



PROCUREMENT OF VIDEO CONFERENCING /COLLABORATION EQUIPMENTS & SOLUTION

Last date submission of the filled Tender document: 20.02.2019 up to 2:30 pm.
(The Tender document is to be submitted duly signed in blue/black ink on each page and stamped with official seal on each page)

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Maharshi Dayanand University, Rohtak

[Established in Act No. 25 of 1975 of the Haryana Legislative Assembly in 1976]

NAAC Accredited 'A' Grade

No. UCC/2019/191

Dated : 29/01/2019

University Computer Center

Phone: 01262-393548

E-mail: dir.ucc@mdurohtak.ac.in

STANDARD BIDDING DOCUMENT FOR PROCUREMENT OF VIDEO CONFERENCING /COLLABORATION EQUIPMENTS & SOLUTION.

PART1: COMPLETE BIDDING DOCUMENT

PRESS NOTICE

M. D. UNIVERSITY, ROHTAK Notice Inviting E-Tender	
Name of work	PROCUREMENT OF VIDEO CONFERENCING /COLLABORATION EQUIPMENTS & SOLUTION
E Service Fees+ Tender Doc. Fees	1000/- + 4,000/- =5,000/- (TO BE PAID ONLINE)
Earnest Money	2% OF THE QUOTED RATE
Time Limit	21 DAYS
Tenders to be received till: 20.02.2019 till 02:30 P.M	
(1) THE TENDERS WILL BE RECEIVED ONLY THROUGH E-TENDERING FOR FURTHER DETAILS VISIT WEBSITE HTTPS://HARYANAEPROUREMENT.GOV.IN.	

REGISTRAR

The Bidders can download the tender documents from the Portal: <https://haryanaeprocurement.gov.in>.

- 1) Earnest Money and Document Fee Deposit have to be deposited through Online Mode Only.
- 2) Willing Contractors shall have to pay the e- service fees of Rs.1000/- through Online mode
- 3) However, the details of the EMD, Tender document Fee & E-Service Fee are required to be filled/provided scan copies at the time of online Bid Preparation Stage the Bidders are required to keep the EMD, Tender document fee & E- Service fee details ready beforehand. The contractual Agencies can submit their tender documents as per the date mentioned below:

KEY DATES

Sr. No.	M.D.U. Rohtak Stage	Contractor Stage	Start Date & Time	End Date & Time
1		Tender Document Download and Bid Preparation & Submission	29-01-2019	20.02.2019 till 02:30 P.M
3		Submission of Tender Fees and online EMD Fees	29-01-2019	20.02.2019 till 02:30 P.M
4		Manual Submission of Specification of Item, Tender Document Fee, EMD, E-Service Fee etc. in University Computer Centre	20.02.2019 till 02:30 P.M	20.02.2019 till 02:30 P.M
5	Technical Opening/ Technical Evaluation/ Opening of Financial Bid		20.02.2019 till 02:30 P.M FIANANCIAL DATE WILL BE DECIDED LATER ON	

Important Note:-

- 1) The bidders shall have to complete Bid Preparation & Submission" stage on scheduled date & time as mentioned above. If any bidder failed to complete his/her aforesaid stage in the stipulated online time schedule for this stage, his/her bid status will be considered as "bids not submitted".
- 2) Bidder must confirm & check his/her bid status after completion of his/her all activities for e-bidding.
- 3) Bidder can rework on his/her bids even after completion of "Bid Preparation & submission stage" (Bidder Stage), subject to the condition that the rework must take place before the stipulated time frame of the Bidder Stage.

DETAIL NOTICE INVITING TENDER

e-Tender is invited for purchase of below mentioned items in single stage two cover system i.e. Request for Technical Bid (online Bid under PQQ/ Technical Envelope) and Request for Financial Bid (comprising of price bid Proposal under online available Commercial Envelope).

1. Detailed notice inviting tender/estimate drawing can be seen in the office of the undersigned during office hours.
2. Bidding documents available on website
<http://mdurohtak.haryanaeprocurement.gov.in>
3. Newly enlisted contractors/societies/suppliers/manufactures should bring with them proof of their enlistment in appropriate class.
4. The bidders would submit bid through e-tendering only on the website i.e.
<http://haryanaeprocurement.gov.in>

Under this process, the Pre-qualification/ Technical online bid Application as well as online Price Bid shall be invited at single stage under two covers i.e. PQQ/Technical & Commercial Envelope. Eligibility and qualification of the Applicant will be first examined based on the details submitted online under first cover (PQQ or Technical) with respect to eligibility and qualification criteria prescribed in this Tender document. The Price Bid under the second cover shall be opened for only those Applicants whose PQQ/ Technical Applications are responsive to eligibility and qualifications requirements as per Tender document.

1. The payment for Tender Document Fee and e-Service Fee shall be made by eligible bidders online directly through Debit Cards & Internet Banking Accounts and the payment for EMD can be made online directly through RTGS/NEFT or OTC Please refer to 'Online Payment Guideline' available at the Single e-Procurement portal of GoH (Govt. of Haryana) and also mentioned under the Tender Document.
2. Intending bidders will be mandatorily required to online sign-up (create user account) on the website <https://haryanaeprocurement.gov.in> to be eligible to participate in the e-Tender. The firm will be required to make online payment of **2% of the bid cost** towards EMD fee in due course of time. The intended bidder fails to pay EMD fee under the stipulated time frame shall not be allow to submit his / her bids for the respective event / Tenders.
3. The interested bidders must remit the funds at least T+1 working day (Transaction day + One working Day) in advance. and make payment via RTGS /NEFT or OTC to the beneficiary account number specified under the online generated challan. The intended bidder / Agency thereafter will be able to successfully verify their payment online, and submit their bids on or before the expiry date & time of the respective events/Tenders at <https://haryanaeprocurement.gov.in>.

The interested bidders shall have to pay mandatorily e-Service fee (under document fee – Non-refundable) of Rs.1000/- (Rupee One Thousand Only) online by using the service of secure electronic gateway. The secure electronic payments gateway is an online interface between bidders & online payment authorization networks.

The Payment for document fee/ e-Service fee can be made by eligible bidders online directly through Debit Cards & Internet Banking.

The Bidders can submit their tender documents (Online) as per the dates mentioned at Page no 3 of Document: -

Important Note:

1. The Applicants/bidders have to complete 'Application / Bid Preparation & Submission' stage on scheduled time as mentioned above. If any Applicant / bidder failed to complete his / her aforesaid stage in the stipulated online time schedule for this stage, his / her Application/bid status will be considered as 'Applications / bids not submitted'.
2. Applicant/Bidder must confirm & check his/her Application/bid status after completion of his/her all activities for e-bidding.
3. Applicant/Bidder can rework on his/her bids even after completion of 'Application/Bid Preparation & submission stage' (Application/Bidder Stage), subject to the condition that the rework must take place during the stipulated time frame of the Applicant/Bidder Stage.
4. In the first instance, the online payment details of tender document fee + e-Service and EMD & PQQ/Technical Envelope shall be opened. Henceforth financial bid quoted against each of the item by the shortlisted bidder/ Agency wherever required shall be opened online in the presence of such bidders/ Agency who either themselves or through their representatives choose to be present. The bidder can submit online their bids as per the dates mentioned in the schedule/Key Dates above.

The bids shall be submitted online in two separate envelopes:

Envelope 1: Technical Bid

The bidders shall upload the required eligibility & technical documents online in the Technical Bid.

Envelope 2: Commercial Bid

The bidders shall quote the prices in price bid format under Commercial Bid.

CONDITIONS: -

1. DNIT & prequalification criteria can be seen on any working day during office hours in office of the undersigned.
2. Conditional tenders will not be entertained & are liable to be rejected.
3. In case the day of opening of tenders happens to be holiday, the tenders will be opened on the next working day. The time and place of receipt of tenders and other conditions will remain unchanged.
4. The undersigned reserve the right to reject any tender or all the tenders without assigning any reasons.
5. The societies shall produce an attested copy of the resolution of the Co-operative department for the issuance of tenders.
6. The tender without earnest money/bid security will not be opened.
7. The Jurisdiction of court will be at **Rohtak**.
8. The tender of the bidder who does not satisfy the qualification criteria in the bid documents are liable to be rejected summarily without assigning any reason and no claim whatsoever on this account will be considered.
9. The bid for the work shall remain open for acceptance during the bid validity period to be reckoned from the last date of 'Manual submission of BS. If any bidder/tenders withdraws his bid/tender before the said period or makes any modifications in the terms and conditions of the bid, the earnest money shall stand forfeited. Bids shall be valid for 120 days from the date of bid closing i.e. from last date of manual submission of EMD. In case the last day to accept the tender happens to be holiday, validity to accept tender will be the next working day.

For & on behalf of Registrar, MDU, Rohtak

P&S

M. D. University, Rohtak

INSTRUCTIONS TO BIDDER ON ELECTRONIC TENDERING SYSTEM

These conditions will over-rule the conditions stated in the tender documents, wherever relevant and applicable.

REGISTRATION OF BIDDERS ON E-PROCUREMENT PORTAL: -

All the bidders intending to participate in the tenders process online are required to get registered on the centralized e - Procurement Portal i.e. <https://haryanaeprocurement.gov.in>. Please visit the website for more details.

OBTAINING A DIGITAL CERTIFICATE:

- 1.1 The Bids submitted online should be encrypted and signed electronically with a Digital Certificate to establish the identity of the bidder bidding online. These Digital Certificates are issued by an Approved Certifying Authority, by the Controller of Certifying Authorities, Government of India.
- 1.2 A Digital Certificate is issued upon receipt of mandatory identity (i.e. Applicant's PAN Card) and Address proofs and verification form duly attested by the Bank Manager / Post Master / Gazetted Officer. Only upon the receipt of the required documents, a digital certificate can be issued. For more details, please visit the website – <https://haryanaeprocurement.gov.in>.
- 1.3 The bidders may obtain Class-II or III digital signature certificate from any Certifying Authority or Sub-Certifying Authority authorized by the Controller of Certifying Authorities or may obtain information and application format and documents required for the issue of digital certificate from:

M/s Nextenders (India) Pvt. Ltd.

O/o. DS&D Haryana,

SCO – 09, IIInd Floor,

Sector – 16,

Panchkula – 134108

E-mail: chandigarh@nextenders.com

Help Desk: 1800-180-2097 (Toll Free Number)

- 1.4 The bidder must ensure that he/she comply by the online available important guidelines at the portal <https://haryanaeprocurement.gov.in> for Digital Signature Certificate (DSC) including the e-Token carrying DSCs.
- 1.5 Bid for a particular tender must be submitted online using the digital certificate (Encryption & Signing), which is used to encrypt and sign the data during the stage of bid preparation. In case, during the process of a particular tender, the user loses his digital certificate (due to virus attack, hardware problem, operating system or any other problem) he will not be able to submit the bid online. Hence, the users are advised **to keep a backup of the certificate** and also keep the copies at safe place under proper security (for its use in case of emergencies).
- 1.6 In case of online tendering, if the digital certificate issued to the authorized user of a firm is used for signing and submitting a bid, it will be considered equivalent to a no-objection certificate /power of attorney / lawful authorization to that User. The firm has to authorize a specific individual through an authorization certificate signed by all partners to use the digital certificate as per Indian

Information Technology Act 2000. Unless the certificates are revoked, it will be assumed to represent adequate authority of the user to bid on behalf of the firm in the department tenders as per Information Technology Act 2000.

- 1.7 The digital signature of this authorized user will be binding on the firm.
- 1.8 In case of any change in the authorization, it shall be the responsibility of management / partners of the firm to inform the certifying authority about the change and to obtain the digital signatures of the new person / user on behalf of the firm / company. The procedure for application of a digital certificate however will remain the same for the new user.
- 1.9 The same procedure holds true for the authorized users in a private/Public limited company. In this case, the authorization certificate will have to be signed by the directors of the company.

OPENING OF AN ELECTRONIC PAYMENT ACCOUNT:

For purchasing the tender documents online, bidders are required to pay the tender documents fees online using the electronic payments gateway service shall be integrated with the system very soon till then it will be submitted manually. For online payments guidelines, please refer to the Home page of the e-tendering Portal <https://haryanaeprocurement.gov.in>.

Pre-requisites for online *bidding*:

In order to operate on the electronic tender management system, a user's machine is required to be set up. A help file on system setup/Pre-requisite can be obtained from Nextenders (India) Pvt. Ltd. or downloaded from the home page of the website -<https://haryanaeprocurement.gov.in>. The link for downloading required java applet & DC setup are also available on the Home page of the e-tendering Portal.

ONLINE VIEWING OF DETAILED NOTICE INVITING TENDERS:

The bidders can view the detailed N.I.T and the time schedule (Key Dates) for all the tenders floated through the single portal eProcurement system on the Home Page at <https://haryanaeprocurement.gov.in>.

DOWNLOAD OF TENDER DOCUMENTS:

The tender documents can be downloaded free of cost from the eProcurement portal <https://haryanaeprocurement.gov.in>

KEY DATES:

The bidders are strictly advised to follow dates and times as indicated in the online Notice Inviting Tenders. The date and time shall be binding on all bidders. All online activities are time tracked and the system enforces time locks that ensure that no activity or transaction can take place outside the start and end dates and the time of the stage as defined in the online Notice Inviting Tenders.

ONLINE PAYMENT OF TENDER DOCUMENT FEE, ESERVICE FEE , EMD FEES & BID PREPARATION & SUBMISSION (PQQ/ TECHNICAL & COMMERCIAL/PRICE BID):

i) Online Payment of Tender Document Fee + e-Service fee:

The online payment for Tender document fee, eService Fee & EMD can be done using the secure electronic

payment gateway. The Payment for Tender Document Fee and eService Fee shall be made by bidders/ Vendors online directly through Debit Cards & Internet Banking Accounts and the Payment for EMD shall be made online directly through RTGS / NEFT & OTC. The secure electronic payments gateway is an online interface between contractors and Debit card / online payment authorization networks.

ii) PREPARATION & SUBMISSION of online APPLICATIONS/BIDS:

Detailed Tender documents may be downloaded from e-procurement website (<https://haryanaeprocurement.gov.in>) and tender mandatorily be submitted online.

Scan copy of Documents to be submitted/uploaded for Prequalification or Technical bid under online PQQ/ Technical Envelope: The required documents (refer to DNIT) shall be prepared and scanned in different file formats (in PDF /JPEG/MS WORD format such that file size is not exceed more than 10 MB) and uploaded during the on-line submission of PQQ or Technical Envelope.

FINANCIAL or Price Bid PROPOSAL shall be submitted mandatorily online under Commercial Envelope and original not to be submitted manually)

ASSISTANCE TO THE BIDDERS: -

In case of any query regarding process of e-tenders and for undertaking training purpose, the intended bidder can also avail the following and can contact service provider as per below:

Office Timings of Help-desk support for Single e Procurement Portal of Government of Haryana- Technical Support Assistance will be available over telephone Monday to Friday (09:00 am. to 5:30 pm) & Training workshop will be conducted on every 1st, 2nd Friday (from 3:30 pm upto 6:00 pm) and 4th Saturday (from 11:30 am upto 3:00 pm) of each month.

All queries would require to be registered at our official email-chandigarh@nextenders.com for on-time support (Only those queries which are sent through email along with appropriate screenshots or error description will be considered as registered with the Help-desk)

IMPORTANT NOTE: -

- (a) Any intending bidder can contact the helpdesk on or before prior to 4 hours of the scheduled closing date & time of respective e-Auction/ Tender event.
- (b) For queries pertaining to e-Payment of EMD, please contact the helpdesk at least 2 business days prior to the closing date & time of e-Auction/Tender event.
- (c) Help-desk support will remain closed during lunch break i.e. from 1:30 PM up to 2:15 PM on each working day.

SCHEDULE FOR TRAINING:

<p>Training workshop will be held on 1st, 2nd Friday (from 3:30 pm upto 6:00 pm) and 4th Saturday (from 11: 30 am upto 3:00 pm) of each month at following addresses:</p>		
<p>Nextenders (India) Pvt. Ltd Municipal Corporation Faridabad, Near B.K. Chowk, Opp. B.K.Hospital, NIT, Faridabad Contact no.</p>	<p>Nextenders (India) Pvt. Ltd. Public Health Division No. 2 Hisar, Model Town Opp. N.D Gupta Hospital, Hisar</p>	<p>Nextenders (India) Pvt. Ltd., Nirman Sadan (PWD B&R), Plot No.- 01, Basement, Dakshin Marg, Sec- 33 A, Chandigarh -160020 For Support- 1800-180-2097,</p>

Haryana eProcurement Help Desk Office will remain closed on Saturday (except 4th Saturday), Sunday and National Holidays

NOTE:- Bidders participating in online tenders shall check the validity of his/her Digital Signature Certificate before participating in the online Tenders at the portal <https://haryanaeprocurement.gov.in>.

For help manual please refer to the 'Home Page' of the e-Procurement website at <https://haryanaeprocurement.gov.in>, and click on the available link 'How to...?' to download the file.

GUIDELINE FOR ONLINE PAYMENTS IN E-TENDERING

Post registration, bidder shall proceed for bidding by using both his digital certificates (one each for encryption and signing). Bidder shall proceed to select the tender he is interested in. On the respective Department's page in the e-tendering portal, the Bidder would have following options to make payment for tender document & EMD:

- i. Debit Card
- ii. Net Banking
- iii. RTGS/NEFT

OPERATIVE PROCEDURES FOR BIDDER PAYMENTS

A) DEBIT CARD

The procedure for paying through Debit Card will be as follows.

- i. Bidder selects Debit Card option in e-Procurement portal.
- ii. The e-Procurement portal displays the amount and the card charges to be paid by bidder. The portal also displays the total amount to be paid by the bidder.
- iii. Bidder clicks on "Continue" button

- iv. The e-Procurement portal takes the bidder to Debit Card payment gateway screen.
- v. Bidder enters card credentials and confirms payment
- vi. The gateway verifies the credentials and confirms with “successful” or “failure” message, which is confirmed back to eProcurement portal.
- vii. The page is automatically routed back to e-Procurement portal
- viii. The status of the payment is displayed as “successful” in e-Procurement portal. The e-Procurement portal also generates a receipt for all successful transactions. The bidder can take a print out of the same,
- ix. The e-Procurement portal allows Bidder to process another payment attempt in case payments are not successful for previous attempt.

B) NET BANKING

The procedure for paying through Net Banking will be as follows.

- i. Bidder selects Net Banking option in e-Procurement portal.
- ii. The e-Procurement portal displays the amount to be paid by bidder.
- iii. Bidder clicks on “Continue” button
- iv. The e-Procurement portal takes the bidder to Net Banking payment gateway screen displaying list of Banks (v) Bidder chooses his / her Bank
- v. The Net Banking gateway redirects Bidder to the Net Banking page of the selected Bank
- vi. Bidder enters his account credentials and confirms payment
- vii. The Bank verifies the credentials and confirms with “successful” or “failure” message to the Net Banking gateway which is confirmed back to e-Procurement portal.
- viii. The page is automatically routed back to e-Procurement portal
- ix. The status of the payment is displayed as “successful” in e-Procurement portal.

The e-Procurement portal also generates a receipt for all successful transactions. The bidder can take a print out of the same. (xi) The e-Procurement portal allows Bidder to process another payment attempt in case payments are not successful for previous attempt.

C) RTGS/ NEFT

The bidder shall have the option to make the EMD payment via RTGS/ NEFT. Using this module, bidder would be able to pay from their existing Bank account through RTGS/NEFT. This would offer a wide reach for more than 90,000 bank branches and would enable the bidder to make the payment from almost any bank branch across India.

- I. Bidder shall log into the client e-procurement portal using user id and password as per existing process and selects the RTGS/NEFT payment option.
- II. Upon doing so, the e-procurement portal shall generate a pre-filled challan. The challan will have all the details that is required by the bidder to make RTGS-NEFT payment. iii.
- III. Each challan shall therefore include the following details that will be pre- populated:
 - Beneficiary account no: (unique alphanumeric code for e-tendering)
 - Beneficiary IFSC Code:
 - Amount:
 - Beneficiary bank branch:
 - Beneficiary name:
- iv. The Bidder shall be required to take a print of this challan and make the RTGS/NEFT on the basis of the details printed on the challan.
- v. The bidder would remit the funds at least T + 1 day (Transaction + One day) in advance to the last day and make the payment via RTGS / NEFT to the beneficiary account number as mentioned in the challan.
- vi. Post making the payment, the bidder would login to the e-Tendering portal and go to the payment page. On clicking the RTGS / NEFT mode of payment, there would be a link for real time validation. On clicking the same, system would do auto validation of the payment made.

D) OVER-THE-COUNTER (OTC)

This solution shall allow the bidder having account with ICICI Bank, to make the payment from any CMS enabled Branch of ICICI Bank in India. Bidders can make the payment via cash (if amount is <= 49,999), ICICI Bank Cheque.

The procedure for paying through OTC mode is as follows:

- i Bidder selects Over-the-Counter remittance option in e-Procurement portal.
- ii The e-Procurement portal displays the amount to be paid. Bidder chooses the bank account no. for refund of the amount.
- iii Bidder clicks on "Continue" button
- iv (iv)The e-Procurement portal displays the details of payment. Bidders clicks on "print _challan" and prints the OTC challan.
- v Bidder submits the OTC challan at the counter of any designated branch of ICICI Bank with
- vi Cash / Demand Draft / ICICI Bank Cheque (Payment in cash is allowed upto Rs. 49,999/-)
- vii ICICI Bank verifies the URN (format to be discussed and decided) and Amount with e-Procurement portal prior to accepting the payment
- viii On successful verification from e-Procurement portal, ICICI Bank accepts the payment. In case of failure, ICICI Bank shall return back the OTC challan and payment to the Bidder.

- ix ICICI Bank will commit the payment transaction (in case of successful verification from e-Procurement portal) and sends the Bank Transaction Number (I-Sure Reference Number) online against the URN and Amount.
- x ICICI Bank will generate receipt for the payment transaction and issues the same to the Bidder.
- xi The e-Procurement system updates the bank transaction number against the URN and Amount based on details sent by ICICI Bank online prior to generation of receipt.
- xii The status of payment will be displayed as “verification successful” in e-Procurement portal, when the bidder clicks on verification option in the portal
- xiii Bidder would be required to upload the scan copy of receipt as received from ICICI Bank as part of proof in Nex-tender portal before submitting the tender

IMPORTANT NOTES(DO'S/DON'T)

Sr no.	Scenario	Do's / Don'ts
1	<p>In the event of making Payment through NEFT/RTGS</p>	<p>Do's</p> <ul style="list-style-type: none"> • It is the bidder's responsibility to ensure that RTGS/NEFT payments are made to the exact details as mentioned in the challan which are: 1) Beneficiary account no: <client code> + <random number> 2) Beneficiary IFSC Code: As prescribed by ICICI Bank (this shall remain same across all tenders) • Amount: As mentioned on the challan. It is specific for every tender/transaction • Beneficiary bank branch: ICICI Bank Ltd, CMS • Beneficiary name: As per the challan • For every tender, details in the challan are different and specific to that tender only. Bidder should not make use of a challan for making payment for another tenders' EMD • It is advised that all the bidders make payment via RTGS/NEFT at least one day in advance to the last day of tender submission as certain amount of time is required for settlement and various parties are involved. The payment may not be available for the bidder validation. In such cases bidder may not be able to submit the tender • Bidder has to make only single payment against a challan as per the amount mentioned on the challan. • Bidder must do the payment before tender validity gets expired <p>Don'ts</p> <ul style="list-style-type: none"> • Bidder should not enter erroneous details while filling the NEFT/RTGS form at their bank. The following possibilities may arise: <ol style="list-style-type: none"> 1) Incorrect IFSC code mentioned: - Transaction would be rejected and the amount would be refunded back in to the bidders account 2) Incorrect Beneficiary account number mentioned (<client code> + <random number>): - <ol style="list-style-type: none"> a) In case, the beneficiary account number mentioned is incorrect the transaction would be rejected and the bid would not be accepted. 3) Incorrect Amount mentioned: The amount would be rejected if the amount mentioned in while making the payment is incorrect. Such cases will be captured as unreconciled transactions and will be auto-refunded directly to bidder's account. <p>In the event of any discrepancy, payment would not be considered and bidder would not be allowed to bid/ participate.</p> <ul style="list-style-type: none"> • Bidder is not supposed to use challan generated in one tender for payment against another tender since details in the challan are unique to the tender and bidder combination. • Bidder must not make multiple or split payments against a particular challan. Any split payment received against the same challan will be refunded back to the bidder.

		<ul style="list-style-type: none"> Bidder would not be entitled to claim that he is deprived of participating in the tender because his funds are blocked with the division on account of incorrect payment made by the bidder
2	In the event of making Payment through OTC	<p>Do's</p> <p>It is the bidder's responsibility to ensure that OTC payments are made to the exact details as mentioned in the challan which are:</p> <p>Beneficiary account no: <client code> + <random number> Amount: As mentioned on the challan It is specific for every tender/transaction</p> <p>Beneficiary name: As per the challan</p> <p>Bidder has to make only single payment against a challan as per the amount mentioned on the challan</p> <p>Bidder must do the payment before tender validity gets expired</p> <p>Bidder needs to mandatorily upload the scan copy of the payment receipt issued by ICICI Bank, in Nextender Portal before submitting the Tender</p>
		<p>Don'ts</p> <ul style="list-style-type: none"> If the bidding amount is greater than Rs49,999, then Bidder should not make payment in cash. In this case, Bidder should pay via Demand Draft/ICICI Bank Cheque It is bidder's responsibility to ensure that Demand draft should be valid and should not have discrepancies such as signature not found, stale DD, mutilated, material alteration, favouring third party etc., In the event of Demand Draft returned by bidder's Bank on account of such discrepancies, ICICI Bank shall ensure that such communication is sent to the Client within 3 days from the date of rejection by the Bidder's Bank For every tender, details in the challan are different and specific to that tender only. Bidder should not make use of a challan for making payment for another tenders' EMD

COVERING LETTER:

FORMAT OF LETTER TO BE SUBMITTED WITH THE TENDER FOR PROCUREMENT OF PASSIVE NETWORK MATERIAL FOR COMPLETION OF NETWORK UPGRADATION PROJECT, UNIVERSITY COMPUTER CENTRE, M.D. UNIVERSITY, ROHTAK- 124001.

TO,

Deputy Registrar
Purchase & Supply Branch
MD University
Rohtak – 124001 (Haryana)

SUB: PROCUREMENT OF PASSIVE NETWORK MATERIAL FOR COMPLETION OF NETWORK UPGRADATION PROJECT.

Dear Sir,

1. This is with reference to your TENDER notice dated I have examined the TENDER document and understood its contents. I hereby submit **procurement of passive network material for completion of network upgradation project University Computer Centre, M.D. University, Rohtak- 124001.**
2. The Bid is unconditional for the said Tender. This bid is valid for a period not less than 180 days.
3. It is acknowledged that the Authority will be relying on the information provided in the Tender and the documents accompanying such Tender for qualification of the bidders for the above subject items and we certify that all information provided in the Tender and in Annexures are true and correct; nothing has been misrepresented and omitted which renders such information misleading; and all documents accompanying the bid are true copies of their respective originals.
4. This statement is made for the express purpose of the above mentioned subject.
5. We shall make available to the Authority any additional information it may find necessary or require to supplement or authenticate the Qualification statement.
6. We acknowledge the right of the Authority to reject our bid without assigning any reason or otherwise and hereby relinquish, to the fullest extent permitted by applicable law, our right to challenge the same on any account whatsoever.
7. It is declared that:
 - a) We have examined the Tender document and have no reservations to the Tender document.
 - b) We have not directly or indirectly or through an agent engaged or indulged in any corrupt practice, fraudulent practice, coercive practice, undesirable practice or restrictive practice in respect of any Bid or request for proposal issued by or any Agreement entered into with the Authority or any other public sector enterprise or any Government, Central, State or local.
8. It is understood that the University may cancel the Bidding Process at any time without incurring any liability to the University and that you are neither bound to invite the applicants to Bid for the items nor to accept any bid that you may receive.
9. It is understood that the University can use any evaluation scheme/evaluation

metrics/weightage or take the help of any consultant, as required in selecting the successful agency/agencies and we agree to abide by it.

- 10. It is certified that we have not been convicted by a Court of Law or indicted or adverse orders passed by a regulatory authority which could cast a doubt on our ability to undertake the Services or which relates to a grave offence that outrages the moral sense of the community.
- 11. It is here by certified that the firm has not been debarred/blacklisted for any reason/period by any central/state Govt. department/University/PSU etc. if so particulars of the same may be furnished. Concealments of facts shall not only lead to cancellation of the order but may also warrant legal action. University may reject bids of firms which has been blacklisted at any time.
- 12. It is hereby affirmed that we are in compliance of/shall comply with the statutory requirements, as applicable.
- 13. We hereby irrevocably relinquish any right or remedy which we may have at any stage at law or howsoever otherwise arising to challenge or question any decision taken by the Authority in connection with the selection of bidders, selection of the Tenderer, or in connection with the selection/Bidding Process itself, in respect of the above mentioned items and the terms and implementation thereof.
- 14. We agree to undertake to abide by all the terms and conditions of the TENDER document.
- 15. We agree to undertake to be liable for all the obligations of the Tenderer under the Agreement. In witness thereof, we submit this application under and in accordance with the terms of the TENDER document.

Place:-
 Date :.....

Yours faithfully,
 (Signature, name and designation of the
 Tenderer/Authorized Signatory)

Official Seal



CHECK LIST FOR DOCUMENTS TO BE SUBMITTED ALONGWITH TECHNICAL BID

1. Processing Charge Rs. 4000/- through Demand Draft (Non-Refundable).
2. Bid document signed & stamped on each page.
3. A photocopy of the Authorization Certificate from OEMs.
4. Power of Attorney, as applicable, on company letter head.
5. EMD 2% of total Bid Amount.
6. Attested photocopies of Income **Tax and Sales Tax returns** for the last three Financial Years.
7. Complete BOQ mentioning the Part-codes of the equipment's along with the product brochure
8. Contact details of 3 customers, along with P.O. photocopy and/or installation report.
9. A duly attested photo copy of the Firm Registration number and PAN Number.
10. Any other information that the bidder may like to submit in support of his capabilities and performance etc.

NOTE

1. In case of any queries on technical specifications, please refer the specifications mentioned in "Annexure A" only.
2. Delivery to be made at :
 UNIVERSITY COMPUTER CENTRE
MD University
Rohtak-124 001
Haryana, India
3. VAT will be at concessional rates, as applicable to non-profit, own-use institutions.
4. Filled Bids may be personally submitted P&S Branch Rohtak or sent through Registered Post or Courier addressed to:
 UNIVERSITY COMPUTER CENTRE
MD University
Rohtak-124 001
Haryana, India
5. The decision of acceptance of the Bids will lie with the competent authority of University, who does not bind himself to accept the lowest Bid and who reserves the right to himself to reject or accept any or all bid received, without assigning any reason.
6. The Bids are liable to be rejected if any of the above conditions are not fulfilled or if the bid is not accompanied with EMD and Processing Charge.
7. Number of items may vary, as required.
8. The University reserves the right to split the order among more than one Tenderers.
9. Financial Bid of the Tenderers who qualify in the Technical Bid shall be opened in presence of the authorized designated representatives and Tenderers who wish to be present there. The date of Financial Bid opening will be informed to the shortlisted bidders subsequently.
10. The University will be at liberty to involve any expert or consultant in evaluating the bid for completing the entire bid process.

SUBMISSION OF TENDER

SEALING AND MARKING OF TENDER:

1. The TENDER must be complete in all aspects and should contain requisite certificates, informative literature etc.
2. Tender Document can be downloaded from MD University Rohtak website (www.mdurohtak.ac.in).
3. This is a two part bid consisting of Technical Bid and Financial bid
4. The bid shall include:
 - a. Forwarding letter by the Tenderer
 - b. All required documents
 - c. Tender processing charges (non-refundable)
 - d. Interest free EMD (Earnest Money Deposit) in the form of Demand Draft in favour of Finance Officer MD University Rohtak, payable at Rohtak, from a Nationalized Bank to be submitted with Technical Bid.
 - e. Technical Bid
 - f. Financial Bid
5. TENDER should be addressed to: -

UNIVERSITY COMPUTER CENTRE
MD University
Rohtak-124 001
Haryana, India

EXPENSES OF AGREEMENT:

All the expenses on the execution of the Agreement (if any) including cost of stamp or any other kind of expenditure incurred in the process of TENDER submission till final compliance shall be borne by the Tenderer.

DEADLINE FOR SUBMISSION OF BIDS:

TENDER must be received by the MD University Rohtak at the date, time and address specified in the TENDER notice/TENDER documents.

LATE BIDS:

Any TENDER received after the deadline specified for submission of TENDER shall be rejected without any further correspondence to the Tenderer.

TENDER OPENING

OPENING OF FINANCIAL BID:

Financial Bid (Tenders) of the Tenderers who qualify in the Technical Bid shall be opened in the presence of designated Authority and Tenderers who wish to be present there. The date of financial bid opening will be informed to the shortlisted bidders subsequently.

CLARIFICATION OF TENDER:

To assist in the examination, evaluation and comparison of Tender, University may at its discretion ask the Tenderers for a clarification on the Tender which is submitted by him. The request for clarification and the response shall be in writing.

EVALUATION OF TENDER:

University will be at liberty to involve any expert or consultant and use appropriate metrics and weightages in evaluating the bid for completing the entire bid process.

AWARD OF PURCHASE ORDER

Successful Tenderer shall be awarded the Purchase Order. If after accepting the Purchase Order, the agency fails to supply the items, EMD will be forfeited and the agency will be blacklisted, in addition to recourse to other penal measures. No grievance will be entertained in this regard.

- 6.1 University reserves the right to negotiate with eligible Tenderer before finalization of the Tender and/or contract.
- 6.2 University reserves the right at the time of award of Purchase Order to increase or decrease even obsolete the number of items without any change in terms and conditions.
- 6.3 The bidders must quote rates and other terms and conditions for all the equipment's/items failing which tender will be rejected. Total cost of the bid will be one of the important deciding factor while deciding the bid in favor or against any bidder.

NOTIFICATION OF AWARD

Prior to the expiration of the period of Tender validity, the University will inform the Tenderer appropriately that the Bid has been accepted and the Purchase Order has been awarded.

(Signature of Tenderer)

Official seal

PRE-QUALIFICATION CRITERIA FOR BIDDERS

1. The bidder should be a company registered under the Companies Act, 1956 or a partnership firm registered under Indian Partnership Act 1932 or Limited Liability Partnership Act 2008 with registered office in India and **in operation for at least 10 years** as on 31.03.2018.
2. The Bidder must have successfully executed:
 - **One** similar work of value not less than **Rs. One Crore**
OR
 - **Two** similar works of value not less than **Rs. Fifty Lakhs** each
Similar means **"Supply & Installation of IP Telephony Solution / Video Collaboration Solution or both solutions"** for any Govt. Dept. / Public Sector Undertaking during the last **five** financial years (Copies of Purchase Orders & Successful Work Completion Certificates must be submitted).
3. The Bidder should have average annual turnover of **Rs. 100 Crores** or more during the last three financial years. (CA Certificate and last three years Balance Sheets must be submitted).
4. The Bidder must have positive net worth and should be a profit making company for last three financial years.
5. The Bidder must be an **ISO 9001:2015 & ISO 27001:2013** certified company. (copies of valid certificates to be submitted)
6. The bidder should have manpower strength of **100 nos. employees** or more on its payroll. (Bidder should submit a declaration to this effect).
7. The Bidder has not been blacklisted by Central Govt. /State Govt./PSUs/Other Govt. Agency. A declaration on company's letterhead must be submitted by Bidder.
8. The Bidder must submit **Authorization Letter** from OEM for this specific Tender.
9. **All active components must be from same OEM only.**
10. **NSIC / MSME registered bidders must submit copies of valid NSIC / MSME Registration Certificates for exemption of EMD & Tender fee.**

PURPOSE OF DOCUMENT (REQUIREMENT)

MDU started journey towards unified communications way back by deploying around 600 SIP Phones which are currently running on open-platform. As a second step towards digitization of virtual campus MDU would like to enable the internal and external higher executive, VC, HOD interactions over the room-based video conferencing solution. External parties like PMO, MHRD or NIC has recently approached MDU

for joining various video calls where video and content is being used. MDU require not only attend video calls but also host video calls with non-MDU universities and government bodies to interact. Since these are all high profile and very critical discussion, hence for compliance purpose MDU also require to record each and every call.

In this RFP, MDU would like to deploy a solution which would not only suffice the video requirement but will also take care of telephony requirement. Hence, the proposed solution should be able to support Video and Audio natively. MDU would like to keep the administration and usage very simple for IT and for end users.

There is a current need of VC endpoint following rooms/people:

- a. Vice Chancellor meeting room which is around 30-seater in 4 rows would require Video conferencing endpoint for video, content sharing. Rooms dimension is around 30 feet which is to be captured by video endpoint. This room is generally used for generic internal meetings and in-person interviews. Post VC deployment it would be used for Video calls as well. As per MDU site study and surveys this solution should be support minimum three displays. One display would be dedicated for far side Video another for content. The third display would be used while presenter comes to addressing area, the third display will show the remote parties on third display as well. The solution should have capability to perform speaker tracking. The solution should be enabled with a tablet to operate the endpoint. The proposed unit should be an all integrated unit from OEM to minimize third party components which generally deteriorates the experience and manageability. The cameras, codec, cables, tablet, displays, microphones should be from same OEM. The solution should support "single touch to join meeting" functionality.
- b. Swaraj Sadan, the auditorium which is around 100-seater hall with almost 8 rows require video conferencing endpoint for video, content sharing. Room dimension is around 45 feet which is to be captured by video endpoint. The room is generally used for trainings and townhalls. Post VC deployment it would be used for video internal/external calls and classroom sessions. As per MDU site study and surveys this solution should be support minimum three displays. One display would be dedicated for far side Video another for content. The third display would be used while presenter comes to addressing area, the third display will show the remote parties on third display as well. The solution should have capability to perform speaker tracking for up to 30 feet. The solution should be enabled with a tablet to operate the endpoint. The proposed unit should be able to support display of up to 90 inches or HDMI based projectors. The cameras, codec, cables, tablet, microphones should be from same OEM. The solution should support "single touch to join meeting" functionality.
- c. The third endpoint required should be mobile endpoint which can be used in any room whenever MDU require a small to medium size meeting. The endpoint should be all-in-one endpoint which can be hooked to any 3rd party display using HDMI port. This endpoint should be easy to carry and easy to deploy. It should support Wi-Fi so that we are not limited to LAN connection ports. It should include audio speakers in itself. The endpoint should be controlled using a tablet instead of IR button remote, to avoid confusions and IT involvement for joining and dialing into meetings.
- d. The forth endpoint should be a desk unit with minimum 20 inches display and All-in-one unit. It should have a capability to be used as video endpoints, as a desk phone, as an extended monitor, document camera, Wi-Fi support, Bluetooth support. This unit would be placed on Vice chancellor's desk.
- e. The fifth endpoint should be a huddle room endpoint which will enable end users to do video calling along with annotation. The idea is to enable users for co-annotation from near and far end users on a 4K display. The solution should be WiFi enabled so that it can support wireless presentation sharing and at the same time should work without any network cables If required.

SCOPE OF WORK

The solution proposed should be able to comply with following use cases:

1. The solution should be able to register IP Phones and room based and desk-based video endpoints without adding any separate appliance.
2. The solution should be able to take up to 1000 extensions/endpoints in total.
3. The phones and video endpoints should be able to call each other using an extension number. IP Address based dialing is not desired at all.
4. The room-based video endpoints should be able to make outbound video calls using SIP URI as well as IP Address. Since most of the outside world still asks for IP address dialing.
5. The inbound video calls should be possible using SIP URI or an IP address.
6. The inbound call should hit an IVR which would welcome the caller to MDU and then provide an option to dial into a particular meeting.
7. At any given point of time, any calls (internal/externals) should have an option to get recorded. One concurrent call should get recorded.
8. The video call recording solution should be on premise persistent license.
9. The solution is to be proposed with 600 basic IP Phones.
10. The solution should be capable of making video conferences, connecting these MDU endpoints with outside endpoints or internal or external laptop/mobile users. The solution should be capable of having at least 500 to 800 laptops/mobile users on a Single call/Server.
11. The solution should be capable of streaming a live stream to Facebook/YouTube etc. so that the conference can be broadcasted to larger audience.
12. All required licenses to run the solution with its offered feature set (as per RFP Specifications) should be supplied from Day 1.
13. Required Passive work including electrical and civil work will be done by the Bidder
14. The proposed Solution should have seamless integration with Existing Network Infrastructure already in place within MDU Campus.

TERMS AND CONDITIONS

The PROCUREMENT OF VIDEO CONFERENCING /COLLABORATION EQUIPMENTS & SOLUTION as per Annexure 'A' are required to be purchased for this University. You are requested to kindly quote your rates for the same. The terms & conditions for quoting/tendering the rates given in enclosed page may also be kept in view and signed. Your tender will interalia be subject to the following conditions: -

1. The packing, forwarding, freight, insurance charges etc. may be quantified in terms of amount. These charges will not be payable against such vague statement as "packing, forwarding, freight and insurance charges etc. extra".
2. Charges not mentioned in the tender shall not be paid.
3. FOR shall be M.D. University, Rohtak
4. The offer/rates must be valid for a period of at least three months from the date of opening of tender.
5. The current price list duly authenticated by the Principals with dated signature and seal along with literature/pamphlets may be supplied along with the offer.
6. The quantity may increase or decrease or obsoleted without any notice. The University shall communicate the increase or decrease within 90 days of acceptance of tender.
7. The University is situated within the Municipal Limits. As such, Octroi, if any, shall be payable. In case, the material is supplied through a Transport Company by road, the Transport Company's charges, labour charges and octroi charges shall be borne by the supplier. It may be mentioned specifically as to whether the material will be sent by rail or by road through a Transport Company.
8. The goods shall be supplied by the Supplier within the time limit specified in the supply order. The delivery period can be extended by the Director UCC with the approval of registrar only in exceptional cases on written request of the Supplier giving reasons/explaining circumstances due to which delivery period could not be adhered to. **In case, the material is not supplied within the delivery period, the supplier shall be liable to pay the University the compensation amount equivalent to 1% (one percent) of the cost of material per week or such other amount as the Registrar may decide till the supply remains incomplete, provided that the total amount of compensation shall not exceed 10% (ten percent) of the total amount of the cost of material supplied.** Appeal against these orders shall, however, lie with the Vice-Chancellor, M.D. University, Rohtak whose decision shall be final.
9. In case, the supplier/contractor fails to execute the supply order/contract on the rates, and terms and conditions as contained in the supply order within the stipulated period, they shall be liable to such action as blacklisting, debarring from having any business with this University, forfeiture of earnest money/security, besides any other action as may be deemed proper by the University.
10. As a general policy, the University tries to make 100% payment within 15 days of the receipt of material subject to proper installation, wherever applicable, and satisfaction of the Inspection Committee. No advance payment or payment against documents negotiated through Bank shall be made. However, Advance payment may be made against security for imported items to avail Custom Duty Exemption.
11. The acceptance of the material shall be subject to satisfactory report of this Office's Inspection Committee/Technical Committee/Experts Committee.

12. The samples of the material, if necessary and possible, shall be supplied with the tender. The unapproved samples shall be collected on receipt of information failing which the same shall be dispatched by Goods Carrier on your risk with the condition of **"Freight to Pay"**. Samples **costing less than Rs. 100.00** shall not be returned to the **quotes**. However, if the **quotes** wish to take the same back, it can be collected at their own cost within a period of one month, failing which the samples will be disposed off.
13. The bidder should possess minimum 3 Years' experience in direct supply, installation, testing and commissioning of similar equipment/Software's and support to the Govt./Public Sector/Reputed Institutions for a minimum of 2 orders. Proof of direct dealership details i.e. OEM authorization letter/dealership certificate for supply along with Prime Customers contact details and photocopies of Purchase Order and/or installation report, to whom the similar Products Have Been supplied by the Tenderers, is required to be submitted along with the Technical Bid.
14. The vendor will also provide complete technical and operational training with no cost and the virtual lab/class will be provided the vendor at no extra cost for R&D before and after the commencement of project for at least 2 persons one time.
15. All the features present in the devices should come with all required licences from day 1.
16. The acceptance of the tender shall rest with the undersigned who does not bind himself to accept the lowest tender and reserves the right to reject any or all items of tender without assigning any reason therefore. The undersigned also reserves the right to accept tender in part i.e. any item or any quantity and to reject it for the rest.
17. The University is registered with the Department of Scientific & Industrial Research, Ministry of Science & Technology, New Delhi in terms of Govt. Notification No. 10/97- Central Excise dated 1 March, 1997 and Notification No. 51/96-Customs dated 23.7.1996 vide Registration No. TU/V/RG-CDE (244)/2015 dated September, 1,2015 up to 31-08-2020. Thus the University is exempted from payment of Custom Duty GST is applicable at concession rate. The consignee shall issue necessary certificates duly countersigned by the Registrar, M.D. University, Rohtak to avail of exemption.
18. It may be certified that you have not been debarred/ blacklisted for any reason/period by DGS&D, DS&D (Haryana) or any other Central/State Govt. Dept./University/PSU etc. If so, particulars of the same may be furnished. Concealment of facts shall not only lead to cancellation of the supply order, but may also warrant legal action.
19. In case, any other information/clarification is required, the undersigned may be contacted at Telephone No. 01262-393548/393594 on any working day (Monday to Friday) during office hours (9 a.m. to 5.00 p.m.).
20. The successful bidder has to deposit a Performance Guarantee equal to 5% of annual cost of Material, in the form of FDR/Bank Guarantee/TDR for the warranty period (6 months), in the name of Finance Officer MD University Rohtak. When Performance Guarantee/warranty is deposited, EMD will be returned subsequently.
21. The Financial Bid should be accompanied with an Earnest Money Deposit (EMD) of Rs. 2% of Bid Amount rounded to the nearest ten thousand through Online using E-tender Portal. EMD of unsuccessful bidder will be returned subsequently. No interest shall be paid on EMD.
22. The Firms registered with NSIC /NSME are exempted from Tender Fee and EMD, copy of the valid certificate must be uploaded with technical cover

23. After winning the order, if the vendor fails to Deliver product and provides satisfactory Warranty, EMD will be forfeited and also the vendor will be blacklisted from participating in any future bid.
24. The Sub Committee reserves the right for negotiation thereafter if considered necessary.
25. The rates should be quoted for required specifications. The technical specification of the equipment's required must accompany the tender. The decision of the University will be final with regard equipment's to be purchased.
26. The bidders must quote rates and other terms and conditions for all the equipment/items failing which tender will be rejected. Total cost of the bid will be one of the important deciding factor while deciding the bid in favour or against any bidder.
27. University reserves the right at the time of award of Work Order to increase or decrease or even delete the number of items without any change in terms and conditions.
28. The tender should be submitted only if the material is readily available in your stock or can be supplied within 45 days after the order is placed.
29. The dispute, if any, shall be subject to the jurisdiction of Courts at Rohtak. Any other jurisdiction mentioned in the tender or invoices of the manufacturers/distributors/ dealers/suppliers etc. shall be invalid and shall have no legal sanctity.
30. Terms and conditions should Invoice or other letters of the firm, if any, shall not be binding on the University, except those mentioned specifically on the supply order, and your acceptance of the order shall be construed as your agreement to all the terms and conditions contained in the order.
31. No Consortium BID is allowed.
32. The Bidder should be doing Business in India for this particular OEM for at least last 5 years.
33. The Bidder should be a company incorporated and registered in India Under the companies Act, 1956.
34. Bidder should be ISO 9001 Certified.
35. The Warranty of equipment's will start from the day of handover of the project to MDU
36. The any time during the implementation of project any equipment/part-code is found short to complete/achieve the scope of work to completion will be provided by the vendor free of cost to complete the project.
37. All the equipment's should have a future roadmap of at least 5 years from the date of bid submission
38. The Solution should be readily integrable with thirds party solutions such LMS

Signature _____

Name of the firm with seal/stamp _____

Affix Rubber Stamp of the firm

M. D. University, Rohtak

BOQ (CONSOLIDATED REQUIREMENT SHEET)

S/N	Device	Qty	Device Description
1	Video Endpoint Type-1	1	Desk based VC device which has 23inch touch display with integrated speakers and microphone
2	Video Endpoint Type-2	1	Room based video conferencing end point which has 2 units of 70 inches display with speakers, microphone, camera, codec, presentation cables, and touch panel.
3	Video Endpoint Type-3	1	Codec with 2 cameras which will do speaker tracking, touch panel
4	Video Endpoint Type-4	1	VC device which includes camera, codec, speakers, microphones and presentation cable, touch panel
5	Video Endpoint Type-5	1	55 Inches board which can used for VC with White boarding
6	Voice Gateway	1	Voice Gateway router with PSTN breakout
7	Meeting Server(MCU)	1	MCU which will provide 96 720p ports day one
8	Firewall NAT Traversal	1	Network Address Traversal for Video Conferencing Calls.
9	Firewall Traversal – Call Control	1	Call Control Server for Voice and Video Conferencing calls
10	Call Manager	1	Call control server for handling device registration.
11	VC Call Recording Solution	1	Video Conferencing Call Recording Solution for 5 Ports
12	Soft-Client	1	To provide communication tool to any smart devices such as Laptop/Desktop/Mobile etc.
13	IP Phone – Type 1	20	Basic IP Phone
14	IP Phone – Type 2	50	Executive IP Phone
15	IP Phone – Type 3	50	High End Video IP Phone
17	Passive Work	Lot	Additional patch cords, cables, connectors, HDMI and VGA Switchers etc. and accessories required to provide connectivity proposed solution – To be billed as per actual

Technical Compliance Envelope

ANNEXURE-B

ANNEXURE – A (TECHNICAL SPECIFICATIONS)

MEETING SERVER (QTY :1)

Technical Specifications for Meeting Server (MCU)	Compliance
The MCU should be running on standard Intel servers on standard Virtualized platforms. The hardware, software and virtualization software should be supplied and supported by a single bidder.	
All necessary hardware to support the required capacity needs to be supplied from day one. Each of the server supplied for the MCU must have a redundant power supply from day1.	
The MCU must have 90 HD ports @720p 30 fps with H.264 AVC and Continuous presence from day1.	
All the 90 ports must be able to connect different sites at different bandwidths and protocols. H.264 AVC standard must be supported at the minimum to connect all the 90 sites.	
The MCU must be able to host at least 2 simultaneous conferences each having different capacities restricted by the maximum port capacity of the MCU	
The MCU must also support Full HD mode and it must provide a capacity of connecting at least 40 sites @1080p30 fps	
MCU should be capable of supporting participants using various means i.e. via video enabled phones, room based video endpoints, soft clients on mobile/tablet or via the browser using WebRTC compatible browsers in a single conference. The meeting quality has to be consistent and of high quality. The end points can be present on the WAN network or on the internet. In case additional components are required for this functionality, all additional components required to have this functionality has to be included in the solution	
The MCU should have the capability to host meetings with internal and external participants in a secure way such that it should co-exist with the enterprise security policies	
The MCU should support H323 and SIP protocols.	
The MCU should support geographical redundancy, so that MCU could be placed in DC/DR setup in case future expansion is needed.	
The MCU must support the concept of virtual meeting rooms to users who Hosts meeting frequently. Such meeting rooms should support dialing in from standard based video end points, internal and external users and browser based clients. The system should allow one Virtual meeting room per employee, however it should not consume resources when not in use.	
The MCU should be able to maintain the dynamic resource allocation capacity for 1080p, 720p and SD participants simultaneously without having to reboot or change any configuration.	
The MCU should support 90 ports or more at HD 720p (transmit and receive) up to 4Mbps on IP in continuous presence mode with 30fps, 1500 audio ports, 100 WebRTC connections and H.264 resolution and AES encryption on the same MCU.	

The MCU should display a security icon on the endpoint if the conference is secure.	
The administrator should be able to specify maximum resolution for main video and content.	
Video conferencing endpoints deployed at other organization must be able to take part in video conferencing. The endpoints can be of various makes such as Polycom, Cisco, and LifeSize etc. using open standards.	
Interoperability with all organization must be possible using standards based dialing methodology using the Internet.	
The MCU should support on-screen text messaging on video endpoints, so that if there's a delay in starting a meeting, participants can be informed.	
The MCU should be able to integrate with existing IP PBX to provide audio conferencing ports to phones.	
The MCU should be able to integrate with Call Control system using SIP.	
Should support H.263, H.263+, H.263++, H.264, H.264 SVC/H.264 High Profile video algorithms	
Should support video resolution from SD to Full HD to join into a conference	
The proposed MCU should be able to combine HD and SD in the same conference without degrading the HD resolution from and to the HD endpoints. The MCU shall interoperate with multiple vendors' endpoints. The supported mediums should be IPv4 and IPv6.	
Along with the support for basic algorithms like G.711 and G.722.1 the MCU should also support wideband Audio protocols like MPEG 4 AAC - LC and MPEG 4 AAC - LD	
The MCU should support transcoding of different Audio/video Protocols.	
MCU should be able to combine HD and SD in the same conference without degrading the HD resolution from and to the HD endpoints.	
The MCU should have H.239/BFCP protocol for sending and receiving dual video streams (Presenter + Presentation).	
At least 16 sites to be seen simultaneously on the screen in traditional Continuous Presence mode.	
The MCU must also support advanced continuous presence such that the site that is "on-air" to be seen on a larger window and the other sites are seen in smaller quadrants.	
The MCU must be a secure Non-PC Hardware with a strong operating system. The Hardware and software must be from the same OEM.	
The MCU should support 128 Bit strong AES encryption for calls and H.235 for authentication	
The MCU must support encryption for calls on SIP.	
At least 1 LAN /Ethernet--10/100/1000 Mbps full duplex and dedicated serial/USB connection for maintenance/upgrade.	
MCU Solution should support minimum of 10 layouts	

Should support firewall traversal solution for Business to Business (B2B) Video Calling.	
MCU should have capability of recording 5 con-current HD/FHD Video Conferencing Calls and having option of playback in available standard video player.	

FIREWALL NAT TRAVERSAL (QTY : 1)

Technical Specification for Firewall NAT Traversal	Compliance
The System should be rack mountable appliance/Virtualized platform with OEM recommended hardware with minimum 1U size and support for redundant power supplies.	
The system must provide support for IPv4 & IPv6 from day one.	
The system must act as a single edge device for providing Collaboration Services such as Firewall Traversal, Business to Business (B2B) communications using other OEM video endpoints and collaborating with vendors/customers/partners using WebRTC.	
The users of desk based video endpoints should have the flexibility of taking their device home and register it to the call control system to make audio/ video calls.	
Should support firewall traversal solution using the H.460.18 and H.460.19 protocol.	
The solution should work with the existing firewall. The solution should be open ended and work with all firewalls.	
The existing Firewall should not be bypassed since the existing data security has been maintained by the Firewalls in place.	
Video conferencing endpoints deployed at other organization must be able to take part in video conferencing /dial into the MCU and dial out from the MCU. The endpoints can be of various makes such as Polycom, Cisco, and LifeSize using open standards. Interoperability with all organization must be possible using standards based dialing methodology using the Internet.	
The solution should support ability to call to public IP addresses.	
Should support the ability for devices on the internet to be reached using a H323 ID or E.164 alias.	
Should support the ability for devices on the internet to be reached on H323 using a H323 ID.? E.g. h323 id (mumbai@companyname.com) or SIP URI (mumbai@companyname.com)	
The Firewall Traversal Solution must have integration with DNS using SRV records or AAA records so as to have domain name based calling.	
Should support at least 15 calls @ 2 Mbps from day one and must have the scalability to upgrade to 20 calls @ 2 Mbps in the future.	
Should support all the H323 and SIP functionalities such as: H.239, BFCP, AES encryption, FECC, H.235	
Must support H.460 multiplexed media for H323 calls so as to reduce ports used by the calls to traverse the firewall	

FIREWALL TRAVERSAL – CALL CONTROL (QTY : 1)

Technical Specification for Firewall Traversal – Call Control	Compliance
The System should be rack mountable appliance/Virtualized platform with OEM recommended hardware with minimum 1U size and support for redundant power supplies.	
The call control system must support IPv4 and IPv6 from day one.	
The video conferencing endpoints must be able to register with the call control system.	
The call control server must have the ability to register 1000 devices from day1.	
The solution must have H323 registration over TCP/UDP should support H323 ID.	
The SIP registration over TCP/UDP should support SIP URI.	
The call control system should support all video endpoint types required by MDU	
The Call control device should be able to connect calls between H323 only and SIP only devices.	
Should allow at least 100 simultaneous calls @ 2 Mbps in a call routed mode from day1.	
The hardware must have the ability to support 500 calls simultaneously. The capability to expand to support 500 calls simultaneously should be by adding additional software licenses only.	
The SIP Registrar should have the flexibility to proxy registration requests to an external SIP server if need be.	
<p>The SIP Server must enable creation of a trunk/neighbor with IP PBX to achieve unified communications</p> <ol style="list-style-type: none"> 1) Thus calls from IP phone should be able to reach the HD VC endpoints using the SIP URI number. 2) Call from the HD VC endpoint must be able to reach the IP phones. 3) Call from the IP phone should be able to reach the correct conference number on the MCU. 4) Call from the MCU should be able to reach the desired IP Phone. 	
The SIP Registrar must support SIP URI's in the following formats: number@domain name (e.g. 65679@companyname.com) alphanumeric@domain name (e.g. xyz@companyname.in)	
Should provide flexibility such as creation of dialing pattern, Setting Search policies, transform dial patterns or modifying the dial plan.	
Security and authentication for registration of HD VC Endpoints. This should support at least authentication using login ID and password	
Should support management with HTTPS, SSH, and SCP	
Should support the capability to disable root access over SSH	

<p>The SIP server must be capable of "Presence". The status of the VC devices such as 'online', 'offline', 'busy' etc. such that calling party can know the status of the Video devices before making a call.</p>	
<p>The SIP server must have a presence engine so that when integration with other SIP devices such as MS OCS, Cisco CUCM, and Avaya etc. is done, the presence of the VC devices can be published to the other devices.</p>	
<p>Should allow creation of Zones/Virtual groups for a cluster of endpoints.</p>	
<p>Should allow restricting the bandwidth at the server level so that calls cannot exceed the defined bandwidth.</p>	
<p>Should be able to create an upper limit for the total bandwidth between two zones e.g. no. of call X bandwidth per call should not exceed the set limit.</p>	
<p>Ability to set restriction on who can call who,</p>	
<p>Registration to the server should be restricted by creation of either an allow list or deny list.</p>	
<p>Ability to allow registration to the server only upon authentication of the device.</p>	
<p>Creation of local authentication database and pulling of authentication credentials from an LDAP or AD server.</p>	
<p>Considering the latest trends in Computer Networking, the bank would like to have programmatic access to the device using a REST/SOAP/XML API. Considering network automation needs, this capability must be incorporated</p>	
<p>The call control system must provide application and hardware level high availability for seamless user experience.</p>	

VIDEO ENDPOINT TYPE-1 DESK DEVICE FOR VC (QTY: 1)

Technical Specifications for Video Endpoint Type-1	Compliance
Must support IPv4 and IPv6 from day one.	
Must have the following physical buttons for ease of use 1. Mute/ Unmute 2. Volume Increase/ decrease	
Minimum H.264 and above	
The system should support SIP protocol.	
Must support desktop sharing SIP calls	
Must support 1080p 30 fps	
Ability to send and receive two live simultaneous video sources in a single call.	
The unit must support layout control for video and presentation on a single LCD screen.	
Should have HDMI or DVI (Digital Video Interface) input to connect PC/ Laptop directly to the Video conferencing system and display a resolution of XGA/SXGA.	
The user must be able to toggle between the Laptop/PC mode and the Video conferencing mode at a push of single button/icon.	
Must have a HD output via a HDMI/DVI output port to display the VC screen onto an external display.	
CIF (352 x 288 pixels) VGA, 240p, 360p, 480p 720p (1280 x 720 pixels) 1080p (1920x1080 pixels)	
Must support H.239 and BFCP for resolutions up to 1080p	
Should support firewall traversal solution using the H.460.18 and H.460.19 protocol.	
Audio System: The system should have two stereo front speakers with inbuilt microphones, wideband speakers.	

G.722, G.711, MPEG 4 AAC or better - which supports 20 KHz audio must be supported	
Noise Reduction/Echo Cancellation, Automatic Gain control, Automatic Audio mixer	
Must support escalation of point to point calls to Multiparty calls using the central MCU without disconnecting the call.	
1 x LAN /Ethernet--10/100/1000	
1 x LAN /Ethernet--10/100/1000 to connect a PC (i.e. built in switch)	
Must support 802.11a/b/g/n	
Must support Bluetooth 3.0 for connecting Bluetooth headsets	
Must support Standard based Packet loss recovery algorithm to handle packet loss.	
QOS	
Should support URI Dialing	
Must support SIP and H.323	
Presentation through presence of DVI/HDMI Input port	
The system must have the ability to pair mobile devices such as Tablets and Smartphones The system must have the ability to pair with laptop for sending content without any wires to the video unit. In case the above feature is not available natively, then additional components can be provided to achieve this functionality.	
Password protected system menu	

Meetings both point and point and multipoint , should be password protected and the same should be possible for SIP networks	
Encryption of video call: ITU-T standards based Encryption of the video call using Advanced Encryption Standard (AES)	
Call should be encrypted end-to-end on IP calls	
The unit must support the option of disabling the secondary network port if not in use.	
Should be HD at least 6 megapixel camera, with privacy shutter	
Must support 1080p resolution.	
60 degress horizontal Field of View	
35 degress vertical field of view	
Must have a privacy shutter	
The VC unit must allow the camera to be used as a document camera to capture hard copies and transmit it to the far end site.	
Should support Local and Global directories	
Should support LDAP and H.350 protocols for directory transfer.	

VIDEO END POINT TYPE-2 VC MEETING ROOM(QTY-1)

Technical Specification for Video End Point Type-2	Compliance
<p>The system should be an integrated system with Codec, HD 1080p camera, Microphone, touch panel, cables and power supply , Dual 70" LEDs with a Floor Standing kit.</p> <p>The unit should also have ability to be wall mounted using a wall mount from the OEM and depending upon the suitability of the room the right kit may be ordered.</p> <p>The 70" screens, codec, camera, microphones, floor mounting stand should be from same OEM with a single OEM part code.</p> <p>The system should not be a locally fabricated unit.</p> <p>The system should be capable delivering HD 1080p @60fps.</p>	
H.323 and SIP protocols and bandwidth of 4 Mbps point-to-point	
H.460.18, H.460.19 Firewall Traversal	
Latest video standards H.264, H.265	
Native 16:9 Widescreen	
Advanced Screen Layouts so as to view the presentation and presenter in different quadrants and sizes.	
Local Auto Layout	
Two HD inputs for sharing Presentation	
The system should have two integrated 70" Monitor such that Presenter video is seen on one screen and presentation is seen on the other screen.	
The system should support live video resolutions up to 1920 x 1080 at 30, 60 fps (HD1080p)	
G .711, G.722, G.722.1, 20KHz or better	
Echo Cancellation on the mic inputs	
Automatic Gain Control (AGC)	
Active lip synchronization	
Should have integrated speakers and amplifiers	

The system should also support external microphones and 3 should be included with the package from day1.	
The system should have 1 additional audio output port.	
The system should have the capability to support H.239 in H.323 and BFCP for SIP Mode	
The system should support resolutions up to 1080p during H.239/BFCP	
The system must have the ability to pair mobile devices such as Tablets and Smartphones based on iOS or Android platforms so that these devices can be used for: Control the VC system such as Add and disconnect call.	
The system must have the ability to pair with laptop for sending content without any wires to the VC system. In case the above feature is not available natively, then additional components can be provided to achieve this.	
The system should have H.323 and SIP capability	
The system should support standards based encryption (H.235v3 and AES). The system should be capable of automatic key generation and exchange. Ability to turn on/off encryption should be there.	
The system should have features such as Qu's, packet loss based down speeding, TCP/IP, DHCP , Date and Time support via NTP URI Dialing	
1 LAN /Ethernet--10/100/1000 Mbps full duplex	
Wi-Fi - 802.11a/b/g/n/ac 2.4 GHz/5 GHz is desirable	
The system should support the following security features: 1. Administration of the Video endpoint should be through Web Interface using HTTPS/HTTP 2. It should be possible to password protect administration menu	
Full HD 1080p camera	
Should support at least 80 degrees horizontal field of view	

Should have the capability to automatically detect active speakers in the conference room. The camera should have face detection mechanism to enable automatic framing of participants.	
The camera should automatically detect who in the room is speaking and select the best camera framing for that person. And when no one is speaking it should automatically select the best group framing.	
The system should be capable of providing metrics such as participant count that could be used for resource utilization, return on investment reports.	
Should have the ability to turn-off speaker tracking if need be.	
Must be able to capture a person at a distance of 24 feet in full frame such that the person occupies 60 % or more of the screen.	
The camera and codec should be from the same OEM.	
Total management via embedded Telnet, SSH	
Remote software upload: via web server, HTTP, HTTPS	
Should support Local and Global directories. Should support LDAP and H.350 protocols for directory transfer.	
The video endpoint should be accompanied with Power Cable, LAN Cable, presentation HDMI Cable, Power adaptors.	
Must have an intuitive Touch Screen/Panel for controlling the VC system.	
Must have ability to browse the directory, search a contact, dial pad for dialing numbers and SIP URI's, configure camera presets, change layouts, mute/unmute, increase-decrease volume.	

VIDEO END POINT TYPE-3 SWARAAJ SADAN

Specifications	Compliance
Latest video standards H.264, H.265	
Should support 60 fps with 1080p resolution.	
Ability to send and receive two live simultaneous video sources in a single call, so that the image from the main camera and PC or document camera can be seen simultaneously.	
Should support H.239 and BFCP protocols	
The system must have the ability to pair mobile devices such as Tablet and Smartphones based on iOS or Android platforms so that these devices can be used for: 1) View the Presentation that is being shown in the VC call. 2) Add and disconnect call. 3) Take snapshot of the presentation being shown	
The system must have the ability to pair with laptop for sharing content without any wires or keying in any IP address of the VC System. The wireless presentation must work only when the laptop is inside the conference room. Adequate security mechanism such as a random code to be entered for each session or automatic pairing should be used for this. In case the above feature is not available natively, then additional components can be provided to achieve this.	
In case the above feature is not available natively, then additional components can be provided to achieve this.	
Should have at least 2 x HDMI inputs to connect Full HD cameras.	
Must have 2 HDMI inputs to connect two laptops/PC for presentations.	
All inputs should support 1080p60	
Should support the ability to view and share presentations at a resolution of 3840 x 2160 (4K)	
Should have at least 2 no.'s of HDMI output to connect Full High Definition display devices such as plasma and projectors for both Video and Content.(Dual Monitor Support)	
When not in a VC call, it should be possible to view presentation from two laptops on each of the screen so that users can collaborate.	
Must have an additional HD output to connect additional Display for presentation for participants who are sitting at a distance from the main screen. This can also be used to view the far end site when the local presenter is standing next to the main screen for explaining the presentation.	
G.711, G.722, G.722.1, 64 kbps MPEG-4 AAC-LD standard must be supported..	
Noise Reduction, Automatic Gain control, Acoustic Echo Canceller, Active Lip synchronization	
Should support 6 Microphone inputs to connect 6 microphones.	
The pick up of the microphones should be at least 10 feet from the microphone.	
Echo Cancellation for every input must be available.	
Should support audio output	

1 LAN /Ethernet--10/100/1000 Mbps full duplex	
H323/SIP upto 6 Mbps point-to-point.	
Packet Loss Based Downspeeding	
QoS--DiffServe	
IP adaptive bandwidth management (including flow control)	
Auto Gatekeeper discovery	
Auto Network Address Translation(NAT) support	
Standards based- Packet Loss Recovery feature	
Must support IPv4 and IPv6 from day one on both H.323 and SIP.	
Should support URL Dialling	
Password protected system menu	
ITU-T standards based Encryption of the video call	
Call should be encrypted end-to-end on IP	
Should support Standards-based: H.235 v3 and AES Encryption via Automatic key generation and exchange. The same should be available in a call with Video with presentation (dualvideo)	
Ability to manually turn encryption ON/ OFF should be there.	
Automatic key generation and exchange	
System Management using HTTPS and SSH	
Should have at least two or more HD cameras to automatically detect active speakers in the conference room. The camera should also have face detection mechanism to enable automatic framing of participants.	
The camera should automatically detect who in the room is speaking and select the best camera framing for that person. And when no one is speaking it should automatically select the best group framing.	
The camera must have a resolution of 4K with 5X digital zoom or a resolution of 2K with 10X optical zoom	
Should have the ability to turn OFF speaker tracking if need be.	
The cameras should be suitable for a large conference room of about 7m in length with 15 people.	
1920 x 1080 pixels progressive @ 60fps	
The Camera and codec should be from the same manufacturer.	
Should have at least 80 degrees horizontal field of view.	
Should have an auxillary camera with a 4K lens, 80 degrees total field of view and ability to zoom onto a participant at a distance of 25 feet.	
Will be used to capture the presenter when doing local presentation.	
Should support Local and Global directories	
Should support LDAP and H.350 protocols for directory transfer.	
Should support built-in Multiconference capability to connect at least 1+4 sites at 720p30fps in a continuous presence mode	

All sites must be visible in a continuous presence mode with rate matching and transcoding such that different sites may connect at different speeds and protocols and still maintain a resolution of at least 720p	
In order to provide a good user experience, the unit must be equipped with an intuitive Touch Screen/Panel for controlling the VC unit.	
Must have ability to browse the directory, search a contact, Enable / disable speaker tracking, change layouts, mute/ unmute, increase-decrease volume.	
The user should have the ability to select between two presentation sources such as a fixed PC and a laptop from the user interface. Users should also have the ability to share presentation wirelessly.	
Must have the capability to integrate with external control systems to control Blinds, Lights, air conditioning using the API's . The User interface must have the necessary icons for controlling the external devices	

VIDEO ENDPOINT TYPE-4 MOBILE UNIT WITH EXISTING DISPLAY (QTY-1)

Technical Specifications for Video Endpoint – Type 4	Compliance
Latest video standards H.264, H.265	
Should support 60 fps with 1080p resolution.	
Ability to send and receive two live simultaneous video sources in a single call, so that the image from the main camera and PC or document camera can be seen simultaneously.	
Should support H.239 and BFCP protocols	
<p>The system must have the ability to pair mobile devices such as Tablets and Smartphones based on iOS or Android platforms so that these devices can be used for:</p> <ol style="list-style-type: none"> 1) View the Presentation that is being shown in the VC call. 2) Add and disconnect call. 3) Take snapshot of the presentation being shown 	
The system must have the ability to pair with laptop for sending content without any wires to the VC system.	
In case the above feature is not available natively, then additional components can be provided to achieve this.	
Should have at least 1 x HDMI inputs to connect Full HD cameras.	
Must have 2 HDMI inputs to connect two laptops/PC for presentations	
All inputs should support 1080p60	
Should support the ability to view and share presentations at a resolution of 3840 × 2160 (4K)	
The system must have the ability to pair with laptop for sending content without any wires to the VC system	
Should have at least 2 no.'s of HDMI output to connect Full High Definition display devices such as plasma and projectors for both Video and Content.(Dual Monitor Support)	
When not in a VC call, it should be possible to view presentation from two laptops on each of the screen so that users can collaborate.	
G.711, G.722, G.722.1, 64 kbps MPEG-4 AAC-LD standard must be supported...	
Noise Reduction, Automatic Gain control, Acoustic Echo Canceller, Active Lip synchronization	
Should support 3 Microphone inputs to connect 3 microphones.	
The pickup of the microphones should be at least 10 feet from the microphone.	
Echo Cancellation for every input must be available.	
Should support audio output	
1 LAN /Ethernet--10/100/1000 Mbps full duplex	
H323/SIP up to 6 Mbps point-to-point.	

Packet Loss Based Down speeding	
QoS—DiffServe	
IP adaptive bandwidth management (including flow control)	
Auto Gatekeeper discovery	
Auto Network Address Translation(NAT) support	
Standards based- Packet Loss Recovery feature	
System should support IPv4 and IPv6 from day one.	
Should support URL Dialing	
Support for H.245 DTMF tones in H.323	
Password protected system menu	
ITU-T standards based Encryption of the video call	
Call should be encrypted end-to-end on IP	
Should support Standards-based: H.235 v3 and AES Encryption via Automatic key generation and exchange. The same should be available in a call with Video with presentation (dual video)	
Ability to manually turn encryption ON/ OFF should be there.	
Automatic key generation and exchange	
System Management using HTTPS and SSH	
Should have at least two or more HD cameras to automatically detect active speakers in the conference room. The camera should also have face detection mechanism to enable automatic framing of participants.	
The camera should automatically detect who in the room is speaking and select the best camera framing for that person. And when no one is speaking it should automatically select the best group framing.	
The system should be capable of providing metrics such as participant count that could be used for resource utilization, return on investment reports.	
Should have the ability to turn OFF speaker tracking if need be.	
The cameras should be suitable for a large conference room of about 7m in length with 15 people.	
1920 x 1080 pixels progressive @ 60fps	
The Camera and codec should be from the same manufacturer.	
Should have at least 80 degrees horizontal field of view.	
Should support Local and Global directories	
Should support LDAP and H.350 protocols for directory transfer.	
Should support built-in Multiconference capability to connect at least 1+4 sites at 720p30fps in a continuous presence mode	

All sites must be visible in a continuous presence mode with rate matching and transcoding such that different sites may connect at different speeds and protocols and still maintain a resolution of at least 720p	
In order to provide a good user experience, the unit must be equipped with an intuitive Touch Screen/Panel for controlling the VC unit.	
Must have ability to browse the directory, search a contact, Enable / disable speaker tracking, change layouts, mute/ unmute, increase-decrease volume.	
The user should have the ability to select between two presentation sources such as a fixed PC and a laptop from the user interface. Users should also have the ability to share presentation wirelessly.	
Must have the capability to integrate with external control systems to control Blinds, Lights, air conditioning using the API's. The User interface must have the necessary icons for controlling the external devices	

VIDEO ENDPOINT TYPE-5 QTY:1)

Technical Specifications for Video Endpoint – Type 5	Compliance
Must be at least 55 inches diagonal	
Should have Floor Mounting and Wall Mounting options	
Must have elegant positioning of cameras and audio system such that they are no intrusive. Must not have external cameras and other accessories for basic functionalities.	
Must have a 4 K resolution for the display and Camera	
Should be able to register onto a Collaboration Platform so that a group can collaborate together using Audio, Video, Presentation, White boarding capabilities in real time and also share messages, content and ideas in asynchronous mode.	
Must provide interoperability with standards based SIP devices for audio and video conferencing	
The Collaboration Board should have Full HD video conferencing capability 1080p 60 fps	
The camera must be a 4K camera with a viewing angle of at least 80 degrees.	
The Camera must be able to capture a room size of at least 12 feet x 20 feet	
The board should have built-in high fidelity microphones such that audio of any person in the room of at least 12 feet x 20 feet must be captured without distortion.	
Should have Automatic Gain Control and modulation such that when a person is near the board or far away, the far end must be able to hear the audio without a high dB level (when a person is near) or a very low dB level (when the person is far away)	

Must support a bandwidth of at least 6 Mbps with latest audio and video compression standards such as H.264 and AAC-LD	
Must have Echo Cancellation and Noise reduction	
The camera must have the ability to frame a participant or a group of participants who is/are speaking without any manual intervention.	
The Collaboration board should have the ability to do Digital White boarding using multiple colors.	
Erasing, Selection of colors, Smooth movement when white boarding are essential.	
Multi touch capability so that drawing can be done by two persons and two fingers simultaneously must be possible.	
The solution must have the ability to allow another users using a Collaboration Board to 'Co-annotate' on the same white boarding session. The co-annotation must be smooth.	
Co-annotation must be possible from a laptop or Mobile user as well using an app or WebRTC browser	
The white boarding sessions should be saved on the collaboration platform or a specific room or group such that it is available for future use.	
Users must be able to share presentation using wired HDMI cable or even wirelessly	
It must be possible to share the presentation during a call or out of the call	
The solution must have the ability to display a file that has been uploaded to a group or a space. This file can be a PPT, Excel, pdf etc.	
The collaboration board must have the ability to set up a conference by merely hitting a join meeting button.	
It would be desirable to start the meeting or a group on a mobile app and move the meeting to the collaboration board	
Must support Ethernet port of 100/1000Mbps. Wi-Fi 802.11a/b/g/n would be desirable	

CLOUD CONFERENCING

Technical Specification for Cloud Conferencing	Compliance
Solution should be a web based tool that connects the teachers and students over secure Internet Connection. In addition it should be capable of hosting Meetings, Events, and Trainings and should be able to provide remote access and remote control.	
Unlimited PSTN Integration – audio conferencing integrated with web and video conferencing also should have unlimited pstn call backs to users.	
Minimum number of users supported per session is 200	
Proposed Solution should allow participant. To join in video conferencing and should allow active speaker to shown in screen .Lets users join meetings on any desktop, tablet, iPad, mobile device video system etc. also allows users to share screen from mobile devices	
Solution should be a web based tool that connects the teachers and students over secure Internet Connection. In addition it should be capable of hosting Meetings, Events, and Trainings	
And should be able to provide remote access and remote control. Audio: Unlimited PSTN Integration – audio conferencing integrated with web and video conferencing. Minimum number of users: per session support (per host license): 200	
Two way (Dual stream for dual screen) high quality audio/video features (HD video and audio)	
Should show the video of active speaker to enhance engagement and productivity from the session Video of the all participants should be enabled	
Let's users join meetings on any desktop, tablet, iPad, mobile device video system etc.	
Video conferencing facility. Video up to 720p and content to 1080p with support for standard (4:3) and widescreen (16:9) content.	
Document, Application, and Screen Sharing with remote attendees in real time.	
Should be able to pass host controls	
White boarding – co-annotations, Recording, Editing, Chatting, Polling and Playback of Meetings	
Desktop integration, Polling, Raising Hands	
Unique Meeting ID with instant scheduling of Meetings	
High-Definition Video, Integrated Audio with Telephony, and Voice over IP Conferencing Stimulate learning and group collaboration through bra	
Reverse video up to 6 participants (view of the active speaker in the main video panel with up to six other participants' video displayed as thumbnails)	
Multimedia sharing, Polling	
Evaluate training effectiveness with integrated testing and polling, and reports on attendance, attentiveness.	
Highly secure access to remote PCs for hands-on application learning and practice.	
Build a digital library of sessions for future on-demand access.	
Capture and store session recordings for reuse and review using the integrated Network-Based Recording capability	

Measure class performance by testing students before, during, or after live training sessions. Deliver a variety of test types, including multiple choice, true or false, fill-in-the-blank, and essay. Automated grading, reporting, and SCORM compliance, and store and reuse tests for other sessions.	
Trainer should be able to drop the participants/students , mute or unmute participants/students	
Should be able to support real-time online events and webinars.	
Should display High-Quality Video and Active Speaker	
Automated Email Management with Personalized Templates Send out invitations, confirmations, reminders, and follow-ups automatically.	
One-way voice over IP (VoIP), or audio broadcast. The host should be able to control participants' audio and everyone can see who is speaking.	
Should have the feature of drop participants	
Diagnosis and problem solving by working directly on remote user desktops.	
Provide better customer service and improve compliance using network-based recording to document sessions, expedite incident resolution, and train new support staff	
Easily monitor, queue, and route support requests with a fully integrated automated-call-distribution system.	
Easily support multiple users at once from a tabbed client interface.	
Sign on to a user's machine as an administrator.	
Record support sessions manually or automatically.	
Should monitor all sessions' activity at both the queue and support representative levels.	
Speak with users via teleconference or integrated VoIP. Provide more personalized support using live high-quality video.	
Min 5 simultaneous session sessions should be conducted	
Single Sign-on for (Meeting/Event/Training center) features.	
Recording formats : should be easy to retrieve : MP4 and M4A	
Bundled Cloud Storage : 8-10GB	
Cross Platform Experience : Windows, Mac, Linux, iOS, Android smartphones, and tablets	
Security : SSL encryption and AES256 bit encryption	
HTTP Port 80 compliant and H.323 and	
SIP dial in to connect the conference system	
Media protocol support: RTP, sRTP, and RTCP	
Content share (dual video) Protocol support: Binary Floor Control Protocol (BFCP), H.239 and TIP	
Video codec support: H.261, H.263, H.263+, H.263++, and H.264 AVC	
Audio codec support: G.711, G.722, G.722.1, G.723.1, G.728, G.729, MPEG-4 AAC-LC, MPEG-4 AAC-LD	
Collaboration platform to create offline spaces/groups/teams where students can connect post classes	
Messages/Case Studies/Simultaneous white- boarding annotations is possible	
Shareable files / media storage bundled	
Proposed application should allow real time and offline working.	

White board sharing with participant should not require any different application to use. Also once the white board shared user should be able to modify the same.	
Proposed solution should have API to integrate different platform.	
System should identify and inform the noise source during meetings and give host the capability to mute participants "	
Consistent Personal room avoids the need to remember IP address and meeting numbers	
Should integrate with Active Directory and also allows external people/users/non-host people to join the discussion forums	
Proposed Solution should allow integration with LMS system for attendance ,reporting ,testing functionality and lecture scheduling "	
Proposed solution should provide Recording functionality for meetings.	
Proposed solution should have the capability to record audio meetings for future use.	
Proposed solution should have the capability to record video and web meetings for future use.	
Proposed application should be in subscription model with the flexibility of Monthly/yearly with 5 year subscription model	

CALL MANAGER

TECHNICAL PARAMETERS – FOR CALL MANAGER	Compliance
The network will have SIP based call control architecture with call control functionality centralized or distributed across multiple nodes across WAN for enhanced redundancy.	
A comprehensive IP based solutions based on a Server Gateway Architecture.	
Support for integrated telephony solution for Video conferencing devices, Analog & IP Phones, PSTN gateways over IP architecture.	
The solution should offer users the ability to use their UC clients and IP Phones outside of the enterprise (Internet) to make audio and video calls along with IM/Presence with or without VPN.	
The solution should allow for business to business (B2B) video calls using SIP, H.323 with other organizations without bypassing existing firewalls.	
The solution should allow provisioning of gateways with redundant power supplies.	
The call control system should be fully redundant solution with NO single point of failures & should provide 1:1 redundancy. Both the server should do call processing all the time and act as backup in case of the failure of one server.	
The call control should support clustering over WAN	
The proposed system should be Integra table with ACD, IVR.	
The call control system should support IPv4 and IPv6 from day one.	

The system should natively support tenant partitioning so as to comply with TRAI regulations for not allowing VoIP (CUG calls) and PSTN calls to be bridged. Any third party applications to manage tenant partitioning should not be quoted in the architecture.	
The proposed call control server should provide support for standards based SIP IP Phones (Wired & Wireless), Analog Phones, Video Phones, Video Conferencing endpoints and soft clients to provide centralized management and unified dial plan.	
Conference Bridge—provides software conference bridge resources that can be used by IP EPABX.	
The system should support an inbuilt reporting tool for calls. Reports that are provided include Calls on a user basis, Calls through gateways, Simplified Call Quality.	
Should support signalling standards/Protocols – SIP, MGCP, H.323, and Q.Sig?	
CODEC support - G.711, G.729, G.729ab, G.722, iLBC	
The system should provide the ability to perform tasks in bulk i.e. Add, Remove, Update users, phones, gateways, dial plan etc.	
The system should support creation of users and their authentication locally and via an integration with LDAP.	
The system should support an inbuilt reporting tool for calls. Reports that are provided include Calls on a user basis, Calls through gateways, Simplified Call Quality.	
The system should support call admission control to configure number of calls that can be active between locations – intercluster and intracluster.	
Call preservation – redundancy and automated failure – on call-processing failure. In progress PSTN calls at each of the locations should not be interrupted in the event of any WAN failure or call control server failure.	
Open API should be provided when required which will help to develop customized IP applications which will integrate with call processing.	
It is required to provide Survivable Call Control functionality so that the survivable system at the remote location i.e. Media Gateway shall provide fall back call control service in case the remote site loses all connectivity to the main Call Control system placed. It is expected that the survivability call control system will provide a minimal set of essential telephony features to the end-users that could be a subset of the feature that are available from the main call control system.	
All the appliances in the call control system should have dual redundant and hot swappable power supply and fans for high availability.	
All appliances in the call control system should have hot swappable storage media to ensure high availability.	
Support for configuration database (contains system and device configuration information, including dial plan)	

Having inbuilt administration web based administration. No additional thick client for administration on the Admin PC. Should also support HTTPS for management.	
Access to the system should be secure for the purpose of access over IP network. The protection of signalling connection over IP by means of authentication, Integrity and encryption should be carried out using TLS.	
There should be provision of defining password aging, one time passwords. Provision shall be available to bar unauthorized user to connect to the system. The system should monitor and report the following types of security \ violation login Violations, authorization code violation Station security code violations etc.	
IP Phones should not support direct, external initiated, connections via HTTP, telnet, FTP, TFTP or any other protocol as means to prevent distributed Denial of Service attack exploitation, except those required for routine firmware upgrades.	
Role Based Account Management to define different levels of administrator access depending on specific function responsibility	
The system should support complete encryption capabilities with the ability to encrypt all traffic (media and call control signalling) between IP phones, softphones, call controllers, gateways and all other associated endpoints using a strong encryption algorithm (AES, IPsec and SRTP, for example).	
All management traffic between the remote console/session and control server should be encrypted (SSH for Direct Command Line Sessions, Interface, HTTPS (SSL) for Web Sessions, SFTP for File Transfer Etc.).	
Should support SSL for LDAP directory integration.	
All Hardware & Software with license required for providing above Security measures must be incorporated.	
The System should have IP capability for interfacing & Communicating with Voice, Video and Data infrastructure	
The architecture should support a minimum of 2500 IP phones and VC systems per Server	
The architecture should support single Server Clustering to provide scalability to offer support for 30,000 IP devices and also to provide redundancy. All the 30,000 users to be managed in a single database which is managed centrally, no multiple databases.	
The System should support Alternate Call Routing	
The System should have GUI support web based management console	
System backups: The management system should have the provisioning for taking manual as well as scheduling of automatic periodic backup of complete system & data.	
The System should support Audio message-waiting indicator (AMWI)	
The System should have Automated bandwidth selection	
Should support SNMP v2, v3	

It should be possible to monitor the call control system i.e. system performance, device status, device discovery, CTI applications, voice messaging ports etc.	
Solution should provide a "presence" application for users, so that they can see the availability status of their contacts in their contact list.	
The common supported status for this application should be available, busy, idle, away etc.	
Should support the users to see other user's IP phone's on/off hook states	
The instant messaging application should support manual setting of user status to: Available, Away, Do Not Disturb (DND) etc.	
Shall provide support for open protocols like XMPP.	
Presence based desktop application shall allow escalation of Instant Message to Audio call and further to Video call	
Should support management of contact list and personal settings from Presence based desktop application	
Should support click to call, click to Video and click to conference features.	
The Soft Client should have soft phone capability and should support desktop and iPad based point to point video calls.	
The call control system should provide integrated video telephony features to the users so that user with IP Phone / Soft phone and video telephony end point should be able to place video calls with the same user model as audio calls.	
The users should be able to transfer video calls as audio calls	
Call-Server should provide a common control agent for signalling, configuration, and serviceability for voice or video end points.	
Call control system should handle CODEC and video capabilities of the endpoints, bandwidth negotiation to determine if video/audio call can take place.	
Extension mobility	
Call forward all	
Message-waiting indicator (MWI)	
Privacy	
Device mobility	
Do not disturb	
Hunt groups	
Dial-plan partitioning	
Distributed call processing	
Deployment of devices and applications across an IP network	
"Clusters" of Call-Servers for scalability, redundancy, and load balancing	
Intercluster scalability to 100+ sites or clusters through H.323 gatekeeper	
Fax over IP—G.711 pass-through and Fax Relay	
Forced authorization codes and client matter codes (account codes)	

H.323 interface to selected devices	
Hotline and private line automated ringdown (PLAR)	
Interface to H.323 gatekeeper for scalability, CAC, and redundancy	
Language support for client user interfaces (languages specified separately)	
Multi-Level Precedence and Pre-emption (MLPP)	
Multilocation—dial-plan partition	
Multiple ISDN protocol support	
Multiple remote CallServer platform administration and debug utilities	
Pre-packaged alerts, monitor views, and historical reports with Real Time Monitor Tool (RTMT).	
Real-time and historical application performance monitoring through operating system tools and Simple Network Management Protocol (SNMP)	
Remote terminal service for off-net system monitoring and alerting	
Real-time event monitoring and presentation to common syslog	
Trace setting and collection utility	
Cluster wide trace setting tool.	
Trace Collection tool.	
Multisite (cross-WAN) capability with intersite CAC	
Q.SIG (International Organization for Standardization [ISO])	
Video calls to be placed with the same user model as audio calls.	
Call-Server should support new video end points.	
SIP Video endpoints which should inherit the functionality of audio calls which gives the user the same call model for both video and audio calls.	
Call-Server should have the infrastructure to handle codec and video capabilities of the endpoints, bandwidth negotiation to determine if video/audio call can take place, single point of administration, management of media devices such as gateways and MCUs.	
Call-Server should provide a common control agent for signalling, configuration, and serviceability for voice or video end points.	

VOICE GATEWAY

Technical Specification for Voice Gateway	Compliance
Should provide 2 x 10/100/1000 interfaces	
Router should have minimum forwarding rate of 1.5 Mpps	
Shall support variety of Voice interfaces like FXO, FXS, BRI, Channelized PRI (E1), E&M and WAN interfaces like V.35 Sync Serial (2 Mbps), Async Serial, E1 G.703, Fast Ethernet, Gigabit Ethernet, ISDN BRI, Channelized and Clear channel E1.	
Should be provided with 2 x E1 ports Day 1 to terminate 2 PRI lines.	
It should support embedded hardware encryption acceleration, voice/ video-capable digital signal processor (DSP) slots or equivalent.	
The gateway should be able to support atleast 70 IP Phones in survivability mode.	
It should support embedded Voice/ video-capable digital signal processor (DSP) slots or equivalent feature.	
Protocol Support	
Shall support Routing protocols like RIP ver1 &2 OSPF ver2.	
Multicast routing protocols support: IGMPv1, v2, PIM-SM and PIM-DM, DVMRP.	
Shall support IPv6 features: DHCPv6, IPv6 QoS, IPv6 Multicast support, RIP and OSPFv3 for IPv6.	
Shall support IP Accounting features	
Should support cRTP to compress voice (RTP) streams	
QoS Features	
Shall support the following	
Classification and Marking: Policy based routing, IP Precedence, DSCP, MPLS exp bits	
Congestion Management: RED, Priority queuing, Class based weighted fair queuing	
Traffic Conditioning: Committed Access Rate/Rate limiting	
Per VLAN QoS.	
Resource Reservation Protocol (RSVP)	
Security Features:	
Shall support the following	
AAA support using Radius and/or TACACS	
GRE	
IPSec	
PAP and CHAP authentication for P-to-P links	
Multiple privilege level authentication for console and telnet access	
Time based & Dynamic ACLs.	
Management	

Shall have support for management thru Telnet, SSH, Secure Web based management thru HTTPS and SNMPv3 and Out of band management through Console and external modem for remote management	
Should provide a provision to analyze IP service levels for IP applications and services by using active traffic monitoring (the generation of traffic in a continuous, reliable, and predictable manner) for measuring network performance	
Should support flow-based traffic analysis of applications, hosts, performance-based measurements on application and network latency, quality of experience metrics for network-based services such as voice over IP (VoIP) / video.	
Should have the ability to monitor events and take informational, corrective, action when the monitored events occur or when a threshold is reached.	

SOFT-CLIENT

Technical Specification for Soft-Client	Compliance
The presence shall use icons and colors and shall include at least: On-Line Telephony	
Presence/Status, User-Choice Presence (Busy, be right back, Away, out to lunch / meeting etc.), Calendar Presence, coming from Microsoft Outlook calendar (if integrated).	
The solution must be able to support one-to-one and multi-party messaging	
It must support ability to send Multimedia (Text, voice, video and photo) messages between users	
It must have ability to store messages centrally and be able to deliver them when users connect. Senders should be able to send to offline receivers and messages should be able to be delivered on demand. The centrally stored messages should provide secure access through encryption between servers and endpoints. Also, data should be available only through secured logins	
Conversation persistency should be maintained so that users can view and participate in active conversations from multiple messaging applications, until they leave the conversation	
It must support notification events for all new messages	
It must support user search for current and active conversations	
It should provide administrators to retrieve archived messages in future	
It should support synchronization with Microsoft Active Directory 2012	
It should be possible to provide storage management through automatic closure of old conversations and controlling of over-size media files that can be sent by users	
The solution should be deployed on the virtualized server on the same hardware for simplicity	
It should support multiple devices like Windows, Android and IOS on iPhones and iPads.	

Users should be able to paste objects, files and URLs into IM message and send it to his contacts	
The IM messages must be time-stamped.	
The UC Client should be able to IM to group of Users defined by AD.	
The UC Client should provide Visual & Audio Tone Alerts on incoming Alerts	
Should provide the Presence indicator in IM buddy list and from email message	
Provision for IM to be initiated from Presence indicator in Microsoft Outlook(2007 Std & 2010 Std) and SharePoint	
Should provide Location Indicator: For Ex: Set your own locations like “Work”, “Home”, “Campus”, “Sales Office” etc. so that next time the user signs-in from that office UC Client must remember the location	
Should Provide Alert When Available: User should be able to Set the client to notify him/her when a contact becomes available. User should be notified the first time the user next becomes available. A message notification should be given to alert the user that the user is available.	
Spell Check must be available in chat	
Print Chat: The user should have the ability to print a conversation with a right-click from a chat window with another user or by pressing CTRL + P. the user can also highlight a portion of the text to print it.	
AutoSave Chat: From the Options menu, the user should be able to automatically save chats to the user computer, when the user closes a chat window. Once the chats are saved to the user computer, search the chat files or use the windows file search capability to search the chat files. The user can save peer-to-peer and group chat conversations	
Client Behavior at Start Up: The client should have the capability to open in a minimized state to open in the same state that it was in when it was last closed.	
Group chat: UC Client must allow users to define custom groups with support up to 600 groups. A group chat session must support up to 1000 users.	
Persistent chat: Persistent chat rooms should be supported to share ideas and information in a chat room and should be active even after participants leave the room. When participants come back to the room, they can scroll back to read the messages that they missed. Persistent chat room should have the capability to be password protected	
Remove Group Chat Participants: The person who starts a group chat should have the capability to remove group chat participants. Removed chat participants can be re-invited to the chat room at any time.	
Size Limit for File Transfers Administrator should be able to configure the file size limit for UC Client users when transferring files.	

File transfer between Group chat and Persistent chat. In addition to standard file transfer between peers, the users should have the capability to transfer files in group chats or persistent chat rooms. This feature must enable file transfer compliance, where the user can manage screen captures and file transfers to restrict who can send and receive files, and keep a history of the file transfer and screen captures for auditing purposes.	
Screen Capture: UC Client must support screen capture allows a user to capture an area of their screen into an image and then send the image as part of an IM conversation. The image is automatically shown at the far end.	
Screen share and Remote Desktop Sharing in Group Chat (1: Many): Users must have the capability to share screen with up to 5 people in group chat session using the IM-Only-desktop-sharing feature.	
The UC Client must support three Default Presence status and should have support for multiple states.	
The User should be able to set his own locations like "Work", "Home", "Campus", "Sales Office" etc. The UC Client will remember the location Next time the user signs-in	
Status Info on text version of status, calendar should be displayed	
Should have the Provision to adjust presence status	
Presence status should be available for communication options	
Presence status in MS-Outlook 2010, 2007 (All Standard) should be available	
The user profile for IM and Presence is maintained in a common enterprise directory, e.g. existing active directory	
Ability to log and archive all IM messages	
Ability to control logging under administrator control only to assure full compliance	
Ability to search and retrieve content from archive based on date, sender/recipient, or content	
IM/Presence system should be able to link with other IM systems (known as Federation) as and when required	
Ability to add trusted domains for people outside the company.	
Should provide user an option to add external contacts with telephone number only for example add home phone number.	
User can conduct separate IM conversations with multiple other Federated IM system users	
The Proposed system, apart from providing IM and presence functionality, should be able to integrate with IP PBX on SIP platform to allow click to call functionality on proposed same client.	
Should support basic call control with a consistent client interface on PC, web interface, and mobile device.	
Integration should be able to provide: Initiate Call, terminate (Hang-Up Call), Hold, Transfer, Divert if Busy	

Should provide mobile VoIP clients on popular smart phone platforms such as Apple iOS and Google Android. Should also provide support for Apple iPad tablets and Android based tablets.	
Call Conferencing Capability	
Should be able to Initiate a conference call involving multiple participants.	
Should be able to Conference with participants using computer audio for voice	
Should be able to Conference with participants using IP phone for voice	
Should be able to Conference with participants using PBX extension for voice	
Should be able to Conference participants using GSM/CDMA hand phones for voice.	
Video Standard - H.264 and above Should support h.239 or BFCP for content sharing.	
Should have the capability of Sending and receiving of video up to 30 fps with 720 p video quality	
Ability to put a call on hold and resume the call from a different client associated with that user e.g. Hold the call from a PC and resume the call onto an iPad/Tablet or mobile phone.	
The video calling capability to be part of the same client for IM and Presence.	
UC clients for Desktop, iOS or Android based tablets should be able to participate in the video conferencing call.	
The Desktop client should support easy firewall traversal solution such that there is no need to use VPN client when the user is outside the enterprise network -- Internet.	
The Desktop client solution should be ready for a to scale for more than 800 users, without any hardware upgrade	
The user should be able to make point-to-point video calls without utilizing the MCU.	
The video conferencing capability to be part of the same client for IM and Presence.	
Ability to put a call on hold and resume the call from a different client associated with that user e.g. Hold the call from a PC and resume the call onto an iPad/Tablet or mobile phone.	

IP PHONE – TYPE 1

Technical Specification for IP Phone - Type 1	Compliance
The phone should support at least 1 line.	
It should support the following codec G.711a/μ, G.729a	
It should have graphical display with a minimum resolution of 128 x 32 pixels	
The phone should support QoS mechanism through 802.1p/q.	
Should have built-in high-quality full-duplex speakerphone	
Should include audio controls for the full-duplex speakerphone and handset.	
IP address Assignment by DHCP or statically configured	
The Phone should support the ability to provide different ringtones for internal and external calls.	
Should have volume control button for easy decibel-level adjustments for the speakerphone, handset and ringer.	
The phone should support mounting against a wall	
The phone should support IPv4 and IPv6 from day1.	
The phone should support Power over Ethernet IEEE 802.3af class 1/2/3 and should also have AC power adapter option	
The phone should be a SIP based Phone i.e. session Initiation protocol (SIP) supported	
The phone should provide basic 3-way conferencing	
The phone should support at least 50 entries for call history i.e. missed, received, placed etc.	
Should have keys for specific functionalities such as – Redial, settings, transfer, speakerphone, mute on/off, hold/resume	
Should have 4 MB flash memory and 30 MB or more SDRAM.	

IP PHONE – TYPE 2

Technical Specification for IP Phone - Type 2	Compliance
Should have min 5" screen (800 × 480 resolution) with grayscale display and at least 4 programmable line keys	
The phone should be a SIP based Phone i.e session Initiation protocol (SIP) supported	
The phone should support Power over Ethernet IEEE 802.3af class 1/2/3 and should also have AC power adapter option	

The phone should have 2 x 1GE ports, one for the LAN connection and the other for connecting to PC/laptop.	
Corporate directory and Lightweight Directory Access Protocol (LDAP) integration.	
Ready access to missed, received or placed calls (plus intercom history and directories).	
The phone should support QoS mechanism through 802.1p/q.	
IP address Assignment by DHCP or statically configured	
Hands-free operation with full-duplex speaker-phone	
The phone should support XML based services and applications.	
The phone should have a distinct LED indicator for message waiting.	
Should have keys for specific functionalities such as – voicemail, directories, settings, transfer, speakerphone, mute on/off, headset etc	
Media Encryption (SRTP) using AES	
Signalling Encryption (TLS) using AES	
802.1x support	
Encryption of Configuration Files	
The phone should have the ability to register to call control server from outside of the enterprise with or without VPN.	
The phone should support IPv4 and IPv6 from day one.	
The phone should support backlit indicators for the audio path keys (handset, headset, and speakerphone), select key, line keys, and message waiting.	
Should support following audio codec - G.711a, G.711u, G.729a, G.722, iSAC, Internet Low Bitrate Codec (iLBC)	
The phone should have RJ9 headset port to connect any standards based headset. The phone should also have a separate headset key	
The phone should support mounting against a wall	
The phone should support at least 100 entries for call history i.e. missed, received, placed etc.	
Should support busy lamp indicator (BLF) to indicate the presence	

Should support boss-secretary feature, so that secretary can answer calls on behalf of Manager	
The handset should be hearing aid-compatible	
The phone should be available in white colour	
<p>The phone should support the following features at a minimum:</p> <ol style="list-style-type: none"> a. Call forward b. Call pickup c. Call waiting d. Calback e. Call park f. Conference g. Extension Mobility h. Auto answer i. Auto-detection of headset j. Immediate Divert k. Music on hold (MoH) l. SIP URI dialing m. URL Dialing n. Message waiting indicator (MWI) o. Personal directory p. Forced Authorization Code (Account/FAC) q. Call history lists 	

IP PHONE – TYPE 3

Technical Specification for IP Phone – Type 3	
The phone should support Power over Ethernet IEEE 802.3af class 1/2/3/4 and should also have AC power adapter option	
The phone should have 2 x 1GE ports, one for the LAN connection and the other for connecting to PC/laptop.	
Corporate directory and Lightweight Directory Access Protocol (LDAP) integration.	
Ready access to missed, received or placed calls (plus intercom history and directories).	
The phone should support QoS mechanism through 802.1p/q.	
The phone should support 802.11a/b/g/n/ac WLAN enabled enterprise.	
The phone should provide user the flexibility while using the headset i.e. RJ-9, USB-based, 3.5mm	

The phone should have atleast 2 multi-purpose USB ports that could be used for charging mobile phones, connecting USB headsets.	
IP address Assignment by DHCP or statically configured	
Hands-free operation with full-duplex speaker-phone	
The phone should be a SIP based Phone i.e session Initiation protocol (SIP) supported	
The phone should support XML based services and applications.	
The phone should have a distinct LED indicator for message waiting.	
Should have keys for specific functionalities such as – voicemail, directories, settings, transfer, speakerphone, mute on/off, headset etc	
Media Encryption (SRTP) using AES	
Signalling Encryption (TLS) using AES	
802.1x support	
Encryption of Configuration Files	
The phone should have the ability to register to call control server over an internet link with or without VPN.	
The phone should support IPv4 and IPv6 from day1.	
Should have min 5" screen with colour display with at least 4 programmable line keys	
The phone should support backlit indicators for the audio path keys (handset, headset, and speakerphone), select key, line keys, and message waiting.	
Should support following audio codec - G.711a, G.711u, G.729a, G.729b, G.729ab, iSAC, Internet Low Bitrate Codec (iLBC), OPUS	
The phone should also have a separate headset key	
Should have a built-in camera with 720p resolution (encode & decode). The camera should have a shutter to open/close camera. Should support standards based video protocol H.264	
Should support self-view video, picture in picture (pip) with adjustable positions of pip.	
Should support Bluetooth (v4.1 LE) for handsfree earphones	
Should support Call history synchronization to view placed and missed calls of mobile device from the IP Phone	
Should support Contact synchronization to synchronize the contacts from the mobile device to IP Phone	
The phone should support mounting against a wall	
The phone should support at least 100 entries for call history i.e. missed, received, placed etc.	
The phone should support the ability to add expansion modules to increase the line capacity i.e. for use by Operators/Receptionists	
Should support busy lamp indicator (BLF) to indicate the presence	
Should support boss-secretary feature, so that secretary can answer calls on behalf of Manager	
The handset should be hearing aid-compatible	

The phone should support the following features at a minimum:

- a. Call forward
- b. Call pickup
- c. Call waiting
- d. Calback
- e. Call park
- f. Conference
- g. Extension Mobility
- h. Auto answer
- i. Auto-detection of headset
- j. Immediate Divert
- k. Music on hold (MoH)
- l. SIP URI dialing
- m. URL Dialing
- n. Message waiting indicator (MWI)
- o. Personal directory
- p. Forced Authorization Code (Account/FAC)
- q. Call history lists

TECHNICAL ENVELOPE

List of Technical Documents:

Sr. No.	Description	Bidders Response (Yes/No)	Page no	Remarks
1.	ISO 9001 and ISO 27001 Certified Copies			
2.	Registration proof of incorporation in companies act			
3.	Copy of PAN Card			
4.	Copy of latest Income Tax Return (last Three years)			
5.	Prime Customers Details			
6.	Online Receipts of Payment			
7.	Declaration of validity of rates			
8.	OEM Authorization Letter/ MAF's			
9.	Product Brochures/technical Compliances Sheet as per Annexure A(Only Color Print out may be uploaded)			
10.	Certificate of not Debarred/blacklisted			
11.	Proof of Turnover for last 3 years			

NOTE:

All the Technical Documents should be uploaded on the e-tender portal. The non-submission/poor management of documents may lead to disqualification as well.

FINANCIAL ENVELOPE

Sr.No	Name of Item	Qty	Product Model No Remarks(If Any)	Currency	Unit Rate without GST	Unit Rate with GST	Total Rate (Qty X Unit Rate with 1 Year Warranty with GST)
S/N	Device	Qty					
1	Video Endpoint Type-1	1					
2	Video Endpoint Type-2	1					
3	Video Endpoint Type-3	1					
4	Video Endpoint Type-4	1					
5	Video Endpoint Type-5	1					
6	Voice Gateway	1					
7	Meeting Server(MCU)	1					
8	Firewall NAT Traversal	1					
9	Firewall Traversal – Call Control	1					
10	Call Manager	1					
11	VC Call Recording Solution	1					
12	Soft-Client	1					
13	IP Phone – Type 1	20					
14	IP Phone – Type 2	50					

15	IP Phone – Type 3	50					
17	Passive Work	Lot					

All the Financial Documents should be uploaded on the e-tender portal. The non-submission/poor management of documents may lead to disqualification as well.