

Tender Document
for
Supply and Installation Video Conferencing System and
Maintenance thereof



Tender No. EDN-HE(14) 2016-17-VC

Directorate of Higher Education
Himachal Pradesh
Lalpani, Shimla-171001

IMPORTANT INFORMATION

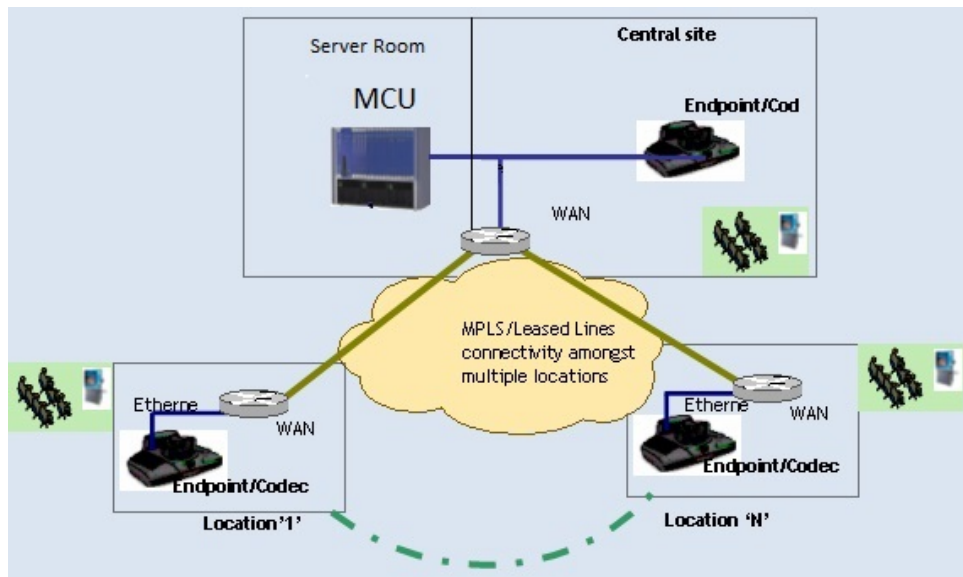
Non-Refundable Tender Cost	Rs. 1,000/- (Rupees One Thousand only) through demand draft from a Nationalized Bank, drawn in favor of "Director of Higher Education, Himachal Pradesh", payable at Shimla. The tender document is nontransferable.
Sale of Tender document	All working days during office hours w.e.f. 21-11-2016 to 09-12-2016, 10:00 AM to 5:00 PM
EMD:	The Bidders has to submit Earnest Money Deposit (EMD) in favour of Director of Higher Education: Rs. One Lac only in form of Demand Draft from a Nationalized Bank drawn in favour of Director of Higher Education, Himachal Pradesh payable at Shimla
Date, Time and Venue of Pre Bid meeting	26-11-2016 at 2:00 PM, Conference Hall, Directorate of Higher Education, Lalpani, Shimla-171001
Last date for submission of Bids	12-12-2016 upto 1:00 PM
Opening of Pre-Qualification Bids	12-12-2016 at 2:00 PM

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1. Scope of work

- 1.1 The Directorate of Higher Education, Himachal Pradesh intends to setup Video Conferencing Solution to e-link Directorate (Central location) with five Remote locations i.e. Training Institutes and Dy. DHE Offices. The VC Solution would be an initiative for faster communication and information sharing for implementation of policies of the State Government.
- 1.2 The Directorate of Higher Education, Himachal Pradesh, Shimla-1 invites tender for supply, erection, installation, commissioning, testing, demonstration and training of Video Conferencing System, as per specifications given in the Annexure attached to the Tender form. All offers should be made in English and should be written in both figures and words. Tender forms can be downloaded from departmental website www.educationhp.org.
- 1.3 The bidders are requested to read the tender document carefully and ensure compliance with all specifications/instructions herein. Non-compliance with specifications/instructions in this document may disqualify the bidders from the tender exercise. The Director, Department of Higher Education, Himachal Pradesh, Shimla reserves the right to select the item (in single or multiple units) or to reject any quotation wholly or partly without assigning any reason. Incomplete tenders, amendments and additions to tender after opening or late tenders are liable to be ignored and rejected.
- 1.4 The desired scope of work for VC Solution at One Central Location and Five Remote Locations is as under :



- 1.5 Supply of all the Software Licences, all the hardware & allied accessories as per technical specification described in the Annexure-A.
- 1.6 On-site Installation & maintenance of supplied hardware at the following locations.
- 1.7 Fixing and providing all the electrical wiring / LAN connectivity (from nearest point) at remote locations, if required, will under the scope of work of the bidder.
- 1.8 Trainings to the Users/IT staff at Central & Remote Locations.
- 1.9 The Bidder will ensure 100% uptime of deployed hardware & Software.
- 1.10 The technical maintenance/up gradation of the provided Software will be the responsibility of the Bidder.
- 1.11 The specifications mentioned in the Annexure – A are minimum required, the bidder are free to quote with higher specifications.
- 1.12 The bidder should enclose relevant printed or neatly typed detailed specification sheets of new offerings, which shall also be kept in mind at the time of evaluation of offers.
- 1.13 The given specifications may be met either in the same unit or in any combination of units.
- 1.14 The quantities mentioned herein are indicative and shall be used to arrive at L1 Bidder. The Number of locations and quantities of the hardware mentioned herein are tentative. The Director of Higher Education, H.P. reserves the right to increase or decrease the locations or hardware quantity at the time of supply order. The payment will be made as per the actual supply of the hardware. In case of variations in quantities the rates mentioned by the Bidder in the relevant rate schedule shall apply.
- 1.15 The hardware of specifications mentioned in annexure-A will be supplied, installed & maintained on site by the bidder for three years at following location:

Sr.	Unit	Qty	Location
1	Server Room	1	IT, Cell, Directorate of Higher Education, Shimla (H.P.)
2	Central Location	1	V. C. Room, Directorate of Higher Education, Shimla (H.P.)
3	Remote Location	5	1. SCERT, Solan (HP) 2. GCTE, Dharamshala District – Kangra (HP) 3. Dy. DHE Office, Chamba (H.P.) 4. Dy. DHE Office, L & S at Keylong (H.P.) 5. Dy. DHE Office, Mandi (H.P.)

2. Eligibility Criteria

The bidders are required to attach a documentary proof for the following eligibility criteria:

- 2.1 The bidder should have existence in India for the last three financial years. Consortium bidding of only two (i.e. Prime Bidder + One Company) companies will be allowed.
- 2.2 The bidder should be in profit for the last three financial years.
- 2.3 The bidder must bid for entire scope of work.
- 2.4 The Bidder must be OEM or authorized dealer/distributor of OEM of make offered VC Solution. Letter of Authorization from original equipment manufacturer (OEM) on the same and specific to the tender should be enclosed.
- 2.5 The bidder should have overall turnover more than 25 Crore in the last three financial years in India.
- 2.6 The bidder should have overall turnover more than 3 Crore in the last three financial years in India as System Integration in the field of VC /IT/ Electronics / Telecommunication solutions.
- 2.7 The bidder must have implemented/implementing VC Solutions in at least 50 Govt. Institutions in India in last three financial years.
- 2.8 Bidder should have done single installation of 100 Port MCU in last 3 years.
- 2.9 Bidder should have executed two orders min. Rs. 30.00 Lac of similar VC Solution in last 3 years having order value of each order min. Rs. 30.00 Lacs In India. (Satisfactory / performance certificate to be attached).
- 2.10 The Bidder must be a company registered under the Indian Companies Act.
- 2.11 The Bidder must have ISO 9001: 2008 certification or equivalent.
- 2.12 The bidder shall submit copies of income Tax Clearance Certificate, Pan Card, Service Tax.
- 2.13 Bidder should have registration in Central Government /State Government. Registration No. with CST. TIN, Telephone and Electricity bills of last one year.
- 2.14 The bidder must have valid registration No. of Sales/ VAT/ Service Tax/ PAN No whichever is applicable.
- 2.15 The Bidder/OEM should have their own after sales support facilities in Himachal Pradesh or Chandigarh/ Panchkula / Mohali.
- 2.16 The support facilities should be fully owned by the Bidder/ OEM & managed by their permanent employees (Company Payroll) & not through franchisee(s).

3. Eligibility Criteria OEM

The bidders are required to attach a documentary proof for the following eligibility criteria of OEMs of the equipment/hardware/software quoted by the Bidder/SI:

- 3.1 The OEM should be in business of VC stem during last 5 years in India and offered make should be available in the market from last 5 years in India.
- 3.2 The average annual turnover of the VC OEM during last 3 financial years should be Minimum Rs. 5.00 Crore in India. (Audited balance sheet required). In case the OEM billing is not from India, the turnover of their importer in India will be considerable.
- 3.3 VC, Audio, Document Camera & Display Panel OEM should be ISO 9001 : 2008 Certified (Certificate copy required).
- 3.4 VC, Audio, Document Camera & Display Panel OEM must have warehouse, sales, service staff in India. (Documentary Proof required).
- 3.5 VC & Display OEM should have at Least one Central / State Level Single / Multi Locations Project Completion Certificate. (Documentary Proof required, either in the name of OEM or OEM authorized bidder or bidder).
- 3.6 OEM should not be blacklisted from any Govt. / PSU / Central / State agency.
- 3.7 VC OEM should have minimum 20 direct Technical support staff in India. (Documentary Proof required in respect of Service staff details with technical bid).
- 3.8 VC OEM or authorized bidder of OEM should have deployed at least one State/National Govt - Video Conferencing Network. (attach copy of Supply/Purchase order & Project Completion/Appreciation letter with technical bid). The documents can either be in the name of OEM / OEM authorized bidder or Employee of OEM or Bidder.
- 3.9 VC OEM should have single installation of 100 Port MCU in last 3 Years (attach Satisfactory/performance certificate).

4. TERMS & CONDITIONS

- 4.1 All the equipment to be installed should be reputed brands viz CISCO/Polycom /People Link/Sony or any other Indian brand (Indian Make) for VC solutions and Samsung/Mistubishi /Delta /LG / Panasonic/Barco/Sony or any other Indian brand (Indian Make)/Model for display unit.
- 4.2 Manufacturer's test reports should also be supplied with all equipment. All accessories bundled by the manufacturer with the equipment should also accompany the equipment.
- 4.3 The bidder is required to quote only one technically complied product against each tiny item. No option will be considered. Bidders are requested to mention the specific make & model no. of offered product against each line item.
- 4.4 The Equipment to be supplied by bidder shall be the industry

proven products and not the R&D models. The equipment shall confirm to the requirements of relevant Indian & International Standards.

- 4.5 DHE will accept only new equipment, used and / or re-manufactured equipment will not be accepted. Factory test report should be submitted with equipment at the time of delivery.
- 4.6 OEM should have been supporting the products under its own name and brand since Last 5 years and should have a product road map for next one year.
- 4.7 The quoted products should be latest version and should not be end of life, sale/support for next 5 years from the date of supply.
- 4.8 Level - 1 support at site is to be provided by the bidder as per the maintenance clause mentioned in RFP.
- 4.9 Level - 2 supports should be provided by the OEM directly at site in case their bidder fails to rectify the problem within allotted time as mentioned in RFP. Certificate of OEM for the same should be submitted along with technical bid.
- 4.10 Details of OEM support should be provided with Pre-qualification cum technical bid.
- 4.11 In case the quoted Item is not available in the market, the bidder will have to supply higher Version / replacement of that Item in the quoted cost in the same time duration with prior approval of DHE. No 'End of Life' product should be quoted to minimize such instances.
- 4.12 If any of the hardware/software reaches End of Service / support Life, as declared by OEM, the vendor has to replace the defective hardware & software with higher capacity hardware & software, and the vendor shall be responsible for successful functioning and integrated operation of the entire system after such replacement. Non availability of spares / components / software shall not be the sufficient reason for non performance of the system during the maintenance contract period / Warranty.
- 4.13 Tender specific MAF from OEM need to be submitted with technical & commercial bid.
- 4.14 An undertaking from the OEM is required stating that they would facilitate the bidder on a regular basis with technology/product updates and extend support for the warranty as well.
- 4.15 Non-compliance of tender terms, non-submission of required documents, lack of clarity of the specifications, contradiction between bidder specification and supporting documents etc. may lead to rejection of the bid.
- 4.16 Furnishing of wrong/ambiguous information in the compliance statement may lead to rejection of bid and further black listing of the bidder, if prima-facie it appears that the information in the compliance statement was given with a malafide/fraudulent intent.
- 4.17 The technical and financial bids should be quoted separately and

put in different sealed envelopes marked "Technical bid" or "Financial bid" as applicable. These separate bids envelopes are to be put in an outer envelope which should also be sealed.

- 4.18 The technical and financial bids should be submitted in original.
- 4.19 The printed literature and catalogue/brochure giving full technical details should be included with the technical bid to verify the specifications quoted in the tender. The bidders should submit copies of suitable documents in support of their reputation, credentials and past performance.
- 4.20 While sending rates, the firm shall give an undertaking to the effect that "the terms/conditions mentioned in the enquiry letter/Tender Notice against which the rates are being given are acceptable to the firm." In case the firms do not give this undertaking, their rates will not be considered.
- 4.21 If the supplier/firm is original equipment manufacturer (OEM)/authorized dealer/sole distributor of any item, the certificate to this effect should be attached.
- 4.22 The quantity shown against the item is approximate and may vary as per demand of the Department at the time of placing order.
- 4.23 All tender documents should have to be sent through courier, speed post or registered post only. All tender documents received after the specified date and time shall not be considered.
- 4.24 The postal address for submitting the tenders is:

Director of Higher Education
Below Bus Stand, Lalpani, Shimla-171001
Himachal Pradesh
Tel No:- (91)0177-2656621, 2653922
Fax No: - (91) 0177-2811247, 2812882
E-mail: dir.edu@rediffmail.com
Website: www.educationhp.org

- 4.25 Any bid received after 1:00 P.M. on 12th December, 2016 shall not be considered
- 4.26 The Technical Bids will be opened on 12th December, 2016 at 03:00 P.M. The date & time for opening of Financial Bids will be informed later on to the technically qualified bidders.
- 4.27 All tenders in which any of the prescribed conditions is not fulfilled or any condition is put forth by the bidder shall be summarily rejected.
- 4.28 Director of Hr. Education, H.P. reserves the right to cancel the tender at any point of time without assigning any reason.
- 4.29 The bidders or their authorized representatives may also be present during the opening of the Technical Bid, if they desire so, at their own expenses.

Note: Financial bids of only those bidders will be opened whose

technical bids are found suitable by the committee appointed for the purpose. Date and time of opening of price bids will be decided after evaluation of technical bids by the committee. Information in this regard will be intimated to the technically qualified bidders. In exceptional situation, an authorized committee may negotiate price with the qualified bidder quoting the lowest price before awarding the contract.

5. Clarifications

In case the bidder requires any clarification regarding the tender documents, they are requested to contact our office on the above mentioned address.

6. Cost of Bid Document

The cost of Bid document is Rs. 1,000/- (One Thousand only), the document can be purchased from the Directorate of Higher Education, Government of Himachal Pradesh, Shimla-1, during office hours from 21st November, 2016, 10:00 AM to 9th December, 2016 up to 5:00 PM and tender fee will be accepted only through demand draft issued by Nationalized Bank drawn in favour of Director of Higher Education, Himachal Pradesh, payable at Shimla. The tender document can also be downloaded from www.educationhp.org In case, the Tender document is downloaded, the bidder has to enclose a Demand Draft of tender fees for Rs. 1,000/- in favour of Director of Higher Education, Himachal Pradesh, payable at Shimla along with the bid proposal.

7. Amendment of Bid Documents

The amendments in any of the terms and conditions including technical specifications of this tender document will be uploaded on the website and will be binding on bidders.

8. Cost of Bidding

The Bidder shall bear all costs associated with the preparation and submission of its Proposal, including the cost of presentation for the purposes of clarification of the bid, if so desired by the Department of Higher Education.

The Department of Higher Education will in no case be responsible or liable for all such costs, regardless of the conduct or outcome of the bid process. The tender is non-transferable. Only the party which has purchased document shall be entitled to quote.

9. EMD

- 9.1 Bidder shall furnish an EMD of amount **Rs. 1,00,000/- (Rupees One Lac Only)** in the form of a Demand draft issued by a Nationalized Bank located in India, drawn in favour of Director of Higher Education, Himachal Pradesh payable at Shimla.
- 9.2 No other form of EMD will be accepted.
- 9.3 EMD should be valid for at least three months.
- 9.4 No interest shall be payable on EMD under any circumstances.
- 9.5 The EMD of unsuccessful bidder(s) shall be refunded to them within 30 days after the award of contract to the successful bidder. The EMD of successful bidder shall remain in the custody of DHE till the entire supply of goods has been made by the bidder to the best of satisfaction of DHE.
- 9.6 Any bid not containing the EMD will be summarily rejected as non-responsive.
- 9.7 The EMD will be forfeited at the discretion of department of Higher Education on account of one or more of the following reasons:
 - 9.7.1 The Bidder withdraws their Bid during the period of Bid validity.
 - 9.7.2 Bidder does not respond to the requests for clarification of Bid.
 - 9.7.3 Bidder fails to co-operate in the Bid evaluation process,
 - 9.7.4 Bidder is found to be engaged in corrupt/fraudulent practices
 - 9.7.5 In case of a successful Bidder, the said Bidder fails :
 - to furnish Performance Bank Guarantee or
 - to sign the Agreement in time
 - failure to execute the contract as per terms and conditions stipulated in the tender documents.
 - 9.7.6 Subsequent to the last date for receipt of bids, no modification of bids shall be allowed.
 - 9.7.7 The Bidders cannot withdraw the bid in the interval between the last date for receipt of bids and the expiry of the bid validity period specified in the Bid. Such withdrawal may result in the forfeiture of its EMD.
 - 9.7.8 When bidder does not execute the agreement, if any

prescribed, within the specified time.

9.7.9 If the bid is not in conformity with the instructions mentioned in the tender document.

9.7.10 If the bidder violates any provision of the terms and condition of the tender document.

10. Bid validity

The bid shall remain valid for a period of 180 days from the date of submission of Bid. DIRECTOR OF HIGHER EDUCATION, Himachal Pradesh shall reject the proposal as being non-responsive if it is valid for a shorter period.

11. Language

The Bids and all correspondence and documents relating to the bids, shall be written in the English language.

12. Late Bids

Any bid received by the Tenderer after the time and date for receipt of bids prescribed in the tender document will be rejected and returned unopened to the Bidder.

13. Penalty for failure of equipment(s):

13.1 No system installed in the VC Room shall be down for more than 3 working days continuously from the date of the lodging of complaint during part of a calendar day, it will be counted as one calendar day). For downtime beyond 3 working days, the penalties will be imposed as under:-

No. of days	Penalty amount per school per day per equipment
1-15	@ Rs. 200/-
16-30	@ Rs. 300/-

13.2 The penalty amount will be recovered from the bidder or deducted from EMD or by way of invoking Performance Bank Guarantee submitted by the bidder.

14. Acceptance and withdrawal:

14.1 The final acceptance of the tender would be entirely vested with the Director of Higher Education who reserves the right to accept or reject any tender, without assigning any reason whatsoever. There is no obligation on the part of the Director of Higher Education to communicate in any way with the rejected bidder. After acceptance of the tender by the Director of Higher Education the bidder shall have no right to withdraw his tender or claim higher price.

14.2 Bid(s) with incomplete information are liable for rejection.

14.3 For each category of qualification criteria, the documentary evidence is to be produced, duly attested by the bidder, serially

numbered and enclosed with the bids. If the documentary proof is not enclosed for any/ all criteria the bid is liable for rejection.

- 14.4 If any information given by the bidder is found to be false/ fictitious, the action would be initiated against the bidder as per Govt. rules.

15. Bid Forms

- 15.1 Wherever a specific form is prescribed in the tender document, the Bidder shall use the form to provide relevant information. If the form does not provide space for any required information, space at the end of the form or additional sheets shall be used to convey the said information.
- 15.2 For all other cases, the Bidder shall design a form to hold the required information.
- 15.3 The Department of Higher Education shall not be bound by any printed conditions or provisions in the Bidder's Bid Forms/document submitted by the bidder.

16. Local Conditions

- 16.1 Each Bidder is expected to fully get acquainted with the local conditions and factors, which would have any effect on the performance of the contract and /or the cost.
- 16.2 The Bidder is expected to know all conditions and factors, which may have any effect on the execution of the contract after issue of letter of Award as described in the bidding documents. The tenderer shall not entertain any request for clarification from the Bidder regarding such local conditions.
- 16.3 It is the Bidder's responsibility that such factors have properly been investigated and considered while submitting the bid proposals and no claim whatsoever including those for financial adjustment to the contract awarded under the bidding documents will be entertained by the Tenderer. Neither any change in the time schedule of the contract nor any financial adjustments arising thereof shall be permitted by the Tenderer on account of failure of the Bidder to know the local laws / conditions.
- 16.4 The Bidder is expected to visit and examine the locations and its surroundings and obtain all information that may be necessary for preparing the bid at their own interest and cost.

17. Arbitration

All disputes, differences, claims and demands arising under the contract shall be referred to the Principal Secretary (Education), to the Govt. of Himachal Pradesh, for final decision and the same shall be binding on all parties. Principal Secretary

(Education), to the Govt. of Himachal Pradesh and the selected Service Provider shall make every effort to resolve amicably through direct negotiation, any disagreement or dispute arising between them under or in connection with the work order. If any dispute arises between parties on aspects not covered by this agreement, or the construction or operation thereof, or the rights, duties or liabilities under these except as to any matter the decision of which is specially provided for by the general conditions, such disputes shall be referred to Sole Arbitrator, Principal Secretary (Education), to the Govt. of Himachal Pradesh. Such arbitration shall be governed in all respects by the provision of the Indian Arbitration and Conciliation Act, 1996 and the rules there under and any statutory modification or re-enactment thereof the arbitration proceeding shall be held in Shimla.

18. Legal jurisdiction

All legal disputes are subject to the jurisdiction of Shimla courts only.

19. Payment structure:

The 80% payment of contract value shall be made by the Directorate of Higher Education, after successful delivery and installation of hardware, software and connected accessories. The remaining 20% payment shall be made over the contract period, by the Directorate of Higher Education within one month after the successful trail of the VC solution.

20. Performance Bank Guarantee for Operations

Bidder shall furnish Performance Bank Guarantee to Department of Higher Education for an amount equal to 5% of the total bid value quoted by bidder in commercial offer at the time of signing of agreement. The Performance Bank Guarantee should be valid upto next 6 month of expiry of contract period. The Department of Higher Education may forfeit the Performance Bank Guarantee for any failure on part of bidder to complete its obligations under the agreement. The Performance Bank Guarantee shall be denominated in Indian Rupees and shall be absolutely, irrevocably and unconditional guarantee in the form of a Performance Bank Guarantee issued by a Nationalized Bank and payable at Shimla.

21. Prices

- 21.1 The Prices quoted should be inclusive of all taxes or duties, packing, forwarding, freight, insurance, delivery and commissioning etc. at destination sites. The rates shall be firm and final. Nothing extra shall be paid on any account.
- 21.2 The bids should be quoted in Indian Rupees only.
- 21.3 The financial bid should include the cost of all the equipment/item and its accessories covered under the scope of the work on the prescribed format.
- 21.4 The rates should be quoted in figures (typed or printed) and cutting should be avoided. The final amount should be in figures as well as in words. If there are cuttings, they should be duly initialled, failing which the bids are liable to be rejected.
- 21.5 The bidder will also mention item wise cost of hardware/software & installation etc. on the prescribed format. This cost will not be considered for fianlization of L-1.

22. Training

Bidders need to provide adequate training to the persons nominated by DHE at their cost.

MCU & Central Recording Server for Server Room at Directorate of Hr. Education, Shimla (H.P.)

Quantity - 1 (One) No.

Sr.No	Parameter	Specifications
1	MCU	6 Ports Full High Definition 1080p30 port MCU. MCU Must be a true MCU to create multiple conference Rooms. The backup of MCU ports must be possible on a generic hardware. These 6 ports are flexible to connect any location at anytime and not limited to only particular location.MCU is future scalable up to 78 Full High Definition 1080p30 MCU by activating Software licences without change in hardware.
2	Firewall traversal	System should support firewall traversal for secured calling thro' internet and Intranet right from day 1
3	H.323 with H.239	The Solution should have capability to connect at least 5 Full High Definition IP Based H.323 Hardware Video Conference devices at the same time at HD Resolution. The Solution should also able to share data presentations using H.239 with H.323 user.
4	Desktop & Mobile connectivity	Solution should have mobile user gateway client for Windows desktop, Android, IOS Mobile devices right from day 1 and should offer 5000 registered users from Day 1. Easy connectivity with MCU to be a part of video call.
5	Data Collaboration	Solution should have capability to share Data in Multipoint to Multipoint conference through MCU
6	Audio Codec	Solution should have G.711, G.722 , G.723 , GIPS, OR equivalent Audio Codec for good quality Audio communication at lower bandwidth
7	Video Codec	Solution should haveH.264 SVC/ H.264VBR/H.264HP/H.264AVC /H.265 or better Video Codec for good video quality at lower bandwidth. It should also support mandatorily ITU Standard based H.264 and H.263 in order to ensure smooth interoperability between different systems.
8	Security	I. System should be 128-bit Fully Encrypted Video Conference Meetings to ensure encrypted data flows between endpoint & MCU. II. Solution should have Lock Conference feature so that once the conference is locked even if someone knows the credentials cannot enter the Video conference secession. Also the users should be authenticated properly with username/password.
9	Recording Server	Central recording Server having the capability to get integrated with the above MCU and Record 2 Parallel Point to Point sessions or 1 three party sessions or 1 numbers Four Party sessions parallely. The recording server can be a software based licence or a hardware Box which should get integrated with the solution. It should come up with a 2TB or more Storage which can be increased to 4 TB within the same hardware. The recording server should record all sessions in High Definition or in Full High Definition when required.

Monitor for Server Room at Directorate of Hr. Education, Shimla (H.P.)**Quantity - 1 (One) No.**

Sr. No.	Parameter	Specifications
1	Display size and resolution	The diagonal size of each display unit/ module shall be 32" or higher with a native resolution of at least 1920x1080 pixels
2	Aspect Ratio	16:09
3	Brightness	350cd/m2
4	Contrast Ratio	1,100 : 1 (Native)
5	Dynamic CR	500,000:1
6	Viewing Angle (H x V)	178° x 178°
7	Orientation	Portrait and Landscape
8	Min Input ports Required	HDMI(1), DVI-D(1), Support HDCP, RGB (1), USB2.0 (2)
9	Wired LAN	RJ45 (1)
10	External Control	RS232C (1), IR receiver (1)
11	Operation Temperature	0 °C to 40 °C

Full HD VC End Point for HQ Conference Room at Directorate of Hr. Education, Shimla (H.P.)**Quantity - 1 (One) No.**

Sr. No.	Parameter	Specifications
1	Video Codec	The codec should support the following video standards H.263, H.264, HP/AVC/SVC/VBR or H.265. Each Codec should be expandable to (1+4) in future with license upgrade
2	IP and SIP	The codec should support H.323 and SIP protocol
3	Resolution supported	The codec should support Full HD Resolution upto 1080p @30fps
4	Aspect Ratio	The codec should support 4:3 and 16:9 aspect ratio
5	Frame rates	The codec should support minimum 30 frames per second from 512 kbps
6	Content sharing	Presentation sharing should possible from endpoint level.
7	Resolution	It should support the following resolutions: Full High Definition- 1920 x 1080p, High Definition – 1280 x 720p, 4CIF -704 x 576 pixels, VGA -640 x 480 pixels, CIF -352 x 288 pixels, SIF -320 x 240 pixels, QCIF-176 x 144 pixels or more
8	Audio Codec	The codec should support G.711, G.722, G.722.1, G.728, G.729 /GIPS / SPEEX codec or MPEG4 - AAC (LC).
9	Audio Output	Codec must support either common 3.5mm line out or headphone output & must support integration with external audio mixer.
10	Network port	Codec should have minimum 1 RJ-45 port for IP network.
11	Codec Output for display	Codec must have at least HDMI /DVI ports or equivalent and support Dual Display
12	Video Mixing Device	SITC of Video mixer having at least three video source input. This video mixer should get integrated with the Endpoint making all the video feeds which are connected to this device visible in the endpoint as well as all the locations that are connected with the Head office conference room. The Video feeds can be Document cameras, visualizers, Full HD PTZ cameras, Laptops having USB or HMI connectivity. This can be internal or external.
13	Camera	The system camera should have 1/2.8" HD CMOS sensor. It should have at least 5 MP sensor or more. The camera should have auto backlight compensation. It should have a signal to noise ratio of 50 dB or more. It should have an optical zoom of 10X or more and a digital zoom of 10x or more. It should have at least 10 Presets. It should have RS-232 port for third party controllers. It should have a viewing angle of 72 degrees or more. It should have a PAN rotation of -160 degrees to +160 degrees or more. It should have a tilt

		rotation angle of -30 degrees to +30 degrees or more. The camera should have standard Port of HDMI or DVI or USB. (There should not be proprietary video port for future service issues)
14	Accessories	The End Point should come up with 5 Mtrs HDMI Cable, 5 Mtrs Power Cable with wireless IR Remote to be supplied as Included accessory.
15	Session Recorder	SITC of Full High Definition recorder having the capability to get integrated with the above End point and Record the connected session. The recording server can be a software based licence or a hardware Box which should get integrated with the solution. It should come up with a 500GB Storage which can be increased to 2 TB within the same hardware. The recorder should record all sessions in High Definition or in Full High Definition when required.

Audio System Pack for VC End Point in HQ Conference Room at Directorate of Hr. Education, Shimla (H.P.) Quantity - 1 (One) No.

Sr. No.	Parameter	Specifications
1	Audio Pack	Digital Signal Processor with 4 Mic Line Inputs Supports Up to 48V Phantom Power 4 Line Output, RS232 Port for 3rd party control, Matrix Mixer Inbuilt, should have feature of Acoustics Echo Cancellation (AEC), Automatic Gain Control (AGC), Noise Cancellation, Parametric Equalizer. The system should come up with wireless microphone having 128 bit encryption. The wireless receiver should have microphone mixing inbuilt which can be switched on or off from day one. The system should come up with 2 Omni Directional Microphone. Microphone should have minimum power backup of 6 Hours and should come up with charging stand. Mic Mute, Un-Mute, Feedback should be available on wireless microphone in the form of LED or equivalent. Along with powered Speakers should have 1 active and 1 passive loudspeaker that should have reliability, affordability, dynamic music and detailed voice reproduction. The active stereo amplifier loudspeaker should have a low distortion high efficiency 5.25" woofer and one output is fed to the second linkable passive loudspeaker. It should have a frequency response of 45 Hz to 20 KHz or better. It should have a Max SPL of 101 dB to cater rooms. It should be IP 40 rated.

Document Camera for VC End Point in HQ Conference Room at Directorate of Hr. Education, Shimla (H.P.) Quantity - 1 (One) No.

S.NO	Parameter	Specifications
1	Document Camera	SITC of Document camera having 11X Optical Zoom or more. It should have a Digital Zoom of 11X or more. It should have a 1/3" CMOS sensor or better. It should support Full high Definition Video at 30fps or better. It should have at least 5 images memory or more. It should come up with 2 or more Light lamps. It should come up with at least one HDMI output, at least 1 USB Port and at least one VGA output port. It should have RS-232 port for third party control system. It should have a camera rotation of 240 degrees or more horizontally as well as vertically. It should have 16:9 aspect ratio.

LED Display for VC End Point in HQ Conference Room at Directorate of Hr. Education, Shimla (H.P.)

Quantity - 1 (One) No.

Sr. No.	Parameter	Specifications
1	Display technology	LED Backlit Liquid Crystal Display
	Display size and resolution	The diagonal size of each display unit/ module shall be 55" with a native resolution of at least 1920x1080 pixels
	Light source	LED
	Brightness	700 Cd/m ² ± 10% or better
	Colour	Shall offer in excess of 16 million colours.
	Response time	8ms
	Viewing angle	H:178° V:178°
	Contrast ratio	should be minimum 4000:1
	Architecture	The control box and power supply should be in the same housing to ensure quick swapping of module for repair with minimum downtime. System should be based on Python- Django framework with web browser architecture.
	Input terminals	1x Digital DVI-I (include Analog RGB)
		1x Digital HDMI
		1x BNC CVBS video
		1x RS232C Dsub-9
		1x RS422 RJ45
		1x Ethernet RJ45
		Micro USB (WiFi connect port)
	Output terminals	1x Digital DVI-D
		1xRS422, RJ-45
	Component input compatibility	480i, 480P, 720P, 1080i, 1080P
	Scan rate	Fh : 30~75KHz
		Fv : 50~85Hz
	Video compatibility	NTSC, PAL, SECAM
	Power control:	1 AC power ON/OFF switch
	Wire control:	RS232C/ RS422 input
	LED indicator	System indicator display to show system status
	IR remote	IR remote
	OSD style	list type OSD format
	On Screen display	Input selection, picture, image and tiling should be adjusted using OSD
	Colour adjustment	User should able to adjust the primary & secondary colours for color alignment and fine tuning
	OSD Languages	English
	AC power input range	90~240VAC, 50/60Hz, 5A max.
	Power consumption	Normal operating should be < 209 W
Standby mode < 2 W at 110VAC		
Operating temperature	0~40°C	
Operating relative humidity	20~80%	
MTBF	>= 50,000 hours	
Video Wall	The Same Panel should be capable to work as Video Wall in future.	

Full HD VC at Remote Locations VC End Point Room

Quantity - 5 (Five) No. (One at each Remote Location)

Sr. No.	Parameter	Specifications
1	Video Codec	The codec should support the following video standards H.263, H.264, HP/AVC/SVC/VBR or H.265 . Each Codec should be expandable to (1+4) in future with license upgrade
2	IP and SIP	The codec should support H.323 and SIP protocol
3	Resolution supported	The codec should support Full HD Resolution up to 1080p @30fps
4	Aspect Ratio	The codec should support 4:3 and 16:9 aspect ratio
5	Frame rates	The codec should support minimum 30 frames per second from 512 kbps
6	Content sharing	Presentation sharing should possible from end point level.
7	Resolution	It should support the following resolutions: Full High Definition- 1920 x 1080p, High Definition – 1280 x 720p, 4CIF -704 x 576 pixels, VGA -640 x 480 pixels, CIF -352 x 288 pixels, SIF -320 x 240 pixels, QCIF-176 x 144 pixels or more
8	Audio Codec	The codec should support G.711, G.722, G.722.1, G.728, G.729 /GIPS / SPEEX codec or MPEG4 - AAC (LC).
9	Audio Output	Codec must support either common 3.5mm line out or headphone output & must support integration with external audio mixer.
10	Network port	Codec should have minimum 1 RJ-45 port for IP network.
11	Codec Output for display	Codec must have at least HDMI /DVI ports or equivalent and support Dual Display
12	Video Mixing Device	SITC of Video mixer having at least three video source input. This video mixer should get integrated with the Endpoint making all the video feeds which are connected to this device visible in the endpoint as well as all the locations that are connected with the Head office conference room. The Video feeds can be Document cameras, visualizers, Full HD PTZ cameras, Laptops having USB or HDMI connectivity. This can be internal or external.
13	Camera	The system camera should have 1/2.8" HD CMOS sensor. It should have at least 5 MP sensor or more. The camera should have auto backlight compensation. It should have a signal to noise ratio of 50 dB or more. It should have an optical zoom of 10X or more and a digital zoom of 10x or more. It should have at least 10 Presets. It should have RS-232 port for third party controllers. It should have a viewing angle of 72 degrees or more. It should have a PAN rotation of -160 degrees to +160 degrees or more. It should have a tilt rotation angle of -30 degrees to +30 degrees or more. The camera should have standard Port of HDMI or DVI or USB. (There should not be proprietary video port for future service issues)
14	Accessories	The End Point should come up with 5 Mtrs HDMI Cable, 5 Mtrs Power Cable with wireless IR Remote to be supplied as Included accessory.
15	Session Recorder	SITC of Full High Definition recorder having the capability to get integrated with the above End point and Record the connected session. The recording server can be a software based licence or a hardware Box which should get integrated with the solution. It should come up with a 500GB Storage which can be increased to 2 TB within the same hardware. The recorder should record all sessions in High Definition or in Full High Definition when required.

Audio System Pack at Remote Locations VC End Point Room
Quantity - 5 (Five) No. (One at each Remote Location)

Sr.No.	Parameter	Specifications
1	Audio Pack	The voice processor should have a 100% Full Duplex Echo Cancelling – no attenuation during full-duplex. It should have an Acoustic Echo Cancelling of > 40dB. The processor should have a Noise Reduction > 10dB. The processor should have a Residual noise suppressed to the environment noise level . It should have delay of 10msec or better. The processor should have a Convergence of 40dB/sec. or better even during full duplex. The system should have a two Mic/Line Inputs supporting. Mic level of 280mV peak-to-peak or better. Line level of 4V peak-to-peak or better. Should support audio boost. Should have phantom on/off Option. The system should come up with omni directional Microphone with connecting cable and Low/High gain Button. The Microphone should be Boundary layer microphone which gets integrated with the DSP seamlessly. Along with powered Speakers should have 1 active and 1 passive loudspeaker that should have reliability, affordability, dynamic music and detailed voice reproduction. The active stereo amplifier loudspeaker should have a low distortion high efficiency 5.25” woofer and one output is fed to the second linkable passive loudspeaker. It should have a frequency response of 45 Hz to 20 KHz or better. It should have a MAX SPL of 101 dB to cater rooms. It should be IP 40 rated.

Document Camera at Remote Locations VC End Point Room
Quantity - 5 (Five) No. (One at each Remote Location)

Sr. No.	Parameter	Specifications
1	Document Camera	SITC of Document camera having 11X Optical Zoom or more. It should have a Digital Zoom of 11X or more. It should have a 1/3” CMOS sensor or better. It should support Full high Definition Video at 30fps or better. It should have at least 5 images memory or more. It should come up with 2 or more Light lamps. It should come up with at least one HDMI output, at least 1 USB Port and at least one VGA output port. It should have RS-232 port for third party control system. It should have a camera rotation of 240 degrees or more horizontally as well as vertically. It should have 16:9 aspect ratio.

LED Display at Remote Locations VC End Point Room
Quantity - 5 (Five) No. (One at each Remote Location)

Sr. No.	Parameter	Specifications
1	Display technology	LED Backlit Liquid Crystal Display
	Display size and resolution	The diagonal size of each display unit/ module shall be 55” with a native resolution of at least 1920x1080 pixels
	Light source	LED
	Brightness	700 Cd/m ² ± 10% or better
	Colour	Shall offer in excess of 16 million colours.
	Response time	8ms
	Viewing angle	H:178° V:178°
	Contrast ratio	should be minimum 4000:1
	Architecture	The control box and power supply should be in the same housing to ensure quick swapping of module for repair with minimum downtime. System should be based on Python- Django framework with web browser architecture.
	Input terminals	1x Digital DVI-I (include Analog RGB) 1x Digital HDMI 1x BNC CVBS video 1x RS232C Dsub-9

	1x RS422 RJ45
	1x Ethernet RJ45
	Micro USB (WiFi connect port)
Output terminals	1x Digital DVI-D
	1xRS422, RJ-45
Component input compatibility	480i, 480P, 720P, 1080i, 1080P
Scan rate	Fh : 30~75KHz
	Fv : 50~85Hz
Video compatibility	NTSC, PAL, SECAM
Power control:	1 AC power ON/OFF switch
Wire control:	RS232C/ RS422 input
LED indicator	System indicator display to show system status
IR remote	IR remote
OSD style	list type OSD format
On Screen display	Input selection, picture, image and tiling should be adjusted using OSD
Colour adjustment	User should able to adjust the primary & secondary colours for colour alignment and fine tuning
OSD Languages	English
AC power input range	90~240VAC, 50/60Hz, 5A max.
Power consumption	Normal operating should be < 209 W
	Standby mode < 2 W at 110VAC
Operating temperature	0~40°C
Operating relative humidity	20~80%
MTBF	>= 50,000 hours
Video Wall	The Same Panel should be capable to work as Video Wall in future.

Bid Letter

Date: ___/___/___

To,

The Director of Higher Education
Himachal Pradesh, Lalpani,
Shimla-171001 (HP)

Subject: Bid Letter for Supply and Installation Video Conferencing System and Maintenance thereof

Sir,

We, the undersigned Bidders, having read and examined in detail the specifications and tender document in respect supply and installation of Video Conferencing System at Central Unit (Server Room & Central Location) & 4 Remote Location and Maintenance thereof.

Price and Validity

1. All the prices mentioned in our commercial offer are in accordance with the terms as specified in tender document. All the prices and other terms and conditions of this proposal are valid for a period of 180 days from the last date of submission of bids.
2. We do hereby confirm that our bid prices include all taxes and cess including Income Tax.
3. We have studied the Clauses relating to Indian Income Tax and hereby declare that if any Income Tax, Surcharge on Income Tax and any other Tax is altered under the law, we shall pay the same.

Earnest Money

We have enclosed the required earnest money in the form of Bank draft in pre- qualification bid.

Bid Pricing

We further declare that the RATES stated in our proposal are in accordance with your terms & conditions in the bidding document.

Qualifying Data

1. We confirm having submitted in qualifying data as required by you in your tender document. In case you require any further information/ documentary proof in this regard before evaluation of our bid, we agree to furnish the same in time to your satisfaction.
2. We hereby declare that our proposal is made in good faith, without collusion or fraud and the information contained in the proposal is true and correct to the best of our knowledge & belief.
3. We hereby declare to accept and abide by all term & conditions mentioned in the tender document.

4. Bid submitted by us is properly sealed and prepared so as to prevent any subsequent alteration and replacement.
5. We understand that you are not bound to accept the lowest or any bid you may receive.

Thanking you,

Yours faithfully,

(Signature)

Date: _____

Place: _____

Name: _____

Designation: _____

Business Address: _____

Seal

Bidder profile

Sr. No	Details	
1	Name of the Firm/organization	
2	Registered Office Address	
3	Correspondence/contact address Telephone Number Fax Number e-mail	
4	Details of Contact person (Name, designation, address etc.) Telephone Number Fax Number e-mail	
5	Is the firm a registered company? If yes, submit Documentary proof. Year and Place of the establishment of the Company.	
6	Former name of the company, if any. And how many years has your organization been in business under your present name?	
7	Is the firm Government/Public Sector Undertaking propriety firm partnership firm. (if yes, give partnership deed)	
	Limited company or limited corporation member of a group of companies (if yes, give name and address, and description of other companies	
	Subsidiary of a large corporation (if yes give the name and address of the parent organization) If the company is subsidiary, state what involvement if any, will the parent company have in the project.	
8	Is the firm registered with sales tax department? If yes, submit valid sales tax registration certificate.	
9	Is the firm registered for service tax with Central Excise Department (Service Tax Cell)? If yes, Submit valid service tax registration certificate.	
10	Is the firm registered under Labour Laws Contract Act? If yes, submit valid registration certificate.	
11	Total number of employees	
12	Number of offices / Project	

	Locations	
13	Do you have a local representation /office in Himachal Pradesh/adjoining states? If so, please give the address and the details of staff, infrastructure etc in the office and no. of years of operation of the local office	
14	Is your organization has ISO/or any other certification? If so, attach copies of the certificates. State details, if certified by bodies, other than that stated.	
15	List the major clients with whom your organization has been/ is currently associated.	
16	The bidder shall disclose details pertaining to all contingent liabilities, claims, disputes, matters in appeal & in court and any pending litigation against the bidder or any member of the Consortium. If nil, an undertaking from the bidder mentioning the same.	
17	Have you ever been denied tendering facilities by any Government/ Department/ Public sector Undertaking? (Give details)	

Signature & Seal of the Bidder

**Commercial Bid
Part-I
(for Supply and Installation Video Conferencing System and Maintenance)**

Date: / /

To

The Director of Higher Education
Himachal Pradesh- Lalpani, Shimla-1

Re: Commercial Bid Offer

We have examined the Bid Document and offer the following rates for **entire scope of work** mentioned in Section-I of tender document (Supply & Installation of VC Solution at Central Unit (Server Room & Central Location) & 4 Remote Location).

(In figure)

.....

(In Words)

Rs.....

Note: Above prices should include all taxes applicable, transport, insurance, installation etc. as applicable at remote location/site. Conditional Commercial bid will be summarily rejected.

(Signature)

Date: _____

Name: _____

Place: _____

Designation: _____

Address: _____

Seal

**Commercial Bid
Part-II**

Format for Component / Hardware wise costing (For Information purpose only not considered for L1)

Sr. No.	Particulars	Make & Model	Unit Price	Qty.	Total Cost
	Sever Room				
1	MCU & Central Recording Server			01	
2	Monitor			01	
	Central Location / VC End Point in HQ Conference Room				
3	Full HD VC End Point			01	
4	Audio System Pack for			01	
5	Document Camera			01	
6	LED Display			01	
	Remote Locations VC End Point Room				
7	Full HD VC End Point			05	
8	Audio System Pack			05	
9	Document Camera			05	
10	LED Display			05	
	Grand Total				

(Rupees _____)

Note : Grand Total must be equal to the rate offered on the format for Commercial Bid Part-I.

(Signature)

Date: _____

Name: _____

Place: _____

Designation: _____

Address: _____

Seal

		Standard based H.264 and H.263 in order to ensure smooth interoperability between different systems.			
8	Security	I. System should be 128-bit Fully Encrypted Video Conference Meetings to ensure encrypted data flows between endpoint & MCU. II. Solution should have Lock Conference feature so that once the conference is locked even if someone knows the credentials cannot enter the Video conference session. Also the users should be authenticated properly with username/password.			
9	Recording Server	Central recording Server having the capability to get integrated with the above MCU and Record 2 Parallel Point to Point sessions or 1 three party sessions or 1 numbers Four Party sessions parallelly. The recording server can be a software based licence or a hardware Box which should get integrated with the solution. It should come up with a 2TB or more Storage which can be increased to 4 TB within the same hardware. The recording server should record all sessions in High Definition or in Full High Definition when required.			

Monitor for Server Room at Directorate of Hr. Education, Shimla (H.P.)

Quantity - 1 (One) No.

Sr. No.	Parameter	Specifications	Make & Model	Compliance	Deviations, if any
			Offered	Yes/No	
1	Display size and resolution	The diagonal size of each display unit/module shall be 32" or higher with a native resolution of at least 1920x1080 pixels			
2	Aspect Ratio	16:09			
3	Brightness	350cd/m2			
4	Contrast Ratio	1,100 : 1 (Native)			
5	Dynamic CR	500,000:1			
6	Viewing Angle (H x V)	178° x 178°			

7	Orientation	Portrait and Landscape			
8	Min Input ports Required	HDMI(1), DVI-D(1), Support HDCP, RGB (1), USB2.0 (2)			
9	Wired LAN	RJ45 (1)			
10	External Control	RS232C (1), IR receiver (1)			
11	Operation Temperature	0 °C to 40 °C			

Full HD VC End Point for HQ Conference Room at Directorate of Hr. Education, Shimla (H.P.) Quantity - 1 (One) No.

Sr. No.	Parameter	Specifications	Make & Model	Compliance	Deviations, if any
			Offered	Yes/No	
1	Video Codec	The codec should support the following video standards H.263, H.264, HP/AVC/SVC/VBR or H.265 . Each Codec should be expandable to (1+4) in future with license upgrade			
2	IP and SIP	The codec should support H.323 and SIP protocol			
3	Resolution supported	The codec should support Full HD Resolution upto 1080p @30fps			
4	Aspect Ratio	The codec should support 4:3 and 16:9 aspect ratio			
5	Frame rates	The codec should support minimum 30 frames per second from 512 kbps			
6	Content sharing	Presentation sharing should possible from endpoint level.			
7	Resolution	It should support the following resolutions: Full High Definition-1920 x 1080p, High Definition – 1280 x 720p, 4CIF -704 x 576 pixels, VGA -640 x 480 pixels, CIF -352 x 288 pixels, SIF -320 x 240 pixels, QCIF-176 x 144 pixels or more			
8	Audio Codec	The codec should support G.711, G.722, G.722.1, G.728, G.729 /GIPS / SPEEX codec or MPEG4 - AAC (LC).			
9	Audio Output	Codec must support either common 3.5mm line out or headphone			

		output & must support integration with external audio mixer.			
10	Network port	Codec should have minimum 1 RJ-45 port for IP network.			
11	Codec Output for display	Codec must have at least HDMI /DVI ports or equivalent and support Dual Display			
12	Video Mixing Device	SITC of Video mixer having at least three video source input. This video mixer should get integrated with the Endpoint making all the video feeds which are connected to this device visible in the endpoint as well as all the locations that are connected with the Head office conference room. The Video feeds can be Document cameras, visualizers, Full HD PTZ cameras, Laptops having USB or HMI connectivity. This can be internal or external.			
13	Camera	The system camera should have 1/2.8" HD CMOS sensor. It should have at least 5 MP sensor or more. The camera should have auto backlight compensation. It should have a signal to noise ratio of 50 dB or more. It should have an optical zoom of 10X or more and a digital zoom of 10x or more. It should have at least 10 Presets. It should have RS-232 port for third party controllers. It should have a viewing angle of 72 degrees or more. It should have a PAN rotation of -160 degrees to +160 degrees or more. It should have a tilt rotation angle of -30 degrees to +30 degrees or more. The camera should have standard Port of HDMI or DVI or USB. (There should not be proprietary video port for future service issues)			

14	Accessories	The End Point should come up with 5 Mtrs HDMI Cable, 5 Mtrs Power Cable with wireless IR Remote to be supplied as Included accessory.			
15	Session Recorder	SITC of Full High Definition recorder having the capability to get integrated with the above End point and Record the connected session. The recording server can be a software based licence or a hardware Box which should get integrated with the solution. It should come up with a 500GB Storage which can be increased to 2 TB within the same hardware. The recorder should record all sessions in High Definition or in Full High Definition when required.			

Audio System Pack for VC End Point in HQ Conference Room at Directorate of Hr. Education, Shimla (H.P.) Quantity - 1 (One) No.

Sr. No.	Parameter	Specifications	Make & Model	Compliance	Deviations, if any
			Offered	Yes/No	
1	Audio Pack	Digital Signal Processor with 4 Mic Line Inputs Supports Up to 48V Phantom Power 4 Line Output, RS232 Port for 3rd party control, Matrix Mixer Inbuilt, should have feature of Acoustics Echo Cancellation (AEC), Automatic Gain Control (AGC), Noise Cancellation, Parametric Equalizer. The system should come up with wireless microphone having 128 bit encryption. The wireless receiver should have microphone mixing inbuilt which can be switched on or off from day one. The system should come up with 2 Omni Directional Microphone. Microphone should			

		<p>have minimum power backup of 6 Hours and should come up with charging stand. Mic Mute, Un-Mute, Feedback should be available on wireless microphone in the form of LED or equivalent. Along with powered Speakers should have 1 active and 1 passive loudspeaker that should have reliability, affordability, dynamic music and detailed voice reproduction. The active stereo amplifier loudspeaker should have a low distortion high efficiency 5.25" woofer and one output is fed to the second linkable passive loudspeaker. It should have a frequency response of 45 Hz to 20 KHz or better. It should have a Max SPL of 101 dB to cater rooms. It should be IP 40 rated.</p>			
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Document Camera for VC End Point in HQ Conference Room at Directorate of Hr. Education, Shimla (H.P.) Quantity - 1 (One) No.

S.NO	Parameter	Specifications	Make & Model	Compliance	Deviations, if any
			Offered	Yes/No	
1	Document Camera	<p>SITC of Document camera having 11X Optical Zoom or more. It should have a Digital Zoom of 11X or more. It should have a 1/3" CMOS sensor or better. It should support Full high Definition Video at 30fps or better. It should have at least 5 images memory or more. It should come up with 2 or more Light lamps. It should come up with at least one HDMI output, at least 1 USB Port and at least one VGA output port. It should have RS-232 port for third party control system. It should have a camera</p>			

		rotation of 240 degrees or more horizontally as well as vertically. It should have 16:9 aspect ratio.			
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LED Display for VC End Point in HQ Conference Room at Directorate of Hr. Education, Shimla (H.P.)

Quantity - 1 (One) No.

Sr. No.	Parameter	Specifications	Make & Model	Compliance	Deviations, if any
			Offered	Yes/No	
1	Display technology	LED Backlit Liquid Crystal Display			
	Display size and resolution	The diagonal size of each display unit/ module shall be 55" with a native resolution of at least 1920x1080 pixels			
	Light source	LED			
	Brightness	700 Cd/m ² ± 10% or better			
	Colour	Shall offer in excess of 16 million colours.			
	Response time	8ms			
	Viewing angle	H:178° V:178°			
	Contrast ratio	should be minimum 4000:1			
	Architecture	The control box and power supply should be in the same housing to ensure quick swapping of module for repair with minimum downtime. System should be based on Python-Django framework with web browser architecture.			
	Input terminals	1x Digital DVI-I (include Analog RGB)			
		1x Digital HDMI			
		1x BNC CVBS video			
		1x RS232C Dsub-9			
		1x RS422 RJ45			
		1x Ethernet RJ45			
		Micro USB (WiFi connect port)			
	Output terminals	1x Digital DVI-D			
		1xRS422, RJ-45			
	Component input compatibility	480i, 480P, 720P, 1080i, 1080P			
	Scan rate	Fh : 30~75KHz			
Fv : 50~85Hz					
Video compatibility	NTSC, PAL, SECAM				
Power control:	1 AC power ON/OFF switch				
Wire control:	RS232C/ RS422 input				

LED indicator	System indicator display to show system status			
IR remote	IR remote			
OSD style	list type OSD format			
On Screen display	Input selection, picture, image and tiling should be adjusted using OSD			
Colour adjustment	User should able to adjust the primary & secondary colours for color alignment and fine tuning			
OSD Languages	English			
AC power input range	90~240VAC, 50/60Hz, 5A max.			
Power consumption	Normal operating should be < 209 W			
	Standby mode < 2 W at 110VAC			
Operating temperature	0~40°C			
Operating relative humidity	20~80%			
MTBF	>= 50,000 hours			
Video Wall	The Same Panel should be capable to work as Video Wall in future.			

Full HD VC at Remote Locations VC End Point Room

Quantity - 5 (Five) No. (One at each Remote Location)

Sr. No.	Parameter	Specifications	Make & Model	Compliance	Deviations, if any
			Offered	Yes/No	
1	Video Codec	The codec should support the following video standards H.263, H.264, HP/AVC/SVC/VBR or H.265 . Each Codec should be expandable to (1+4) in future with license upgrade			
2	IP and SIP	The codec should support H.323 and SIP protocol			
3	Resolution supported	The codec should support Full HD Resolution up to 1080p @30fps			
4	Aspect Ratio	The codec should support 4:3 and 16:9 aspect ratio			
5	Frame rates	The codec should support minimum 30 frames per second from 512 kbps			
6	Content sharing	Presentation sharing should possible from end point level.			
7	Resolution	It should support the following resolutions: Full High Definition-1920 x 1080p, High Definition – 1280 x 720p, 4CIF -704 x 576 pixels, VGA -640 x 480 pixels, CIF -352 x 288 pixels, SIF -320 x 240 pixels, QCIF-176 x 144 pixels or more			
8	Audio Codec	The codec should support G.711, G.722, G.722.1, G.728, G.729 /GIPS / SPEEX codec or MPEG4 - AAC (LC).			
9	Audio Output	Codec must support either common 3.5mm line out or headphone output & must support integration with external audio mixer.			
10	Network port	Codec should have minimum 1 RJ-45 port for IP network.			
11	Codec Output for display	Codec must have at least HDMI /DVI			

		ports or equivalent and support Dual Display			
12	Video Mixing Device	SITC of Video mixer having at least three video source input. This video mixer should get integrated with the Endpoint making all the video feeds which are connected to this device visible in the endpoint as well as all the locations that are connected with the Head office conference room. The Video feeds can be Document cameras, visualizers, Full HD PTZ cameras, Laptops having USB or HDMI connectivity. This can be internal or external.			
13	Camera	The system camera should have 1/2.8" HD CMOS sensor. It should have at least 5 MP sensor or more. The camera should have auto backlight compensation. It should have a signal to noise ratio of 50 dB or more. It should have an optical zoom of 10X or more and a digital zoom of 10x or more. It should have at least 10 Presets. It should have RS-232 port for third party controllers. It should have a viewing angle of 72 degrees or more. It should have a PAN rotation of -160 degrees to +160 degrees or more. It should have a tilt rotation angle of -30 degrees to +30 degrees or more. The camera should have standard Port of HDMI or DVI or USB. (There should not be proprietary			

		video port for future service issues)			
14	Accessories	The End Point should come up with 5 Mtrs HDMI Cable, 5 Mtrs Power Cable with wireless IR Remote to be supplied as Included accessory.			
15	Session Recorder	SITC of Full High Definition recorder having the capability to get integrated with the above End point and Record the connected session. The recording server can be a software based licence or a hardware Box which should get integrated with the solution. It should come up with a 500GB Storage which can be increased to 2 TB within the same hardware. The recorder should record all sessions in High Definition or in Full High Definition when required.			

Audio System Pack at Remote Locations VC End Point Room
Quantity - 5 (Five) No. (One at each Remote Location)

Sr. No.	Parameter	Specifications	Make & Model	Compliance	Deviations, if any
			Offered	Yes/No	
1	Audio Pack	The voice processor should have a 100% Full Duplex Echo Cancelling – no attenuation during full-duplex. It should have an Acoustic Echo Cancelling of > 40dB. The processor should have a Noise Reduction > 10dB. The processor should have a Residual noise suppressed to the environment noise level . It should have delay of 10msec or better. The processor should have a Convergence of			

		<p>40dB/sec. or better even during full duplex. The system should have a two Mic/Line Inputs supporting. Mic level of 280mV peak-to-peak or better. Line level of 4V peak-to-peak or better. Should support audio boost. Should have phantom on/off Option. The system should come up with omni directional Microphone with connecting cable and Low/High gain Button. The Microphone should be Boundary layer microphone which gets integrated with the DSP seamlessly. Along with powered Speakers should have 1 active and 1 passive loudspeaker that should have reliability, affordability, dynamic music and detailed voice reproduction. The active stereo amplifier loudspeaker should have a low distortion high efficiency 5.25" woofer and one output is fed to the second linkable passive loudspeaker. It should have a frequency response of 45 Hz to 20 KHz or better. It should have a MAX SPL of 101 dB to cater rooms. It should be IP 40 rated.</p>			
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Document Camera at Remote Locations VC End Point Room
Quantity - 5 (Five) No. (One at each Remote Location)

Sr. No.	Parameter	Specifications	Make & Model	Compliance	Deviations, if any
			Offered	Yes/No	
1	Document Camera	SITC of Document camera having 11X Optical Zoom or more. It should have a Digital Zoom of 11X or more. It should have a 1/3" CMOS sensor or better. It should support Full high Definition Video at			

		30fps or better. It should have at least 5 images memory or more. It should come up with 2 or more Light lamps. It should come up with at least one HDMI output, at least 1 USB Port and at least one VGA output port. It should have RS-232 port for third party control system. It should have a camera rotation of 240 degrees or more horizontally as well as vertically. It should have 16:9 aspect ratio.			
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LED Display at Remote Locations VC End Point Room
Quantity - 5 (Five) No. (One at each Remote Location)

Sr. No.	Parameter	Specifications	Make & Model	Compliance	Deviations, if any
			Offered	Yes/No	
1	Display technology	LED Backlit Liquid Crystal Display			
	Display size and resolution	The diagonal size of each display unit/ module shall be 55" with a native resolution of at least 1920x1080 pixels			
	Light source	LED			
	Brightness	700 Cd/m ² ± 10% or better			
	Colour	Shall offer in excess of 16 million colours.			
	Response time	8ms			
	Viewing angle	H:178° V:178°			
	Contrast ratio	should be minimum 4000:1			
	Architecture	The control box and power supply should be in the same housing to ensure quick swapping of module for repair with minimum downtime. System should be based on Python- Django framework with web browser architecture.			
	Input terminals	1x Digital DVI-I (include Analog RGB)			
	1x Digital HDMI				
	1x BNC CVBS video				
	1x RS232C Dsub-9				
	1x RS422 RJ45				
	1x Ethernet RJ45				
	Micro USB (WiFi connect port)				
	Output	1x Digital DVI-D			

terminals	1xRS422, RJ-45			
Component input compatibility	480i, 480P, 720P, 1080i, 1080P			
Scan rate	Fh : 30~75KHz			
	Fv : 50~85Hz			
Video compatibility	NTSC, PAL, SECAM			
Power control:	1 AC power ON/OFF switch			
Wire control:	RS232C/ RS422 input			
LED indicator	System indicator display to show system status			
IR remote	IR remote			
OSD style	list type OSD format			
On Screen display	Input selection, picture, image and tiling should be adjusted using OSD			
Colour adjustment	User should able to adjust the primary & secondary colours for colour alignment and fine tuning			
OSD Languages	English			
AC power input range	90~240VAC, 50/60Hz, 5A max.			
Power consumption	Normal operating should be < 209 W			
	Standby mode < 2 W at 110VAC			
Operating temperature	0~40°C			
Operating relative humidity	20~80%			
MTBF	>= 50,000 hours			
Video Wall	The Same Panel should be capable to work as Video Wall in future.			