AES-128 or higher Authenticated access to admin menus, web interface and telnet API 	
11	Other Standards	H.245, H.239 or higher	
12	Additional Features	The proposed Video Conferencing Solution should be able to connect with Zoom Meetings, Blue Jeans, , GoToMeeting and WebEx etc.	
13	Touch Control	<ul style="list-style-type: none"> IPS up to 10"-inch display screen of the same OEM; Resolution: WXGA (1280 x 800) or higher. Intuitive user interface Tap and touch control to access call controls and admin menu. 	
14	Amplifier	<ul style="list-style-type: none"> Two Mic inputs by phone jack type Two Aux Inputs and 2 line inputs for spare use Impedance: 80 dB or more Total Harmonic Distortion: 1% or less (at rated output f = 1 kHz) Frequency Response: 80 - 16,000 Hz, ±3 dB (at 1/3 rated output) Short circuit, overload and high temperature protection 100 W minimum 	

D) The proposed system should be a Hardware codec with 1 X PTZ camera, Mics for complete High Definition Experience.

Chairman Chamber & Member Compliance Office Detailed Specifications			
Sr#	Description	Specification Parameter	Compliance

1	Package	<ul style="list-style-type: none"> • Hardware with 1 X PTZ FHD camera (at least 4x Optical Zoom) or higher with 1 conference microphone with support expansion microphone array, connecting cables, remote control and touch panel 	
2	Video Standards and Resolutions	<ul style="list-style-type: none"> • It should support H.323, SIP standards for communications. • It should support H.263 or higher. • It should support 4K, 30 fps (TX & RX)/1080p 60fps 	
3	Content Standards and Resolutions	<ul style="list-style-type: none"> • FHD (1920 x 1080p) or higher 	
4	Audio Standards and Features	<ul style="list-style-type: none"> • It should support 20 kHz or better bandwidth with clear audio and stereo sound. • Automatic noise reduction and instant adaptation echo cancellation. Stereo microphones with 10 feet pickup range. • Supports Optional external microphone, 3.5mm stereo Audio IN. 	
5	Communication(optional)	Wi-Fi, Bluetooth® 4.2, USB 2.0 or higher.	
6	Additional Features	Interop for Microsoft Teams and Skype for Business, Zoom Certified, LogMeIn, GoToMeeting, Blue Jeans Network, Google Hangouts communication, Platform Amazon Chime, Cisco Webex®, Vidyo Desktop™ and Polycom Real Presence Desktop.	
7	Touch Control	<ul style="list-style-type: none"> • IPS up to 10"-inch display screen of the same OEM; Resolution: WXGA (1280 x 800) or higher. • Intuitive user interface Tap and touch control to access call controls and admin menu. 	

TECHNICAL SPECIFICATIONS PART-C

Annex-C (II)

1x FHD 3x3 matrix video wall display having 46-inch panel from renowned brands (Samsung/LG/Sony/Panasonic/ only to be installed on the wall (measuring 8.8 feet high and 16.8 feet wide) along with fully compatible video wall controller with complete accessories.

Main Conference Room Video Wall Detailed Specifications			Compliance
S#	Description	Specification Parameter	
Panel			
	Diagonal Size	46 Inches	
	Type	D-LED DID	
	Resolution	1920*1080 (Full HD)	
	Pixel Pitch(mm)	0.53025mm(H) * 0.53025mm(V)	
	Active Display Area(mm)	1018.08mm * 572.67mm	
	Brightness	700 nit	
	Contrast Ratio	4000:1	
	Viewing Angle(H/V)	178/178	
	Response Time(G-to-G)	8ms	
	Display Colors	8 bit - 16.7M	
	Color Gamut	72%	
	Operation Hour	24/7	
	Haze	25% (Outer Haze 23%)	
Display			
	Dynamic C/R	MEGA DCR	
	H-Scanning Frequency	30kHz ~ 81kHz	
	V-Scanning Frequency	48Hz ~ 75Hz	
	Maximum Pixel Frequency	148.5MHz	
Connectivity			
INPUT			
	RGB	Analog D-SUB, DVI-D, Display Port 1.2	
	Video	HDMI 2.0 (2)	
	HDCP	HDCP 2.2	
	Audio	Stereo mini Jack	
	USB	Only F/W upgrade	
OUTPUT			
	RGB	DP1.2(Loop-out)	
	Audio	Stereo mini Jack	
	External Control	RS232C(in/out), RJ45	
	External Sensor	Detachable type(IR, Ambient)	
POWER			
	Type	Internal	
	Power Supply	AC 100 - 240 V~ (+/- 10 %), 50/60 Hz	
	Max[W/h]	187	
	Typical[W/h]	102	
	BTU(Max)	638	
	Sleep mode	less than 0.5W	
	Off mode	less than 0.5W	
MECHANICAL SPECIFICATIONS			
DIMENSIONS (mm)			
	Set	1020.0 x 574.6 x 96.3	
	Package	1153 x 719 x 295	
	Set	15.7.kg	
	Package	21.6kg	
	VESA Mount (mm)	600 * 400 (mm)	

	Bezel Width (mm)	1.15mm(U/L), 0.55mm(R/B)	
Operation			
	Operating Temperature	0.0 °C ~ 40.0 °C Humidity: 10.0 % ~ 80.0 %	
FEATURES			
	Key Features	Extreme Narrow Bezel	
	Special Features	ACM Support(Advanced Color Management), Auto Source Switching & Recovery, Haze 25%, Temperature Sensor, RS232C/RJ45 MDC, Plug and Play (DDC2B), Video Wall(15x15(OSD)), Video Wall Daisy Chain(10x10), Pivot Display, Image Rotation, Button Lock, DP 1.2 Digital Daisy Chain(Supporting UHD Resolution, HDCP support), Smart F/W update, Clock Battery(80hrs Clock Keeping)	
CERTIFICATION			
	Safety	UL (USA) : UL 60950-1 CSA (Canada) : CSA C22.2 No. 60950-1 TUV (Germany) : EN60950-1 NEMKO (Norway) : EN60950-1 KC (Korea) : K60950-1 CCC (China) : GB4943.1-2011 PSB (Singapore) : IEC60950-1 GOST (Russia) : IEC60950-1, EN55022 SIQ (Slovenia) : IEC60950-1, EN55022 PCBC (Poland) : IEC60590-1, EN55022 NOM (Mexico) : NOM-019-SCFI-1993 IRAM (Argentina) : IEC60950-1 SASO (Saudi Arabia) : IEC60950-1	
	EMC	FCC (USA) FCC Part 15, Subpart B class A CE (Europe) EN55022, EN55024 VCCI (Japan) V-3 (CISPR22) KCC (Korea) :KN22, KN24 BSMI (Taiwan) : CNS13438 (CISPR22) C-Tick (Australia) : AS/NZS3548 (CISPR22) CCC(China) :GB9254-2008, GB17625.1-2012	
	Video Wall Mount	WMN-46VD Supporting wall Mount along with all standard accessories.	
VIDEO WALL CONTROLLER (Full Digital HD Image Mosaic Processor)			
	A fully compatible Video Wall Controller supporting Video Wall as per above mentioned detailed specifications		
	Input Signal (optional)	DVI / HDMI/NGA/YPbPr/MIDEO/SDI/S-Video/IP streaming media/DP/HDBase-T/optical fiber	
	Input resolution	3840X2160 and below	
	Output signal	HDMI/ DVI /NGA	
	Output resolution	1920 * 1200/60HZ (backward compatible with Puking resolution), customize any resolution output	
	System control software	App project dedicated control software	
	Power supply	100VAC ~ 240VAC, 50 / 60Hz	
	Power consumption	12w/channel	
	Working temperature	-20 °C—60 °C	
	Working humidity	5-95%	
	Chassis specifications	Standard industrial control chassis	
	Serial control interface	RS-232, 9-pin female D-type interface	
	Baud rate	115200	
	Serial control port structure	2 = TX, 3 = RX, 5 = GND	
	Ethernet control interface	RJ-45 female interface, TCP/IP protocol	
	Ethernet control speed	Adaptive 10M or 100M, full duplex or half duplex	
	Working hours	365 days X 24 hours	

TECHNICAL SPECIFICATIONS PART-C

Annex-C (III)

A) The proposed system should be a codec based hardware Endpoint that should support a PTZ camera, Mic and Speaker.

PTA Zonal Offices Detailed Specifications (Karachi & Lahore)			Compliance
Sr#	Description	Specification Parameter	
1	Package	Hardware codec having a camera 1080p with 4x Optical Zoom or higher, 1x HD Microphone Array with support of additional mic, 2X ceiling /wall mount speakers and amplifier, cables, a remote control.	
2	Video Standards and Resolutions	<ul style="list-style-type: none"> It should support H.323, SIP standards for communications. It should support H.263 or higher. It should support 4K, 30 fps (TX & RX)/1080p 60fps 	
3	Content Standards and Resolutions	<ul style="list-style-type: none"> UHD 4K (3840x2160) HD (1920 x 1080p) It should support Apple AirPlay, Miracast or any equivalent for content sharing 	
4	Audio Standards and Features	<ul style="list-style-type: none"> It should support G.711, G.728, G.722, G.722.1, AAC-LD or better It should support 20 kHz or better bandwidth with clear audio and stereo sound. Automatic Gain Control and Automatic Noise Suppression. Automatic noise reduction and instant adaptation echo cancellation, Stereo microphones with 10 feet pickup range. Supports Optional external microphone, 3.5 mm stereo Audio In 	
5	Video and Audio Inputs	<ul style="list-style-type: none"> Video at least 3 x inputs Audio at least 3 x Microphone, 1 3.5mm Jack At least 2 x Inputs for Audio. 	
6	Video and Audio Outputs	<ul style="list-style-type: none"> 2 x HDMI output for connecting main monitor & second monitor, supports Touch Display 1 x 3.5mm line-out, 1x HDMI 	
7	Other Interfaces	<ul style="list-style-type: none"> 2 x 10/100/1000 LAN port 1 x USB 2.0, Bluetooth 5.0, and Wi-Fi 802.11a/b/g/n/ac 	
8	Camera	It should support Full HD with 4x PTZ Optical zoom or higher.	
9	Network Features	<ul style="list-style-type: none"> 1 x 10/100/1G Ethernet Auto/Manual Gatekeeper Discovery H.323 based Packet Lost Recovery Dynamic Bandwidth Allocation 	
10	Security	<ul style="list-style-type: none"> Media Encryption (H.323, SIP): AES- 128 or higher Authenticated access to admin menus, web interface and telnet API 	
11	Other Standards	H.245, H.239 or higher	
12	Additional Features	The proposed Video Conferencing Solution should be interop with Zoom Meetings, Blue Jeans Video Conferencing, GoToMeeting and WebEx etc.	
13	Touch Control	<ul style="list-style-type: none"> IPS up to 10"-inch display screen of the same OEM; Resolution: WXGA (1280 x 800) or higher. Intuitive user interface Tap and touch control to access call controls and admin menu. 	
14	65" UHD SMART LED TV with MS Trolley	Two (02) 65" or above Sony/Panasonic/Samsung/LG only (renowned Brands) UHD Smart LED TV (at least 3840x2160 resolution) with MS Trolley	

B) The proposed system should be a Hardware codec with 1 X PTZ camera, Mics, connecting cables for complete High Definition Experience.

PTA Zonal Office Detailed Specifications for (Peshawar, Quetta, Rawalpindi, Muzaffarabad, Multan, Gilgit, Gwadar, Abbottabad , Faisalabad and Sukkur Office ; 10 Locations)			Compliance
Sr#	Description	Specification Parameter	
1	Package	Hardware codec having 1 X PTZ camera 1080p with 4x Optical Zoom or higher, 1x HD Microphone Array with support of additional mic, connecting cables and a remote control..	
2	Video Standards and Resolutions	<ul style="list-style-type: none"> It should support H.323, SIP standards for communications. It should support H.263 or higher. It should support UHD 2160p (4K) /1080p 60fps 	

3	Content Standards and Resolutions	<ul style="list-style-type: none"> FHD (1920 x 1080p) 	
4	Audio Standards and Features	<ul style="list-style-type: none"> It should support 20 kHz or better bandwidth with clear audio and stereo sound. Automatic noise reduction and instant adaptation echo cancellation. Stereo microphones with 10 feet pickup range. Supports Optional external microphone, 3.5mm stereo Audio IN. 	
5	Additional Features	Interop with Microsoft Teams and Skype for Business, Zoom Certified, LogMeIn, GoToMeeting, Blue Jeans Network, Google Hangouts communication, Platform Amazon Chime, Cisco WebEx®, Vidyo Desktop™ and Polycom Real Presence Desktop.	
6	65" UHD LED TV with MS Trolley	Six (06) 65" or above Sony/Panasonic/Samsung/LG or equivalent (only renowned Brands) with MS Trolley, as per VC design	

C) The proposed system comprised of Centralized MCU and all regional Endpoints would be connected end-to-end via secure network (advance technologies will be preferred) using existing firewalls. The solution provider would provide this connectivity along with free of cost (FOC) comprehensive training to three nominated ICT resource persons from authorized training institute.

Any inferior Specifications will be rejected

- Multiple options are not allowed; bidder should Quote only one option.
- Quoting multiple option will lead to disqualification

Date _____

Company Name _____

Sr#	Required Specification	Quoted Spec. (With Brand Name)	Unit Price	GST	Qty	Total Price Inclusive of GST
1	The centralized Hardware based Multi-Party Calling Unit (MCU) with recording and streaming capability is required at PTA HQ's with high availability (HA) integrated with other components supporting initially unlimited concurrent meetings with the capacity of at least 45 user on perpetual licensing at Full HD1080p 60fps (transmit and receive) on IP/SIP in continuous presence (CP) with scalability to cater to future needs				1	
2	Auditorium in PTA HQ requires a UHD codec with 2x2 PTZ speaker tracking cameras in cascading mode (at least 10X Optical Zoom or higher), integration with existing Audio system, 2 ceiling/desktop mics and 4 ceiling/wall mount speakers, Amplifier with up to 10-inch Touch Display Unit (same OEM) with remote control and two (02) 75" UHD SMART LED TV.				1	
3	Main Conference Room requires a UHD codec with 1x PTZ speaker tracking camera (at least 10x Optical Zoom or higher), integration with existing Audio system, 2 ceiling/Wall mount speakers, Amplifier with up to 10-inch Touch Display Unit of same OEM along with remote control.				1	
4	Chairman Chamber and Member Compliance Office in PTA HQ requires a UHD codec with 1x PTZ camera (at least 4x Optical Zoom or higher), 1 conference microphone with support of additional mic array with up to 10-inch Touch Display Unit of same OEM along with remote control.				2	
5	PTA Zonal Offices in Karachi and Lahore requires a UHD codec with 1x PTZ camera (at least 4x Optical Zoom or higher), 1 conference microphone with support of additional mic array, 2 ceiling/Wall mount speakers and amplifier with up to 10-inch Touch Display Unit of same OEM along with remote control, 1x65 inch UHD SMART LED TV with TV Trolley.				2	
6	10 X PTA Zonal Offices located at Peshawar, Quetta, Muzaffarabad, Rawalpindi, Multan, Gilgit, Gwadar, Abbottabad, Faisalabad and Sukkur require a UHD codec with 1x PTZ camera (at least 4x Optical Zoom or higher), 1 conference microphone with support of additional mic array along with remote control, 1x65 inch UHD SMART LED TV with TV Trolley at each office.				10	
7	Main Conference Room in PTA HQ requires, 1x FHD 3x3 matrix video wall display having 46-inch panel from renowned brands (Samsung/LG/Sony/Panasonic only) to be installed on the wall (measuring 8.8 feet high and 16.8 feet wide) along with fully compatible video wall controller with complete accessories.				1	
GRAND TOTAL						

Amount in words: Rupees _____

FINANCIAL BID not accompanied with earnest money will be rejected without any right of appeal.

- ✓ Multiple options are not allowed; bidder should Quote only one option. Quoting multiple options will lead to disqualification.
- ✓ PTA can select all or any item from BOQ mentioned above as specified in Annex-D.
- ✓ All the prices quoted with 3 years Hardware warranty, Software updates and Next Business Day (NBD) OEM support/SLA

Authorized Signature of bidder with seal stamp

NON-DISCLOSURE AGREEMENT

THIS NON-DISCLOSURE AGREEMENT (“NDA”) is made and entered into at **Islamabad, Pakistan** on the ___ day of -----2020

BY AND BETWEEN

Pakistan Telecommunication Authority, a statutory regulatory authority established under Pakistan Telecommunication (Re-Organization) Act, 1996, having its Head Quarter at F-5/1, Islamabad through Director Type Approval (hereinafter called as the “**CLIENT**” which expression shall where the context admits, include successors-in-interest and assigns) of the One Part:

AND

(insert name of Client) a Client incorporated under the laws of having its registered office at----- through its authorized representative Mr..... (herein after called as “**Contractor**”) which expression shall where the context so allows include his/its successors-in-interest, executors, administrators, heirs and permitted assigns) of the **Other Part**;

(The Party of the One Part and Party of the Other Part shall hereinafter be collectively referred to as ‘Parties’ and individually as ‘Party’ as the context of this NDA requires).

WHEREAS,

1. The parties have entered into Agreement dated, (the “Agreement”) whereby, the Client may have to disclose certain nonpublic and proprietary information in result of execution and subsequent operation of the Agreement to the Contractor, which may fairly be considered to be of confidential nature including, but not limited to, methods, practices and procedures with which the Parties conduct their respective businesses, Internal working, decisions or Standard operating Procedures (SOPs) which are not Public documents, strategies in dealing with the Operators, Licensees, licensee lists, contract terms, methods of operation, software specifications, software codes, functionality, know how, and financial information etc. the Know-How, information pertaining to its principles, pricing policy, commercial relationship, negotiations or parties’ projects, affairs, finances or any information in respect of which the parties are bound by an obligation of confidentiality to any third party.
2. The Parties are desirous to set the terms and conditions hereunder and sign this NDA.

NOW, THEREFORE THIS AGREEMENT WITNESSETH, for good and valuable consideration, it is hereby agreed between the parties as under;

1. Under this Agreement the Contractor is under an obligation to keep all such information that is disclosed in the course of the contract with PTA, confidential and not to use it to the detriment of the Authority. In particular, the Contractor shall not use it for, or disclose it to, any of its new employer or client.
2. Any unauthorized disclosure or use of the Authority’s confidential information could lead to litigation against the Contractor and any new employer.

3. **Definition of Confidentiality.** In addition to the definition used in the Agreement, "Confidential Information" refers to any information which has commercial value and is either (i) technical information, including patent, copyright, trade secret and other proprietary information, techniques, sketches, drawings, models, inventions, know-how, processes, apparatus, equipment, algorithms, software programs, software source documents, and formulae related to the current, future and proposed products and functions of the Client, or (ii) non-technical information relating to Client's functions, responsibilities, operations including, without limitation, plans and strategies, finances, financial and accounting data and information, suppliers, stakeholders, purchasing data, strategical plans and any other information which is proprietary and confidential to Client.

4. **Nondisclosure and Non-use Obligations.** Subject to confidentiality clause under the Agreement, the Contractor will maintain in confidence and will not disclose, disseminate or use any Confidential Information belonging to Client, whether or not in written form. Contractor agrees that Contractor shall treat all Confidential Information of Client with at least the same degree of care as Contractor accords its own Confidential Information. Contractor further represents that Contractor exercises at least reasonable care to protect its own Confidential Information. the Contractor agrees that Contractor shall disclose Confidential Information only to those of its employees who need to know such information and certifies that such employees have previously signed a copy of this Agreement.

5. **Survival.** This Agreement shall govern all communications between the Parties. Contractor understands that its obligations under Paragraph 4 ("Nondisclosure and Non-use Obligations") shall survive for two years after the termination or expiry of the Agreement. Upon termination of any relationship between the Parties, Contractor will promptly deliver to Client, without retaining any copies, all documents and other materials furnished to Contractor by Client.

6. **Governing Law.** This NDA shall be governed in all respects in accordance with the laws of Pakistan.

7. The Contractor agrees and undertakes that upon termination of the Agreement by the Client.
 - a. shall return to Client all documents and property of Client, even if not marked "confidential" or "proprietary," including but not necessarily limited to drawings, reports, manuals, correspondence, customer lists, computer programs, and all other materials and all copies thereof relating in any way to Client, or in any way obtained by the Contractor during the course of the Agreement and shall not retain copies, notes or abstracts of the foregoing.
 - b. The Client y may notify any future or prospective employer or third party of the existence of this Agreement.
 - c. **Injunctive Relief.** A breach of any of the promises or agreements contained herein will result in irreparable and continuing damage to Client for which there will be no adequate remedy at law, and Client shall be entitled to injunctive relief and/or a decree for specific performance and such other relief as may be proper (including monetary damages if appropriate).

IN WITNESS WHEREOF, the Parties have executed this Agreement as of the dates written below.

For and on Behalf of Client	For and on behalf of Contractor
Signed by _____ Seal----- Witness _____	Signed by _____ Seal _____ Witness _____

AGREEMENT

(To be executed on Rs.100/- Judicial paper)

THIS Agreement for Supply, installation, Configuration and maintenance of hardware for Video **Conferencing Solution** (the "Agreement") is made on this day _____ 2020;

By and Between

Pakistan Telecommunication Authority, a statutory regulatory authority established under Pakistan Telecommunication (Re-Organization) Act, 1996, having its Head Quarter at F-5/1, Islamabad through Director Type Approval (hereinafter called as the "**CLIENT**") which expression shall where the context admits, include successors-in-interest and assigns) of the One Part:

AND

(insert name of Client) a Client incorporated under the laws of having its registered office at----- through its authorized representative Mr..... (herein after called as "**Contractor**") which expression shall where the context so allows include his/its successors-in-interest, executors, administrators, heirs and permitted assigns) of the **Other Part**;

(If when and where applicable the Party of the One Part and Party of Other Part shall hereinafter be collectively referred to as 'Parties' and individually as 'Party' as the context of this Agreement requires).

WHEREAS

- A. Client is desirous of procuring & installation of Video **Conferencing Solution** (hereinafter referred to as "**VCS**") for its Headquarters Building at F-5/1, in Islamabad and twelve (12) zonal offices located at Karachi, Lahore, Peshawar, Quetta, Muzaffarabad, Rawalpindi, Multan, Gilgit, Gwadar, Abbottabad, Faisalabad and Sukkur and have them delivered/supplied and installed and subsequently maintained and supported by the Dealer/Supplier in accordance with the terms of this Agreement;
- B. The Contractor is Authorized Dealer/Supplier is an incorporated-----
_____ (*details of incorporation*) being engaged in the business of supplying IT Equipment, electronic equipment, has agreed to provide supply, deliver & install and thereafter maintenance services of the **VCS** at Client HQs Building on the terms and subject to the conditions as set forth hereunder.
- C. The Contractor represents that it has the relevant expertise and holds valid and subsisting licenses/permissions, authorizations/approvals required from the Government of Pakistan, and that it has the requisite expertise and resources to provide top quality of requisite supply and installation/Configuration of **VCS** as per Bill of Quantity ("BoQ") to the Client in accordance with highest industry standards and satisfaction of the Client. The Authorize Dealer/Supplier undertakes that the services shall be provided only through the staff/labour/workforce that has the requisite expertise and experience in this regard.
- D. Upon the basis of the representations and warranties of the Contractor contained herein, the Client wishes to appoint the Contractor to provide the Supply, Installation, configuration and Maintenance of VCS in Client HQ Building premises and its Zonal offices;

NOW THEREFORE, for the consideration provided herein the representation and warranties, covenants, conditions and promises contained herein below and intending to be legally bound, the Client and Contractor hereby agree as follows:

1. Scope of Agreement

Subject to terms and conditions of this Agreement the Contractor agrees to Supply, Installation, configuration and Maintenance of VCS as per requirements prescribed under **Bidding Documents and its attached Annexure-A, B, C(I-III), D & E;**

2. Agreement Documents

2.1 In this Agreement, except as otherwise provided, the words, expressions and/or phrases shall have the meanings as defined in the Agreement and documents attached as **Annexure-A, B, C(I-III), D.**

2.2 The following documents shall be deemed to form, and be read and construed as, part of this Agreement:

- a) Invitation to bid
- b) Bidding documents
- c) Bill of Quantity (BoQ)
- d) General conditions of Contract/ Special Stipulations.
- e) Addenda and Corrigenda, if any, issue by the clients and duly accepted by the contractor at the signing of the Contract.
- f) Earnest money/ Retention Money
- g) Form of Agreement/ Contract Agreement
- h) Non-Disclosure Agreement
- i) Clients order to commence the work.
- j) Certificate of Bid Security.
- k) Any Correspondence by the Clients/Supplier mutually accepted by the Client and the Contractor.

3. Term

3.1 Upon signing of this Agreement, the Contractor shall be obligated to start the work on specified locations by Client on signing of contract and submission of retention money and complete it within projected time four (04) weeks. In case of failure Client will be entitled to deduct any amount payable to Supplier/Partner as per clause 11 of RFP and assign the work to any other Supplier/Partner at its discretion.

4. Termination

4.1 Notwithstanding anything herein contained Client shall be exclusively entitled to terminate this Agreement

- a) without advance notice, in case the Supplier/Partner is in breach of any of the terms of this Agreement, or in case Client is not satisfied with the installation Services or quality of **VCS** being supplied/provided by Supplier/Partner;
- b) Without cause, by giving three (03) days advance written notice to the Supplier/Partner.
- c) If the Supply, Installation, Configuration and Maintenance of VCS do not meet the specifications, terms & conditions mentioned in bidding documents attached as **Annexure-A, B, CI, CII, CIII, D and E.**
- d) In case of such termination, the Supplier/Partner shall only be paid for Services actually rendered up to the date of termination or material supplied as per specification, and any advance payment in respect of services not performed or in respect of period falling after the effective date of termination shall be refunded by the Supplier/Partner within seven (07) days.

4.2 The Client, shall not, because of expiration or termination of this Agreement, be liable to the Supplier/Partner for any compensation, reimbursement, or damages because of the loss or prospective profit or because of expenditures or commitments incurred in connection with the business of the Supplier/Partner.

5. Deliverables

5.1 The work should be of best quality and as per technical specifications mentioned in the BOQ/Estimates.

6. Charges

6.1 In consideration of rendition of the Supply, Installation, Configuration and Maintenance of VCS by Contractor the Client shall pay the Supplier/Partner, charges as specified in **Tender Document** to the complete satisfaction of the Client.

6.2 All amounts paid to the Supplier/Partner as per above clauses are inclusive of all taxes, levies, duties, and any other deduction related thereto etc. and are acknowledged by the Supplier/Partner to be adequate and sufficient

consideration for the rendition of supply and installation Services by the Supply, Installation, Configuration and Maintenance of VCS.

6.3 All payments to be made by the Client to the Supplier/Partner shall be subject to such deductions and withholding as are required by prevailing laws, which shall be to the account of the Supplier/Partner.

7. Invoice

7.1 The Contractor shall submit its Invoice in accordance with the rates/charges specified in **Annexure-D** hereto.

7.2 The Contractor shall be solely responsible for all payments, liabilities and all other obligations of whatsoever nature pertaining to its staff/workers who shall be deputed for the Services at the Client's Building.

7.3 The Contractor undertakes to fully indemnify and hold harmless the Client against any claims, losses, damages, or expenses in relation to injury or death to any persons or loss or damage to property arising out of the performance of supply and installation Services.

7.4 The Contractor and its staff /employees shall be bound to obey safety rules and other regulations prescribed by the Client on its premises. Any losses/damages suffered by the Client due to omission on the part of the Contractor, his staff/employees to abide by this condition shall be the sole liability of the Contractor and it may result in termination of the Agreement by the Client at its sole discretion.

8. Confidentiality

The Contractor its/his staff, workers, employees, personnel, agents or any other person acting for him and/or on his behalf shall hold in confidence and complete confidentiality and all documents and other information supplied to the Contractor and his Employees personnel, agents etc. by or behalf of the Client or which otherwise came/come into its/his/their knowledge and relates to the Client or any of its project.

9. Indemnification

The Contractor shall indemnify and hold harmless the Client, its Chairman, Directors, Members , Employees and other Personnel against any and all claims, damages, liabilities, losses, and expenses, whether direct or indirect, or personal injury or death to persons or damage to property arising out of (i) any negligence or intentional act or omission by the Contractor or his employees, personal , agents, etc. in connection with the Agreement, or (ii) arising out of or in connection with the performance of his obligations under this Agreement.

10. Resolution of Disputes

10.1 All disputes arising under this Agreement, whether during the term of this Agreement or after the termination or expiry of this Agreement shall be referred to (i) Purchase Committee-I (PC-I) of the Client for amicable settlement /resolution of the dispute at first stage. (ii) In case of failure in settlement, at the second stage the case will be referred to the Authority of the Client through Director (Administration). The decision of the Authority to settle the issue amicably will be final and will not be challenged at any forum including court of Law. (iii) In the event of failure of amicable settlement of dispute as above, either party may refer the dispute to Arbitration under the provision of Arbitration Act, 1940 and the rules issued thereunder, at Islamabad, Pakistan.

10.2 No All variations amendments and in or modification to the terms of this Agreement shall be made, except in writing and shall be binding only if duly agreed and signed by both the parties or their duly authorized representatives.

11. Force Majeure Event

11.1 Neither Party shall be held responsible for any loss or damage or failure to perform all or any of its obligations hereunder resulting from a Force Majeure event.

11.2 For the purpose of this Agreement a "Force Majeure Event" shall mean any cause(s) which render(s) a Party wholly or partly unable to perform its obligations under this Agreement and which are neither reasonably within the control of such Party nor the result of the fault or negligence of such Party, and which occur despite all reasonable attempts to avoid, mitigate or remedy, and shall include acts of God, war, riots, civil insurrections, cyclones, hurricanes, floods, fires, explosions, earthquakes, lightning, storms, chemical contamination, epidemics or plagues, acts or campaigns of terrorism or sabotage, blockades or acts of Governmental Authority after the date of this Agreement.

11.3 The Party initially affected by a Force Majeure shall promptly but not later than seven (07) days following the Force Majeure event notify the other of the estimated extent and duration of its inability to perform or delay in performing its obligations ("Force Majeure Notification"). Failure to notify within the afore-said period shall dis entitle the Party suffering the Force Majeure from being excused for non-performance for the period for which the delay in notification persists.

11.4 Upon cessation of the effects of the Force Majeure the Party initially affected by a Force Majeure shall promptly notify the other of such cessation.

12. Governing Law

The provisions of this Agreement and the rights and obligations hereunder shall be governed by and construed in accordance with the prevailing laws of Pakistan.

13. Waiver

A party's failure to exercise or delay in exercising any right, power or privilege under this Agreement shall not operate as a waiver; nor shall any single or partial exercise of any right, power or privilege preclude any other or further exercise thereof.

14. Severability

The invalidity or unenforceability of any provisions of this Agreement shall not affect the validity or enforceability of any other provision of this Agreement, which shall remain in full force and effect.

15. Amendment

All addition amendments and variations to this agreement shall be binding only if in writing and signed by the Parties or their duly authorized representatives.

16. Assignment

This Agreement may not be assigned by either party to other than by mutual agreement between the Parties in writing.

17. Integrity Pact

17.1 [Name of Supplier] hereby declares that it has not obtained or induced the procurement of any contract, right, interest, privilege or other obligation or benefit from Government of Pakistan or any administrative subdivision or agency thereof or any other entity owned or controlled by it (GoP) through any corrupt business practice.

17.2 Without limiting the generality of the foregoing [Name of Supplier] represents and warrants that it has fully declared the brokerage, commission, fee etc. paid or payable to anyone and not given or agreed to give and shall not give or agree to give to anyone within or outside Pakistan either directly or indirectly through any natural or juridical person, including its affiliate, agent, associate, broker, consultant, director, promoter, shareholder, sponsor or subsidiary, any commission, gratification, bribe, finder's fee or kickback, whether described as consultations fee or otherwise, with the object of obtaining or inducing the procurement of a contract, right, interest, privilege or other obligation or benefit in whatsoever form from GoP, except that which has been expressly declared pursuant hereto.

17.3 [Name of Supplier] certifies that it has made and will make full disclosure of all agreements and arrangements with all persons in respect of or related to the transaction with GoP and has not taken any action or will not take any action to circumvent the above declaration, representative or warranty.

17.4 [Name of Supplier] accepts full responsibility and strict liability for making and false declaration, not making full disclosure, misrepresenting fact or taking any action likely to defeat the purpose of this declaration, representation and warranty. It agrees that any contract, right interest, privilege or other obligation or benefit obtained or procured as aforesaid shall, without prejudice to any other right and remedies available to GoP under any law, contract or other instrument, be voidable at the option of GoP.

17.5 Notwithstanding any rights and remedies exercised by GoP in this regard, [Name of Supplier] agrees to indemnify GoP for any loss or damage incurred by it on account of its corrupt business practices and further pay compensation to GoP in an amount equivalent to ten time the sum of any commission, gratification, bribe, finder's fee or kickback given by [Name of Supplier] as aforesaid for the purpose of obtaining or inducing the procurement of any contract, right, interest, privilege or other obligation or benefit in whatsoever form from GoP.

18. Annexure

Annexure-A, B, C(I-III), D and **Annexure-E** pertaining to i). Financial Proposal and ii). Technical Evaluation Criteria/Company Profile iii. Advertisement, iv. Tender/Bidding Documents V. Special stipulations (if any) vi. Addendum/Corrigendum (if any). These **Annexures** along with all documents forms an integral part of this Agreement and has to be read and construed as such this Agreement.

IN WITNESS WHEREOF, the parties hereto set their hands the day, month and year first above written.

For and Behalf of Client.

For and on Behalf of: Supplier/Partner

By: _____
Name: _____
Title: _____
Signature: _____
Date: _____

By: _____
Name: _____
Title: _____
Signature: _____
Date: _____

Witnesses

1: _____
CNIC: _____
Name: _____

2: _____
CNIC: _____
Name: _____

COMPANY INFORMATION

- a. Name of Company/ Firm: _____
- b. Date of Establishment of Business: _____
- c. Address: _____
- d. Telephone No: _____ Fax No. _____
- e. Name & Designation of Authorized Representative: _____
- f. Email of the Authorized Representative: _____

S#	Description	Detail
1.	Owner Name & Organizational Structure	
2.	No. of offices in Pakistan/abroad	Pakistan:
		Abroad:
3.	No. of total employees	Pakistan:
		Abroad:
4.	Audited Annual Accounts details for last 3 years	
5.	Yearly business turnover	
6.	Other businesses of the company/ firm	
7.	Nature of registration (sole proprietor, partnership, (pvt) Ltd.)	
8.	No. of litigation cases	