E-Tender Document

For

SUPPLYING, INSTALLATION, TESTING & COMMISSIONING OF IP-PBX, LAN, Wi-Fi, IP CCTV, BIOMETRIC ATTENDANCE SYSTEM, SERVER & STORAGE

AT
PROPOSED PERMANENT CAMPUS OF IIM SIRMAUR
RAMPUR GHAT ROAD, PAONTA SAHIB
DISTRICT SIRMAUR, HIMACHAL PRADESH - 173025

PART-I: TECHNICAL BID

EdCIL (India) Limited
Corporate Office:
A Govt. of India, Mini Ratna Category-I CPSE
EdCIL House, Plot No. 18A, Sector 16A,
Noida-201301 (U.P.) India
Tel: 0120 – 2512001-006, FAX: 0120-2515372

Registered Office:
Vijaya Building,
5th Floor, 17-Barakhamba Road,
New Delhi-110001

NIT No- EdCIL/DES/IIMS/ICT/2023/01

Dated: 04.08.2023

This document is serially numbered from page number 01 to 149

DISCLAIMER

The information contained in this Request for Proposal document (the "RFP") or subsequently provided to Bidder(s), whether verbally or in documentary or any other form by or on behalf of the EdCIL (India) Limited or any of its employees or advisors, is provided to Bidder(s) on the terms and conditions set out in this RFP and such other terms and conditions subject to which such information is provided.

This RFP is not an Agreement and is neither an offer nor invitation by EdCIL to the prospective Bidders or any other person. The purpose of this RFP is to provide interested parties with information that may be useful to them in making their financial offers (BIDs) pursuant to this RFP. This RFP includes statements, which reflect various assumptions and assessments arrived at by EdCIL in relation to the Project. Such assumptions, assessments and statements do not purport to contain all the information that each Bidder may require. This RFP may not be appropriate for all persons, and it is not possible for the EdCIL, its employees or advisors to consider the investment objectives, financial situation and particular needs of each party who reads or uses this RFP. The assumptions, assessments, statements and information contained in the Bidding Documents may not be complete, accurate, adequate or correct. Each Bidder should, therefore, conduct its own investigations and analysis and should check the accuracy, adequacy, correctness, reliability and completeness of the assumptions, assessments, statements and information contained in this RFP and obtain independent advice from appropriate sources.

Information provided in this RFP to the Bidder(s) is on a wide range of matters, some of which may depend upon interpretation of law. The information given is not intended to be an exhaustive account of statutory requirements and should not be regarded as a complete or authoritative statement of law. The EdCIL accepts no responsibility for the accuracy or otherwise for any interpretation or opinion on law expressed herein.

EdCIL, its employees and advisors make no representation or warranty and shall have no liability to any person, including any Bidder under any law, statute, rules or regulations or tort, principles of restitution or unjust enrichment or otherwise for any loss, damages, cost or expense which may arise from or be incurred or suffered on account of anything contained in this RFP or otherwise, including the accuracy, adequacy, correctness, completeness or reliability of the RFP and any assessment, assumption, statement or information contained therein or deemed to form part of this RFP or arising in any way for participation in this BID Stage.

EdCIL also accepts no liability of any nature whether resulting from negligence or otherwise howsoever caused arising from reliance of any Bidder upon the statements contained in this RFP. EdCIL may in its absolute discretion, but without being under any obligation to do so, update, amend or supplement the information, assessment or assumptions contained in this RFP. The issue of this RFP does not imply that EdCIL is bound to select a Bidder or to appoint the Selected Bidder, as the case may be, for the Project and EdCIL reserves the right to reject all or any of the Bidders or BIDs without assigning any reason whatsoever.

The Bidder shall bear all its costs associated with or relating to the preparation and submission of its BID including but not limited to preparation, copying, postage, delivery fees, expenses associated with any demonstrations or presentations which may be required by EdCIL, site visits, investigations, studies or any other costs incurred in connection with or relating to its BID. All such costs and expenses will remain with the Bidder and EdCIL shall not be liable in any manner whatsoever for the same or for any other costs or other expenses incurred by a Bidder in preparation or submission of the BID, regardless of the conduct or outcome of the Bidding Process.

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Notice Inviting Tender

(e-Tendering mode)

EdCIL (INDIA) LIMITED
(A Govt. of India Mini Ratna Category-I CPSE)
SECTOR 16A, Noida

Date: 04.08.2023

N.I.T. No.: EdCIL/DES/IIMS/ICT/2023/01

Name of work	SUPPLYING, INSTALLATION, TESTING & COMMISSIONING OF IP-PBX, LAN, Wi-Fi, IP CCTV, BIOMETRIC ATTENDANCE SYSTEM, SERVER & STORAGE AT PROPOSED PERMANENT CAMPUS of IIM SIRMAUR RAMPUR GHAT ROAD, PAONTA SAHIB DISTRICT SIRMAUR, HIMACHAL PRADESH - 173025
Tender Type	Limited Tender - Empaneled & approved system integrators of EdCIL under Group "C" for "Design, Supply, Installation, Testing, Commissioning an Maintenance of Smart Campus (Networking & other ICT Solutions)" vide EOI number- "EdCIL/DES/EOI/ICT/2022/01".
The Currency in which payment shall be made	Indian Rupees (INR)
Date of Issue/e-Publishing	04.08.2023
Document Distribution Date	04.08.2023
Date for Pre-Bid Conference and Time	09.08.2023 at 15:30Hrs
Bid queries should reach by	08.08.2023 at 17:00Hrs Bid queries received later than the date and time as mentioned above shall not be entertained. Pre-bid queries should be emailed to destenders@edcil.co.in & kssahni@edcil.co.in as per format at Annexure-XVI
Venue of Pre-Bid Conference	EdCIL House,18 A, Sector-16 A, Noida, U.P.- 201301 as well as online.
Last Date and Time for receipts of Bids	18.08.2023 up to 12:30 Hrs. In case a Holiday is declared on the day of the event, the same will be held on the next working day at the same time & venue.
Date and Time of Opening of Technical Bids	18.08.2023 at 15:30Hrs

Date and Time of Opening of Financial Bids	To be informed later
Earnest Money Deposit	Rs.7,50,000/- in form of Bank Guarantee/ Demand Draft from a Scheduled Commercial Bank in favour of "EdCIL (India) Limited" payable at Noida. Scanned copy to be uploaded with tender documents and original BG/ DD has to be submitted along with documents as per the Instructions to Bidders. In case EMD is submitted in the form of BG, the BG should be at least valid for 90 days beyond the bid validity date and should be as per Annexure-X
No. of Covers	02 (Two Packets)
Bid Validity days	180 days (From last date of opening of tender)
Performance Bank Guarantee (PBG)	5% of the total work value from the successful Bidder. PBG is required to be submitted within 14 days from the date of issue of LOI/LOA as per Annexure-XI
Purchaser and Place of delivery	Billing to be submitted to EdCIL (India) Ltd. Successful Bidder shall be responsible for Design, Supply, Installation, Testing, Commissioning of Equipment, Implementation and maintenance of Smart Campus Networking Solution for IIM Sirmaur, Himachal Pradesh as per the scope of work mentioned in the tender document.
Email Address	destenders@edcil.co.in & kssahni@edcil.co.in
Corporate Office	EdCIL House, 18-A, Sector 16A, Film City, Noida, Uttar Pradesh -201301
Registered Office	Vijaya Building 5th Floor, 17-Barakhamba Rd, Connaught Place, New Delhi, Delhi 110001

1. This is a limited tender only for the Empaneled & approved system integrators of EdCIL under Group "C" for "Design, Supply, Installation, Testing, Commissioning an Maintenance of Smart Campus (Networking & other ICT Solutions)" vide EOI number. EdCIL/DES/EOI/ICT/2022/01. Bid by consortium is not allowed.

2. Tender shall be available on electronic tender portal link available at www.tenderwizard.com/EDCIL or EdCIL's website or IIM Sirmaur's website. Interested Bidders are advised to go through instructions provided at "Instructions to Bidders for e-tendering."

3. No manual bids shall be accepted. All bids (both Technical and Financial) should be submitted in the online portal. However, all the credentials mentioned in clause 1.1 should be submitted offline, after submission of online bids.

4. Bidders are advised to visit the EdCIL (India) Ltd. website www.tenderwizard.com/EDCIL for getting themselves updated for information on this tender. Corrigendum and addendum may be issued on the changes required. Reply on pre-bid queries received by EdCIL shall be displayed on EdCIL website/e-tendering website. Bidders are advised to visit the webpage regularly and update themselves. The Pre-Bid queries, Corrigendum/addendum are the part of tender document and Bidders are supposed to upload the same accordingly, duly signed as per the guidelines given in the tender document.

Chief General Manager (DES)
EdCIL (India) Limited,
18 A, Sector-16A, Noida-201 301
Tel: 91-120-2512001 to 2512006

CHAPTER- I

1. Offline and Online Bid Submission Documents

1.1 Offline Submissions:

The Bidder is requested to submit the hardcopy of the below mentioned documents in a Sealed Envelope and the proposed services for ICT components in the bid to the under mentioned address before the start of Public Online Tender Opening Event.

EdCIL (India) Limited
EdCIL House, Plot No. 18A, Sector 16A,
Noida-201301 (U.P.) India

The envelope shall bear the project name, the tender number and the words 'DO NOT OPEN BEFORE' (due date & time).

1) Original copy of the EMD Security in the format as applicable/ in the form of Demand Draft/BG or Scanned copy of NEFT or RTGS payment receipt (UTR number).

2) Original copy of the power-of-attorney.

Note: The Bidder should also upload the scanned copies of all the above-mentioned original documents as Bid-Annexure during Online Bid-Submission.

1.2 Online Submissions:

The Online bids (complete in all respect) must be uploaded online in **two** envelopes as explained below: -

		Envelope – 1 (Following documents to be provided as single PDF file) *file size shall be less than 5 MB each.	
Sl. No.	**Documents**	**Content**	**File Types**
1.	Technical Bid	Technical Compliance as per Annexure-I	.PDF
2.		Organization Declaration Sheet as per Annexure-II	.PDF
3.		Letter of Undertaking as per Annexure-III	.PDF
4.		Undertaking of Non-Blacklisting as per Annexure-IV	.PDF
5.		Annual Average Turnover as per Annexure-V	.PDF
6.		Performa for declaration on proceedings under insolvency and bankruptcy code, 2016 as per Annexure- VI	.PDF

7.		List of campus networking projects in the last seven financial years as per Annexure VII	.PDF
8.		Power of Attorney as per Annexure VIII	.PDF
9.		Letter of Bid Submission as per Annexure IX	.PDF
10.		Earnest Money Deposit as per Annexure X	.PDF
11.		Proforma pre contract integrity pact as per Annexure XII	.PDF
12.		Manufacturer Authorization Form as per Annexure XIII	.PDF
13.		Tender Checklist as per Annexure XIV	.PDF
14.		Contract Form as per Annexure XV	.PDF
15.		Pre-bid Query Format as per Annexure XVI	.PDF
16.		Installation Certificate as per Annexure XVII	.PDF
17.		Equipment Specification Compliance as per Annexure-XVIII	.PDF
18.		Solvency certificate for minimum value of Rs. 9.6 Crore; not more than 6 months old as per Annexure XXI	.PDF
19.		Undertaking from Bidder for Land Border as per Annexure XXII	.PDF
20.		Declaration/Undertaking as per Annexure XXIII	.PDF
Envelope-2			
Sl. No.	**Documents**	**Content**	**File Types**
1.	Financial Bid	Financial bid submission form as per Annexure- XX and Price bid as per Bid Forms (Form-I)	.PDF

CHAPTER-II

2. Term of Reference & Definitions

Term	Definition
Supplier/Successful Bidder/Selected Bidder	"Supplier" means any company or firm responding to the Tender "Design, Supply, Installation, Testing, Commissioning of Equipment, Implementation and Maintenance of Smart Campus Networking Solution for Indian Institute of Management Sirmaur"
Authorized Signatory	The Bidder's representative (explicitly, implicitly, or through conduct) with the powers to commit the authorizing organization to a binding agreement. Also called signing officer/authority having the Power of Attorney from the Competent authority of the respective Bidding firm.
Bid	"Bid" means the response to this document presented in Two Packets, Technical Cum Commercial Bid and Financial Bid, which are supplied with necessary documents and forms as given in Annexure complete in all respect adhering to the instructions and spirit of this document.
Bidder	"Bidder" means any company or firm responding to Request for Proposal and who makes a Bid.
Contract	"The Contract" means the agreement entered into between EdCIL and the selected Bidder(s) in terms of clauses mentioned.
Day	"Day" means a working day as per rules of EdCIL.
EMD	Earnest Money Deposit
D.D	Demand Draft
EdCIL	EdCIL (India) Limited, Noida (A Mini Ratna Category -I CPSE)
TC	Tender Committee
PBG	Performance Bank Guarantee
Security Deposit (SD)	Amount of the Order Value deposited by the Bidder and retained till the successful completion of the project (as long as the Bidder fulfills the contractual agreement).
Services	"Services" means the services to be delivered by the successful Bidder and as required to run the project successfully as per the Contract.
RFP/Tender	"RFP"/Tender means the Request for Proposals
Goods and Materials	"Goods and Materials" shall mean the articles, materials, equipment, IT Equipment, supplier's drawings, data and other property and all services- including design, delivery, installation, inspection and maintenance support specified or required to complete the order and incidental thereto.
Order	"Order" shall mean the Purchase Order/Work order and its attachments and exhibits.

Consignee	"Consignee" shall mean Indian Institute of Management Sirmaur located at Himachal Pradesh, where the items are to be supplied, installed and commissioned.
EdCIL/ Purchaser	"EdCIL/ Purchaser" shall mean EdCIL (India) Limited.
Client	Indian Institute of Management Sirmaur, Himachal Pradesh
Similar type of work	Similar type of work means supplying, installation, testing & commissioning of ip-pbx, lan, wi-fi, ip cctv, biometric attendance system, server & storage as mentioned in the tender document elsewhere.

CHAPTER-III

3. Instructions for e-Tendering

3.1 Instructions for Online Bid Submission:

1) E-tendering is new technology for conducting public procurement in a transparent and secured manner. As per Government of India's directives, EdCIL (India) Limited has adopted E-tendering.

2) For conducting electronic tendering, EdCIL (India) Limited has decided to use Electronic tender portal link available with detailed information on e-tendering process. This portal built using Electronic tender's software is referred to as http://www.tenderwizard.com/EDCIL.

3) The Bidders are required to submit soft copies of their bids electronically on http://www.tenderwizard.com/EDCIL e-tendering website, using valid Digital Signature Certificates. The instructions given below are meant to assist the Bidders in registering on the Tender Wizard E-Tendering Portal, preparing their bids in accordance with the requirements and submitting their bids online on the Tender Wizard E-Tendering Portal.

4) The scope of work to be tendered is available in the complete bid documents which can be viewed /downloaded from Tender Wizard E-Tendering Portal of http://www.tenderwizard.com/EDCIL. Both Technical Bid and Financial Bid will be submitted concurrently duly digitally signed in the website http://www.tenderwizard.com/EDCIL. No claim shall be entertained on account of disruptions in internet service being used by the Bidders. Bidders are advised to upload their bids well in advance to avoid last-minute technical snags.

5) All Corrigendum/Amendment/Corrections, if any, will be published on the website http://www.tenderwizard.com/EDCIL as well as on EdCIL's website/IIM Sirmaur's website.

6) It is mandatory for all the applicants to have class-III Digital Signature Certificate (in the name of person who will sign the bid document) from any of the licensed certifying agencies (Bidders can see the list of licensed Certifying Agencies from the link www.cca.gov.in) to participate in e-Procurement of EDCIL.

7) It is mandatory for the Bidders to get their firm/company registered with e-procurement portal of EDCIL i.e.www.tenderwizard.com/EDCIL to have user ID & password by submitting non-refundable annual registration charges as follows:

1	Registration charges for 1 year	Rs. 2,000/-

a. (exclusive of taxes, levies, etc.) this can be paid online using the e-payment gateway to KEONICS through the portal address mentioned above. The registration so obtained by the prospective Bidder shall be valid for one year from the date of its issue and shall be subsequently renewed.

  i. Participant shall safely keep their User ID and password, which will be issued by the service provider i.e. KEONICS Ltd. upon registration, and which is necessary for e-tendering.

ii.   Bidders are advised to change the password immediately on receipt of activation mail.

iii.   Bidders shall not disclose their User ID as well as password and other material information relating to the e-tendering to anyone and safeguard their secrecy.

iv.   Submit your bids well in advance by relevant documents along with copy of EMD of tender submission deadline on **Tender Wizard E-Tendering Portal** http://www.tenderwizard.com/EDCIL, as there could be last minute problems due to internet timeout, breakdown, etc.

8) Bids should be submitted only through Tender Wizard E-Tendering Portal and obtain the Tender Acknowledgement copy as a proof of successful submission.

9) Vendors are requested to contact at Tender wizard Helpdesk for any information regarding E-tendering / training.

EdCIL / Tender Wizard E-Tendering Portal Helpdesk	
Telephone/Mobile	Customer Support 080-49352000 (Multiple Telephone lines) Emergency Mobile Numbers: 9686115318/ 8800496 478/ 8800445981 (Please contact in case of emergency during non-working hours.)
E-mail ID	**To Tender Wizard** harishkumar.kb@etenderwizard.com ambasa@etenderwizard.com twhelpdesk963@gmail.com sandeep.g@etenderwizard.com & cc to: destenders@edcil.co.in & kssahni@edcil.co.in

3.2   PREPARATION OF BIDS

1) **Bidders should take into account any corrigendum/addendum published on the portal before submitting their bids.**

2) **Please go through the tender document carefully to understand the documents required to be submitted as part of the bid.** Please note the number of covers in which the bid documents have to be submitted, the number of documents (including the names and content of each of the document) that need to be submitted. Any deviations from these may lead to rejection of the bid.

3) Bidder, in advance, should get ready the bid documents to be submitted as indicated in the tender document/ schedule and generally, these can be in PDF format. Bid documents may be scanned with 100 dpi with black and white option.

3.3   SUBMISSION OF BIDS

1) Bidders should log into the site well in advance for bid submission and complete all formalities of registration (at least two days in advance of the closing date) so that they upload the bid in time i.e. on or before the bid submission deadline. Bidders will be

solely responsible for any delay in uploading of bid within the stipulated time.

2) The Bidder has to digitally sign and upload the required bid documents one by one as indicated in the tender document.

3) Bidder has to pay EMD as applicable through demand draft/BG or Scanned copy of NEFT or RTGS payment receipt (UTR number), as per tender condition in favour of "**EdCIL (India) Ltd**" payable at **Noida** and enter details of the instruments. Original demand draft/BG for EMD is required to be submitted.

4) A standard Financial Bid form has been provided with the tender document to be filled by all the Bidders. Bidders are requested to note that they should necessarily submit their financial bids in the format provided and no other format is acceptable. If the financial bid format is found to be modified by the Bidder, the bid will be rejected.

5) The server time will be considered as the standard time for referencing the deadlines for submission of the bids by the Bidders, opening of bids etc. The Bidders should follow this time during bid submission.

6) Upon the successful and timely submission of bids, the portal will give a successful bid submission message & a bid summary will be displayed with the bid no., date & time of submission of the bid and all other relevant details.

3.4 ASSISTANCE TO BIDDERS

Any queries relating to the tender document and the terms and conditions contained therein should be addressed to the Tender Inviting Authority. For any other tender related queries, Bidders are requested to contact below given numbers/email.

EdCIL / Tender Wizard E-Tendering Portal Helpdesk	
Telephone/Mobile	Customer Support 080-49352000 (Multiple Telephone lines) Emergency Mobile Numbers: 9686115318/ 8800496478/ 8800445981 (Please contact in case of emergency during non-working hours.)
E-mail ID	**To Tender Wizard** harishkumar.kb@etenderwizard.com ambasa@etenderwizard.com twhelpdesk963@gmail.com sandeep.g@etenderwizard.com & cc to: destenders@edcil.co.in & kssahni@edcil.co.in

3.5 OFFLINE SUBMISSIONS: (AS PER TENDER REQUIREMENT)

The Bidder is requested to submit documents as mentioned in **Clause 1.1**

3.6 MINIMUM REQUIREMENTS AT BIDDER'S END

1) Computer System having configuration with minimum Windows 7 or above, and Broadband connectivity

2) Digital Certificate(s)

CHAPTER-IV

4. **Instruction to Bidders**

1) Due date: The tender has to be submitted on or before the due date and time. The offers received after the due date and time will not be considered.

2) Preparation of Bids: The offer/ bid shall be submitted in two bid-system i.e. Technical Bid and Financial Bid. The technical bid shall consist of all technical details along with commercial terms and conditions. Financial bid shall indicate component wise price for components mentioned in the financial bid in the given format.

3) Language of Proposal: The proposal prepared by the firm and all correspondence and documents relating to the RFP exchanged by the Bidder and the Client, shall be written in the English language, provided that any printed literature furnished by the firm may be written in another language so long as accompanied by an English translation in which case, for purposes of interpretation of the bid, the English translation shall govern.

4) Cost of Bidding: The Bidder shall bear all costs associated with the preparation and submission of its bid, including cost of presentation for the purposes of clarification of the bid, if so desired by the client, and the client will in no case be responsible or liable for those costs, regardless of the conduct or outcome of the bidding process. The firm is expected to carefully examine all instructions, forms, terms and specifications in the bid document. Failure to furnish all information required in the bid document or submission of a bid not substantially responsive to the bid document in every respect will be at the firm's own risk and may result in rejection of the bid.

5) EMD: The Bidder should submit EMD through Bank Guarantee/ Demand Draft or Scanned copy of NEFT or RTGS payment receipt (UTR number), drawn in favour of "EdCIL (India) Limited" payable at NOIDA from any Scheduled Commercial Bank. The Bid sent without EMD would be considered as UNRESPONSIVE and will not be considered.

6) In case EMD is submitted in the form of BG, the BG should be at least valid for 90 days beyond the bid validity date and as per Annexure-X

7) The Bidders are requested to submit EMD in the form of Bank Guarantee/ Demand Draft or Scanned copy of NEFT or RTGS payment receipt (UTR number), drawn in favour of EdCIL (India) Limited and payable at NOIDA, with the Technical Bid.

   Note:

   Bidders registered with MSME/Start-Ups and having valid registration certificate issued by NSIC/MSME are exempted from submission of EMD. However, all Bidders including MSMEs/Start-Ups must submit their financial solvency certificate issued not earlier than 6 months of last date of submission of Bid.

8) **Refund of EMD:**

   i. The EMD will be returned to unsuccessful Bidder(s) after the award of work to the successful Bidder.

   ii. Earnest money will be forfeited if a Bidder unilaterally withdraws the offer, or

   iii. Unilaterally amends impairs or rescinds the offer within the period of its validity.

iv. In Case of Successful Bidder, the EMD shall be refunded after receipt of 5% Performance Bank Guarantee from a scheduled commercial bank operating in India.

9) **Acceptance/ Rejection of bids:**

EdCIL reserves the right to reject any or all offers without assigning any reason.
EdCIL, based on the requirement and without assigning any reason to the Bidders may split the work/Scope/Bid and/or offer in stages or in parts according to the need of work and/or for ease of execution of work.

10) **Performance Bank Guarantee**
The successful Bidder shall deposit Performance Bank Guarantee equivalent to 5% of contract value to IIM Sirmaur within 14 days from the date of receipt of Letter of Intent (LOI)/LOA. The Performance Bank Guarantee (PBG) should be issued by a Scheduled Commercial Bank in favor of "IIM Sirmaur" and be valid for at least 90 days beyond the target date of completion of Contract (including warranty period of 5 years & Commissioning period of 06 months) and further as specified in the LOI.
This Performance Bank Guarantee will be retained throughout the currency of the contract and should be extended by the Bidder from time to time, as required by IIM Sirmaur.
PBG shall be returned to the successful Bidder only after 90 days of the successful completion of the Contract (including warranty period of 5 years & Commissioning period of 06 months). In case of any shortfall of any activity/ specification/ other terms and conditions of the contract, IIM Sirmaur reserves the right to recover damages or loss from the due payment and or by the encashment of PBG.

4.1 Amendment in Tender Document:

At any time up to the last date for receipt of RFP, EdCIL may, for any reason, whether at its own initiative or in response to a clarification requested by a prospective firm, modify the Bid Document by an amendment. The amendment will be notified on the requisite portal/websites.

4.2 Site Survey

1) Bidders are advised to inspect and examine the site and its surroundings and satisfy themselves before submitting their bids as to the nature of the ground and sub-soil (as far as practicable), the form and nature of the site, the means of access to the site, the accommodation they may require and in general shall themselves obtain all necessary information as to risks, contingencies and other circumstances which may influence or affect their tender. Bidders shall be deemed to have full knowledge of the site whether they inspect it or not and no extra charges consequent on any misunderstanding or otherwise shall be allowed.

2) Bidders should make a comprehensive site survey in order to learn existing backbone infrastructure of the client in a large perspective so that the procured components are fully compatible with existing network infrastructure.

3) The successful Bidder has to carry out site survey at all locations and prepare actual Bill of Materials required and project schedule within two weeks from the date of award of the contract/issue of Work Order.

CHAPTER-V

5. Scope of Work

INTRODUCTION

Indian Institute of Management Sirmaur (IIM Sirmaur) is a Centrally Funded Institution of National Importance set up by the Government of India in 2015. IIM Sirmaur is one of the newer institutions of the IIM family in the country. As a premier institution, under the aegis of Ministry of Education, GoI, it aims to provide Management Education of high quality and promotes allied areas of knowledge and inter-disciplinary studies.

The Institute strives for the seamless integration of management education with local and global aspirations in an enabling environment. It supports that management education is not just about seeking the most competitive employment opportunities, but also about learning to serve socio-economic concerns through ethical and visionary corporate leadership. It strives to focus on indigenous areas and innovative practices, to develop sensitive corporate leaders and entrepreneurs of tomorrow.

'Vision' of IIM Sirmaur is "To be globally respected institution for management excellence."

'Mission' of IIM Sirmaur is "To develop and foster professionals with competencies in creating and leading future-oriented solutions for sustainable growth adhering to the highest standards of ethical and human aspects of work in Himachal Pradesh, India, and the world.

IIM Sirmaur wishes to set up LAN for the entire campus and thus providing high connectivity, scalable, reliable, secure and robust network architecture. It is intended to build a new network for IIM Sirmaur that will provide latest technology benefits like data security, guaranteed application response, reliability etc. The network will also support multimedia, audio and video streaming and accessing other latest facilities which can be integrated in the future. High speed connectivity will be offered to various department users across the buildings.

The network infrastructure as well as the IT setup should offer minimal downtime due to failure or breakdown of links or devices. The redundant network backbone shall ensure that there is no delay in the flow of information and data, irrespective of file size or amount of network traffic at any given point in time.

The network shall be scalable as well as flexible so that future expansions and enhancements can be made in keeping with the rapid growth of technology and growing demands. Future augmentations and expansions should not require forklift upgrades for any of the ICT components to be deployed now.

The entire campus is proposed to be equipped with State-of-the-Art ICT network. The design for complete ICT network provides high speed data, voice, WiFi, surveillance, IT hardware and Audio-visual facilities for the Institute's classrooms. The ICT infrastructure for the campus includes following solution / services:

- **Core ICT Infrastructure**
  - Surveillance & Electronic Security
  - Computing Devices (Desktops)
  - Biometric Attendance system

- o Data Center
- o Vertical Sliding Motorized Independent Boards for classrooms
- **Communication Backbone**
  - o IP-PBX System
  - o Local Area Network (LAN) including management
  - o WI-FI Systems
- **ICT Power-back-up**
  - o Power System (UPS) including earthing

Solution Overview, Key considerations and detailed design

5.1 Core ICT Infrastructure

5.1.1 Surveillance and Security

All the entrances and exits of the buildings in the campus, corridors and staircase areas of the Institute's buildings (Admin, Library, Faculty, Classroom Complex and MDP) shall be covered by Closed Circuit Television (CCTV) Surveillance System cameras of mentioned types and would be integrated to have required areas visibility in central security room, main gate and with administrative Officers. Apart from this the boundary wall is also covered for surveillance through bullet cameras as per drawings included in the Tender document.

The CCTV and Surveillance System shall be fully IP based and shall monitor different buildings in the Campus as per NBC 2016/ relevant IS codes/Local laws and will have ONVIF Profile S&G Compliance. Following type of cameras shall be used in the CCTV network:

a) Bullet/Dome camera: - These cameras will be with minimum 4 MP Resolution with IR suitable for Day and night operations. All the cameras will be operative on automotive manual & scheduled mode. The cameras shall be UL Listed. RJ- 45 Cable connectors will be used for Network/POE connectivity. The camera should be supportable Quad Stream. Generally, the Dome Cameras and Bullet Cameras will be installed at all Entry & Exit Points of the buildings and main corridor, Lift lobbies & common areas of Administration block, Classroom complex 1 and 2.

IP Based Dome Cameras and Bullet Cameras for surveillance are planned as per the BoQ provided. The type and location of the cameras is mentioned in the respective drawings provided with this RFP document for each building. Network connectivity for cameras having distance more than 75 meters, has been planned on optical fiber with LAN connectivity. There is an existing inventory of cameras that the Institute has and that shall be deployed by the Contractor for other ports and integrate with the ICT network on their own risk and cost. The CCTV network shall use the same ICT switching infrastructure and shall have a logical network planned. For boundary wall surveillance cameras industrial switches are considered in the BoQ.

The video recording will be non-embedded based recording server with video management software. The NVR solution will be a centralized system deployed in the server room. The viewing of the cameras shall be managed through IP network and can

be made accessible at any location. However, following 4 locations are planned to have the viewing screens:

a) Central security monitoring location in Admin block for Security staff: Full visibility of all cameras through 4 Nos. of 43 inch screens

b) Main gate entry side: visibility of Main gate and surrounding camera through 2 Nos of 43 inch screen

c) Admin Block - AO office: visibility of Main Academic building Cameras only, through 1 No of 43 inch screen

d) Admin block - CAO office: visibility of Main Academic building Cameras only, through 1 No of 43 inch screen

The live camera feed would be visible at these locations for the required cameras. The contractor will have to prepare detailed low-level design consisting of floor wise layouts of IP CCTV system mentioning location of different types of cameras, location of network rack including details of POE switches, Back bone connectivity from each floor to main rack, Details and locations of LED display, NVR & Server, Main rack, All interconnecting cable details etc. The schematic of the connectivity considered is provided along with the tender document.

5.1.2 Lecture-room AV systems

Technologically advanced and optimized audio-visual systems are considered for the Lecture rooms primarily based on the requirement of the institute, size and layout of the classrooms and teaching methodologies that are considered by the Institute.

Following classrooms will be enabled with the AV system solution as per details provided further below:

a) **150/100/90 seater** : It is decided that 5 Nos of 90-seater, 1 no of 150-seater classroom will be made ready in this Phase with the required infrastructure and should be ready for Digital classroom with following solution:

- Vertical Motorized Independent Sliding white board with switch at the board.

b) Apart from above 7 nos. of 63/60/52-seater classrooms will be made ready in this Phase with the required infrastructure and should be ready for Digital classroom with following solution:

- Vertical Motorized Independent Sliding white board with switch at the board.

5.1.3.1 Solution for 150/90 seater classroom in Classroom complex

- Ceiling Microphone System for complete classroom

Two Laser Projectors – Lumens grade and numbers will vary as per classroom sizes

Wall Speakers
(Number as per classroom size)

Vertical Slider Boards
(Motorized Independent considered)
(Dimensions as per classrooms)

Two Projection Screens
(Size as per the classroom)

Interactive Desk
for Professor

- Customised Long desk type
- Tablet for AV control
- 22inch touch screen embedded system for content and presentation
- Closet for keeping equipment when not in use

Confidence Monitor: 1 43inch Screen for Professor to view slides front desk

Each classroom will have AV rack area with the back-end equipment as needed such as:
- DSP
- Amplifier
- AV over IP Switching system
- AV centralized control automation
- Multiview with Video streaming and recording

5.1.3.2 Solution for Classrooms 63,60,56,52,50 -seater

- Ceiling Microphone System for complete classroom

Wall Speakers
(Number as per classroom size)

One Laser Projector – Lumens grade and numbers will vary as per classroom sizes

Vertical Slider Boards
(Motorized Independent considered)
(Dimensions as per classrooms)

One Projection Screen in center
(Size as per the classroom)

Interactive Desk
for Professor

- Customised Long desk type
- Tablet for AV control
- 22inch touch screen embedded system for content and presentation
- Closet for keeping equipment when not in use

Confidence Monitor: 1 43inch Screen for Professor to view slides front desk

Each classroom will have AV rack area with the back-end equipment as needed such as:
- DSP
- Amplifier
- AV over IP Switching system
- AV centralized control automation
- Multiview with Video streaming and recording

5.1.3.3 Classroom Board and Screen Sizing

Following design principles are used to come up with the right size of the boards and the screens in the classroom.

a) The height of the Projection Screen should be around 1/6th of the maximum viewing distance for text and analytical studies.

b) Minimum viewing distance = 1.5 x height of the projection screen

c) A safer rule of thumb is for any displayed text to occupy at least 15 to 20 arc minutes of the furthest viewer's vision.

d) The most popular guideline for determining the font size is to make them at least one inch (72 pt.) tall for every 10-15 feet of viewing distance.

e) Aspect Ratio considered is 16:10

S.NO.	Area	CAPACITY	BOARD WALL LENGTH	BOARD WALL HEIGHT	Remarks	Vertical Slider Board	Projection Screen
1	CLASSROOM COMPLEX-1	150-SEATER	9,000 MM	5,000 MM	3 column, each having 1 fixed & 2 independent motorised white Board	3 units of 3000mm x 2400m - Length x Height	16:10 Motorized Left and Right Projection Screen, 142 Inch Diagonal - 2 per classroom - 3048mm x 1905mm
		90-SEATER	9,000 MM	5,000 MM		2 units of 2400mm x 2400 mm and 1 unit of 3600mm and 2400 mm	16:10 Motorized Left and Right Projection Screen, 113 Inch Diagonal - 2 per classroom - 2440mm x 1524mm
2	CLASSROOM COMPLEX-2	63-Seater	11,000 MM	3,500 MM			
		60-seater	8,200 MM	3,500 MM		3 units of 2400mm x 2400m - Length x Height	One motorized 16:10 centre screen of 113inch size – Approximate size– 2440mm x 1524mm
		56-seater	10,600 MM	3,500 MM			
		52-seater	9,000 MM	3,500 MM		1 unit of 2400mm x 2400m - Length x Height and 2 units of 2000mm x 2400mm	
		20-seater	9,500 MM	3,500 MM	NA		One motorized 16:10 centre screen, at least 94 Inch Diagonal - 1 per classroom - 2032mm x 1270mm
		30-seater	8,900 MM	3,500 MM			

3	MDP	100-Seater	10,840 MM	3,750 MM	3 columns, each having 1 fixed & 2 independent motorised white Board	3 units of 2400mm x 2400m - Length x Height	16:10 Motorized Left and Right Projection Screen, 113 Inch Diagonal - 2 per classroom - 2440mm x 1524mm
		50-seater	8,100 MM	3,950 MM		1 unit of 2400mm x 2400m - Length x Height and 2 units of 2000mm x 2400mm	One motorized 16:10 centre screen of 113inch size – Approximate size– 2440mm x 1524mm
		25-seater	5,083 MM	3,575 MM			One motorized 16:10 centre screen, at least 94 Inch Diagonal - 1 per classroom - 2032mm x 1270mm
		20-seater	8,000 MM	3,950 MM			

5.1.4 Computing Devices

Following computing devices is planned under the tender scope as per the quantities in the BoQ and detailed specifications provided in the document.

a) Desktops (Latest configuration) for the Institute office staff
b) Thin Client solution for the Computer Lab
c) Network Printer for the office staff

5.1.5 Biometric Attendance system

Biometric and card-based attendance / logging system with required software is implemented at the main gate/administrative blocks and other requisite places of the campus with machine that will support fingerprints, RFID /MIFARE card and PIN.

5.1.6 Data Center / Server room

The central server room is located in the computer center in administrative block of the campus. The server room shall host all the core systems of ICT namely:
- Core Switch
- IP Telephony server
- Router
- Firewall
- Wireless Controller
- Server and storage
- CCTV NVR
- IT Asset Management software
- AAA servers
- ISP connection No 1
- UPS system
- Others

A disaster recovery location is planned in Virtual Learning Center, where following equipment will be installed:

- Core Switch
- Router
- Firewall
- Wireless Controller
- ISP connection No 2

5.2 Communication Backbone

5.2.1 Structure Cabling System Passive

The structured cabling system is not in scope of this requirement or tender, the same is being taken care by IIM Sirmaur. However the extra amount of passive networking work required for proper installation and commissioning of active components will have to be done by successful Bidder and shall be re-imbursed on actual basis. Detailed overview of the same is provided along with this RFP document. The ICT network will facilitate very high-speed Data, Voice video and Surveillance through Fiber Optic backbone across the campus. A Main Master Fiber Optic network backbone has been designed to transport ICT services - Data, voice, Wi-Fi and Security. The network backbone would also transport Audio Visual traffic viz Conferences, classroom. Live streaming etc.

a) The complete network from Core to Distribution to Access layer will be on single mode fiber. 24 core Bundled (Multi-tube) fiber has been used for the backbone ring of the campus and distribution to access shall be on 6 core fiber.

b) The Core backbone ring shall be physically in ring topology but utilizing the bundled cable shall have logical star connection with the CORE as well, as shown in below images.

c) The whole campus is segmented into 5 Zones with Zone 1 to Zone 4 are connected to the Core through the distribution switches connected on the backbone Ring of 24 core bundled / multi-tube fiber, while Zone 5 is connected in two Tier architecture with the Core on 6 core fiber as the Core switches are in Zone 5 itself. The zone segmentation is as per the detailed design and engineering considering the port requirement, bandwidth, distance, site feasibility etc.

d) The incoming Fiber cable from Service provider for the Broadband connectivity shall be terminated in the Server room in a partitioned area. Service provider shall be laying their own fiber cable in the separate path provided to them from Main gate to the Server Room.

e) As part of the ICT scope the laying and termination of rest of the Fiber optic cable as per the design for backbone ring and further distribution to access connectivity will be done by the ICT contractor.

f) Separate HDPE pipe shall be laid for the LV cables for internal communication as per the path shown in the drawings provided as part of the tender. The path of the LV cables is designed to be separate and at a sufficient distance from the High voltage and other electrical cable.

g) Cat 6A RJ 45 data outlets points has been provided for Computers, Networking and Wi-Fi access devices as per requirement in rooms and other areas at various floors in all the blocks/ buildings.
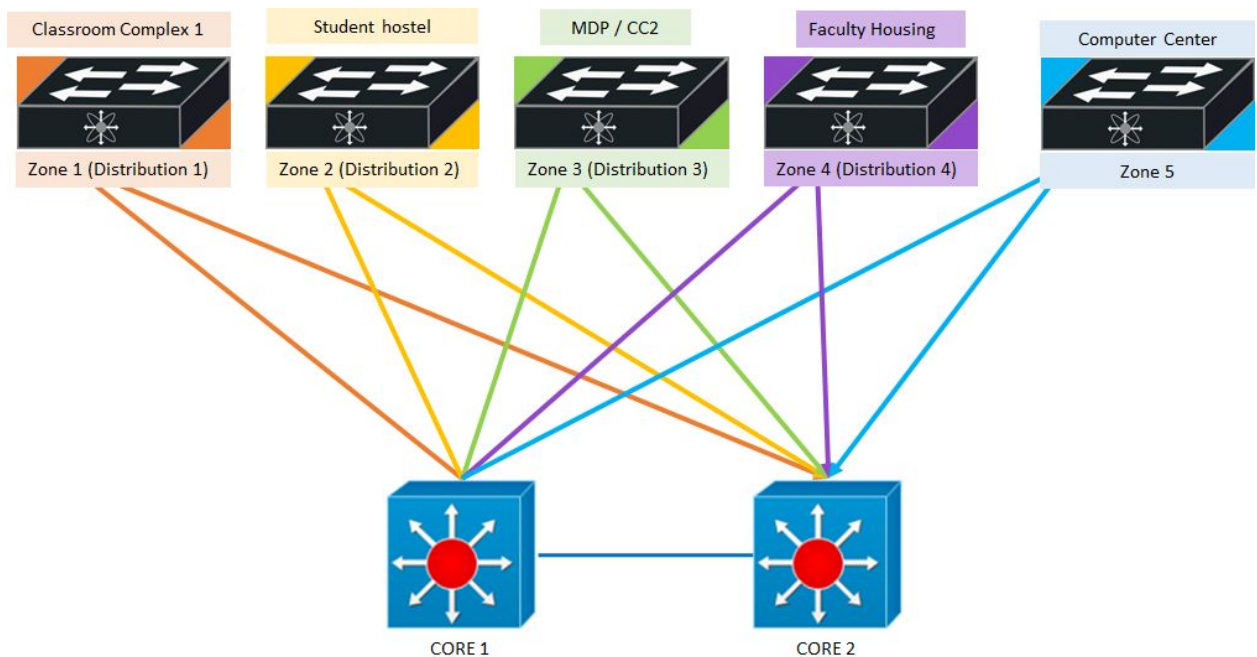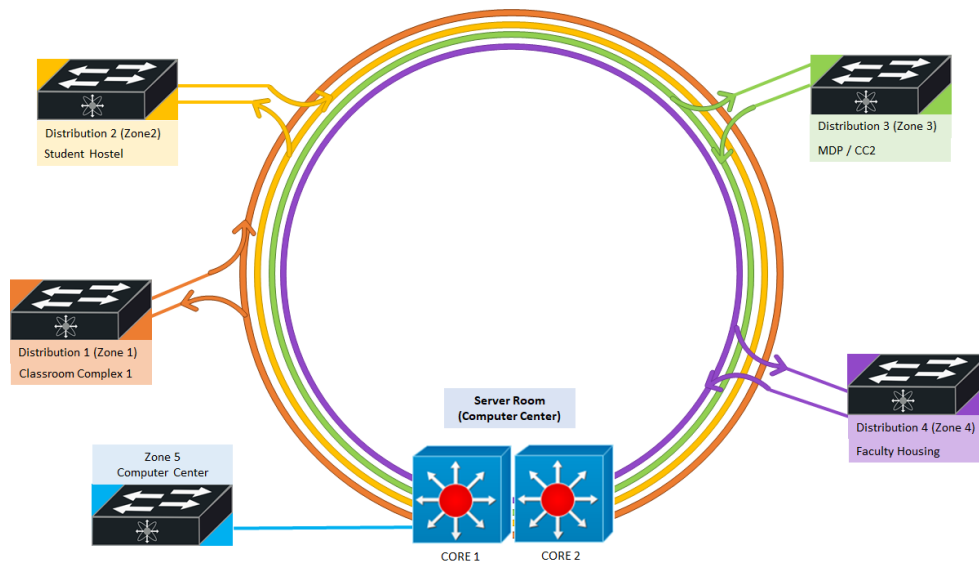
Connectivity between Core and Distribution

h) Cat 6 RJ 45 outlets points has been provided for Telephony (voice) and CCTV as per requirement in areas at various floors in all the buildings and outside areas.

i) The maximum length of the CAT-6A / CAT-6 cable from end user point to the Edge switch is less than 90 Meters. Beyond 90 M length Fiber Optic Cable has been used.

j) Apart from this Audio-Video cabling and conduiting is also considered for all classrooms as per the drawing provided.

5.2.2 IP-PBX System

a) IP core Server based Voice communication system will be provided to all the users within the campus including the IP based operator console, IP phones & access to call outside the campus through analog trunks or PRI trunks via local service provider. The system shall deliver functionality of both internal communication (intercom) and external communication.

b) The core IP telephony server shall be deployed in the server room and the PRI lines shall be terminated in the separate Rack in the server room.

c) RJ-45 Telephone socket outlets with suitable IP Phones instruments shall be provided in all blocks/ buildings at convenient locations, as per the requirement and as specified in the BoQ.

d) CAT-6 wiring shall be provided in recessed/surface conduits/ raceways from each telephone point up to the Rack panel (Patch Panel & Switch) at each floor or nearest Rack Panel of all buildings /Blocks. The Maximum length of the CAT-6 cable shall be 90 M.

e) The scope of work shall include planning, designing, supply, installation, testing and commissioning of complete of IP based voice communication system with required number of PRI Trunks lines (30 channels) with clip facility for the specified number of IP users license for lifetime. The system should be expandable to be able to cater the complete need of Institute's campus in future, by simply taking more IP users licenses.

5.2.3   Local Area Network (LAN) including management

The Core backbone network for the IIM Sirmaur campus will provide network connectivity across the buildings in campus and all services and other applications will be running on this network. Hence the complete Network solution construed as heart of the ICT solution and would comprise Campus / LAN network including both Passive and Active Networking Components such as OFC, UTP Cabling, Routers, Firewall, Core Switch, Distribution Switches, Edge switches etc.

The network backbone will have capacity of 40 GbE and can expand up to 100G in future. The distribution subrings are at 10G and can be expanded up to 40G in future. The network and cabling design has been done to achieve:

- **Minimum Downtime:** The network infrastructure as well as the IT setup will have minimal downtime due to failure or breakdown of links or devices and even for planned outages.

- **Guaranteed Application Response:** The network backbone will ensure that there is no delay in the flow of provided level of information and data, as per expected file size or amount of network traffic at any given point in time.

- **Scalability:** The network is scalable as well as flexible so that future expansions and enhancements can be made in keeping with the rapid growth of technology and growing demands. Reasonable future augmentations and expansions would not require forklift upgrades for any of the active components to be deployed.

- **IT Asset Management:** There will be an inventory management as well for digitized system view of the ICT active components.

The complete campus has been segmented into 5 zones based on the total estimation of port requirements across various services of LAN, Voice, CCTV, Wi-Fi etc and the distances. The CORE switch will be in 1+1 configuration and will be hosted in the server room in the Library / Computer center and 1 in the disaster recovery location planned at the Virtual Learning Center, with distribution switch placed at required locations across the campus as shown in the below illustrative diagram.
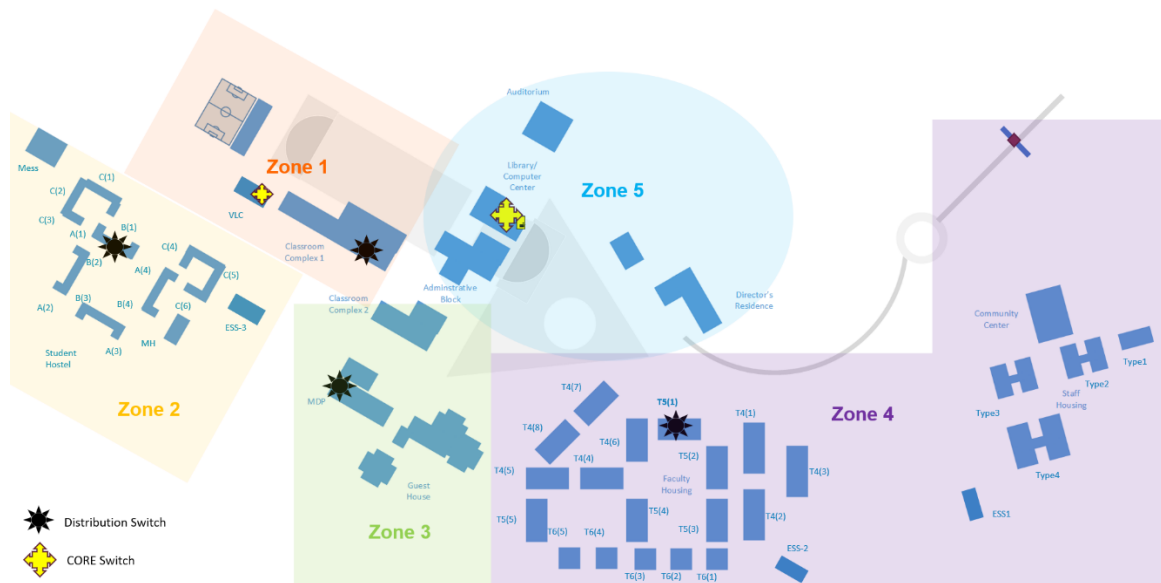
Campus Network illustration

(Please Note: This view is only for illustration purposes to provide the high-level view of campus. For all purposes only the actual drawings and schematic diagram provided along with the tender document should be referred)

A hybrid Topology approach has been followed for the Network Architecture with a 3 Tier model of Core, Distribution and Access Layer. The network backbone will be in a form of a Ring topology connected to the CORE and further sub rings would fan-out from the distribution switches in the backbone ring, to the required access switches (as per detailed design) covering the major zones of the campus. All the ring in the network will have an Ethernet Ring Protection Switching or similar protocols implemented to offer the highly reliable and stable ring protection.

The core network will comprise of two Layer-3/4 Gigabit Ethernet switches that are configured and deployed via 40G interconnect. These switches are high density 40G SFP switches with a non-blocking architecture.

The Distribution layer will comprise of a set of modular Layer-3 Ethernet switches to which all the uplinks from Access/Edge switches, Security Gateway and Server zone switches will connect.

The Layer-2 Gigabit managed PoE 24 port switches shall be deployed at this Edge/Access layer. Some of these switches shall be up linked to the distribution switches as per detailed design using 10GbE optical links.

The below diagram provides the high-level Network Architecture approach adopted for designing the network
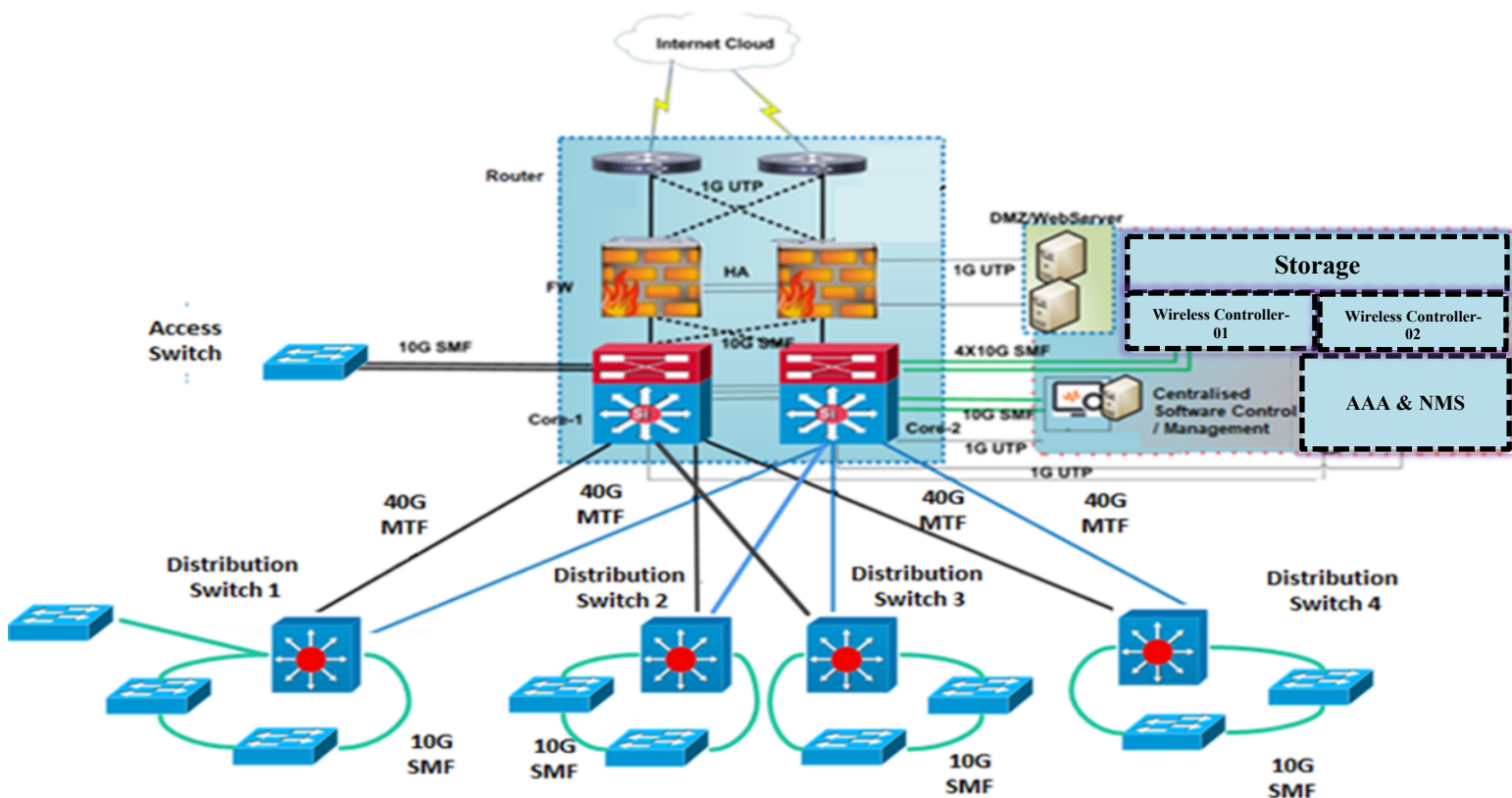
Network Architecture Approach

5.2.4 WI-FI Systems

All indoor areas in the buildings and open amphitheater complex would have highly secured Wi-Fi for faculty, students, staff and guests.
a) Efficient roaming capabilities help ensure a consistent user experience on any smart-mobile device with voice and video applications.
b) Reliability: The on-premises controller provides industry leading IPv6 roaming with secure access.
c) Scalability: Additional access points may be added as business requirements change.
d) Versatility: Supports advanced services for campus and branch networks.
e) Facilitates secure mobile tele-working.
f) Enterprise Wireless Mesh solutions allow access points to dynamically establish wireless connections in hard-to-connect locations.

g) Integrated protection for 802.11n performance by enabling a self-healing, self-optimizing wireless network.

h) Optimization of mixed-client network capacity by helping ensure that 802.11 a/g /n, 802.11 ac and 802.11ax clients operate at the best possible rates.

i) Support for a single, centralized point of management across wired and wireless networks.

j) Support for delivering centralized security policies, wireless intrusion prevention system (IPS) capabilities, RF management, and quality of service (QoS).

WiFi access point locations are identified using network planning tool, to offer right level of coverage and bandwidth in its span. Wireless Controller shall be deployed in HA mode. There is some old networking inventory with IIM Sirmaur at old campus. The successful Bidder has to reinstall this old inventory at the specified location premises of new campus of IIM Sirmaur.

5.3 ICT Power-back-up

5.3.1 Power System (UPS)

Under ICT scope, the UPS system of required capacity levels to be provided for the Server room. It is considered for all the buildings having ICT network infrastructure. Individual UPS is planned at all racks as well across the campus.

5.4 EdCIL (India) Limited has been entrusted by IIM Sirmaur for Design, Supply, Installation, Testing, Commissioning of Equipment & Implementation of Smart Campus Networking Solution for IIM Sirmaur, Himachal Pradesh.

5.5 The selected Bidder shall perform the activities for Design, Supply, Installation, Testing, Commissioning of Equipment & Implementation of Smart Campus Networking Solution for IIM Sirmaur, Himachal Pradesh, as per the scope of work and maintain the same until completion of Contract.

5.6 The Bidder has to assure the following towards the support of the passive networking components: -

1) All major passive networking components installation shall be executed by CPWD and handed over to IIM Sirmaur. Some extra amount of passive networking work will be taken into consideration, for smooth and flawless execution of project and for proper installation and commissioning of active components. It will have to be done by the successful Bidder and the same shall be reimbursed on actual basis upon verification by IIM Sirmaur and submission of proper bills. It might be executed or not purely on the need of site. The decision of EdCIL shall be final and binding in this regard.

2) The structured Cabling components shall be certified for 25 years from the OEM.

5.7 Scope of Supply

1) Supply of all components as per BOQ at IIM Sirmaur's campus, with 5 years of OEM warranty.

2) The successful Bidder must not bid/supply any equipment that it is likely to be declared end of sale within 5 years and end of support within 7 years from the date of supply. The Bidder would have to replace any such equipment with the latest or at least the equivalent configuration.

5.8 Inspection and Tests

1) The successful Bidder shall facilitate and make available a random 5% sample of each equipment type being supplied by them for a Pre-dispatch Inspection (PDI) by a committee comprising EdCIL representatives/ CLIENT either at a centralised location in India or at site from a lot of 10% of total quantities. The PDI will be a key requirement prior to shipment of the equipment to actual site. The PDI will be carried out as per the list of parameters provided in Annexure XVIII.

2) In the event of any hardware or software failing to pass the PDI, as per the specifications given, a period not exceeding 7 days will be given to the selected Bidder to rectify the failure and clear the inspection, failing which EdCIL reserves the right to cancel the Work Order and levy appropriate penalties in addition to the Liquidated Damages. EdCIL will not be responsible for any costs associated with such rejection.

3) Additionally, the Bidder shall replace the complete lot of equipment belonging to an equipment type, if more than 5% of the sample size for the equipment type is found defective during the PDI. If consecutive lots of the same type of equipment are rejected, the entire shipment of equipment by the manufacturer shall stand rejected and shall have to be replaced by the selected Bidder with a fresh batch of equipment for shipment and related PDI. Any cost impacts of rejection at any stage shall be borne by the Bidder. If the complete shipment is rejected, EdCIL reserves the right to cancel the Work Order and levy penalties in addition to the Liquidated Damages. All penalty calculations are explained in detail in SLA.

5.9 Scope of Installation, Configuration and Integration

1) Physical installation and powering of all supplied components as per to be approved layout.

2) Complete configuration and integration of all the components.

3) Any structure, permanent or temporary, dismantled or damaged during the execution of the work shall be refilled/remade or restored to its previous condition by the successful Bidder at its own cost. In case the successful Bidder fails to take timely action in this regard, EdCIL will get it executed at risk and cost of the successful Bidder.

5.10 Scope of Cable plan Implementation

1) The successful Bidder under the guidance and supervision of IIM Sirmaur has to carry out a site survey at all locations and prepare actual Bill of Materials required and project schedule within two weeks from the date of awarding the contract. The document should clearly indicate the site preparation requirements to be carried out by IIM Sirmaur and site clearance and permissions to be obtained from IIM Sirmaur.

2) The passive networking work, for installation of equipment under the purview of this tender, is being executed parallelly by another agency. It is understood that both the work i.e. laying of passive network and installation of active components shall be done in close coordination. The passive networking is proposed to be handed over to the selected Bidder in parts, phase by phase. In doing so, in case there is inordinate delay in laying of passive network, the selected Bidder shall be allowed proportionate extension of time for execution of work. No claim, whatsoever, other than time shall be admissible on account of this.

5.11   **Scope of any necessary Cabling required for Installation of active networking components:**

1) Wherever necessary to take the Optical Fiber cable underground it should be laid in trenches already deployed by CPWD. No aerial link is allowed.

2) PVC warning tapes should be placed at 1ft depth.

3) Cabling bend radius should not be less than 10 times the diameter of the Fiber Cable as per the ISO/IEC standards.

4) Cable should be properly protected at the entry and exit.

5) The cables should not be exposed anywhere.

5.12   **Scope of Acceptance Testing and Commissioning**

1) After installation of each and every item, test shall be conducted for system's performance at the end point with the help of testing equipment.

2) Commissioning shall mean end-to-end commissioning of the complete System with testing of test parameters, commitments etc and shall be submitted along with implementation plan, which shall be approved by EdCIL and reported to IIM Sirmaur.

3) Repair / Refurnishing work owing to damage caused due to cabling or any other work related to this project should be taken care by the vendor in coordination with EdCIL. There should not be any hanging or uncovered cables. If any such hanging cable is left by passive network installation team then the same should be reported to EdCIL and IIM Sirmaur prior to starting of work.

4) Upon Self-testing and Commissioning, the system shall be offered for inspection to EdCIL and accepted report should be submitted to IIM Sirmaur.

5) The successful Bidder shall prepare an inspection and acceptance schedule with details of each activity and subsequently submit to EdCIL and IIM Sirmaur.

6) Bidder must note that no refurbished materials are supplied. The successful Bidder must ensure that the materials supplied are brand new and are procured from the OEM or their authorized distributor. The successful Bidder shall be obliged to provide the trail of such procurement (unpriced).

5.13   **Scope of Documentation**

1) Providing original manuals of all hardware as well as related software of all items supplied. Manual should comprise the complete details of equipment handling, functioning, precautions and scope of warranty for the complete list of items installed.

2) Technical write up of the network design with details of interconnectivity between all ICT components.

3) Build network configuration details (port wise) with IP address, subnet, VLAN, Port description etc. for all ICT components.

4) Implementation plan and deployment diagram (as built), to be approved by EdCIL and accepted by IIM Sirmaur, before initializing the installation and configuration activity.

5) Test parameters, commitments etc. for acceptance testing to be enclosed along with implementation plan.

6) Acceptance test reports, performance test reports of all components. Any other relevant documentation.

5.14 Scope of Training

1) Training on the design and functioning, operational aspects and maintenance of the complete system.

2) The duration of the training shall be minimum 5 days, subject to satisfaction of the end customer. Similar trainings should be imparted upon the update in technology/ update in network till the tenure of the project prevails.

3) Course material for the above (one copy each per participant), along with the soft copy, to be provided.

4) The Bidder shall also provide information such as Do's & Don'ts of equipment and list of service centres at various places in vicinity of IIM Sirmaur.

5.15 BOQ

The equipment specification sheet is mentioned in Annexure XVIII:

1) **Quantity mentioned in below bill of materials is the minimum quantity, which Bidder must provide. Bidder is not allowed to propose quantity less than the quantity mentioned in the BOM. However, the Bidder is free to increase the quantity to meet the solution functionality as per its Technical Proposal. Bidder shall be paid for actual number of items installed/the numbers quoted in the bid.** Some extra amount of passive networking work will be taken into consideration, for smooth and flawless execution of project and for proper installation and commissioning of active components. It will have to be done by successful Bidder and the same shall be reimbursed on actual basis upon verification by IIM Sirmaur and submission of proper bills. It might be executed or not purely on the need of site. The decision of EdCIL shall be final and binding in this regard.

2) During the period of contract, EdCIL reserves the right of varying components within the range of the total contract value up to ±30% without any increase in the prices of the individual items and/or other terms and conditions.

3) The procurement shall be valid for entire duration of contract. (including warranty period of 5 years NBD OEM WARRANTY FROM THE DATE OF GO LIVE).

4) A firm work order for the remaining quantities shall be issued on case-to-case basis on confirmation from the client, without any deviation in the ordered prices.

5.16 The detailed specifications are given in the Annexure XVIII of the RFP. Following are the important conditions for all IT Hardware proposed:

1) Bidder must note that no refurbished materials are supplied. The successful Bidder must ensure that the materials supplied are brand new and are procured from the OEM or their authorized distributor. The successful Bidder shall be obliged to provide the trail of such procurement (unpriced).

2) The manufacturing date of all the equipment supplied shall not be more than one year prior to the date of award of work. The equipment shall be in good working condition & should comply with the specifications given in this Tender Document in Annexure XVIII.

3) The selected Bidder needs to supply all the required equipment in single lot/maximum quantities per lot with prior intimation to EdCIL within the stipulated timeline.

4) The successful Bidder shall submit Satisfactory Quality Check Pass Reports from the OEM(s) for 100% of the equipment being supplied prior to offering them for pre-dispatch inspection.

5) In addition, prior to pre-dispatch inspection, the successful Bidder should satisfy that all equipment supplied conforms to applicable quality control parameters.

5.17 Delivery and Documents

Delivery/Commissioning of all the goods at the campus of IIM Sirmaur should be made within a maximum of 17 weeks/21 weeks from the date of placement of LOI/LOA. The successful Bidder/supplier to provide absolute supply schedule within 14 days from the receipt of LOI. Within 24 hours of dispatch, the supplier should notify EdCIL and the insurance company by e-mail the full details of the shipment including contract number, railway receipt number etc. and date, description of goods, quantity, name of the EdCIL invoice etc. Till the IIM Sirmaur consignee takes over/ receives the equipment/ items, the supplier should be responsible to keep the same in safe custody and the charges (if any) to be borne by the successful Bidder. The successful Bidder will be responsible for all equipment supplied till these are successfully installed and commissioned at the designated place. The successful Bidder should submit the following documents to EdCIL with a copy to the insurance company:

1) Copies of the Supplier invoice showing Work Order number, description of goods, quantity, unit price, total amount;
2) Insurance Certificate, if applicable,
3) Manufacturer's/Supplier's warranty certificate;
4) Inspection Certificate issued by EdCIL/nominated inspection agency and subsequently accepted by IIM Sirmaur, if any;
5) Supplier's factory inspection report;
6) Two copies of the packing list identifying the contents of each package.

The above documents should be received by EdCIL before arrival of the Goods and, if not received, the Supplier will be responsible for any consequent expenses.

5.18 Insurance & Transportation

1) The selected Bidder shall be responsible for acquiring comprehensive insurance including transit insurance, liability insurance and any other insurance for all the equipment till the delivery and commissioning at IIM Sirmaur/Respective delivery warehouses along with Insurance against fire, theft, damages and loss of all property owned by the Executing Agency at the construction site, if any extending to third party liability.

2) For delivery of goods at the end client's location, the insurance should be obtained by the Supplier in an amount equal to 110% of the value of the goods from "supplier location to end client location" (final destinations) on "CAR policy".

3) It is the total responsibility of supplier to complete all formalities to transit of goods from the place of dispatch to End Clients Location.

4) The successful Bidder should ensure that no person can engage in the business of a common carrier unless he has been granted a certificate of registration to do so for supply of items at End Client's Location.

5) The transportation of goods through unregistered common carrier is illegal. The successful Bidder should ensure to comply with the latest carriage by Road Act and any other relevant laws.

6) Further, Group Personnel Accident Insurance covering the Executing Agency's employees, operating from the site as per the Executing Agency's established practices. Workman's Compensation Insurance, covering employee's / contract workers of the Executing Agency covered under Workman's Compensation Act and any other mandatory insurance governed by the prevailing laws of Central or State government shall be taken care of by the selected Bidder.

7) All costs related to insurance shall be borne by the selected Bidder for goods supplied under the Agreement against loss or damage incidental to manufacture or acquisition, transportation, storage and delivery etc. A copy of Insurance Certificate should be provided along with the delivery challan before shipping of the equipment.

5.19 Liquidated Damages

The timely completion of project is the essence of this tender. Liquidated damages will be applicable at the rate of zero point five percent (0.5%) of the contract value per week or part thereof for delay in final completion date of the project, subject to a maximum of 10%. EdCIL will have the right to cancel the order, place order on alternative source besides levying the liquidated damages as above.

5.20 Indemnity

1) The selected Bidder shall execute and furnish to EdCIL a Deed of Indemnity in favor of "EdCIL" in a form and manner acceptable to EdCIL, indemnifying EdCIL from and against any costs, loss, damages, expense, claims including those from third parties or liabilities of any kind howsoever suffered, arising or incurred inter alia during and after the contract period out of:
   a) Any negligence or wrongful act or omission by the selected Bidder or the selected Bidder's Team in connection with or incidental to this contract or
   b) A breach of any of the terms of selected Bidder Bid as agreed in the RFP by the Bidder or the selected Bidder's Team.
2) The indemnity shall be to the extent of 100% in favor of EdCIL.

5.21 Commissioning of all Equipment

1) As part of commissioning of the delivered equipment, the selected Bidder shall depute its technically qualified representative(s) to facilitate in the conduct of inspection of 100% of the delivered quantity in presence of EdCIL and IIM Sirmaur representative. For commissioning, the inspection shall be done against the compliance checklist of the product features given in the RFP – Annexure XVIII along with complete documentation.

2) Against the commissioning of all the hardware, the selected Bidder shall get an Installation and Commissioning Sign-off receipt from authorized representative of the EdCIL and IIM Sirmaur. The Bidder shall submit invoices along with the list of serial

numbers of all the equipment supplied and corresponding Commissioning Sign-off receipt from the EdCIL and IIM Sirmaur. The damaged/defective equipment, if any, shall be taken back by the selected Bidder's representative and the corresponding serial numbers shall neither be included in the serial number list enclosed with invoice nor will the cost of returned equipment be reflected in the submitted invoice.

5.22   Warranty Services

1) The Selected Bidder is required to provide a next business day warranty service from OEM for the requisite ICT equipment and related Hardware supplied under the warranty for a period of 5 years. Records of all calls/emails/visits made to the service centre shall be kept in a computerized system for easy tracking of complaints and calculating SLA.

2) The period of warranty for all equipment shall commence after successful installation and commissioning sign-off with IIM Sirmaur.

3) Three level escalation matrix for the complaint's resolution and support.

5.23   Warranty and Maintenance Support Services

The Selected Bidder is required to provide service support for the requisite ICT equipment and related Hardware supplied under the contract for a period of 5 years warranty.

5.24   Service Centre Setup

1) The selected Bidder should have a setup of service centre in Chandigarh/Himachal Pradesh/Dehradun/ Delhi/ NCR for the maintenance and warranty of all equipment supplied under this contract.

2) In case a Bidder has no presence in Chandigarh/Himachal Pradesh/Dehradun/ Delhi/ NCR, he/she shall establish the same within 4 weeks from the date of award of contract. The responsibility of providing satisfactory services solely remains with the selected Bidder.

5.25   Service Level Agreement

1) The purpose of this Service Level Agreement (hereinafter referred to as SLA) is to clearly define the levels of service which shall be provided by the Selected Bidder to EdCIL and IIM Sirmaur for the duration of this Agreement. The selected Bidder shall regularly review the performance of the services being provided by the Selected Bidder and the effectiveness of this SLA.

2) **Definitions:**

For purposes of this Service Level Agreement, the definitions and terms as specified in the Contract along with the following terms shall have the meanings set forth below:

a. "Incident" refers to any event specifying the defect in connectivity (in case of cabling and related accessories) or service breakage (in case of racks).

b. "Resolution Time" shall mean the time taken (after the incident has been reported, in resolving (diagnosing, troubleshooting and fixing) the issue.

3) **Category of SLAs**

i.   This document provides for minimum level of services required as per contractual obligations based on performance indicators and measurements thereof. The Bidder shall ensure provisioning of all required services while monitoring the performance of the same to effectively comply with the performance levels. The services provided by the Bidder shall be reviewed by EdCIL/IIM Sirmaur as the following:

a.   Adherence to delivery schedule.
b.   Regularly check performance of the Bidder against this SLA.
c.   Obtain suggestions for changes to improving the service levels.
d.   Periodic inspection of selected Bidder's Help Desk Records like:

- Types of Incidents and requests
- Time to resolve and number of unclosed tickets
- Systems involved
- **Codal** life of document after the completion of project. Codal life of document will be adopted by IIM SIRMAUR.

ii.   The SLA shall be logically segregated in the following categories:

a.   Pre-Dispatch Inspection
b.   Implementation Service levels/Delivery Schedule
c.   Warranty obligations.
d.   Compliance and Reporting Procedures

iii.   The following measurements and targets shall be used to track and report performance on a regular basis. The targets shown in the following tables are applicable for the duration of the Contract. All penalties shall be paid by the Selected Bidder to EdCIL/IIM Sirmaur.

iv.   **Delivery Schedule**

Sl. No.	Measurement	Target	Penalty
1.	Start of shipment of Hardware/ equipment	Within 4 Weeks of issuance of Work Order.	
2.	Delivery of Hardware/ equipment at IIM Sirmaur	Within 17 Weeks of issuance of Work Order.	
3.	Commissioning of all IT Hardware/ equipment.	Within 21 weeks of issuance of Work Order.	Liquidated damages will be applicable at the rate of zero-point five percent (0.5%) of the contract value per week or part thereof for final commissioning of ICT

			components subject to a maximum of 10%

* GST shall be charged extra over and above the penalty amount for delay in delivery schedule and penalty for breach of SLA.

v. **Warranty and Post Warranty Support obligations:**

The support services delivery of the Bidder should be governed by the following architecture, a single point of contact with a 24 X 7 available number. An Engineer or an authorized person should be able to log their complaint on this central number, following a predefined process, so as to raise a service request. The request will be attended to, resolved and escalated as per the standard operating procedures.

Support Services Provisioned

Service Entitlement		Standard
Telephone Technical Support	Access to Live Agents at our Support Centre	7 x 24 x 365
On-Site Engineering Services	Service Availability	7 x 24 x 365 (staggered shifts)
	Response Time	4 hours

Point of Contacts

Successful Bidder should assign a point of contact Manager for IIM Sirmaur.

Manager will be responsible for following:

    i.   Ensuring on timely rectification and/or replacement of ICT components.

    ii.   Arranging Standby Hardware, whenever possible.

    iii.   Tracking Complaint status and periodic update to customer.

    iv.   Provide regular updates to customer contact.

The successful Bidder shall depute requisite number of Engineer/Engineers to address faults as raised by IIM Sirmaur to its support helpdesk within the Response Time. The Engineer should be adequately apprised of the network infrastructure deployed at IIM Sirmaur. The Engineer so deputed during the delivery, installation, testing and handover phases and till the completion of the project will be responsible for the following:

    i.   Day-to-day network management and monitoring activities on site for the devices deployed.

    ii.   Technically competent to handle usual issues generated in the network management or the devices supplied.

iii.   Capable of articulating complicated technical challenges onsite to expert offsite and work as hands-n-eye for the offsite technical team.

iv.   Capable of understanding the client's requirement for MACs (Move-n-Change);

v.   Reports to off-site Manager.

vi.   If on leave, a substitution will be done with another adequately informed and competent engineer to continue as-usual operations smoothly.

5.26 Fault Notification

The helpdesk should be operational 24 X 7 and E-mail address and Phone numbers should be made available that can be reached on. The Service Desk Agent will provide the Customer (Client) with a Service Request Number which the support team will refer to in any correspondence related to this case, and which the Customer should refer to when the Customer wishes to make enquiries about the progress of the case. The service request number will be communicated to the customer immediately via phone & email.

5.27 Severity Level Definitions

Severity Level	Critical	Major	Minor
Alternate description	**P1**	**P2**	**P3**
Alternate description	**Severity 1**	**Severity 2**	**Severity 3**
Definition	Complete loss of a core organizational or business process where work cannot reasonably continue. Catastrophic impact on business. Workflow cannot move forward with the product until the issue is resolved. The issue may be caused by a critical failure that causes data failure or precludes the use of function of the product.	High impact on organizational or business processes. Operation of an existing network is severely degraded, or significant aspects of customer's business operation are negatively impacted by inadequate performance of the products. Inability to deploy a key feature or function. Product usage is affected but can continue for a reasonable amount of time before the problem	Minimal organizational or business impact. Anything which is not Out of service or Major is classified as Minor.

		becomes catastrophic.	
SI's priority	SI's immediate priority is to restore service and not to debug the problem.	SI's immediate priority is to restore/improve service, not debug the problem.	SI's priority is to begin collecting data to debug the problem.

Escalation and Notifications:

The SI ensures that all the stakeholders are notified in a timely manner on the status of event/ticket. SI Service Desk system notifies users during following events:

1) Logging of ticket.

2) Status change of ticket.

3) Support engineers'-initiated notifications.

In order to ensure issues are resolved within SLA, Successful SI will have to use defined escalation mechanisms.

Below is standard Functional Escalation process followed for different severity calls.

Severity of call	Type of call	Tier-II	Tier-III
Severity-1: Critical	Incident	4th Hour	6th Hour
Severity-2: Major	Incident	6th Hour	24th Hour
Severity-3: Minor	Incident	24th Hour	48th Hour

5.28 Penalty for breach of SLA

S.no	Fault Resolution – SLA	Time Allocated	Penalty (in % percentage or Rs)
1	Call Resolution (in case of Severity-1 type incident)	< 4 Hrs.	0%
		> 12 hrs.	0.5 % of the unit hardware cost
2	Call Resolution (in case of Severity-2 type incident)	< 6 Hrs.	0%
		> 48 hrs.	0.5 % of the unit hardware cost
3	Call Resolution (in case of Severity-3 type incident)	< 24 Hrs.	0%
		> 60 hrs.	0.5% of the unit hardware cost

* GST shall be charged extra over and above the penalty amount for delay in delivery schedule and penalty for breach of SLA.

5.29   SLA Review Process

1) Either EdCIL or the selected Bidder may raise an issue, by documenting the business or technical problem, which presents a reasonably objective summary of both points of view and identifies specific points of disagreement with possible solutions.

2) A meeting or conference call will be conducted to resolve the issue in a timely manner. The documented issues will be distributed to the participants at least 24 hours prior to the discussion if the issue is not an emergency requiring immediate attention.

3) EdCIL and the selected Bidder shall develop an interim solution, if required, and subsequently permanent solution for the problem at hand. The selected Bidder will then communicate the resolution to all interested parties.

4) In case the issue is still unresolved, the arbitration procedures described in arbitration clause will be applicable.

5.30   Manuals, Drawings and Videos

1) Before the goods and equipment are taken over by IIM Sirmaur, the Supplier should supply operation and maintenance manuals. These should be in such detail as will enable the IIM Sirmaur to operate, maintain, adjust and repair all parts of the works as stated in the specifications, along with these drawings of layouts and integrated schematics.

2) The Manuals should be in the ruling language (English).

5.31   Requirement of Key Personnel (Technical Manpower) for the IIM Sirmaur Campus.

1) The successful Bidder shall deploy experienced resources (Network/Software Engineer) at the premise of the institute, who must be a full-time employee of the successful Bidder, during installation, Contract, Agreement, warranty and post warranty Periods (as specified in the agreement). The Network/Software Engineer shall function under the aegis of Contact Manager of the Bidder, will be responsible at project site office and report to IIM Sirmaur, Himachal Pradesh.

2) Minimum qualification and experience with Job description is mentioned in the table given below:

Role	Qualification	Job-Description & relevant experience
Network/Software Engineer	B.E/B.Tech (CS/IT)	At least 04 years of experience in working on Switching, Routing, VLAN, Firewall, UTM, Server/Users Configuration, HCI Trained etc. CCNA / CCNP Certified candidates with exposure on LINUX and Windows".

3) **Job-Description:**

a) Fully support, configure, maintain and upgrade networks and servers/systems.

b) Install and integrate new server hardware and applications.

c) Keep an eye out for needed updates.

d) Support and administer third-party applications.

e) Ensure network security and connectivity.

f) Monitor network performance (availability, utilization, throughput, good put, and latency) and test for weaknesses.

g) Set up user accounts, permissions and passwords.

h) Resolve problems reported (hardware/software) by end user.

i) Define network policies and procedures.

j) Specify system requirements and design solutions.

k) Research and make recommendations on server system administration.

5.32   Resume Format:

Name:	Role ()
Qualification(s)	
Overall work experience (in years)	
Relevant experience	
Employed by Bidder company since	
Details of relevant professional experience	
Engagement Type	
Entity	
Nature of Entity (PSE / Private)	
Period of engagement	
Role	
Key work performed	

CHAPTER-VI

6. Bid Evaluation

6.1 Bid Evaluation Process

The bid evaluation shall consist of the following phases:
1) Phase I –QCBS evaluation of the Technical Bid as per the Marking Scheme mentioned in the bid document.
2) Phase II - Evaluation of Financial bid

Phase I: Evaluation of Technical Bid:

The QCBS rating/marking and financial bid opening will be carried out for only those Bidders who qualify in the technical bid.

Marking Matrix: In the below table, marking parameters for technical evaluation are mentioned:

S.no	Marking Parameters	Marking Scheme	Maximum Marks	Document required
1.	The Bidders shall have minimum technical manpower strength of 50 persons on its rolls at least for 3 years before the last date of submission of RFP.	>=50 Engineers and <80 = 5 Marks >=80 and <=100 = 8 Marks >100 Engineers = 10 Marks	10	Proof of PF/ESI Documents along with declaration and An Undertaking to be submitted by designated authority (Company Secretary) of the organization for the past three years.
2.	The Bidder shall be in IT & ITES business for the last 5 years and shall have at least 5 years of experience as on as on the date of floating of tender **in each of the areas:** i. Supply and maintenance of servers, storage ii. Supply and maintenance of networking devices like wireless Access	5 years to less than 7 years of experience = 8 Marks 7 years to less than 9 years of experience = 16 Marks 9 years and above experience = 24 Marks	24	Valid PO/Completion Certificate/Ongoing certificate.

	Points with controllers/ switches/ routers/NGFW etc. * Minimum project value considered for evaluation should be more **than 9.6 crores.**			
3	Experience of Setting Up big Campus Network/ Educational Institution/ University* project in the last Seven financial years with minimum project value of 6 crores. * **Note 1:** Setting up of Campus area Networking (Active components) and related security (NGFW/ equivalent) & monitoring system software (NMS, WLC)	i. One Contract of value more than Rs. 6 Crore - 7 Marks ii. One Contract of value more than Rs. 12 Crore - 14 Marks iii. One Contract of value more than Rs. 18 Crore – 21 Marks	21	Valid PO and Satisfactory Completion Certificate
4	Bidder should have experience in SITC of at least one work having network **of minimum** 2000 nodes in the past Seven (7) financial years ending March 2023.	1 contract= 7 Marks 2 Contracts = 14 Marks 3 or more contracts = 21 Marks	21	Valid PO and satisfactory Completion Certificate
5.	Bidder shall have an average minimum annual turnover of Rs. 12 Crore in the areas specified in all the items specified above put together, in the last three (3) financial years ending March 31, 2023. * In case audited results are not available for Fy 2022-23 then the bidders can	>=Rs.12 Cr and <=Rs.18 Cr = 3 Marks >Rs.18 Cr and <=Rs.24 Cr = 6 Marks >Rs.24 Cr = 9 Marks	9	Only completed projects shall be considered for marking criteria. Documents required are: **Copy of work order + Completion certificates**

	submit audited results for 2019-2020.			
6.	Technical Presentation - Expert Committee for the Technical Presentation will evaluate. i) Value addition to current system ii) Resource Planning: the Bidder's capability and product quality (Project Team deployment plan, System Configurability and Up gradation, Quality Previous project implementation timelines (From Project kick-off time to Handover date and Time) iii) Technical Expertise: technology and other suitability related aspects (Solution Architecture) However, this list is not the final list and the committee may modify it at any later stage. Note-The Technical Presentation will be held at IIM Sirmaur, Himachal Pradesh Campus and Bidder will have to make all the arrangements to attend the same according to the notified date and time at their own.		15	
	Total (Maximum)		100	

The Bidder who scores minimum 60 marks as per marking scheme shall be declared qualified in technical evaluation stage and notified for opening of their financial bids.

Qualified Bidders would also be advised to attend opening of the financial bid.

6.2 Evaluation of Financial bids:

The Financial bid of only those Bidders who are found technically eligible shall be opened. The financial bids shall be opened in the presence of representative of technically eligible Bidders, who may like to be present. EdCIL shall inform the date, place and time for opening of financial bids.

1) Financial bids will be inspected to ensure their conformity to the format provided in the tender document.
2) If there is any discrepancy between words and figures in any part of the financial bid, the amount indicated in words will prevail.

1) Final Proposal shall be given scoring as below:

a) Normalization factor (N1) to obtain the Normalized Technical score of the Bidders shall be calculated as below: -

$N1 = T/Th$
Where:

$N1$ = Normalization factor for calculation of Technical score.
T = Technical Marks obtained by the Bidder under consideration as per marking scheme
Th = Highest Technical Score obtained by any Bidder

a) Normalized technical score for the Bidder under consideration will be calculated using the following relation:

$Tn = (N1)*(\text{Weight age of the Technical Score i.e. } 70)$

Where
Tn = Normalized technical score for the Bidder under consideration

b) Normalization factor (N2) to obtain the Normalized Financial Score of the other Bidders shall be calculated as below: -
$N2 = FL/F$
Where:
$N2$ = Normalization factor for calculation of Financial score. F = the quoted price of Financial Proposal under consideration
FL = the price of lowest priced Financial Proposal

c) Normalized financial score for the Bidder under consideration will be calculated using the following relation:

$Fn = (N2)*(\text{Weightage of the Financial Score i.e. } 30)$
Where
Fn = Normalized Financial score for the Bidder under consideration

2) Combined Quality and Cost Based Selection (QCBS) Evaluation

The score of technical proposal including presentation would be given 70% weightage, and the financial proposal would be given 30% weightage. The weighted combined score of the Technical bid including presentation (Tn), and Financial proposals (Fn) shall be used to rank the Bidders on the basis of formula given as below:

Combined Score= Normalized Technical Score (Tn) + Normalized Financial Score (Fn)

Bidder with highest Combined Score shall be declared selected Bidder.

In the event of two or more Bidders/organizations with the same final score, the Bidder with more marks in technical evaluation shall be ranked higher i.e. will be given preference.

6.3 Compliance to Make in India:

Compliance to Make In India (Make in India Circular No. P-45021/2/2017-PP(BE-II) of DPIIT dated 16.09.2020) and Land Border sharing OM & Order (Public Procurement No.1) ref. F.No.6/18/2019-PPD dated 23.07.2020 and subsequent addendums/ amendments:

a) The MII Declaration / Certificate (as per annexure XXIII) to be provided by Statutory Auditor or Cost Auditor of the Company (in case of companies) or from a practicing Cost Accountant or practicing Chartered Accountant (in respect of suppliers other than companies).

b) Only "Class-I local supplier" having minimum 50% local content and "Class-II local supplier" having minimum 20% local content for the overall solution, shall be eligible to bid in this procurement.

c) The System Integrator (SI) / Bidder has to submit the consolidated MII (local content) % for the complete solution being offered as per Annexure XXIII.

d) MII Purchase Preference shall be provided as per the provision of the said MII order.

e) The Bidder and offered product should also comply with the provision of Land Border sharing OM & Order (Public Procurement No.1) ref. F.No.6/18/2019- PPD dated 23.07.2020 and subsequent addendums/ amendments

f) Consortium/ JV of companies/ firms is not allowed.

Chapter-VII

7. Timeline & Payment terms

7.1 Payment Terms:

Only those Bidders who are confident and willing to carry out the work within the prescribed time period, are requested to participate in this tender.

S.no	Milestone	Payment % of the Contract Value (including all taxes, duties and levies, as applicable)
1.	(a) Payment of "X" % of charges for the comprehensive project work, towards supply of complete material any, against documentary evidence, shall be released only after receipt of material at IIM Sirmaur on receipt of the following documents: - · Invoice. · Warranty Certificate. · Delivery Challan (duly signed & stamped by authorized officials of consignee). · PDI report . E-way bills for delivery of the material and equipment at site	X=75
2.	"Y" % of charges for the comprehensive project work, towards successful Installation and commissioning shall be released after receipt of the following: • Clearance from EdCIL and IIM Sirmaur Representative regarding successful completion of work • Inspection report (Installation and commissioning report duly signed and stamped by authorized officials of consignee)	Y=15
3.	"Z" % of charges for the comprehensive warranty including technical manpower cost shall be released at end of each year. The payment shall be as per the following schedule: Payment after completion of first year = 1% of contract value Payment after completion of second year = 1.5% of contract value Payment after completion of third year = 2% of contract value Payment after completion of fourth year = 2.5% of contract value Payment after completion of fifth year = 3% of contract value	Z=10

| The payment shall be released on receipt of the following:

(i) Clearance from IIM Sirmaur regarding Contractor had rectified/replaced the faulty component/ item as per SLA on intimation from IIM Sirmaur.

(ii) Certificate of satisfactory performance from IIM Sirmaur and preventive maintenance reports and log reports | |

Note:

1) Payments will be done only on the back-to-back basis on receipt of the related payment/funds from the end client, subject to satisfactory acceptance of the deliverables from the end client as per the submission of the required document.
2) Warranty start will be reckoned from the date of installation and commissioning as approved by the end client. Part payment can be made against commissioning in accordance with the progress of the project on the sole discretion of IIM Sirmaur.

7.2 Performance Bank Guarantee:

The successful Bidder shall be required to deposit Performance Bank Guarantee equivalent to 5% of contract value to IIM Sirmaur within 14 days from the date of receipt of LOA. The Performance Bank Guarantee shall be issued by a Scheduled Commercial Bank in favour of **"IIM Sirmaur"** and be valid for at least 90 days beyond the target date of completion of Contract and further as specified in the LOI. This Performance Bank Guarantee should be retained throughout the currency of the contract and shall be extended by the Bidder from time to time, as required by IIM Sirmaur.

Chapter-VIII

8. Key Contract Terms

8.1 Force Majeure

The selected Bidder shall not be liable for forfeiture of its performance bank guarantee, liquidated damages or termination for default if, and to the extent applicable, its delay(s) in performance or other failure(s) to perform its obligations under the Contract is/are the result of Force Majeure.

1) For purposes of this Clause, "Force Majeure" means an event beyond the control of the selected Bidder and not involving the selected Bidder's fault or negligence and not foreseeable. Such events shall include, but are not limited to, acts of the EdCIL either in its sovereign or contractual capacity, wars or revolutions, fires, floods, epidemics, quarantine restrictions and freight embargoes.

2) If a Force Majeure situation arises, the selected Bidder should promptly notify EdCIL/ IIM Sirmaur in writing of such conditions and the cause thereof. Unless otherwise directed by EdCIL/ IIM Sirmaur in writing, the selected Bidder shall continue to perform its obligations under the Contract as far as is reasonably practical and should seek all reasonable alternative means for performance not prevented by the Force Majeure event.

8.2 Prices:

1) The price should be quoted in per unit and must include all packing, delivery, commissioning charges etc. The rates for the individual items should be quoted as detailed in Annexure XX.

2) The prices must be quoted in the Proforma given in Financial Bid failing which the Bid would be treated as unresponsive.

3) The price quoted should be inclusive of 5 year on-site comprehensive warranty including deployment of technical manpower during this period, providing basic training and demonstration to the end client.

8.3 Notices:

For the purpose of all notices, the following should be the address:

Chief General Manager (DES)
EdCIL (India) Limited,
18 A, Sector-16A,
Noida-201301, Uttar Pradesh
Tel: 91-120-2512001 to 2512006

8.4 Governing Language

The contract should be written in English language. English language version of the Contract should govern its interpretation. All correspondence and other documents pertaining to the Contract, which are exchanged by the parties, shall be written in the same language.

8.5 Applicable Law

The Contract shall be interpreted in accordance with the laws of the Union of India and all disputes shall be subject to place of jurisdiction. The place of jurisdiction would be New Delhi (Delhi) INDIA.

8.6 Taxes

Selected Bidder shall be entirely responsible for payment of all taxes, duties, road permits, etc., incurred until completion of the project including handing over. The rates for the individual items should be quoted as detailed in Annexure XX.

8.7 Termination for Default

The EdCIL should, without prejudice to any other remedy for breach of contract, by written notice of default sent to the Supplier, terminate the Contract in whole or part:

1) If the Supplier fails to complete the work within the period(s) specified in the order, or within any extension thereof granted by the EdCIL; or
2) If the Supplier fails to perform any other obligation(s) under the Contract.
3) If the Supplier, in the judgment of the EdCIL, has engaged in corrupt or fraudulent practices in competing for or in executing the Contract.
4) For the purpose of this Clause:

- "**Corrupt practice**" means the offering, giving, receiving or soliciting of anything of value to influence the action of a public official in the procurement process or in contract execution.

- "**Fraudulent practice**" means a misrepresentation of facts in order to influence a procurement process or the execution of a contract to the detriment of the Borrower, and includes collusive practice among Bidders (prior to or after bid submission) designed to establish bid prices at artificial non-competitive levels and to deprive the Borrower of the benefits of free and open competition.

- In the event EdCIL terminates the Contract in whole or in part, EdCIL may procure, at the risk and cost of the supplier and upon such terms and in such manner, as it deems appropriate, Goods or Services similar to those undelivered. However, the Supplier shall continue the performance of the Contract to the extent not terminated.

8.8 Disputes and Jurisdiction:

Any legal disputes arising out of any breach of contract pertaining to this tender shall be settled in the court of competent jurisdiction located within New Delhi.

8.9   Compliance certificate:

This certificate must be provided on their letterhead indicating conformity to the technical specifications. (Annexure XVIII)

8.10   Price Information

Price information shall not be there in Technical Bid.

8.11   Rates in Figures and Words:

Rates Quoted by the Bidder in tender in figures and words shall be accurately filled in so that there is no discrepancy in the rates written in figures and words. However, if a discrepancy is found, the rates which correspond with the amount worked out by the Bidder shall unless otherwise proved be taken as correct. If the amount of an item is not worked out by the contractor or it does not correspond with the rates written either in figures or in words then the rates quoted by the Bidder in words shall be taken as correct. Where the rates quoted by the Bidder in figures and in words tally but the amount is not worked out correctly, the rates quoted by the Bidder will unless otherwise proved be taken as correct and not the amount. In event no rate has been quoted for any item(s), leaving space both in figure(s), word(s) and amount blank, it will be presumed that the Bidder has included the cost of this/these item(s) in other items and rate for such item(s) will be considered as zero and work will be required to be executed accordingly.

In the case of any tender where unit rate appear unrealistic, such tender will be considered as unbalanced and in case the tender is unable to provide satisfactory explanation such a tender is liable to be disqualified and rejected.

8.12   Arbitration

1) In case of dispute(s) arising between the parties having not been settled amicably the matter shall be settled as per the Arbitration and conciliation Act, 1996 with its amendments from time to time, and accordingly the dispute shall be referred to a Sole Arbitrator to be appointed by the parties whose decision shall be final and binding on both the parties. The fees of the Arbitrator shall be borne by both the parties in equal proportion. The Arbitration and Conciliation Act 1996, the rules hereunder and any statutory modification or re-enactments thereof, shall apply to the arbitration proceedings.

2) The Arbitration proceedings shall be held in New Delhi, India. The Arbitration proceeding shall be governed by the substantive laws of India.

3) If any of the Arbitrators so appointed dies, resigns, incapacitated or withdraws for any reason from the proceedings, it shall be lawful for the concerned party/ arbitrator to appoint another person in his place in the same manner as aforesaid. Such person shall proceed with the reference from the stage where his predecessor had left if both parties consent for the same; otherwise, he shall proceed de novo.

4) The Arbitral Tribunal shall give reasonable award and the same shall be final, conclusive and binding on the parties.

8.13   Non-Disclosure

The firm and their personnel shall not, either during the term or after expiration of this contract, disclose any proprietary or confidential information relating to the services, contract, terms, prices or details of the client's business or operations without the prior written consent of the client.

8.14   Supplier Integrity

The selected Bidder is responsible for and obliged to conduct all contracted activities in accordance with the Contract using state of the art methods and economic principles and exercising all means available to achieve the performance specified in the contract.

8.15   Right to Use Defective Goods

1) If after delivery, acceptance and installation and within the guarantee and warranty period, the operation or use of the goods proves to be unsatisfactory, IIM Sirmaur should have the right to continue to operate or use such goods until rectifications of defects, errors or omissions by repair or by partial or complete replacement is made without interfering with IIM Sirmaur's operations.
2) Replacement of Goods broken, damaged or short: In the event of any material or part thereof found broken or damaged or received short during transit or during installation or Commissioning or testing at site, before commissioning in service, the suppliers shall replace the same free of cost. However, EdCIL may recover amount equivalent to the cost of such damaged / broken / short, supplied materials and will repay when actual replacement is given.
3) Substitution and Wrong Supplies: Unauthorized substitution or materials delivered in error of wrong description or quality or supplied in excess quantity or rejected goods shall be returned to the supplier at their own cost and risk.

8.16   Award of Contract

1) EdCIL reserves the right to accept or reject any proposal and to annul the bidding process and reject all proposals at any time prior to award of contract, without thereby incurring any liability to the Bidders. In case of annulment, all proposals submitted and specifically, proposal securities shall be promptly returned to the Bidder.

8.17   Risk Purchase Clause

In the event of failure of supply of the item/equipment within the stipulated delivery schedule, the EdCIL has all the right to purchase the item/equipment from any other source on the total risk and cost of the supplier under risk purchase clause.

8.18 Compensation

EdCIL India Limited shall be entitled to deduct from applicable payments to successful BIDDER, any tax on successful BIDDER' income deductible at source at the rates applicable as per the provisions of Income Tax Act 1961. TDS as per GST law or any other applicable statutory deduction also can be made at the time of payment to the successful Bidder and provide successful BIDDER with evidence or certificate of payment of such tax to the taxing authorities. Successful BIDDER shall submit invoices to EdCIL India Limited in accordance with the payment schedule in Commercial of this document.

8.19 Confidential Information

Each Party (the "Receiving Party") acknowledges and agrees to maintain the confidentiality of Confidential Information (as hereafter defined) provided by the other Party (the "Disclosing Party") hereunder. The Receiving Party shall not disclose or disseminate the Disclosing Party's Confidential Information to any person other than those employees, agents, contractors, subcontractors and licensees of the Receiving Party, or its affiliates, who have a need to know it in order to assist the Receiving Party in performing its obligations, or to permit the Receiving Party to exercise its rights under this Agreement.

In addition, the Receiving Party (i) shall take all such steps to prevent unauthorized access to the Disclosing Party's Confidential Information, as it takes to protect its own confidential or proprietary information of a similar nature, which steps shall in no event be less than a reasonable standard of care, (ii) shall not use the Disclosing Party's Confidential Information, or authorize other persons or entities to use the Disclosing Party's Confidential Information, for any purposes other than in connection with performing its obligations or exercising its rights hereunder, and (iii) shall require all persons and entities who are provided access to the Disclosing Party's Confidential Information, to execute confidentiality or non-disclosure agreements containing provisions substantially similar to those set forth in this Clause.

The provisions of this Clause respecting Confidential Information shall not apply to the extent, but only to the extent, that such Confidential Information is: (a) already known to the Receiving Party free of any restriction at the time it is obtained from the Disclosing Party, (b) subsequently learned from an independent third party free of any restriction and without breach of this provision; (c) is or becomes publicly available through no wrongful act of the Receiving Party or any third party; (d) is independently developed by the Receiving Party without reference to or use of any Confidential Information of the Disclosing Party; or (e) is required to be disclosed pursuant to an applicable law, rule, regulation, government requirement or court order, or the rules of any stock exchange.

Upon the Disclosing Party's written request at any time, or following the completion or termination of this Agreement, the Receiving Party shall promptly return to the Disclosing Party, or destroy, all Confidential Information of the Disclosing Party provided under or in connection with this Agreement, including all copies, portions and summaries thereof.

8.20 Fall Clause

The Bidder undertakes that the rates quoted by him in the financial bid for each item is not higher than the rate offered by him for similar work to any other PSU/ Educational

Department/ Govt. Educational Department in the last 3 months. In case, if the price charged by Bidder is more, EdCIL will have the right to recover the excess price discovered amount from the subsequent/unpaid bill of the supplier, provided all conditions of the work including time, scope, logistics, specifications, and country are same.

8.21 Tender Conditions with Implementation of Insolvency and Bankruptcy Code, 2016 (IBC)

1) It shall be the responsibility of all Bidders to inform EdCIL within 15 days from the date of order of insolvency resolution process or liquidation or bankruptcy proceeding passed by the Adjudicating Authority namely, National Company Law Tribunal (NCLT) or Debt Recovery Tribunal (DRT) under the Code.

2) If a Bidder refuses or fails to share the information regarding their status of insolvency resolution process or liquidation or bankruptcy proceeding in their bid or at any later stage, their offer is liable to be rejected by EdCIL.

3) EdCIL reserves the right to cancel/terminate the contract without any liability on the part of EdCIL immediately on the commencement of insolvency resolution process or liquidation or bankruptcy proceeding of any party under the contract.

4) EdCIL reserves its right to evaluate and finalize the bid without considering the bid of any party undergoing insolvency resolution process or liquidation or bankruptcy proceeding under the Code regardless of the stage of tendering.

5) A declaration / undertaking shall be submitted by Bidders in the Format (as per ANNEXURE) along with their techno commercial bids.

8.22 Guidelines for Evaluation & Short closure:

1) After opening of price bid but before award, if a Bidder(s) is(are) rejected due to initiation of insolvency resolution process or liquidation or bankruptcy proceeding under Insolvency and Bankruptcy Code, 2016 (Code), tender will be finalized ignoring such bid(s).

2) During execution of contract, if insolvency resolution process or liquidation or bankruptcy proceeding under Insolvency and Bankruptcy Code, 2016 (Code) are initiated against the successful Bidder, EdCIL shall have the right to short close the contract.

8.23 Tripartite Agreement:
The successful bidder shall be required to-sign a tripartite agreement on a 100/- rupee non judicial stamp paper as detailed in ANNEXURE-XXIV, to be signed by EdCIL and IIM SIRMAUR, too, before award of work. This will become a part of contract.

ANNEXURE-I

Technical Compliance Declaration Sheet

We hereby confirm that we are complying with the technical specifications as specified in the tender document and the offer is submitted in accordance with the technical requirements. All relevant documents in support of our claims are enclosed at the following pages:

Signature of Bidder: _____

Name of Bidder: _____

Designation: _____

Organization Name: _____

Contact No.: _____

Email: _____

Mobile: _____

ANNEXURE-II

<< **Organization Letter Head** >>
DECLARATION SHEET

We _____ hereby certify that all the information and data furnished by our organization with regard to this tender specification are true and complete to the best of our knowledge. I have gone through the specifications, conditions and stipulations in detail and agree to comply with the requirements and intent of specification.

We further certify that our organization meets all the conditions of eligibility criteria laid down in this tender document. Moreover, we will support the project on a regular basis with technology / product updates and extend support for the warranty.

We further specifically certify that our organization has not been Blacklisted/ De Listed or put to any Holiday by any Institutional Agency/ Govt. Department/ Public Sector Undertaking in the last three years.	NAME & ADDRESS of the VENDOR/ MANUFACTURER/ AGENT
1 Phone	
2 Fax	
3 E-mail	
4 Contact Person Name	
5 Mobile Number	
6 TIN Number	
7 PAN Number	
(In case of on-line payment of Tender Fees) 8 UTR No. (For Tender Fee)	
(In case of on-line payment of EMD) 9 UTR No. (For EMD)	
10 Kindly provide bank details of the Bidder in the following format: a) Name of the Bank	
b) Account Number	
c) Kindly attach scanned copy of one Cheque book page to enable us to return the EMD to unsuccessful Bidder	

(**Signature of the Bidder**)
 Name: _____
 Seal of the Company

ANNEXURE III

Letter of undertaking

(ON THE LETTER HEAD OF THE BIDDER)

To

Chief General Manager (DES)
EdCIL (India) Limited (EdCIL)
EdCIL House, 18 A, Sector-16 A,
NOIDA – 201301 (U.P.)

Sir,

SUBJECT- Selection of System Integrator for Supplying, Installation, Testing & Commissioning of IP-PBX, Lan, Wi-Fi, IP CCTV, Biometric attendance system, Server & Storage at Proposed Permanent Campus of IIM Sirmaur, Rampur Ghat Road, Paonta Sahib

This bears reference to EdCIL Bid No. **EdCIL/DES/IIMS/ICT/2023/01** Dated ……. We hereby accept all the terms and conditions for submitting bid as mentioned in this Bid Document.

We hereby certify that no terms and conditions have been stipulated by us in the Financial Bid.

We warrant that the services do not violate or infringe upon any patent, copyright, trade secret or other property right of any other person or other entity. We agree that we shall not prevent EdCIL from any claim or demand, action or proceeding, directly or indirectly resulting from or arising out of any breach or alleged breach of any of the terms & conditions of bid document and contract.

The above document is executed on ……. at (place) _____ and we accept that if anything out of the information provided by us is found wrong, our bid/ work order shall be liable for rejection.

Thanking you,

Yours faithfully,

Signature of Bidder: _____

Name of the Bidder_____

Designation_____

Seal of the Organization_____

Date:
Place:

SELF-DECLARATION – NON-BLACKLISTING

To,
Chief General Manager (DES)
EdCIL (India) Limited
EdCIL House, 18 A, Sector-16 A
NOIDA – 201301 (U.P.), India

Sir,

In response to the Tender _____ dated_____ for **Selection of System Integrator for Supplying, Installation, Testing & Commissioning of IP-PBX, Lan, Wi-Fi, IP CCTV, Biometric attendance system, Server & Storage at Proposed Permanent Campus of IIM Sirmaur, Rampur Ghat Road, Paonta Sahib,** I/We hereby declare that presently our Company/Service provider M/s _____ is having unblemished record and is not blacklisted for corrupt or fraudulent practices or non-performance either indefinitely or for a particular period of time by any State/ Central Government/PSU/Autonomous Body on the date of bid submission.

If this declaration is found to be incorrect then without prejudice to any other action that may be taken, my/ our EMD may be forfeited in full and the tender if any, to the extent accepted be cancelled.

Thanking you,
Yours faithfully,

Signature of Bidder
Name of the Bidder:

Designation:

Seal of the Organization:

Date:
Place:

Note: *The undertaking regarding the non-blacklisting of firm is to be submitted on a non-judicial stamp paper of Rs. 100/- (Rupees Hundred only).*

ANNEXURE V

Annual Average Turnover

Sl. No.	Financial Year			
1.	2020-21			
2.	2021-22			
3.	2022-23			
Total				
Average				

* In case audited results are not available for Fy 2022-23 then the bidders can submit audited results for 2019-2020.

Note: Certificate from Statutory Auditors / Charted Accountant certifying above information for all three years to be enclosed.

Signature with Seal of the Chartered Accountant

Signature with Seal of the Bidder

ANNEXURE-VI

PERFORMA FOR DECLARATION ON PROCEEDINGS UNDER INSOLVENCY AND BANKRUPTCY CODE, 2016

Tender No. : ....
Name of Work: ....
Bidder's Name: ....

I/ We, M/s. _____ declare that: -

a) I /We am / are not undergoing insolvency resolution Process or liquidation or bankruptcy proceeding as on date.
b) I /We am / are undergoing insolvency resolution process or liquidation or bankruptcy proceeding as on date as per Details mentioned below. (Attached detail with technical bid)

Note: Strike out one of the above which is not applicable.

It is understood that if this declaration is found to be false, EdCIL (India) Ltd. shall have the right to reject my / our bid, and forfeit the EMD, if the bid has resulted in a contract, the contract will be liable for termination without prejudice to any other rights or remedies (including holiday listing) available to EdCIL (India) Ltd.

Place:
Date:

Signature of Bidder:

Name of Signatory:

Annexure VII

List of Campus networking projects in the last seven financial years

S. No	Name of the Client with address	Name of the Project and brief description	Value (Exc Tax)	Date of award	Date of Completion	Current Status and duration of maintenance period for ongoing project	Name of Contact Person and other details
1.							
2.							
3.							
4.							
5.							
6.							
7							
8							

Signature of Bidder

Name: _____

Designation: _____

Organization Name: _____

Contact No. : _____

ANNEXURE-VIII

<u>Power of Attorney</u>

Know all men by these presents, we………………………………… (Name of firm and address of the registered office) do hereby constitute, nominate, appoint and authorize Mr./Ms………………………. son/daughter/wife of …………. and presently residing at………………………………., who is presently employed with /retained by us and holding position of…………….as our true and lawful attorney.

(hereinafter referred to as the "Authorized Representative") to do in our name and on our behalf, all such acts, deeds and things are as necessary or required in connection with or incidental to submission of our proposal for and selection as the <project title> for the <name of the client> (EdCIL)………………………………project, proposed to be developed by the……………………….. (the "client" (EdCIL)) including but not limited to signing and submission of all applications, proposals and other documents and writings, participating in pre bid and other conferences and providing information /responses to the client, representing us in all matters before the Client (EdCIL), signing and execution of all contracts and undertakings consequent to acceptance of our proposal and generally dealing with the client (EdCIL) in all matter in connection with or relating to or arising out of our Proposal for the said project /or upon award thereof to us till the entering into of the Agreement with the client (EdCIL).

AND, we do hereby agree to ratify and confirm all acts, deeds and things lawful done or caused to be done by our said Authorized Representative pursuant to and in exercise of the powers conferred by this power and Attorney and that all acts, and things done by our said Authorized Representative in exercise of the powers hereby conferred shall and shall always be deemed to have been done by us.

[IN WITNESS WHEREOF WE…………………………………THE ABOVE-NAMED PRINCIPAL HAVE EXECUTED THIS POWER OF ATTORNEY ON

THIS ………………. DAY OF ………….2023.

For ………………………………… (Name and registered address of client (EdCIL)

(Signature, name, designation, and address)

Witness:

1. (Signature, name and address)

2. (Signature, name and address)

Notarized

Accepted

…………………………………………………….

(Signature, name, designation, and address of the attorney)

Notes:

1. The mode of the execution of the power of Attorney shall be in accordance with the procedure, if any, lay down by the applicable law and the charter documents of the executants (s) and when it is so required the same should be under seal affixed in accordance with the required procedure.

2. Wherever required, the applicant should be submitted for verification the extract of the charter documents and other documents such as a resolution/Power of Attorney in favor of the person executing this Power of Attorney for delegation of power hereunder on behalf of the applicant.

ANNEXURE-IX

LETTER OF BID SUBMISSION

To
Chief General Manager (DES),
EdCIL (India) Limited,
EdCIL House, 18A, Sector- 16A,
NOIDA- 201 301 (U.P)

SUBJECT- Selection of System Integrator for Supplying, Installation, Testing & Commissioning of IP-PBX, Lan, Wi-Fi, IP CCTV, Biometric attendance system, Server & Storage at Proposed Permanent Campus of IIM Sirmaur, Rampur Ghat Road, Paonta Sahib

-Submission of Bid -

Sir,

Having examined the details given in Press Notice, Notice Inviting Bid & Bid Document for the above work, I/we hereby submit the relevant information.

1. I/We hereby certify that all the statements made, and information supplied in the enclosed form _____ and accompanying statements are true and correct.

2. I / we certify that we have not changed/altered any word/sentence or any figure in number/s or words appearing the original tender document uploaded by EdCIL on the designated web page for e-tendering. In case, if a fraudulent activity is found at any stage between tender submission to final closure of the tender/contract, our candidature/bid/contract shall be immediately cancelled and EMD/Performance bank guarantee along with the due amount towards the work executed or advance shall be forfeited. EdCIL will not entertain any claim or entertain any reason for this intentional act. EdCIL may go for legal action against the Bidder for recovering any one or all damages caused to EdCIL or its client on this account.

3. I/We have furnished all information and details necessary for eligibility and have no further pertinent information to supply.

4. I/We submit the requisite **certified solvency certificate** and authorize the EdCIL to approach the Bank issuing the solvency certificate to confirm the correctness thereof. I/We also authorize EdCIL to approach individuals, employers, firms and corporations to verify our competency and general reputation.

5. I/We submit the following **certificates** in support of our suitability, technical knowledge and capability for having successfully completed the following works:

S.no.	Name of Work	Certificate From

6.   Earnest Money Deposit amounting to Rs. ------------------- in the form of DD/Pay Order No. ---------- Dated ------------ issued by --------------- Bank is submitted.

7.   Demand Draft of Rs. _____ towards Bid document cost: If applicable.

8.   We confirm that each page of our submission including all supporting documents bears signature with date, name of the signatory, designation of the signatory and company seal.

       Enclosures:

       Date of Submission   :

       Signature of Bidder:

       Name of the Bidder:

       Designation:

       Seal of the Organization:

       Date:

       Place:

ANNEXURE – X

Bank Guarantee towards Bid Security (EMD)

Bank Guarantee No._____

To,

EdCIL (India) Limited
EdCIL House, 18 A,
Sector-16 A NOIDA– 201301 (U.P.), India

Whereas...................................... (herein after called "the Bidder") has submitted its Bid dated ......(Date) in response to the RFP No: .... for **Selection of System Integrator for Supplying, Installation, Testing & Commissioning of IP-PBX, Lan, Wi-Fi, IP CCTV, Biometric attendance system, Server & Storage at Proposed Permanent Campus of IIM Sirmaur, Rampur Ghat Road, Paonta Sahib** (here in after called "the Bid")

KNOW ALL MEN by these presents that We .... having our registered office at........................ (hereinafter called the "Bank") are bound onto EdCIL India Limited, Noida (hereinafter called "EdCIL") in the sum of .... for which payment well and truly to be made to the said EdCIL itself, its successors and assignees by these presents.

The conditions of these obligations are:

1. If the Bidder withdraws its Bid during the period of Bid validity or
2. If the Bidder, having been notified of the acceptance of its Bid by EdCIL during the period of Bid validity:

   a. fails or refuses to execute the Agreement form if required; or

   b. fails or refuses to furnish the performance bank guarantee, in accordance with the Bid requirement

We undertake to pay EdCIL up to the above amount upon receipt of its first written demand, without EdCIL having to substantiate its demand, provided that in its demand EdCIL will note that the amount claimed by it is due to it, owing to the occurrence of one or both of the two conditions, specifying the occurred condition or conditions.

This guarantee will remain in force up to (Date) and any demand in respect thereof should reach the Bank not later than the above date.

Dated: the   Day   of   for (indicate the name of bank)
                                                                            Signature of Banks Authorized official
                                                                             Witness (Name)_____
                                                                             Designation with Code No. ---------

Full Address-----------

Annexure XI

Name of the Bank: _____

To

IIM Sirmaur.

Performance Bank Guarantee Format

In consideration of the **IIM Sirmaur**, through _____ (Designation & address of Contract Signing Authority), (hereinafter called "IIM Sirmaur") having agreed under the terms and conditions of agreement/ Contract Acceptance letter No. _____
 Dt: _____ Made between _____ (Designation & address of contract signing Authority) and _____ (here in after called "the said Agency" for the work _____ (here in after called "the said agreement") having agreed for submission of a irrevocable Bank Guarantee Bond for ₹ _____ (₹ _____ only) as a performance bank Guarantee from the Agency for compliance of his obligations in accordance with the terms & conditions in the said agreement.

1. We _____ (Indicate the name of the Bank) hereinafter referred to as the Bank, undertake to pay to the IIM Sirmaur an amount not exceeding ₹ _____ (₹ _____ only) on demand by the IIM Sirmaur.

2. We _____ (Indicate the name of the bank, further agree that (and promise) to pay the amounts due and payable under this guarantee without any demur merely on a demand from IIM Sirmaur through the **IIM Sirmaur** or _____ (Designation & Address of contract signing authority), stating that the amount claimed is due by way of loss or damage caused to or would be caused or suffered by the IIM Sirmaur by reason of any breach by the said Agency of any of the terms of conditions contained in the said agreement or by reason of the Agency failure to perform the said agreement. Any such demand made on the Bank shall be conclusive as regards the amount due and payable by the Bank under this guarantee. However, our liability under this guarantee shall be restricted to an amount not exceeding ₹ _____ (₹ _____ only).

3. (A) We _____ (indicate the name of Bank) further undertake to pay to IIM Sirmaur any money so demanded notwithstanding any dispute or dispute raised by the Agency in any suite or proceeding pending before any court or Tribunal relating to liability under this present being absolute and unequivocal.

(B) The payment so made by us under this Performance Guarantee shall be a valid discharge of our liability for payment there under and the Agency shall have no claim against us for making such payment.

4. We _____ (Indicate the name of bank) to further agree that the guarantee herein contained shall remain in full force and effect during the period that would be taken for the performance of the said agreement and that it shall continue to be enforceable till all the dues of the IIM Sirmaur under or by virtue of the said agreement have been fully paid and its claims satisfied or discharged by _____

(Designation & Address of contract signing authority) on behalf of IIM Sirmaur, certify that the terms and conditions of the said agreement have been fully and properly carried out by the said Agency and accordingly discharges this guarantee.

5 (a) Not withstanding anything to the contrary contained herein the liability of the bank under this guarantee will remain in force and effect until such time as this guarantee is discharged in writing by the IIM Sirmaur or until (date of validity/ extended validity) whichever is earlier and no claim shall be valid under this guarantee unless notice in writing thereof is given by the IIM Sirmaur within validity/ extended period of validity of guarantee from the date aforesaid.

   (b) Provided always that we _____ (indicate the name of the Bank) unconditionally undertakes to renew this guarantee or to extend the period of guarantee form year to year before the expiry of the period or the extended period of the guarantee, as the case shall be on being called upon to do so by the IIM Sirmaur. If the guarantee is not renewed or the period extended on demand, we _____ (indicate the name of the Bank) shall pay IIM Sirmaur the full amount of guarantee on demand and without demur.

6. We _____ (indicate the name of Bank) further agree with the IIM Sirmaur that the IIM Sirmaur shall have the fullest liberty without our consent and without effecting in any manner out of obligations hereunder to vary any of the terms and conditions of the said contract from time to time or to postpone for any time or from time to time any to the powers exercisable by IIM Sirmaur against the said Agency and to forbear or enforce any of the terms and conditions of the said agreement and we shall not be relieved from our liability by reason of any such variation, or extension being granted to the said Agency or any forbearance act or omission on the part of the IIM Sirmaur or any indulgence by the IIM Sirmaur to the said Agency or any other matter or thing whatsoever which under the law relating to sureties would but for the said provision would relive us from the liability.

7. This guarantee will not be discharged by any change in the constitution of the Bank or the

Agency.

8. We, _____ (indicate the name of the Bank) lastly undertake not to revoke this guarantee except with the previous consent of the IIM Sirmaur in writing.

9. This guarantee shall be valid up to (Date of Completion plus 90 Days). Unless extended on demand by IIM Sirmaur. Notwithstanding anything to the contrary contained hereinbefore, our liability under this guarantee is restricted to Rs……………... (Rs………………………. only) unless a demand under this guarantee is made on us in writing on or before…………….. We shall be discharged from our liabilities under this guarantee thereafter.

Dated:	The	Day of	For
		(Indicate the name of bank) Signature of Banks Authorized official	
Witness		(Name)_____	
		Designation with Code No. ---------	
1		Full Address-----------	
2.			

ANNEXURE-XII

PROFORMA PRE CONTRACT INTEGRITY PACT

GENERAL

This pre-bid pre-contract Agreement (hereinafter called the Integrity Pact) is made on ___ day of the month of …. 2023, between, on one hand, acting through Shri/Smt. _____, Designation, EdCIL (India) Limited (hereinafter called the "BUYER"/ "EdCIL" interchangeably, which expression shall mean and include, unless the context otherwise requires, his successors in office and assigns) of the First Part

AND

M/s _____ represented by Shri _____, Chief Administrative Officer (hereinafter called the "Bidder/Seller" which expression shall mean and include, unless the context otherwise requires, his successors and permitted assigns) of the Second Part.

WHEREAS the EdCIL proposes to procure services towards **"Selection of System Integrator for Supplying, Installation, Testing & Commissioning of IP-PBX, Lan, Wi-Fi, IP CCTV, Biometric attendance system, Server & Storage at Proposed Permanent Campus of IIM Sirmaur, Rampur Ghat Road, Paonta Sahib"**.

For its clients and Bidder/Seller is willing to offer the said services and related items as referred to in the Bid document no. **EdCIL/DES/IIMS/ICT/2023/01** Dated …………………………. 2023.

WHEREAS the Bidder is a private company /public company / Government undertaking / partnership / registered expert agency, constituted in accordance with the relevant law in the matter and the EdCIL is a Public Sector Undertaking under Ministry of Education performing its functions.

NOW, THEREFORE,

To avoid all forms of corruption by following a system that is fair, transparent and free from any influence / prejudiced dealings prior to, during and subsequent to the currency of the contract to be entered into with a view to:

Enabling the EdCIL to obtain the desired services as referred to in the Bid document No. **EdCIL/DES/IIMS/ICT/2023/01** dated ………2023 at a competitive price in conformity with the defined specifications by avoiding the high cost and the distortionary impact of corruption on public procurement and Enabling Bidders to abstain from bribing or indulging in any corrupt practice in

order to secure the contract by providing assurance to them that their competitors will also abstain from bribing and other corrupt practices and the EdCIL will commit to prevent corruption, in any form, by its officials by following transparent procedures.

The parties hereto hereby agree to enter into this Integrity Pact and agree as follows:

1. **Commitments of the EdCIL**

    1.1 The EdCIL undertakes that no official of the EdCIL, connected directly or indirectly with the contract, will demand, take a promise for or accept, directly or through intermediaries, any bribe, consideration, gift, reward, favour or any material or immaterial benefit or any other advantage from the Bidder, either for themselves or for any person, organization or third party related to the contract in exchange for an advantage in the bidding process, bid evaluation, contracting or implementation process related to the contract.

    1.2 The BUYER will, during the pre-contract stage, treat all Bidders alike, and will provide to all Bidders the same information and will not provide any such information to any particular Bidder which could afford an advantage to that particular Bidder in comparison to other Bidders.

    1.3 All the officials of the EdCIL will report to the appropriate Government office any attempted or completed breaches of the above commitments as well as any substantial suspicion of such a breach.

2. In case any such preceding misconduct on the part of such official(s) is reported by the Bidder to the EdCIL with full and verifiable facts and the same is prima facie found to be correct by the EdCIL, necessary disciplinary proceedings, or any other action as deemed fit, including criminal proceedings shall be initiated by the EdCIL and such a person shall be debarred from further dealings related to the contract process. In such a case while an enquiry is being conducted by the EdCIL the proceedings under the contract would not be stalled.

3. **Commitments of Bidders**

    The Bidder commits itself to take all measures necessary to prevent corrupt practices, unfair means and illegal activities during any stage of its bid or during any pre-contract or post-contract stage in order to secure the contract or in furtherance to secure it and in particular commit itself to the following:

3.1 The Bidder will not offer, directly or through intermediaries, any bribe, gift, consideration, reward, favour, any material or immaterial benefit or other advantage, commission, fees, brokerage or inducement to any official of the EdCIL, connected directly or indirectly with the bidding process, or to any person, organization or third party related to the contract in exchange for any advantage in the bidding, evaluation, contracting and implementation of the contract.

3.2 The Bidder further undertakes that it has not given, offered or promised to give, directly or indirectly any bribe, gift, consideration, reward, favour, any material or immaterial benefit or other advantage, commission, fees, brokerage or inducement to any official of the EdCIL or otherwise in procuring the Contract or forbearing to do or having done any act in relation to the obtaining or execution of the contract or any other contract with the Government for showing or forbearing to show favour or disfavor to any person in relation to the contract or any other contract with the Government.

3.3 Bidders shall disclose the name and address of agents and representatives and Indian Bidders shall disclose their foreign principals or associates.

3.4 Bidders shall disclose the payments to be made by them to agents/brokers or any other intermediary, in connection with this bid/contract.

3.5 The Bidder further confirms and declares to the EdCIL that the Bidder is the original manufacturer/integrator/authorized government sponsored export entity and has not engaged any individual or firm or company whether Indian or foreign to intercede, facilitate or in any way to recommend to the EdCIL or any of its functionaries, whether officially or unofficially to the award to the contract to the Bidder, nor has any amount been paid, promised or intended to be paid to any such individual, firm or company in respect of any such intercession, facilitation or recommendation, as the case shall be for satisfactory performance of the proposed terms of Bidder.

3.6 The Bidder, either while presenting the bid or during pre-contract negotiations or before signing the contract, shall disclose any payments he has made, is committed to or intends to make to officials of the EdCIL or their family members, agents, brokers or any other intermediaries in connection with the contract and the details of services agreed upon for such payments.

3.7 The Bidder will not collude with other parties interested in the contract to impair the transparency, fairness and progress of the bidding process, bid evaluation, contracting and implementation of the contract.

3.8 The Bidder will not accept any advantage in exchange for any corrupt practice, unfair means

and illegal activities.

3.9 The Bidder shall not use improperly, for purposes of competition or personal gain, or pass on to others, any information provided by the EdCIL as part of the business relationship, regarding plans, technical proposals and business details, including information contained in any electronic data carrier. The Bidder also undertakes to exercise due and adequate care lest any such information is divulged.

3.10 The Bidder commits to refrain from giving any complaint directly or through any other manner without supporting it with full and verifiable facts.

3.11 The Bidder shall not instigate or cause to instigate any third person to commit any of the actions mentioned above.

3.12 If the Bidder or any employee of the Bidder or any person acting on behalf of the Bidder, either directly or indirectly, is a relative of any of the officers of the EdCIL, or alternatively, if any relative of an officer of the EdCIL has financial interest / stake in the Bidder's firm, the same shall be disclosed by the Bidder at the time of filing of Bid.

3.13 The Bidder shall not lend to or borrow any money from or enter into any monetary dealings or transactions, directly or indirectly, with any employee of EdCIL.

4. PREVIOUS TRANGRESSION

4.1 The Bidder declares that no previous transgression occurred in the last three years immediately before signing of this integrity pact, with any other company in any country in respect of any corrupt practices envisaged hereunder or with any Public Sector Enterprise in India or any Government Department in India that could justify Bidder's exclusion from the bid process.

4.2 The Bidder agrees that if it makes incorrect statement on this subject. Bidder can be disqualified from the Bid process or the contract, if already awarded, can be terminated for such reason.

5. EARNEST MONEY DEPOSIT

5.1 While submitting technical bid, the Bidder shall deposit EMD in form of Bank Guarantee from a Scheduled Commercial Bank in India/ Demand Draft in favour of EdCIL (India) Limited, payable at Noida or Scanned copy of NEFT or RTGS payment receipt (UTR number).

5.2 The instrument for Security Deposit made shall be valid up to the specified period and the Bidder shall be liable to keep the said instrument valid for such extended period as the case shall be for satisfactory performance of the terms of Bidder above referred till the complete

conclusion of the contractual obligations to the complete satisfaction of both the Bidder and the EdCIL, including O&M period, whichever is later.

5.3 In case of the successful Bidder a clause would also be incorporated in the Article pertaining of Performance Bond in the corresponding Contract governing such agreement that the provisions of Sanctions for Violation shall be applicable for encashment of Performance Bank Guarantee deposited towards forfeiture of said amount in case of a decision by the EdCIL to forfeit the same without assigning any reason for imposing such sanction.

5.4 No interest shall be payable by the EdCIL to the Bidder on Earnest Money Deposit for the period of its currency.

6. <u>SANCTIONS FOR VIOLATIONS</u>

6.1 Any breach of the aforesaid provisions by the Bidder or anyone employed by it or acting on its behalf (whether with or without the knowledge of the Bidder) shall entitle the EdCIL to take all or any one of the following actions, wherever required:

i.   To immediately call off the pre-contract negotiations without assigning any reason or giving any compensation to the Bidder. However, the proceedings with the other Bidder(s) would continue.

ii. The Earnest Money Deposit (in pre-contract stage) and/or Security Deposit / Performance Bond (Bank Guarantee) (after the contract is signed) shall stand forfeited either fully or partially, as decided by the EdCIL and the BUYER (EdCIL) shall not be required to assign any reason, therefore.

iii. To immediately cancel the contract, if already signed, without giving any compensation to the Bidder.

iv. To encash the advance bank guarantee, if furnished by the Bidder, in order to recover the payments already made by the EdCIL, along with interest.

v.   To cancel all or any other Contracts with the Bidder. The Bidder shall be liable to pay compensation for any loss or damage to EdCIL resulting from such cancellation/rescission and the EdCIL shall be entitled to deduct the amount so payable from the money(s) due to the Bidder.

vi. To debar the Bidder from participating in future bidding processes of the Government of India for a minimum period of five years, which shall be further extended at the discretion of the EdCIL.

vii. To recover all sums paid in violation of this Pact by Bidder(s) to any middleman

or agent or broker with a view to securing the contract.

viii.   In cases where irrevocable Letters of Credit have been received in respect of any contract signed by the EdCIL with the Bidder, the same shall not be opened.

ix.   Forfeiture by way of encashment of Performance bank guarantee in case of a decision by the EdCIL to forfeit the same without assigning any reason for imposing sanction for violation of this Pact.

6.2 The EdCIL will be entitled to take all or any of the actions mentioned at Para 6.1(i) to (ix) of this Pact also on the Commission by the Bidder or any one employed by it or acting on its behalf (whether with or without the knowledge of the Bidder), of any offence as defined in Chapter IX of the Indian Penal code, 1860 or Prevention of Corruption Act, 1988 or any other statute enacted for prevention of corruption.

6.3 The decision of the EdCIL to the effect that a breach of the provisions of this Pact has been committed by the Bidder shall be final and conclusive on the Bidder. However, an Independent Monitor(s) shall be appointed by EdCIL, in case of breach of the provisions of the pact.

7.   FACILITATION OF INVESTIGATION

In case of any allegation of violation of any provisions of this Pact or payment of commission, the EdCIL or its agencies shall be entitled to examine all the documents including the Books of Accounts of the Bidder and the Bidder shall provide necessary information and documents in English and shall extend all possible help for the purpose of such examination.

8.   OTHER LEGAL ACTIONS

The actions stipulated in this Integrity Pact are without prejudice to any other legal action that shall follow in accordance with the provisions of the extant law in force relating to any civil or criminal proceedings.

9.   VALIDITY

1) The validity of this Integrity Pact shall be governed by the terms of the Bid No. EdCIL/DES/IIMS/ICT/2023/01 towards complete execution of the contract to the satisfaction of both the EdCIL and the Bidder/Seller, including O & M period, whichever is later. In case the Bidder is unsuccessful, this Integrity Pact shall expire after six months from the date of the signing of the contract awarding the Bidder with successful Bidder.

2) Shall one or several provisions of this Pact turn out to be invalid; the remainder of this Pact shall remain valid. In this case, the parties will strive to come to an agreement to their

original intentions.

10. The parties hereby sign this Integrity Pact at _____ on _____.

EdCIL (India) Limited   BIDDER
Name of the Officer   :
Designation: CHIEF ADMINISTRATIVE   OFFICER

Witness: Witness:

　1._____   1. _____

　2._____   2. _____

(The Pre Contract Integrity Pact shall be modified based in line with the conditions of the Bid Documents).

Annexure XIII

Original Equipment Manufacturer (OEM) Authorization Form (General Proforma)

No. _____ dated _____

To

Dear Sir/Madam:

Bid No. _____

We _____ who are established and reputed manufacturer of _____ (name and description of goods offered) having factories at _____ (address of factory) with factory registration no. -- do hereby authorize M/s_____ (Name and address of Agent) to submit a bid, and sign the contract with you for the goods manufactured by us against the above bid.

We hereby extend our full warranty as per the required conditions of Contracts, for the goods and services offered for supply by the above firm against this Invitation for Bid. We further certify that we shall support vendor with all related spares and maintenance during the entire contract period including the period of warranty as per tender and we also declare that the product proposed in this contract will not be end of life till the contract period.

We also certify that the proposed products meet the technical & functional requirements & also products quoted are of the latest version (the release date should not be more than one year).

Yours faithfully,

(Name):_____

(Name of manufacturers):_____

Note: This letter of authority should be on the letterhead of the manufacturer or OEM and should be signed by a person competent and having the power of attorney to legally bind the manufacturer.

Annexure XIV

Tender Checklist

S No.	Documents Required	Supporting Document	Page No.
1	Work Orders + Satisfactory Certificate of Completion For MSME's- NSIC/ MSME certificate.		
2	The Bidder shall furnish an Undertaking of Non-Blacklisting duly attested by notary on a non-judicial stamp paper of value INR 100/- (Rupees One Hundred Only) as per Annexure IV		
3	A written undertaking by manufacturer (OEM) should be submitted as per Annexure XIII		
4	Power of attorney shall be submitted in prescribed format on non-Judicial stamp paper as per Annexure VIII		
5	Technical Compliance as per Annexure-I		
6	Organization Declaration Sheet as per Annexure-II		
7	Letter of Undertaking as per Annexure-III		
8	Annual Average Turnover as per Annexure-V		

9	Performa for declaration on proceedings under insolvency and bankruptcy code, 2016 as per ANNEXURE- VI		
10	List of campus networking project in the last seven financial years as per Annexure VII		
11	Letter of Bid Submission as per Annexure IX		
12	Earnest Money Deposit as per Annexure X		
13	Proforma pre contract integrity pact Annexure XII		
15	Tender Checklist as per Annexure XIV		
16	Equipment Specification Compliance as per Annexure- XVIII		
17	Solvency certificate for minimum value of Rs. 9.6 Crore; not more than 6 months old as per Annexure XXI		
18	Undertaking from Bidder for Land Border as per Annexure XXII		
19	Financial bid submission form as per ANNEXURE-XX and Price bid as per Bid Forms (Form-I)		

Annexure XV

Contract Form

THIS AGREEMENT made the .... day of ...... 2023 between.......... EdCIL (Hereinafter called "the Purchaser") of the one-part and................ (Name & address of Supplier) .... (Hereinafter called "the Supplier") of the other part:

WHEREAS the Purchase is desirous that certain Goods and ancillary services viz. .... (Brief Description of Goods and Services) and has accepted a bid by the Supplier for the supply of those goods and services in the sum of................ (Contract Prize in words and Figures) (Hereinafter called "the Contract Price")

NOW THIS AGREEMENT WITNESSETH AS FOLLOWS:

1. In this Agreement words and expressions shall have the same meanings as are respectively assigned to them in the Conditions of Contract referred to.
2. The following documents shall be deemed to form and be read and constructed as part of this Agreement, viz.,

   a. The Price Schedule submitted by the Bidder;
   b. The Schedule of Requirements;
   c. The Terms & Conditions
   d. The EdCIL's Notification of Award/ Work Order

3. In consideration of the payments to be made by the EdCIL to the Supplier as hereinafter mentioned, the Supplier hereby covenants with the EdCIL to provide the goods and services and to remedy defects herein in conformity in all respects with the provisions of the Contract.

4. The EdCIL hereby covenants to pay the Supplier in consideration of the provision of the goods and services and the remedying of defects therein, the Contact prices or such other sum as shall become payable under the provisions of the Contract at the times and in the manner prescribed by the Contract.

Brief particulars of the goods and services, which shall be supplied/ provided by the Supplier, are as under:

S. No.	Brief Description of Goods & Services	Quantity to be supplied	Unit Price	Total Price	Delivery Terms

TOTAL VALUE:

DELIVERY SCHEDULE:

IN WITNESS where of the parties hereto have caused this Agreement to be executed in accordance with their respective laws the day and year first above written.

Signed, Sealed and Delivered by the said................................. (For the EdCIL)

in the presence of.......................

Signed, Sealed and Delivered by the said................................. (For the Supplier)

in the presence of.......................

Annexure XVI

Pre-Bid Query Format

Pre-bid queries should be submitted in .XLS format.

RFP Description				
RFP No.				
Organization				
Address				
Contact Person				
Contact No.				
Mail Id				
S.no.	Chapter No.	Page No.	Clause as per RFP	Clarification Sought

Annexure XVII

INSTALLATION CERTIFICATE

1. The following goods/equipment, supplied by the Supplier at IIM Sirmaur have been successfully installed and commissioned by the Supplier.

Sl. No.	Description of Equipment	Serial No of Device(Wherever possible)	Make	Model	Quantity
1					

Note: 1. In case of need, a fresh form on these lines shall be prepared & issued by EdCIL.

Remarks:

_____

Signature of Supplier or its representative   **Signature of IIM Sirmaur**
Name: _____   Name: _____
Designation: _____   Designation: _____
Date: _____   Date: _____
Rubber Seal: _____   Rubber Seal of the institution

Verified by EdCIL representative.

Signature: _____
Name: _____
Designation: _____
Date: _____

Annexure XVIII

Equipment Specification and Compliance

1. **Detailed Technical Specifications**

    1.1. <u>Core ICT Infrastructure:</u>

    1.1.1. <u>Surveillance and Electronic Security</u>

Technical Specification of 5 MP Dome Camera

S.No	Features	Specifications	Compliance
1	Camera type	Dome	
2	Housing	IP66	
3	Camera resolution	5 MP (2592×1944)	
4	Image sensor	1/2.7" or larger	
5	Min-illumination	Color 0.05lux @ F1.2(AGC ON) ; B/W 0 lux @ IR ON	
6	Focal Length	2.7 - 13.5 mm Varifocal Motorized	
7	Shutter Speed	1 / 5s ~ 1 / 100,000 s	
8	Multiple streaming	Quad Stream Main Stream 5MP(2880×1620)), 4MP(2560x1440), 3MP(2304x1296), 1080P(1920x1080), 720P(1280x720), Sub Steam 720P(1280x720),VGA(640x480),QVGA(320x240) Mobile Stream VGA(640x480), QVGA（320x240） Fourth Stream VGA(640x480), QVGA（320x240)	
9	Frame Rate	50Hz: 25fps@5MP/4MP/3MP/2MP/720P/VGA/QVGA 60Hz: 30fps@5MP/4MP/3MP/2MP/720P/VGA/QVGA	
10	Digital Zoom	should have the capability to digitally zoomed in web browser by selecting the area using mouse	
11	WDR	YES	
12	IR	Inbuilt IR LEDs with IR distance upto 45 mtrs	
13	Day & Night	IR cut filter with auto switch	

14	Day / Night Switch	Auto/Color/Black & white Schedule	
15	Noise Reduction	3D DNR	
16	Video Compression	H.265/H.265+/H.264/H.264+/MJPEG	
17	Bit Rate	8Kbps ~ 8Mbps	
18	Image setting	Hue, Saturation, Brightness, Contrast, Sharpness adjustable by client software or web browser	
19	Edge analytics	Motion Detection, Customer Flow statistics, Cross Counting, Heat Map, Human & Vehicle Detection, Pedestrian Intrusion Detection & Line cross Detection. Queue length detection, Regional population statistics, SOD-Stationary Object Detection.	
20	Protocols	TCP/IP,HTTP,DHCP,DNS,DDNS,RTP/RTSP, SMTP, NTP, UPnP, SNMP, HTTPS, FTP.PPPOE	
21	Security	IP address filter; complicated password; Authenticated username and password	
22	Privacy masks	Should support at least 4 Zone, Rectangle	
24	White Balance	Auto/Manual	
27	Alarm Trigger	Email/picture/record on FTP/Cloud/mail during PD&VD/PID/LCD/SOD/CC/CD/QD/motion detection/sound detection.	
28	Alarm I/O	1 Input/1 Output	
29	Cloud Storage	Image/record only for drop box	
30	Image Mirror/ Image rotation/ flip	Disable/Horizontal/Vertical/All	
32	Audio Compression	G711A, G711U	
32	Audio I/O	1 Input/1 Output	
33	Factory default	Should have the option of setting the configuration to factory default except network settings.	
34	Operating Temperature	-30～+55°C/less than ≤ 95% RH	
35	Mobile Surveillance	Support mobile surveillance through app on android and i-phone	
36	Certification	UL, CE, FCC	
37	System Compatibility	ONVIF profile S ,G & T	
38	Power	D12V/POE(IEEE802.3af)	
39	Power Consumption	4.55W	
40	Weather protection	IP66	

| 41 | Vandal Proof | IK10 | |

Technical Specification of 5 MP Bullet Camera

S.No	Features	Specifications	Compliance
1	Camera type	Bullet	
2	Housing	IP66	
3	Camera resolution	5 MP (2592×1944)	
4	Image sensor	1/2.7 or larger"	
5	Min-illumination	Color 0.05lux @ F1.2(AGC ON) ; B/W 0 lux @ IR ON	
6	Focal Length	2.7 - 13.5 mm Varifocal Motorized	
7	Shutter Speed	1 / 5s ~ 1 / 100,000 s	
8	Multiple streaming	**Quad Stream** **Main Stream** 5MP(2880×1620)), 4MP(2560x1440 3MP(2304x1296), 1080P(1920x1080), 720P(1280x720), **Sub Steam** 720P(1280x720),VGA(640x480),QVGA(320x240) **Mobile Stream** VGA(640x480), QVGA （320x240) **Fourth Stream** VGA(640x480), QVGA （320x240)	
9	Frame Rate	50Hz: 25fps@5MP/4MP/3MP/2MP/720P/VGA/QVGA 60Hz: 30fps@5MP/4MP/3MP/2MP/720P/VGA/QVGA	
10	Digital Zoom	should have the capability to digitally zoomed in wel browser by selecting the area using mouse	
11	WDR	YES	
12	IR	Inbuilt IR LEDs with IR distance upto 45 mtrs	
13	Day & Night	IR cut filter with auto switch	
14	Day / Night Switch	Auto/Color/Black & white/ Schedule	
15	Noise Reduction	3D DNR	
16	Video Compression	H.265/H.265+/H.264/H.264+/MJPEG	
17	Bit Rate	8Kbps ~ 8Mbps	
18	Image setting	Hue, Saturation, Brightness, Contrast, Sharpness adjustable by client software or web browser	
19	Edge analytics	Motion Detection, Customer Flow statistics, Cross Counting, Heat Map, Human & Vehicle Detection, Pedestrian Intrusion Detection & Line cross Detectio Queue length detection, regional population statistics SOD-Stationary Object Detection.	
20	Protocols	TCP/IP, HTTP, DHCP, DNS, DDNS, RTP/RTSP, SMTP, NTP, UPnP, SNMP, HTTPS, FTP.PPPOE	
21	Security	IP address filter; complicated password; Authenticate username and password	

22	Privacy masks	Should support atleast 4 Zone, Rectangle	
24	White Balance	Auto/Manual	
27	Alarm Trigger	Email/picture/record on FTP/Cloud during PD&VD/PID/LCD/SOD/CC/CD/QD/motion detection/sound detection.	
28	Alarm I/O	1 Input/1 Output	
29	Cloud Storage	Image/record only for drop box	
30	Image Mirror/Image rotation/flip	Disable/Horizontal/Vertical/All	
32	Audio Compression	G711A, G711U	
32	Audio I/O	1 Input/1 Output	
33	Factory default	Should have the option of setting the configuration to factory default except network settings.	
34	Operating Temperature	-30～+55°C/less than ≤ 95% RH	
35	Mobile Surveillance	Support mobile surveillance through app on android and i-phone	
36	Certification	UL, CE, FCC	
37	System Compatibility	ONVIF profile S, G & T	
38	Power	D12V/POE(IEEE802.3af)	
39	Power Consumption	6.72W	
40	Weather protection	IP66	

Technical Specification of 64 Channel NVR

S.No	Features	Specifications	Compliance
1	NVR	64 Channel NVR	
2	Recording bandwidth	Max 640Mbps	
3	Recording Resolution	8MP（4K), 5MP, 3MP, 2MP (1080P), 1.3MP (960P), 1.0MP (720P)	
4	Display Split	1/4/6/8/9/10/13/14/16/17/19/22/25/32/36/64	
5	live/Playback performance	4K: 4ch real time, 4MP: 8ch real time	
		, 3MP: 10ch real time, 2MP: 16ch real time	
6	Playback	Max 8ch playback	
7	Output Interface	1 HDMI (up to 4K), 1 VGA	
8	Display Resolution	1024*768, 1280*720, 1280*1024, 1440*900, 1920*1080,2560*1440, 3840*2160	
9	Alarm Input/out	16ch in / 4inch out	

10	Ethernet	RJ-45 port (1000M）	
11	Smart Phone	iOS, Android	
12	Internal HDD	8 SATA HDDs, each HDD up to 8TB	
13	RS485	1 X RS485	
14	e-SATA	1 X e-SATA	
15	Line in	1 X Line in	
16	USB	1x3.0 USB for backup/upgrade , 2x 2.0 USB for mouse	
17	Support AI with deep learning supported cameras.AI-Registered quantity	10000 AI-Registered quantity	
18	AI-Maximum captured quantity with deep learning supported cameras	200,000 faces	
19	ONVIF	ONVIF Compliant	
20	Power Supply	AC 110~240V	
21	Certification	UL, CE, FCC	

Technical Specification of workstation desktop for CCTV

S.No	Specifications	Compliance
1	Intel Core i7-12700K 3.60G 25MB 12	
2	RAM: 16GB (2x8GB); Non-ECC DDR5	
3	USB Keyboard & USB Mouse	
4	Chassis: Tower/Workstation	
5	DVD: 8X Slimline DVD+/-RW, Data Only	
6	T400 4Gb with 3 x mDP to DP	
7	Integrated Intel(R) 82579LM Gigabit1 Ethernet LAN 10/100/1000	
8	1TB SATA, 256GB SSD	
9	Monitor 21"	
10	Operating system: Windows 10/11 Professional 64 Bit or latest.	

43 **Inch UHD 4K Display**		
S. No.	**Technical Parameters**	**Compliance (Yes/No)**

S.No	Specifications	Compliance
1	43" Commercial grade smart display with built in Android/ Tizen or similar OS, Native resolution 4k UHD 3840x2160, brightness of atleast 350 cd./sq.m, 3 HDMI , 2 USB, Audio Out with inbuilt quadcore / crystal / mali, lifespan of minimum 30,000 to 50,000 hours, Built-in WiFi, Built- in Bluetooth, atleast 10W + 10 W speakers, remote management, built in quad core processor &built in SOC for better performance	

1.1.2. Lecture-room AV systems

Technical Specification for Motorized Independent Vertical Sliding Board

S.No	Specifications	Compliance
1	White board having Overall Frames Structure: Silver Anodized Sliding Tracks (Three Tracks) and Rectangular Pipes 104mm x 50mm x 2mm Thickness. Corners: 4 Nos in ABS Plastic. Updown Boards : White boards with ceramic coated steel surface, Top surface ceramic coated steel sheet, Core material: Particle Board or Honey Comb, Back side Gi Sheets 0.25mm Thickness, Board frames aluminium anodized Ultra Series 0.9mm thickness. FuIl length bottom support with pen tray: Sheet with powder coated in silver color support thickness. Screw and rawal plugs: Zinc plated wall mounting screws and plastic rawal plugs. Boards Updown movements: Updown independent movements (Motorised) with the help of chain and sprockets, each board having independent up and down movement	

1.1.3. Computing Devices (Desktops)

Technical Specification of workstation desktop for staff

S.No	Specifications	Compliance
1	Intel Core i7-12700K 3.60G 25MB 12 cores 125W	
2	RAM: 16GB (2x8GB); Non-ECC DDR5	
3	Keyboard: USB Keyboard	
4	Chassis: Tower/Workstation	
5	Graphic card: T400 4Gb with 3 x mDP to DP	
6	Integrated Intel(R) 82579LM Gigabit1 Ethernet LAN 10/100/1000	
7	SSD disk: 1 TB, 256 GB SSD	
8	Monitor 21"	
9	Operating system: Windows 10/11 Professional 64 Bit or latest.	
10	Optical USB Mouse	

Technical Specification of Thin client solution

S.No	Specifications	Compliance
1	Latest Intel(R) quad core / Celeron / AMD / Teradici processor or similar	
2	Windows 10 or latest	
3	32GB Flash, 4GB RAM. Change to 64GB flash and 8GB RAM for optimum performance on W10	
4	6x USB ports, 1x RJ45, 1x HDMI	
5	Support Windows 10 IOT Enterprise	
6	Monitor 21"	
7	Operating system: Windows 10 IOT Enterprise	
8	USB Keyboard	
9	Optical USB Mouse	

Technical Specification of Network Printer

S.No	Specifications	Compliance
1	Laser Printer with touch display screen	
2	Print speed of at least 50 ppm	
3	Monthly duty cycle Up to 275,000 pages	
4	Print resolution 1200; 1200 x 1200 dpi	
5	At least 1.2GHz processor speed	
6	100-sheet multipurpose feeder	
7	550-sheet input feeder	
8	Automatic duplex printing	
9	Support WiFi and have USB ports	
10	Storage of at least 2 GB	

1.1.4. Biometric and Card Attendance system

Technical Specification of Biometric and card attendance machine

S.No	Specifications	Compliance
1	Support Fingerprint, RFID / MIFARE Card and PIN 16 Touch Sense Keys	
2	50,000 (Max. 9600 in 1:N Mode)	
3	CPU 400MHz ARM 9 based Processor	

4	Flash memory 256MB	
5	Certification CE and RoHS certified	
6	Touch Keypad for easy configuration of device	
7	Integrated Attendance & Access compatible device	
8	Third party HR software compatible device - SAP/ERP/HRMS smart ATTENDANCE	
9	Multilocation Centralized Attendance Management - Accurate monitoring of attendance from all machines	
10	Push Data mechanism - To download data from multiple locations to the central server	
11	MIS reports for Audit and Analysis, Periodical as well as Real Time	
12	Online Attendance/Leave/Shift management and Checks from anywhere/anytime.	
13	Software based on MS-SQL Server 2012 or higher database	
14	Enables management of user data, photo with custom fields, access rights, alarms, strike times, and door modes, from a central location	
15	Produces reports from acquired data, such as entry and exit times, and by alarm type with filters for user(s), location, and time	

1.1.5. Data Center

Technical Specification for Hyperconverged infrastructure (HCI)

S.No.	HCI Minimum Technical Specifications	Compliance (Y/N)
General Requirement		
1	The solution should provide hyperconverged software that allows delivery of enterprise-class storage services using x86 infrastructures.	
2	The proposed HCI solution should be a factory shipped engineered & integrated appliance system. Proposed HCI solution should be 100% software defined without dependency on any proprietary hardware device for deduplication and compression.	
3	The proposed HCI solution should support scalability at least 32 nodes in a single cluster . Each server node should have dedicated redundant hot swap power supplies & cooling fans.	
4	The Solution should support compute only nodes to add virtual compute capacity to the cluster which can access storage from converged nodes, without incurring any HCI software license cost.	
5	The solution should support Single click non-disruptive rolling upgrades of HCI software and system firmware.	
6	The HCI solution should provide Inline de-duplication & compression for entire data stored in HCI. Any required resources and licenses required for this functionality should be included with the solution from day 1.	

7	The solution should automatically rebalance data to maintain balanced utilization of storage across the HCI nodes using dynamic data distribution.	
8	The HCI software should pool all HDDs from all the nodes in the cluster to present a single storage resource pool to all server nodes in the cluster. There should not be any dependence on data locality.	
9	HCI solution should include min. 2 Qty of interconnect switches, each supporting 42*10/25G, 6x 40/100G ports per switch with redundant power supplies and cooling fans. Each Switch shall provide 4*10G, 2*40G and 4*16G FC for external Ethernet and SAN connectivity.	
10	Proposed HCI Nodes should be in more than "2U" Rack Server form factor with Redundant power supplies and cooling fans.	
11	The HCI should provide connectivity to external 3rd party SAN storage	
Resource Requirements		
12	Min. 2* 25Gbps network ports per server node to connect with HCI switch.	
13	Minimum 3 Nodes should be provided in the cluster. Each Node to be provided with minimum 2x6338N (32C) and 8 x 32GB or 256GB DDR4 Memory per node.	
14	15TB usable capacity to be configured with minimum data protection of RF2 or higher. The capacity should be absolute capacity without considering any data efficiency techniques as Data Deduplication, compression, erasure coding etc. Each node shall also be provided with 1.9 TB dedicated SSD drive as caching capacity. Bidder should not use dry sizing of 1.9 TB.	
HCI Management		
15	The proposed solution should have customizable dashboard to show overall faults, health and inventory.	
16	The HCI Solution must provide features like policy-based security	
Virtualization and Automation		
17	Virtualization software shall provide a Virtualization layer that sits directly on the bare metal server hardware with no dependence on a general purpose OS for greater reliability and security	
18	HCI Virtualization software should be supported with leading Operating systems - like Windows client, Windows Server, Red Hat, SUSE, Ubuntu	
19	Virtualization manager should be provided along with the solution.	
20	The solution should Track, report, and view trends for compute, storage and database metrics like CPU, memory, IOPs, latency, and Database Transaction etc.	
21	Proposed Hypervisor should be general available to work on all architectures such as Rack, Blade and HCI Infrastructures.	
22	HCI Node and SDS layer should be from same OEM to avoid any compatibility issues.	

1.2. Communication Backbone

1.2.1. IP-PBX System

S.No.	Description	Compliance
1	**IP Telephony System Architecture**	
	The IP telephony system must support unified communication (UC) server & gateways architecture for SIP, Digital and Analog trunks connectivity.	
	The voice gateway must be TEC Approved with GR Number.	
	The system must be capable of supporting Analog, Digital, IP Telephones, and SIP based video desk phones.	
	The communication servers must work in an Active/Active redundancy mode. It should be possible to define servers load balancing mode.	
	All servers must be provided in a cluster mode. If one cluster server fails, one of the other cluster servers in the network must be able to take the complete load of the calls automatically (without any manual intervention) and without dropping any existing calls (IP,TDM & PRI) or data (CDR, CTI). Management of all servers in cluster should be from same web page. All servers should have same database.	
	The telephony system must be able to register SIP phones/SIP video phones.	
	System should have Distributed Architecture	
	It should be possible to install Telephony system in VMware EXSi 5.5 or higher.	
	All Data (Numbers, COS, Routing, Applications) should reside in all the Servers	
	Database replication in All servers should be automatic and real time	
	Should support N+1 Redundancy Architecture as well as 1+1 redundancy Architecture	
	Should support Remote Survival Nodes	
	In case of failure of one server, the SIP Phones, SIP Gateways should register with second Server automatically	
	System Diagnostics should be done in Server	
	Hot Standby for SIP Phones and Gateways i.e SIP Phones and Gateways should register automatically to next available telephony server.	
	COTS - commercial off-the-shelf Servers should be used for telephony system	
	Telephony system should use Linux Operating System	
	system should support CSTA phase III Protocol	
	Full continuation for call signaling and media must be supported	

	Calls must not be disconnected and control must remain throughout the swap to an alternate server including full call control (transfer, conference actions, continuation of CDR data for the existing call).	
	Load Balancing of end points must be possible by the administrator	
	There must be no restriction on the number of endpoints being backed up in case of one server failure.	
	UC platform servers must provide full failover and redundancy	
	System should support the following SIP RFCs:	
	RFC 3261 (SIP: Session Initiation Protocol)	
	RFC 3262 (Reliability of Provisional Responses in Session Initiation Protocol)	
	RFC 3263 (Locating SIP Servers)	
	RFC 3264 (An Offer/Answer Model with Session Description Protocol (SDP))	
	RFC 3265 (Specific Event Notification)	
	RFC 2327 (SDP- Session Description Protocol)	
	RFC 1889 and 1890 (RTP/RTCP)	
	RFC 3515 (REFER)	
	RFC 2833 (DTMF over IP)	
	Scalability	
	It should be possible to add more sites and users without the need to change the software and existing configuration.	
	The system must be scalable to at least 25,000 endpoints in a single cluster architecture.	
	Each server must support a minimum of 1000 endpoints	
	The system must be modular, scalable and distributable	
	System Survivability	
	The UC platform must consist of one or many servers where each server in the cluster provides complete 100% application functionality.	
	In case of a failed server, all endpoints registered with that server need to register instantly with a different server in the cluster with no interruption to on-going calls.	
	Media Gateways must have survival mechanisms that allow them to maintain 100% of the telephony services for their users in case of failure in the WAN links when the signaling with the call server drops.	
	The life cycle of the entire system being provided must be at least five (5) years.	
	The system gateway must be able to restart automatically without human intervention when the external AC power supply is resumed after complete power failure (even after the batteries are discharged).	
	The telephony system must be capable of providing 99.999% availability.	

	Quality of Service (QOS)	
	The voice and signaling frames must be marked [tagged] in order to be recognized.	
	Server – Physical Attributes	
	COTS – Commercial Off-the-Shelf servers must be used.	
	The redundant server must have separate hardware, not sharing elements like hard drives and RAM etc., to avoid a single point of failure.	
	The server should have AC power supply.	
	The system must be based on server gateway architecture with external appliance servers	
	No card based processor systems / soft switch should be quoted.	
	The call processor must run on Linux OS.	
	Minimum Server Specifications:	
	The CPU must be from the Intel® Xeon® processor E3-1220v5 or latest	
	The server must have at least 8GB RAM	
	The server must have Hard Drives (300GB each) of storage	
	The server must have a Dual 1GB network interface.	
	Form Factor for physical server (Not Virtual Machine) should be 1 U	
	Gateways	
	The media gateways shall be capable of being centrally managed via the telephony management application. The system should support multiple gateways.	
	The system gateway should be able to restart automatically without human intervention when the external ac power supply is resumed after complete power failure	
	The system gateways should support the following type of extensions:	
	Analog /Digital	
	Cordless (DECT) Extension	
	SIP	
	The system gateway should support the following type of trunks :	
	Analog: E&M (2W), E&M (4W), DC loop signaling, decadic, DTMF	
	Digital: 2Mb stream with the following signaling protocols (Digital CEPT, R2MFC)	
	Standard ISDN BRI, PRI	
	SIP and MGCP on VOIP	
	ISDN (30B+D / 23B+D / 2B+D)	
	SS7	
	ISDN QSIG (30B+D / 2B+D)	
	Q-sig over IP	
	Security	

Administration of the system should be using HTTPS	
It should support the Interop with leading SBC	
System should use TLS (Transport Layer protocol) to encrypt SIP, HTTP, FTP and SRTP (Secure Real-time Transport Protocol) and SRTCP to encrypt RTP and RTCP	
System should have auto Provisioning profiles contain pre-configured sets of features that must automatically polls and updates registered phones with the latest phone firmware and configuration files.	
Mobility	
The system should have Call Back feature. If the user dials his own extension from predefined number (mobile/landline) then system should disconnect the call and then system should call the user to provide the dial tone so that user can make intercom or PSTN calls.	
The system should have FlexiCall (Forking, reach-me-anywhere) feature. Users should be able to receive calls on any of their phones, from almost anywhere. An incoming call rings on all or specific phones until the user answers the call. The user can transfer the call, establish a conference, and so on, whether the answering device is an internal device, an external phone, or a cellular handset. If the answering phone is an external device, the call automatically becomes an authorized mobility call.	
The system should support SIP Client on smart phone.	
SIP Endpoints	
All SIP phones must support the standard SIP protocol. No proprietary protocols are allowed to be used.	
SIP phones must support the configuration of programmable buttons with functions such as Conference call and more.	
SIP phones must work in conjugation with the following applications:	
1. Attendant Console	
2. Managed Audio Conferencing	
3. Managed Video Conferencing	
4. UC clients	
System Administration	
System administration should be web based.	
All programming of system should be done through a web-based GUI interface.	
The administrator should have Dynamic Profiles.	
The system should allow for complete multi-level administration. The administrator must be able to define at multilevel different administration level profiles that can be applied to allow subsets of users to access and manage particular pages in the systems Web Portal.	
Certification Requirements	
1. The OEM must comply with ISO 9001 certification in all the	

company's activities.		
2. The products must comply with Safety and EMC standards, including FCC, UL/TUV, CE, and the RoHS directive.		
System Features		
ANI (Caller ID) Restriction		
ARS (Automatic Route Selection)		
Auto Attendant		
Call Forward at Night/Holiday		
Call Forward Destinations		
Call Forward for Undefined Stations		
Call Forward on Busy		
Call Forward on DND (Do Not Disturb)		
Call Forward on Logout		
Call Forward on No Answer		
Caller id based routing for individual extension		
Deflect (Divert) Call		
Digit Train Conversion		
Direct-In-Dial		
Direct-In-Line (DIL)		
Hot Line		
Interactive Voice Response (IVR)		
Least Cost Routing		
Look Ahead Routing (LAR)		
Numbering Plan		
Personal Routing Rules based on caller id and DNIS		
Predetermined Night Answer		
Toll Restriction – Digit Analysis		
Toll Restriction – Trunk Groups		
Trunk to Trunk Connection		
Trunk Transfer Restriction		
Classes of Service		
Night Answer Central Bell / UNA Pickup		
Page Queue		
Second Ring back Tone		
Speed Dial Public (System) and Private		
Virtual Numbers		
Music On Hold		
Silent Monitor		
Barge In		
Wake up		

	Recall	
	Recall/ Incomplete Destination	
	Extension Features	
	Answer Call Waiting by Transfer	
	Auto Set Relocate	
	Auto-Answer	
	Automatic Disconnect	
	Automatic Number Identification (ANI) Display	
	Browse Personal Directory	
	Busy Lamp Field	
	Call Forward All	
	Call Hold	
	Call Log	
	Call Parking and Call Pickup	
	Call Waiting	
	Caller ID Control	
	Caller-ID Screening	
	Caller id based routing for individual extension	
	Calling Number and Name	
	Camp-on Idle	
	Configurable DSS Buttons	
	Direct Dial without Off Hook (Hands Free)	
	Directed Call Pickup	
	Display Automatic Number Identification (ANI)	
	Display Dialed Number and Name	
	Display Dynamic Call Divert Information	
	Display Select Hold Display	
	Display Time/Date Function	
	Do Not Disturb (DND)	
	DSS/BLF	
	Elapsed Time Display	
	Group Call Pickup	
	Hands Free	
	Hands-Free Announce and Reply (Idle State)	
	Last Number Redial	
	Login and Logout	
	Message Waiting Indication	
	Multi Appearance (Call Waiting)	
	Multiple Line Appearance	
	On-Hook Dialing	

	Placing Multiple Calls on Hold	
	Privacy – ANI Restriction	
	Reminder/wake up Call	
	Restrictions – Station	
	System Non-Exclusive Hold	
	Transfer with Consultation	
	Transfer without Consultation (Blind)	
	Listen to Paging while in a call (Busy Condition)	
	ULA - User Line Appearance (ULA)	
2	**Specification of Type -1 IP phone**	
	SIP phone should be from the same OEM of IP telephony system	
	132 x 64-pixel graphical LCD	
	1 VoIP accounts	
	XML remote phonebook	
	Auto provision via FTP/TFTP/HTTP/HTTPS for mass deployment	
	PoE, Desk support, Wall-Mountable	
	Volume adjustment, ring tone selection	
	DTMF: In-band, out-of-band (RFC 2833) and SIP INFO	
	VAD, CNG, AEC, PLC, AJB, AGC	
	Full-duplex hands-free speakerphone	
	SIP v1 (RFC2543), v2 (RFC3261)	
	NAT Traversal: STUN mode or 3rd party SBC	
	DTMF: In-Band, RFC2833, SIP Info	
	IP Assignment: Static/DHCP/PPPoE	
	Transport Layer Security (TLS)	
	LED for call and message waiting indication	
	Atleast 1xRJ45 10/100M Ethernet ports and 1 No. of 1 Gig port	
	Power over Ethernet (IEEE 802.3af)	
3	**Specification of Type -2 IP phone**	
	SIP phone should be from the same OEM of IP telephony system	
	132 x 64 -pixel graphical LCD with backlight	
	2 VoIP accounts	
	Local phonebook up to 100 entries	
	Auto provision via FTP/TFTP/HTTP/HTTPS for mass deployment	
	SRTP/ HTTPS/ TLS, 802.1x	
	PoE, Headset, Wall-Mountable	
	Volume adjustment, ring tone selection	
	Narrowband codec: G.711, G.723.1, G.726, G.729AB	

	VAD, CNG, AEC, PLC, AJB, AGC	
	Full-duplex hands-free speakerphone	
	SIP v1 (RFC2543), v2 (RFC3261)	
	NAT Traversal: STUN mode or 3rd party SBC	
	DTMF: In-Band, RFC2833, SIP Info	
	IP Assignment: Static/DHCP/PPPoE	
	1xRJ9 handset port	
	1xRJ9 headset port	
	Transport Layer Security (TLS)	
	LED for call and message waiting indication	
	Atleast 1xRJ45 10/100M Ethernet ports and 1 No. of 1 Gig port	
	Power over Ethernet (IEEE 802.3af)	
4	**Help desk specification**	
	1.1 General capabilities	
	1.1.1 The proposed solution must be embedded within the platform, not installed on a separate server and should be from the same OEM of the telephony system.	
	1.1.2 The system must be an All-in-one solution that provides a one server solution for UC&C and 5 agent license for help desk.	
	1.1.3 Single server deployment with intuitive and central management capabilities should support true multimedia.	
	1.1.4 Help desk managers must be able to easily prioritize customers and incoming contacts regardless of the media used.	
	1.1.5 The same set of business and routing rules can be applied to voice / chat calls, emails, and faxes if required.	
	1.1.6 The help desk must support multi-layer routing including Priority, Skill Based, Statistical, Business Rules, and Customer Defined Values.	
	1.1.7 Help desk must have embedded IVR, enabling managers to design routing plans and accurately assess help desk activity trends.	
	1.1.8 The IVR application must be a GUI application that can be managed by the customer.	
	1.1.9 The customer must have the ability to build new self-services applications like new IVR flow for new service.	
	1.1.10 Customer must have the ability to define/change routing rules by himself based on customer's profile.	
	1.1.11 The help desk must support Outbound, Call-back and Campaigns – including preview, progressive and automated outbound dialing.	
	1.1.12 The supervisor must be able to see the status of help desk agents in real-time in his PC like logout, busy, free, release, non ACD etc. in graphical form in pie chart / bar chart.	
	1.2 Help desk facilities	

	1.2.1 Real-time Monitoring – must provide supervisors with statistical information about the current status of the help desk with on line refresh (1sec). The application must include pre-defined list of reports and the customer (end user) should be able to choose reports as needed.	
	1.2.2 The Real Time application must provide the ability to build/change the workspace for each user and by user (not vendor or distributor).	
	1.2.3 The RT must provide the ability to move agents to/from different groups/queues for current login only.	
	1.2.4 Historical Reports – must be able to collect all information from call entry to call termination. Call profile details for internal investigation purposes should be part of the contact center solution.	
	1.2.5 The help desk solution must have an embedded Management Information System (MIS) suite that monitors all help desk activities, generating reports that summarize the past performance of the system over a given time period, and providing statistical analysis of the help desk within a specified period. Real-time and historical reports provide:	
	Help desk agent should be able to do following activities from agent application installed on PC:	
	Login/Logout from group	
	Release/Resume	
	Ready	
	Wrap-up Code	
	Release for Break	
	Release for Meeting	
	Control Wrap Up	
	Supervisor Help	
	Agent Board	
	Answer	
	Hold	
	Retrieve	
	Hang Up	
5	**Specifications for Voice Gateway:**	
	Gateway should provide 4x10/100/1000 interface for Connectivity.	
	Shall support Multiple voice interface like FXO, FXS, Channelized PRI(E1) as per requirement	
	Shall support embedded Hardware encryption acceleration, Voice capable DSP or equivalent.	
	Should be capable to support multicast	
	Should provide congestion management	
	Protocol – SIP	
	Should support SSH and SNMPv3	

	The gateway can be configured and controlled in server clusters (Active/Active) or Active and Standby	
	LED indicators– power, system status, network status, line status	
	Ethernet Connector – Dual Gigabit ethernet. The Gateway should function as a Self-Survivable unit when the Ethernet connectivity at gateway end breaks.	
	Power Input – AC or DC dual Power Supply	
	Operation Humidity – 10% to 85% (non-condensing)	
	Operation Temperature – 0 to 40ºC	
	Should have 4GB DRAM and 8 GB Of Flash/SSD.	
6	**Specification of Soft client**	
	The soft client should be from the same OEM of IP telephony system. Wifi facility for smart phone to be provided by the customer.	
	Soft client should be available for Windows PC, Android Phone and IOS phone	
	It should support Windows 7, Windows 8, Windows 10	
	it should be freely downloadable from Google Play / Apple store	
	it should support following features:	
	Make a call	
	Hold	
	Retrieve	
	Transfer	
	"Presences (User Select) -	
	Change status: Available, Busy No Answer, Busy call waiting, DND, Logoff, Forward to VM "	
	Dial users number - Internal, External, Mobile	
	"Instant messaging - IM with another soft client User, IM with a Multi Destination, Search on IM sessions, Save IM sessions, IM to groups"	
	3 way audio conference	
	call divert	
	camp on	
	view missed call	
	Contacts synchronized with the PBX directory	

1.2.2. Local Area Network (LAN) including management

Technical Specification of Core Switch

S.No	Technical Specifications	Complianc e (Y/N)
	General Features :	

1	Switch should have 1) 48 x 1/10/25G ports 2) Atleast 4 x 40/100G ports populated with required 40G transceivers/DAC cables. 3) Atleast 1 No of 100 G ports with required transceivers to connect Core to Core switch	
2	Switch shall be 1U and rack mountable in standard 19" rack.	
3	Switch shall have 16 GB RAM and 16 GB Flash/SSD.	
4	Switch should support min. 100GB SSD to host 3rd party container based application.	
5	Switch shall have hot swappable 1:1 redundant internal power supply and redundant fan.	
6	Switch shall support VSS or equivalent features allows links that are physically connected to two different switch to appear as a single port channel	
7	Shall support to provide an upgrade of the entire platform or an individual task/process without impacting hardware forwarding.	
	Performance:	
8	Switching system shall have minimum 3 Tbps of switching fabric and minimum 1Bpps of forwarding rate.	
9	Switching system shall have minimum 70K MAC Addresses and 1K VLANs.	
10	Switch should support minimum 18K ACLs, 16K Multicast and 32K IPv4, 16K IPv6 Routes..	
11	Switch shall support application visibility and traffic monitoring with sflow/jflow/netFlow support.	
12	Min. Packet buffer : 32 MB	
13	The device should be IPv6 ready logo certified from day one.	
	Functionality :	
14	Should support IEEE Standards of Ethernet: IEEE 802.1D, 802.1s, 802.1w, 802.1x, 802.3ad, 802.1ae (256-bit and 128-bit AES), 802.3x, 802.1p, 802.1Q, 1588v2/NTP.	
15	Should support AES-256 support with MACSEC-256 encryption algorithm on hardware.	
16	Must support BGP, IS-IS, VRF, EVPN, VXLAN, OSPF Routed Access, Policy-Based Routing (PBR), PIM SM, and Virtual Router Redundancy Protocol (VRRP) from Day 1	
17	Shall have 802.1p class of service, marking, classification, policing and shaping. Should support strict priority queuing.	
18	Switch should support management features like SSHv2, SNMPv2c, SNMPv3, IGMP, and routing protocols such as BGPv4,IS-IS v4 or equivalent & RESTCONF from day one.	
19	Switch should support port security, DHCP snooping, Spanning tree root guard, First Hop Security.	
20	IPv6 support in hardware, providing wire rate forwarding for IPv6	

	network.	
21	Should support 802.1x authentication and accounting, IPv4 and IPv6 ACLs and Dynamic VLAN assignment.	
22	Eight egress queues per port for different types.	
23	System's software signatures / authentication should be checked for integrity. System or process should capable to understand that system OS are authentic and unmodified.	
	Certification:	
24	Switch shall conform to UL 60950 or IEC 60950 or CSA 60950 or EN 60950 Standards for Safety requirements of Information Technology Equipment.	
25	Switch shall conform to EN 55022 Class A/B or CISPR22 Class A/B or CE Class A/B or FCC Class A/B Standards for EMC (Electro Magnetic Compatibility) requirements.	
26	Switch / Switch's Operating System should be tested for EAL 2/NDPP or above under Common Criteria Certification.	
27	5 years NBD Support should be provided from the OEM (any other support warranty type shall deemed to be rejected), must submit the OEM contract warranty copy to customer as said date of warranty.	
28	All the above-mentioned features should be available from day 1. If required, licenses to be factored from day 1.	
29	Manufacturers Authorization Letter Specific to this tender must be submitted. Tender submitted without MAF will be rejected	
30	Switches, trans receivers, wireless controllers and access points should be from the same OEM for better integration.	

Technical Specification of Distribution Switch

S.No	Technical Specifications	Compliance (Y/N)
	General Features :	
1	Switch shall be 1U and rack mountable in standard 19" rack.	
2	Switch should have min. 24no. 1/10G ports and 2 no of 40/100G ports for Uplink/Stacking connectivity	
3	Switch shall have 2 GB RAM and 2 GB Flash	
5	Switch shall have hot swappable 1:1 redundant internal power supply and redundant fan.	
6	Switch shall support dedicated stacking ports with the min. stacking bandwidth of 200Gbps or higher.	
	Performance :	
7	Switching system shall have minimum 1Tbps of switching fabric and minimum 800Mpps of forwarding rate.	
8	Switching system shall have minimum 30K MAC Addresses and 1K VLANs.	

9	Switch should support minimum 5K ACLs, 8K Multicast and 32K IPv4, 16K IPv6 Routes..	
10	Switch shall support application visibility and traffic monitoring with sflow/jflow/netFlow supports.	
11	Min. Packet buffer : 8 MB	
12	The device should be IPv6 ready logo certified from day one.	
	Functionality :	
13	Should support IEEE Standards of Ethernet: IEEE 802.1D, 802.1s, 802.1w, 802.1x, 802.3ad, 802.1ae (256-bit and 128-bit AES), 802.3x, 802.1p, 802.1Q, 1588v2/NTP	
14	Should support AES-128/256 support with MACSEC encryption algorithm on hardware	
15	Must support BGP, MPLS, IS-IS, VRF, EVPN, OSPF, PIM SM and VRRP/HSRP, must have RIP, OSPF routed access, PBR, VXLAN.	
16	Shall have 802.1p class of service, marking, classification, policing and shaping. Should support strict priority queuing.	
17	Switch should support management features like SSHv2, SNMPv2c, SNMPv3, IGMP, Netconf/YANG/Restconf.	
18	Switch should support port security, DHCP snooping, Spanning tree root guard, First Hop Security.	
19	IPv6 support in hardware, providing wire rate forwarding for IPv6 network	
20	Should support 802.1x authentication and accounting, IPv4 and IPv6 ACLs and Dynamic VLAN assignment.	
21	Eight egress queues per port for different types.	
22	System's software signatures / authentication should be checked for integrity. System or process should capable to understand that system OS are authentic and unmodified.	
	Certification:	
23	Switch shall conform to UL 60950 or IEC 60950 or CSA 60950 or EN 60950 Standards for Safety requirements of Information Technology Equipment.	
24	Switch shall conform to EN 55022 Class A/B or CISPR22 Class A/B or CE Class A/B or FCC Class A/B Standards for EMC (Electro Magnetic Compatibility) requirements.	
25	Switch / Switch's Operating System should be tested for EAL 2/NDPP or above under Common Criteria Certification.	
26	5 years 24X7 Support should be provided from the OEM (any other support warranty type shall deemed to be rejected), must submit the OEM contract warranty copy to customer as said date of warranty.	
27	Manufacturers Authorization Letter Specific to this tender must be submitted. Tender submitted without MAF will be rejected.	
28	Switches, trans receivers, wireless controllers and access points should be from the same OEM for better integration.	

Technical Specification of Layer 2, 24 Port PoE Access Switch

S.No	Technical Specifications	Compliance (Y/N)
	General Features:	
1	Switch should be 1U and rack mountable in standard 19" rack.	
2	Switch shall have minimum 8 nos of 1/ 2.5 POE+ and 16 ports of 1G PoE+ and additional modular 4 nos. SFP+ uplinks ports.	
3	All 24 port should support PoE (802.3af) and PoE+ (802.3at) with a PoE power budget of 370 W day-1 and scalable to 740W.	
4	Switch Should have internal redundant power supplies with fan module from day 1.	
5	Switch should have minimum 1 GB RAM and 1 GB Flash.	
6	Switch should have dedicated slot or ports for modular stacking, in addition to asked uplink ports. Should support for minimum 80 Gbps of stacking thoughput with 8 switch in single stack.	
7	Switch should be given with all the necessary stacking cables / modules day-1	
	Performance :	
8	The switch shall have minimum 250Gbps of switching fabric or higher and 150 mbps or higher of forwarding rate.	
9	Switch shall have minimum 16K MAC Addresses and 250 active VLAN.	
10	Should support minimum 11K IPv4 routes or more	
11	Switch shall have 1K or more multicast routes.	
12	Switch should support atleast sflow/netflow and restconf API.	
13	Switch should support 64 or more STP Instances.	
14	Switch should have 4 MB or more packet buffer	
	Functionality :	
15	Switch should support IEEE Standards of Ethernet: IEEE 802.1D, 802.1s, 802.1w, 802.1x, 802.3ad, 802.3x, 802.1p, 802.1Q, 802.3, 802.3u, 802.3ab, 802.3z.	
16	Switch must have functionality like static routing, RIP, PIM, OSPF, VRRP, PBR and QoS features from Day1	
17	Switch should support network segmentation that overcomes the limitation of VLANs using VXLAN and VRFs.	
18	Switch shall have 802.1p class of service, marking, classification, policing and shaping and eight egress queues.	
19	Switch should support management features like SSHv2, SNMPv2c, SNMPv3, NTP, RADIUS and TACACS+ .	
20	Switch should support IPv6 Binding Integrity Guard, IPv6 Snooping, IPv6 RA Guard, IPv6 DHCP Guard, IPv6 Neighbour Discovery Inspection and IPv6 Source Guard.	

21	Switch should support 802.1x authentication and accounting, IPv4 and IPv6 ACLs and Dynamic VLAN assignment and MACSec-128 on hardware for all ports.	
22	Switch or solutions must have the capabilities to enable automatic configuration of switch ports as devices connect to the switch for the device type.	
23	System's software signatures / authentication should be checked for integrity. System or process should capable to understand that system OS are authentic and unmodified.	
	Certification:	
24	Switch shall conform to UL 60950 or IEC 60950 or CSA 60950 or EN 60950 Standards for Safety requirements of Information Technology Equipment.	
25	Switch shall conform to EN 55022 Class A/B or CISPR22 Class A/B or CE Class A/B or FCC Class A/B Standards for EMC (Electro Magnetic Compatibility) requirements.	
26	Switch / Switch's Operating System should be tested for EAL 2/NDPP or above under Common Criteria Certification.	
27	The switch should be IPv6 ready logo certified day1	
28	5 years 24X7 Support should be provided from the OEM (any other support warranty type shall deemed to be rejected), must submit the OEM contract warranty copy to customer as said date of warranty.	
29	Manufacturers Authorization Letter Specific to this tender must be submitted. Tender submitted without MAF will be rejected.	
30	Switches, trans receivers, wireless controllers and access points should be from the same OEM for better integration.	

Technical Specification of 12 Port Switch

S.NO	Specifications	Compliance
1	Should have minimum: 12-Port 10/100/1000 Mbps PoE/PoE+, 2 x 1G/10G SFP+ slots uplink-ports	
2	Should provide minimum 185 W PoE budget	
3	The switch should support IPv4 and IPv6 Static Routing, RIP v1/v2, IPv4/v6 QOS/ACLs, IGMP v1/v2/v3, MLD v1/v2 and IGMP and MLD snooping from day 1	
	Switches must support switch virtualization/stacking feature to extend the control plane across multiple active switches forming a single virtual switching fabric. Any modules/cables required for the same shall be provided from Day 1	
	Should have AC Power Chord	
4	Switch shall conform to UL 60950 or IEC 60950 or CSA 60950 or EN 60950 Standards for Safety requirements of Information	

		Technology Equipment.	
5		Switch shall conform to EN 55022 Class A/B or CISPR22 Class A/B or CE Class A/B or FCC Class A/B Standards for EMC (Electro Magnetic Compatibility) requirements.	
6		Switch / Switch's Operating System should be tested for EAL 2/NDPP or above under Common Criteria Certification.	
7		The switch should be IPv6 ready logo certified day1	
8		5 years 24X7 Support should be provided from the OEM (any other support warranty type shall deemed to be rejected), must submit the OEM contract warranty copy to customer as said date of warranty.	
9		Manufacturers Authorization Letter Specific to this tender must be submitted. Tender submitted without MAF will be rejected.	
10		Switches, trans receivers, wireless controllers and access points should be from the same OEM for better integration.	

Technical Specification of 04 Port industrial Grade Switch

S.NO	Parameters	Specifications	Compliance
1	Interface	4 x 10/100/1000Base-T Ports POE + 2 x Gigabit SFP Slots + 1 Console Port	
2	Network Protocols	IEEE802.3 10BASE-T; IEEE802.3i 10Base-T;IEEE802.3u;100Base-TX/FX; IEEE802.3ab 1000Base-T; IEEE802.3z 1000Base-X; IEEE802.3x;IEEE802.3af, IEEE802.3at	
3	PoE Specification	PoE Standard: IEEE802.3af/ IEEE802.3at	
		PoE ports: 1-4 ports support PoE+	
		Available PoE Power 120 W	
4	Performance Specification	Bandwidth: 12Gbps	
		Jumbo Frames:8K or higher bytes	
		Packet Forwarding Rate:8.92Mpps	
		MAC Address Table: 8K	
5	Forwarding Mode	Store-and-Forward	
6	Protection	Lightening/Reverse Power protection, IP30 protection	
7	Power Supply	Dual DC Input - 48 ~ 57 VDC	
8	Ring Management	Rapid Ring, Self recover time in < 20ms/ITU G.8032	
9	Integration	Switches, trans receivers, wireless controllers and access points should be from the same OEM for better integration.	
	Layer 2 Switching		
10	Spanning Tree	IEEE802.1D (STP)	
		IEEE802.1W (RSTP)	

		IEEE802.1S (MSTP)	
11	VLAN	802.1Q VLAN	
		Port-Based	
		VLAN Entries - 4K	
		Private VLAN Edge	
		Voice VLAN	
		Guest VLAN	
		Q-in-Q	
		802.1v Protocol VLAN	
		MAC-Based VLAN	
		IP Subnet-Based VLAN	
12	IGMP v1/v2 snooping	Supports IGMP Snooping, MLD Snooping, Multicast VLAN Registration (MVR)	
		Supports GARP/GVRP	
13	IEEE 802.3ad LACP	Dynamic Trunk	
		Static Trunk	
14	LLDP	supports LLDP link discovery protocol	
15	System management	Users add / delete user; User login, operation, status, event log	
		Device reset, configuration save/restore, upgrade management, time setting	
	Layer 3 Switching		
16		Static Route	
17		DHCP Server	
	QOS		
18	Class of Service	Port Based	
		802.1p	
		DSCP	
		TCP/UDP	
19	Rate Limiting	Ingress	
		Egress	
20	Priority Queue Scheduling	WRR	
		Strict Priority	
	Hardware Queues	8 Hardware Queues	
	Security		
21	ACLs	L2/L3/L4	
		IPv6 Support	
22		Port Security (MAC-based)	
23		IP Source Guard	
24		Storm Control	

25		RADIUS Authentication 802.1x	
26		TACACS+ Authentication	
27		HTTPs and SSL (Secured Web)	
28		BPDU Guard	
29		STP Root Guard	
30		DHCP Snooping	
31		Loop Protection	
	Management		
32	DHCP	Client	
		Relay	
		Option 66/ Option 67/ Option 82	
33	Event/Error Log	Syslog	
34	Management Access Filtering	SNMP	
		Web	
		Telnet	
		SSH	
35	PoE Management	Scheduling	
		Auto-Checking	
		Power Delay	
36		SNMP (v1, v2c, v3)	
37		RMON (1,2,3 & 9 Groups)	
38		Software Upgrade	
39		Configuration Export/Import	
40		Port Mirroring	
41		LLDP (IEEE802.1AB)	
42		LLDP-MED (IEEE802.1AB)	
43		CDP Aware	
44		sFlow	
45		IPv6 Management	
46		NTP	
	Device Management System		
47	Device Management	Dashboard	
		Traffic Monitoring	
		Cable Diagnostics	
	Other Specifications		
48		Fan Less	
49	Environmental	Operating Temperature -40°C to 75°C, Storage Temperature -40°C to 85°C , Humidity 5 to 95% RH	
50	Industry Standard /	CE/FCC/UL	

	Certifications		
51	Shell	IP30 protect grade	
52	Installation	DIN-Rail or Wall mounts	
53	Support & Warranty	5 years 24X7 Support should be provided from the OEM (any other support warranty type shall deemed to be rejected), must submit the OEM contract warranty copy to customer as said date of warranty	
		Manufacturers Authorization Letter Specific to this tender must be submitted. Tender submitted without MAF will be rejected.	

Technical Specification of NMS

S.No	Technical Specifications	Compliance
1	The NMS tool should provide a complete view of the devices that are monitored and managed by tool. It also allows end-end provisioning, management, monitoring, and maintenance operations for the devices. NMS tool should simplify network operations by providing zero-touch setup, centralized management of networks, historical data reporting, and troubleshooting for networks located around city or around the state.	
2	NMS should be hardware/appliance-based controller OR software/virtual machine-based. Must be able to support minimum 300 devices from day one and should be scalable to support minimum 2500 devices on the same appliance	
3	Software/COTS VM based NMS should be accompanied with all the requisite hardware, licenses, software without incurring any extra cost/burden on NSU and the cost quoted for Software/COTS VM based NMS should comprise the total incurred cost of the entire system with 3 years support (hardware, license, software and all other requisite components).	
4	Must provide centralized management that should be able to manage wired, wireless & security components of 3rd party OEM's.	
5	Tool should have Single dashboard for IT operators for readily assess the state of the network with views into global and site-level details. Selecting a site changes the interface to only show network devices and connected clients specific to that location. IT operators can swiftly identify potential problems, as well as zero-in on specific locations that require their immediate attention.	
6	NMS tool should provide simplify network device configurations with templates and a User interface option with guided, step-by-step workflows. For devices with common configuration requirements, network admins can use groups to instantly apply or modify settings across large sets of devices.	
7	NMS tool should provide Zero touch provisioning, intuitive workflow for setting up network devices without onsite IT involvement. Configuration parameters can be defined within monitoring and management tool based on network- or site-specific requirements. To get started, simply plug in and power on a device. Administrator should be able to choose and stay on a firmware and tool should not have forced firmware upgrade policy. Must be able to integrate with NAC and Wireless devices	
8	Monitoring tool should have Detailed management dashboards, network visibility, utilization of switches. This includes port status, PoE status, VLAN, and more-with built-in alerts and events that accelerate wired network troubleshooting.	

9	NMS Tool should have Built-in troubleshooting capabilities include live events, logs, and rich command line tools. Tool should have Diagnostic checks such as ping tests and device-level performance tests. NMS tool should have debug capability from day one.	
10	Management tool should provide reporting features Reports should cover device connectivity, network health, capacity planning. A reporting wizard is also provided to generate scheduled and on-demand reports that highlight network and application health, throughput and usage data, device and client inventory and much more. Overall solution with log server should have minimum 30 days of statistic and 90 days of reporting data.	
11	Must provide web-based flexible view, device views and event logs for the entire infrastructure. Must support the ability to download firmware to single or multiple devices simultaneously and should support automatic or manual backup of configuration	
12	Management tool should have GUI-based workflow to upgrade firmware on deployed network devices. This includes the ability to complete live upgrades to reduce maintenance windows and ensure continuous operations. Upgrades can be completed at the site level, and can also be scheduled during non-peak hours of operation. Management tool should support rules governing firmware compliance for all managed devices.	
13	Must be able to write Python scripts/REST APIs to integrate with loT solutions.	
14	All the above-mentioned features should be available from day 1. If required licenses to be factored from day 1.	
15	Bidder has to submit Part Coded Bill of Materials of the offered Product	
16	Manufacturers Authorization Letter Specific to this tender must be submitted. Tender submitted without MAF will be rejected.	

Technical Specification of Router

S. No	Parameter	Specifications	Complied (Yes/No)
	Physical	Operating Temperature in range of 0° to 40° C	
		Operating Humidity should be 10% to 90% noncondensing	
		Should be rack mountable and provided with necessary kit for mounting	

	Interfaces and Modules	Should have minimum 6 SFP ports	
		Should have minimum 6 x 1GE RJ45 ports	
		Should have minimum 4 expansion slots for additional port requirement	
		Should support LTE WAN/4G functionality with additional module	
		Must have console port	
		Should have Out-of-Band (OOB) management port	
		Minimum 1 USB port	
	System Performance	Should have 4 Gbps of Routing throughput	
		Should have minimum 650 Kbps of Routing Performance	
		IPsec VPN throughput of minimum 500 Mbps with minimum of 250 tunnels support	
		Routing table size should be minimum of 750K (IPv4 or IPv6)	
	Memory and Storage	Minimum 4 GB RAM should be available from day one	
		Minimum 4 GB FLASH should be available from day one	
	Power	Should have dual (1+1) AC power supply	
	Management and Reporting	Should support SSH	
		Should support Telnet	
		Should support SNMP	
		Should have Web based GUI. Should support CLI access	
		Should support Software Defined WAN (SD-WAN) ready with required license/subscription to be included	
		Supported SD-WAN solution should be available in both on-premises controller and cloud-based subscription model	
		Should support App based traffic steering with multiple overlay tech – IPsec, GRE with link monitoring	
		SD-WAN solution should support IPsec connectivity terminating at a Hub	

		Should support cloud-based network management solution with central dashboard to deploy, configure, and manage proposed devices. Cloud management solution should work on subscription-based model	
		Should support Cloud management solution should support Zero Touch Provisioning (ZTP) for fast, simple deployment. The solution should Centralize the distribution and deployment of device OS	
		Should support Cloud management solution should support real-time visibility into the threats and risks the device has detected and mitigated	
		Should support Cloud management solution should be able to perform bulk updates to a range of devices and track the changes across the network. Track device inventory and schedule routine configuration backups across your devices.	
		Must support Python scripting	
		Should support Commit and Op scripts for Automation	
		Should support sFlow/jflow/netflow or equivalent	
		Should support IP-Monitoring	
		Should support AAA using RADIUS or TACACS	
		Should support application and bandwidth usage reporting	
	Layer 2 Features	802.1d Spanning Tree Protocol (STP), RSTP, MSTP	
		MAC address learning	
		Link aggregation and LACP	
		VLAN addressing and integrated routing and bridging (IRB) support	
		Should support L2 Transparent mode	
	Routing Features	Should have IPv4, IPv6, Static Routes	
		Should have BGP, RIP v1/v2, OSPF, IS-IS protocols enabled	
		Should have virtual routers functionality	
		Policy-based routing/Source-based routing should be supported	
		Should support Multicast -IGMP v1/v2, PIM-SM, PIM-DM	

		Should support selective stateless forwarding to provide packet-based processing for selected traffic	
		Should support MPLS, RSVP, LDP, VPLS, L3VPN	
		Should support Traffic Engineering, FRR	
		Should support next-generation multicast VPN	
		Graceful protocol restart for BGP, IS-IS, OSPF	
	High Availability Features	Should support VRRP on both IPv4 and IPv6, BFD	
		Dual box clustering should be supported	
		Active/passive mode should be supported	
		Active/Active mode should be supported	
		Device and link detection should be available to monitor failure	
		Firewall session synchronization should be supported from Day 1	
		Should support IP monitoring with route and interface failover	
		Should have modular operating system	
	Network Features	Should have Source NAT	
		Should have Port Address Translation (PAT)	
		Should have Bidirectional 1:1 static NAT	
		Should have Destination NAT	
		Should have Persistent NAT	
		Should have IPv6 address translation	
	VPN Features	Should support GRE, IP-IP Tunnels	
		Should have Site-site IPsec VPN and Group VPN support from Day 1	
		Should support Data Encryption Standard (DES), triple DES (3DES), Advanced Encryption Standard (AES256), PKI	
		Should have Dead peer detection (DPD) support	
	Device Security Features/Services	Should have stateful firewall functionality	
		Should support Protection from protocol and traffic anomalies	
		Should support User-based firewall	
		Should support Intrusion prevention system	

		Should support category/reputation-based URL filtering	
		Should support integration with cloud and on-prem ATP solutions.	
		Should support to work as security enforcement domain with help of policy orchestrator enforcing threat remediation policies.	
		Solution should support flexibility wherein Policies can be orchestrated as solution detects sophisticated zero-day and unknown threats.	
		Policy orchestration solution should support to extend the enforcement domain from firewall to network devices like Switches etc.	
		Should support working as L3 enforcement while integrating with End Point Security (NAC) solution	
	QoS Features	Must Support for 802.1p, DiffServ code point (DSCP), EXP	
		Must Support Classification base on VLAN, interface or multifield filters	
		Must Support Marking, policing, and shaping	
		Must Support Weighted random early detection (WRED)	
		Must Support Guaranteed and maximum bandwidth	
		Must Support Ingress traffic policing	
	Application aware features	Should support for application quality experience which enables to effectively prioritize, segregate, and route business-critical applications traffic without compromising performance or availability.	
		Should support the capability of application identification and advanced policy-based routing to identify specific applications in the network and to specify a path for the application traffic according (service-level agreement) SLA rules while monitoring RTT, jitter, and packet loss on each link.	
		Should support function to seamlessly diverts applications to an alternate path if the performance of the primary link is below acceptable levels as specified by the SLA	
	Certifications	Must have Common Criteria	

		Certification/NDPP/NDcPP	
		Must have RoHS compliance from day one.	

Technical specifications for Firewall

S. No	Technical Specifications	Compliance (Y/N)
A.	**Hardware Architecture**	
1.	The appliance-based security platform should provide firewall and VPN from day one and should be able to support WEB Filtering ,IPS,Anti Virus Anti bot functionality from Day 1.	
2.	Failover/Failback: Stateful Active/Passive and Active/Active with NGFW Features enabled	
3.	All feature asked in the tender should be from same OEM. Any open source and third-party solution is not accepted.	
4.	Interfaces required: 8 x 1GBASE-T Ethernet interfaces (RJ- 45), 8 x 10 Gigabit (SFP+) Ethernet interfaces.	
5.	Firewall should have integrated redundant hot-swappable power supply	
6.	The Licenses to be proposed to meet all the required specifications without any dependency or add-on component	
B.	**Performance**	
1.	4.5 GbPS of threat prevention with App Control, Anti Virus, Anti Bot, IPS, File blocking and logging enabled.	
2.	Firewall should support at least 1,000,000 concurrent sessions	
3.	Firewall should support at least 100,000 connections per second	
4.	The performance parameter must be available in single appliance/chassis only, by adding multiple appliances in cluster or any other workaround will not be acceptable	
C.	**Firewall Services & Features**	
1.	Firewall should support creating access rules with IPv4 & IPv6 objects simultaneously	
2.	Firewall should support operating in routed & transparent mode.	
3.	Protection against Anti-Spyware, Botnets, and other blended threats.	
4.	Stateful Inspection of the packets for standard applications like DNS, FTP, HTTP, HTTPS ,ICMP, , SMTP ,POP3 etc.	
5.	Destination, Source and Policy based NAT Translation	
6.	Firewall should support Nat66 (IPv6-to-IPv6)or equivalent, dual stack, Nat 64 (IPv6-to-IPv4) functionality	
7.	Should be capable of dynamically tuning IPS sensors (e.g., selecting rules, configuring policies, updating policies, etc.) with minimal human intervention.	
8.	Should support more than 15,000 IPS and 3000 application layer and risk-based controls that can invoke tailored intrusion prevention system (IPS) threat detection policies to optimize security effectiveness.	

9.	Should be capable of automatically providing the appropriate inspections and protections for traffic sent over non-standard communications ports.	
10.	Should be capable of detecting and blocking IPv6 attacks.	
11.	The detection engine should support capability of detecting and preventing a wide variety of threats (e.g., malware, network probes/reconnaissance, VoIP attacks, buffer overflows, P2P attacks, etc.).	
12.	Should be able to identify attacks based on Geo-location and define policy to block on the basis of Geo-location.	
13.	Appliance OEM must have its own threat intelligence analysis centre and should use the global footprint of security deployments for more comprehensive network protection.	
14.	IPS Signatures should be upgradable from dedicated control plane of NGFW or centralized server in Data Centre.	
15.	Object-based Management	
16.	PKI supported for VPN authentication.	
17.	Firewall should support 802.3ad Ether channel or equivalent functionality to increase the bandwidth for a segment.	
D.	**L3 Features**	
1.	OSPF, OSPF V3	
2.	Static Routing	
3.	IPv4 / IPv6 dual stack support	
4.	Should support Multicast protocols like IGMP, PIM, etc	
E.	**VPN**	
1.	Integrated hardware for encryption and VPN acceleration	
2.	IPSec VPN with Stateful failover. SSL encryption/decryption	
3.	3DES, AES, SHA1, SHA-256	
4.	Site-to-site VPN: SSL, IPSec, 256- bit AES, PKI / Pre-shared based authentication. Minimum 1500 concurrent VPN connections license.	

5.	➢ The Firewall should support for TWO modes of SSL VPN.
	  • Web-only mode: for thin remote clients equipped with a web browser only.
	  • Tunnel mode, for remote computers using client.
	➢ The system shall provide SSL VPN tunnel mode that supports all operating systems.
	➢ The proposed system shall comply/support industry standards IPSEC, SSL VPN without additional external solution, hardware, or modules.
	➢ 250 Users license requirement for SSL VPN	

F.	**Monitoring, Management & up gradation**	
1.	The device should be provided with monitoring, provisioning and telemetry solution from the same OEM. It should support device configuration, management, unified monitoring, traffic flow analytics provisioning, real-time telemetry, alerts, event notifications, logging, report generation and other supporting features.	

S. No	Technical Specifications	Compliance (Y/N)
2.	Console port for administration & management	
3.	Support SNMP v2,v3	
4.	Support management using CLI, GUI using Web interface	
5.	OEM EMS/NMS application to configure & manage the firewall/IPS, Analyze the Traffic & security threats and generate periodical reports.	
6.	Support FTP/TFTP for upgrading the operating System	
7.	Support for syslog.	
8.	Network Time Protocol support (NTP)	
9.	Command Line Interface (CLI)	
10.	SSHv2	
H.	**Debug & Diagnostics**	
1.	Display of input and output error status on all interfaces	
2.	Display of Routing table	
3.	Trace-route, PING, Packet Capture	
I.	**Certification**	
1.	Common Criteria (ISO/IEC 15408) EAL or NIAP/CCEVS Protection Profiles certification for the model or family	
2.	Firewall should be IPv6 Certified/IPv6 logo ready	

Technical specification for AAA

S. No	Technical Specifications	Compliance (Y/N)
1	The Solution should provide a highly powerful and flexible attribute-based access control solution that combines authentication, authorization, and accounting (AAA); profiling; and guest management services on a single platform.	
2	It should allow enterprises to authenticate and authorize users and endpoints via wired, wireless, and VPN with consistent policy throughout the campus	
3	Provides complete guest lifecycle management by empowering sponsors to on-board guests	
4	Solution should be scalable enough to support 10,000 endpoints in the network. Currently needed licence for 2500 endpoints for AAA, 802.1x, Guest Access and BYOD, profiling and device administration	
5	Support comprehensive visibility of the network by automatically discovering, classifying, and controlling endpoints connected to the network to enable the appropriate services per endpoint	
6	The proposed NAC / AAA must be able to identify medical devices for instant fingerprinting of medical equipment within the campus environment and provide secure access	
7	Should Support capability of addresses vulnerabilities on user machines through periodic evaluation and remediation to help proactively mitigate network threats such as viruses, worms, and spyware	

8	Should support capability to enforces security policies by blocking, isolating, and repairing noncompliant machines in a quarantine area without requiring administrator attention	
9	Should support a built-in monitoring, reporting, and troubleshooting console to assist helpdesk operators and administrators streamline operations	
10	Support Should capability to allows you to get finer granularity while identifying devices on your network with Active Endpoint Scanning	
11	Augments network-based profiling by targeting specific endpoints (based on policy) for specific attribute device scans, resulting in higher accuracy and comprehensive visibility of what is on your network	
12	Manages endpoint access to the network with the Endpoint Protection Service, which enables administrators to specify an endpoint and select an action - for example, move to a new VLAN, return to the original VLAN, or isolate the endpoint from the network entirely - all in a simple interface	
13	Utilizes standard RADIUS protocol for authentication, authorization, and accounting (AAA).	
14	Supports a wide range of authentication protocols, including PAP, MS-CHAP, Extensible Authentication Protocol (EAP)-MD5, Protected EAP (PEAP), EAP-Flexible Authentication via Secure Tunnelling (FAST), and EAP-Transport Layer Security (TLS).	
15	Should support a rules-based, attribute-driven policy model for creating flexible and business-relevant access control policies. Provides the ability to create fine-grained policies by pulling attributes from predefined dictionaries that include information about user and endpoint identity, posture validation, authentication protocols, profiling identity, or other external attribute sources. Attributes can also be created dynamically and saved for later use. Posture validation service not required from day one.	
16	should support a wide range of access control mechanisms, including downloadable access control lists (dACLs), VLAN assignments, URL redirect, and Security Group Access (SGA) tagging.	
17	Should Support predefined device templates for a wide range of endpoints, such as IP phones, printers, IP cameras, smartphones, and tablets.	
18	It should support Administrators to create their own device templates. These templates can be used to automatically detect, classify, and associate administrative-defined identities when endpoints connect to the network. Administrators can also associate endpoint-specific authorization policies based on device type.	
19	The Solution should support capability to collect endpoint attribute data via passive network telemetry, querying the actual endpoints, or alternatively from the infrastructure via device sensors on switches.	

20	Solution should support allow end users to interact with a self-service portal for device on-boarding, providing a registration vehicle for all types of devices as well as automatic suppliant provisioning and certificate enrolment for standard PC and mobile computing platforms.	
21	Should support full guest lifecycle management, whereby guest users can access the network for a limited time, either through administrator sponsorship or by self-signing via a guest portal. Allows administrators to customize portals and policies based on specific needs of the enterprise.	
22	Should support and capability to verifies endpoint posture assessment for PCs connecting to the network. Works via either a persistent client-based agent or a temporal web agent to validate that an endpoint is conforming to a company's posture policies. Provides the ability to create powerful policies that include but are not limited to checks for the latest OS patches, antivirus and antispyware software packages with current definition file variables (version, date, etc.), registries (key, value, etc), and applications. Solution should support auto-remediation of PC clients as well as periodic reassessment to make sure the endpoint is not in violation of company policies. This functionality not required from day one.	
23	Should support and capability to allows administrators to quickly take corrective action (Quarantine, Un-Quarantine, or Shutdown) on risk-compromised endpoints within the network. This helps to reduce risk and increase security in the network. This functionality not required from day one.	
24	Should support to Enables administrators to centrally configure and manage profiler, posture, guest, authentication, and authorization services in a single web-based GUI console, greatly simplifying administration by providing consistency in managing all these services. Posturing services not needed from day one.	
25	Should support Includes a built-in web console for monitoring, reporting, and troubleshooting to assist helpdesk and network operators in quickly identifying and resolving issues. Offers comprehensive historical and real-time reporting for all services, logging of all activities, and real-time dashboard metrics of all users and endpoints connecting to the network.	
26	Should support consistent policy in centralized and distributed deployments that allows services to be delivered where they are needed	
27	Solution should support to determine whether users are accessing the network on an authorized, policy-compliant device.	
28	Solution should support to establish user identity, location, and access history, which can be used for compliance and reporting.	
29	Solution should support to assign services based on the assigned user role, group, and associated policy (job role, location, device type, and so on).	

30	Solution should support to grant authenticated users with access to specific segments of the network, or specific applications and services, or both, based on authentication results.	
31	Solution should support which allows users to add a device on a portal, where the device goes through a registration process for network access. Should allow users to mark as lost any device that you have registered in the network, and blacklist the device on the network, which prevents others from unauthorized network access when using the blacklisted device. Should have capability to reinstate a blacklisted device to its previous status in Device Portal, and regain network access without having to register the device again in the Devices Portal. Should also support removing any device in the enterprise network temporarily, then register the device for network access again later.	
32	Solution should Support portal used for Device registration should be customizable, allowing to customize portal theme by changing text, banners, background color, and images	
33	Should provide a Registered Endpoints Report which provides information about a list of endpoints that are registered through the device registration portal by a specific user for a selected period of time. The report should provide the following details •Logged in Date and Time	
34	•Portal User (who registered the device)	
35	•MAC Address	
36	•Identity Group	
37	•Endpoint Policy	
38	•Static Assignment	
39	•Static Group Assignment	
40	•Endpoint Policy ID	
41	•NMAP Subnet Scan ID	
42	•Device Registration Status	
43	Solution should classify a client machine, and should support client provisioning resource policies to ensure that the client machine is set up with an appropriate agent version, up-to-date compliance modules for antivirus and antispyware vendor support, and correct agent customization packages and profiles, if necessary	
44	Solution should support receiving updated endpoint profiling policies and the updated OUI database as a feed from the OEM database.	
45	Should support native supplicant profiles to enable users to bring their own devices into network. When the user logs in, based on the profile that you associate with that user's authorization requirements, solution should provide the necessary supplicant provisioning wizard needed to set up the user's personal device to access the network. This should be supported over Microsoft windows, Apple Mac and iOS and Android devices.	

46	When endpoints are discovered on the network, they can be profiled dynamically based on the configured endpoint profiling policies and assigned to the matching endpoint identity groups depending on their profiles.	
47	Should support using a simple filter that you can use to filter endpoints. The quick filter filters endpoints based on field descriptions, such as the endpoint profile, MAC address, and the static status that is assigned to endpoints when they are created in the Endpoints page.	
48	Should support an advanced filter that you can pre-set for use later and retrieve, along with the filtering results, The advanced filter filters endpoints based on a specific value associated with the field description. You can add or remove filters, as well as combine a set of filters into a single advanced filter.	
49	Should support importing endpoints from a comma-separated values (CSV) file in which the list of endpoints appears with the MAC address and the endpoint profiling policy details separated by a comma.	
50	Support for importing endpoints from LDAP server. Should allow to import MAC addresses and the associated profiles of endpoints securely from an LDAP server. Should support an LDAP server to import endpoints and the associated profiles, by using either the default port 389, or securely over SSL, by using the default port 636.	
51	Should support multiple Admin Group Roles and responsibilities like Helpdesk Admin, Identity Admin, Monitoring Admin, Network Device Admin, Policy Admin, RBAC Admin, Super Admin and System Admin	
52	Should support Role-based access policies which are access control policies which allow you to restrict the network access privileges for any user or group. Role-based access policies are defined when you configure specific access control policies and permissions. These admin access policies allow you to customize the amount and type of access on a per-user or per-group basis using specified role-based access permission settings that apply to a group or an individual user.	
53	Should support Identity source sequences which defines the order in which the solution will look for user credentials in the different databases. Solution should support the following databases:	
54	•Internal Users	
55	•Internal Endpoints	
56	•Active Directory	
57	•LDAP	
58	•RSA	
59	•RADIUS Token Servers	
60	•Certificate Authentication Profiles	
61	Must be able to differentiate policy based on device type + authentication	
62	Should have Ability to authenticate at least one phone and multiple	

	users on the same	
63	switchport without interrupting service	
64	Solution should support MAB and can further utilize identity of the endpoint to apply the proper rules for access. MacAddressBypass is typically used for devices which do not support 802.1x	
65	Solution must support Non 802.1x technology on assigned ports and 802.1x technology on open use ports	
66	Solution should provide support policy enforcement through VPN gateways	
67	Solution should support to allow users access to the network in a worst case scenario in case of AAA server outages or any other reasons like WAN failure.	
68	Should support authenticating Machines and users connected to the same port on the switch in a single authentication flow	
69	Should support authenticating IP phones and users connected behind IP phones on the same physical port.	
70	Solution should Support profiling capabilities integrated into the solution in order to detect headless host. The profiling features leverage the existing infrastructure for device discovery. Should support the use of attributes from the following sources or sensors:	
71	* Profiling using MAC OUIs	
72	* Profiling using DHCP information	
73	* Profiling using RADIUS information	
74	* Profiling using HTTP information	
75	* Profiling using DNS information	
76	* Profiling using NetFlow information	
77	* Profiling using SPAN/Mirrored traffic	
78	Solution should support troubleshooting authentication issues by triggering session reauthentication to follow up with an attempt to reauthenticate again.	
79	Should support session termination with port shutdown option to block an infected host that sends a lot of traffic over the network.	
80	Should support the functionality to force endpoint to reacquire IP address that do not support a supplicant or client to generate a DHCP request after a vlan change.	
81	Troubleshooting & Monitoring Tools	
82	Should support tools to run SHOW command on the network device.	
83	Should support evaluation of the configuration of the device with the standard configuration.	
84	Should support TCP dump utility & also support saving a TCP dump file.	
85	Solution should support schedule reports to run and re-run at specific time or time intervals & send and receive email notifications once the reports are generated.	
86	Solution should have capability to administrate devices through	

	TACACS+ from day one	

1.2.3. WI-FI Systems

Technical Specifications of Wireless Controller

S.No.	Technical Specifications	Compliance (Y/N)
1.	The network solution shall include Wireless LAN (WLAN) based on a centralized WLAN architecture, in which a central on premises controller (deployed in redundancy), makes all the decisions for on the wireless network and is in control of all the Access Points.	
2.	The WLAN shall deliver high capacity, with ubiquitous coverage that is free of co-channel interference.	
3.	a) WLAN Controller should be based on IEEE802.11ac (Wave 1 & Wave 2), 802.11ax with MIMO and MU-MIMO	
	b) The controller should be backward compatible with IEEE802.11 a/b/g/n clients and devices.	
4.	The Wireless network should support, Data over Internet, Data on local LAN, VoWLAN, BYOD, Location based Services.	
5.	The WLC shall be manageable through SNMP.	
6.	The WLC shall support 802.11i security standard for authentication and encryption.	
7.	The WLC shall be able to support public clients (Guest users) for wireless internet access.	
8.	The WLC shall be scalable with respect to addition of users, AP's, Bandwidth.	
9.	The WLC shall be able to support any 802.11 a/b/g/n/ac/ax wireless client.	
10.	Must be compliant with IEEE CAPWAP or equivalent for controller-based WLANs.	
11.	Should have at least 4 x 1/10G Copper or Fibre or combination interface. In case of fibre ports, appropriate 10G transceivers or 10G Direct attached cables of minimum 3 meters must be provided for connectivity with Core switch.	
12.	Should support both centralized as well as distributed traffic forwarding architecture with L3 roaming support & IPv6 ready from day one.	

13.	a) The WLAN Controllers should be deployed in High Availability from day one and should be provisioned with required licenses for all the Wireless Access Points mentioned in the Bill of Quantity BOQ from day one.	
	b) WLAN controller should support 1000 Access Points and 10,000 clients from Day-1 and should be expandable with same hardware.	
14.	Should support minimum 4000 VLAN ID or WLAN.	
15.	Should support seamless roaming of client across all Access Points.	
16.	Shall support complete integration with WIPS and location-based services in future by adding software/license/hardware	
17.	WLC should support AP License Migration from one WLC to another	
18.	WLC should support 1+1 / N+1 redundancy from day and should support active–standby/active–active topology.	
19.	WLC should support L2 and L3 roaming.	
20.	WLC should support guest-access functionality.	
21.	Should support client load balancing to balance the number of clients across multiple APs to optimize AP and client throughput.	
22.	Should support dynamic bandwidth selection among 20MHz, 40MHz, 80Mhz & 160MHz channels, ensuring one access point on 20Hz and another on 160 MHz channel connected on the same controller at same WLAN group.	
23.	Should be able to do dynamic channel bonding based on interference detected on any particular channel(s).	
24.	Must support RF Management with 40 MHz and 160 MHz channels with 802.11n & 802.11ac wave 2 & 802.11ax	
25.	Must support Airtime Fairness.	
26.	WLC Should have Rogue AP detection, classification and standard WIPS.	
27.	WLC should be able to exclude clients based on excessive/multiple authentication failure.	
28.	Shall support AES or TKIP encryption to secure the data integrity of wireless traffic	
29.	The solution should support location-based user access.	
30.	Should support Public Key Infrastructure (PKI) to control access	

31.	The WLAN shall support multiple applications and user groups.	
32.	The WLAN shall support multiple SSID's with the ability to tag an SSID to a specific VLAN	
33.	The Wireless controller shall be able to provision a Wireless network which should support, Data over Internet, Data on local LAN, VoWLAN, BYOD, Location based Services & Streaming video.	
34.	The WLAN Controller shall support open API's like Restconf/Netconf/Yang/Puppet/Ansible or similar tools for provisioning automation, telemetry, health monitoring, etc.	
35.	Support standard 802.1x, WPA (PSK), WPA-2 (AES) & encryption key security	
36.	Should support SNMPv3, SSHv2 / SSL for secure management.	
37.	Should support encrypted mechanism to securely upload/download software image to and from Wireless controller.	
38.	Should support AP Plug and Play (PnP) deployment with zero-configuration capability	
41.	Should support AP grouping to enable administrator to easily apply AP-based or radio-based configurations to all the APs in the same group	
42.	Operating Temperature: upto 10°C – 35°C Humidity: 10 ~ 90% RH non-condensing	
43.	5 years 24X7 Support should be provided from the OEM (any other support warranty type shall deemed to be rejected), must submit the OEM contract warranty copy to customer as said date of warranty.	
44.	Manufacturers Authorization Letter Specific to this tender must be submitted. Tender submitted without MAF will be rejected.	
45.	Switches, trans receivers, wireless controllers and access points should be from the same OEM for better integration.	

Technical Specification of Indoor Access Point/Outdoor

S.No	Specification	Compliance (Yes / No)
1	The Access Point proposed must have radios to support 2.4Ghz / 5 Ghz channels with 802.11ac Wave-2, 802.ax. 4X4:4 MU-MIMO with a throughput of atleast 2.5 Gbps or higher.	
2	Should come with standard Mounting Brackets	
3	Access point should have a Gigabit link that can support atleast 1 Gbps of throughput.	
4	Should be capable of Band Steering	
5	Should support Way finding within covered areas to start with.	
6	Should not require any calibration for configuration of BLE location-based messaging	
7	AP should support encrypted data transmission between user and to cloud management platform	
8	Should support virtual BLE technology	
9	Should support automatic RF optimization	
10	WIPS/WIDS detection of rogue and honeypot Access Point detection,	
11	Should be able to limit per SSID or per user based, uplink or downlink bandwidth	
12	Should have following compliances:- UL 60950-1 CAN/CSAC22.2 No. 60950-1 FCC Part 15.247, 15.407 / 15.107 / 15.109 RSS247 ICES003	

Access Point - Outdoor AP (4X4:4)		
SN	**Detailed Specifications**	**Compliance (Yes/No)**
1	Should be Outdoor Access Point 4 X 4 MU – MIMO. SU MIMO On both the bands AP should support 802.11ax standards	
2	Should have Data Rate Support - 2.5 Gbps or higher	
3	Should have Antenna Options - Internal and External	
4	Should have Bluetooth support	
5	Should have Transmit Beamforming and Maximal Ratio Combining	
6	Should have 10/100/1000/2500 BaseT RJ45 interface that supports 802.3at PoE	
7	Should have Operating Temp. - -20° to 60°	
8	Should have Enclosure - IP67 / NEMA 4 compliant	
9	Should have 10% to 90% maximum relative humidity, non-condensing	

10	Should have1 - 10/100/1000/2500 BASE-T auto-sensing RJ-45 with PoE 1 – 10/100/1000BASE-T auto-sensing RJ-45	
11	Should support Artificial Intelligence (AI) Driven and Dynamic debugging with automatic RF Optimization feature	
12	Should have Multi-color status LED	
13	Compliance Standards - UL 60950-1 CAN/CSAC22.2 No. 60950-1, FCC Part 15.247 / 15.407 / 15.107 / 15.109 and RSS247, ICES003 (Canada)	
14	5 years 24X7 Support should be provided from the OEM (any other support warranty type shall deemed to be rejected), must submit the OEM contract warranty copy to customer as said date of warranty	
16	Manufacturers Authorization Letter Specific to this tender must be submitted. Tender submitted without MAF will be rejected.	
17	Switches, trans receivers, wireless controllers and access points should be from the same OEM for better integration.	

1.3. ICT Power-back-up

1.3.1. UPS 20kVA (Input 3Phase / output 3 Phase)

S.No.	Detailed Description	Compliance (Yes / No)
1	Compact & modulate design, along with Powder Coated M.S. Rack with unidirectional wheels for housing the Batteries along with all accessories including interconnecting cables, lugs, Base Frames, Battery Rack & Battery Circuit breaker complete as required. (For Server Room)	
2	Conforming to IEC EN 62040 (All Parts), ISO 9001 certified	
3	True On-Line, double conversion	
4	IGBT on the input and output with multiple digital signal processor controlled for Rectifier/ charger	
5	Battery, 2 Level IGBT Inverter	
6	Static Switch, with parallel redundant	
7	Input PF: $\geq$0.99@ 100% Load	
8	Input PF: >0.99 and input THDi< 4-6%	
9	Input voltage 380-415V, Output voltage 415V, 50Hz frequency	
10	efficiency >95%, 0-40 deg C	
11	with inbuilt overload, short circuit	

| 12 | Input low voltage, output over voltage, battery over charging, battery over discharging protections | |
| 13 | Parallel kit, 30 min battery back-up with 12 V Maintenance Free Sealed Lead Acid batteries | |

1.3.2. UPS 1 kVA

S.No.	Detailed Description	Compliance (Yes / No)
1	Conforming to IEC EN 62040 (All Parts), ISO 9001 certified	
2	True On-Line, double conversion	
3	IGBT on the input and output with multiple digital signal processor controlled for Rectifier/ charger	
4	IGBT Inverter	
5	Static Switch with Hotstand by redundant configuration	
6	input Pf: ≥ 0.99 @ full load	
7	Yes	
8	Input Range -110-300 VAC $\pm$ 5% Output Range - 200/208/220/230/240VAC (selectable), 50 Hz frequency	
9	efficiency >90%, 0-40 deg C	
10	with inbuilt overload, short circuit	
11	Input low voltage, output over voltage, battery over charging, battery over discharging protections	
12	Hot stand by Kit with 30 min battery back-up with 12 V Maintenance Free Sealed Lead Acid batteries	

Equipment Pre-Dispatch Inspection

All Test criteria need to be assessed with respect to compliance and the specification submitted by the successful Bidder in the proposal. Pre-Dispatch Inspection will not pass any item which even if meets the compliance but deviates from the specification submitted by the Bidder during proposal submission.

With aforesaid clause, test criteria will imply –

During pre-dispatch inspection, the equipment under test must satisfy both the following conditions.

1. Actual result should comply with test criteria

2. Actual result should match with the specification submitted by the Bidder as part of the proposal submission

Technical Specification Required	Test Criteria(Bidder's Proposed Specs)	Actual Result	Test Outcome (Pass/Fail)
Compliance for the equipment as per annexure XVIII			

FINANCIAL BID

Instructions to Bidders

1. Financial Bid shall be submitted with full price details.

    Financial Bid shall contain only the prices duly filled in as per the format given in Schedule of Rates provided in the tender document. Price bid should not have any Commercial and/or Technical stipulation.

    Financial Bid Standard Forms **(Form-1)** shall be used for the preparation of the price quote according to the instructions provided.

2. The prices quoted by the Bidder shall be fixed for the duration of the contract and shall not be subject to adjustment on any account.

3. The changes displayed in the corrigendum/addendum to the bid documents, particularly with the financial bid should be attached with the **Financial Bid Submission Form**, in the same packet, duly signed and stamped by the authorized signatory of the Bidder firm.

4. The financial bid should be filled in all respect and uploaded in ".PDF" format (only) duly signed and sealed by the authorized representative. In case the financial bid documents are not complete in all respects the same shall be treated as incomplete at financial bid opening stage and shall be considered non-responsive.

					Unit Price including 5 year OEM warranty and manpower cost, Rs.	Basic Price, Rs.	GST %	GST Rs.	Total Price, Rs.
S. No	Description of Material	Make & Product No.	Unit	Qty					
1	**2**	**3**	**4**	**5**	**6**	**7(5*6)**	**8(a)**	**8(b)**	**9(7+8b)**
	Section (Core ICT Infrastructure)								
A	**Surveillance & Electronic Security**								
1	Supply, installation, testing and commissioning of Dome camera (As per detailed technical specification)		Nos.	**4**					
2	Supply, installation, testing and commissioning of Bullet camera (As per detailed technical specification)		Nos.	**119**					
3	Supply, installation, testing and commissioning of 64 channel NVR (As per detailed technical specification)		Nos.	**3**					
4	Supply, Installation, Testing & Commissioning of 8TB Surveillance Hard Disk.		Nos.	**24**					
5	Supply, Installation, Testing and Commissioning of Full HD 43" LED Professional Display Panel with atleast 300 Nits Brightness		Nos.	**8**					

6	Supply, Installation, Testing and Commissioning of Workstation Desktop (As per detailed technical specification)	Nos.	**1**						
B	**Lecture-room**								
B.1	**Vertical Sliding Motorised Independent Boards for all classrooms**								
1	**CLASS Type 150 Seater:** Supply, installation, testing and commissioning of Motorised independent Vertical slider board with white board (3 column configuration) having 1 fixed and 2 sliding boards - Will consist of 3 units of 3000mm x 2400m - Length x Height (As per detailed technical specification)	Set	**1**						
2	**CLASS Type 90 Seater:** Supply, installation, testing and commissioning of Motorised independent Vertical slider board with white board (3 column configuration) having 1 fixed and 2 sliding boards - Will consist of 2 units of 2400mm x 2400 mm and 1 unit of 3600mm and 2400 mm - Length x Height (As per detailed technical specification)	Set	**5**						

3	**CLASS Type 56, 63, 60, 52 Seater - Classroom Complex 2 and 50 seater classroom MDP:** Supply, installation, testing and commissioning of Motorised independent Vertical slider board with white board (3 column configuration) having 1 fixed and 2 sliding boards - Will consist of 3 units of 2400mm x 2400m - Length x Height (As per detailed technical specification)	Set	7					
C	**Computing Devices (Desktops)**							
1	Supply, Installation, Testing and Commissioning of Workstation PC for staff with additional monitor and wireless mouse and keyboard (As per detailed technical specification)	RM	2					
2	Thin client solution for Computer Lab with 75 Thin clients (including 21inch Monitors, Keyboard and a Mouse) and necessary software to make the solution function, connected to back-end server. Should have USB and HDMI ports. (As per detailed technical specification)		75					
3	Supply, Installation, Testing and Commissioning of Network Laser Printer (As per detailed technical specification)	RM	20					

D	**Access -Control Biometric Attendance system**							
1	Supply, Installation, Testing & Commissioning of Biometric attendance machine with attendance software (As per detailed technical specification)		Set	**20**				
2	Supply , Installation , Testing and commissioning of CAT 6 UTP cable 23 AWG solid copper conductors.		Mtrs	**1200**				
E	**Data Center**							
1	Supply ,Installation ,Testing & Commissioning of 3 Nodes of Hyperconverged box with 15TB space each along with 2 Rack servers to be used as Web Servers in DMZ (As per detailed technical specification)		Nos.	**1**				
	SECTION (Communication Backbone)							
F	**IP-PBX SYSTEM**							
1	Supply , Installation , Testing and Commissioning of Pure IP at core server Based voice solution with 04 Port Voicemail ,04 Port FXS ,04 Port FXO , 3 PRI Trunk lines (30 Ch) Circuit with CLIP Facility, 430 IP users License,01 Nos. IP Operator Console,120 Party Conference ,Speed Dial, Music on Hold , Internal/ External ring difference ,Call Barring,		Set.	**1**				

	Call Pickup, TEC should be with GR Number, - Redundant server in active-Active mode Expandable upto 2500 users. (As per detailed technical specification)								
2	Supply, Installation, Testing & Commissioning of Type 1 IP Phone 1 VoIP account , Full duplex speaker phone, IPV6, 2xLAN, PoE. (As per detailed technical specification)	Nos.	99						
3	Supply, Installation, Testing & Commissioning of Type 2 IP Phone with 2 Voip accounts, 2 Lines , HD Voice, Graphic LCD display with backlight. (As per detailed technical specification	Nos.	4						
G	**LOCAL AREA NETWORK (LAN)**								
1	Supply, Installation, Testing & Commissioning of 48 port Core Switch (As per detailed technical specification)	Nos.	2						
2	Supply, Installation, Testing & Commissioning of 24 port Distribution Switch (As per detailed technical specification)	Nos.	5						

3	Supply, Installation, Testing & Commissioning of 24 port Access Switch (As per detailed technical specification)		Nos.	**60**					
4	Supply, Installation, Testing & Commissioning of 12 port L2+ managed PoE switch (As per detailed technical specification)		Nos.	**25**					
5	Supply, Installation, Testing and Commissioning of 4 port Industrial grade switch (As per detailed technical specification)		Nos.	**9**					
6	Supply, Installation, Testing & Commissioning of Core-Core connectivity SFP 100G		Nos.	**2**					
7	Supply, Installation, Testing & Commissioning of Core-Distribution Switch Transceivers 40G		Nos.	**14**					
8	Supply, Installation, Testing & Commissioning of Access-Distribution Switch Transceiver 10G		Nos.	**150**					
9	Supply, Installation, Testing & Commissioning of Access Switch Industrial/Outdoor Transceivers 1G		Nos.	**13**					
10	Supply, Installation, Testing & Commissioning of Stacking Module / Stacking Cables		Nos.	**35**					
11	Supply, Installation, Testing & Commissioning of Network management software for monitoring (As per detailed technical specification)		Nos.	**1**					

12	Supply, Installation, Testing & Commissioning of Router (As per detailed technical specification)		Nos.	**2**					
13	Supply, Installation, Testing & Commissioning of Next generation firewall in HA (As per detailed technical specification)		Nos.	**2**					
14	Supply, Installation, Testing and Commissioning of AAA / NAC appliance for user authentication, authorization and accounting (As per detailed technical specification)		Nos.	**2**					
H	**WI-FI SYSTEMS**								
1	Supply, Installation, Testing & Commissioning of Indoor Access Point (As per detailed technical specification)		Nos.	**363**					
2	Supply, Installation, Testing & Commissioning of Outdoor Access Point (As per detailed technical specification)		Nos.	**7**					
3	Supply, Installation, Testing & Commissioning of Wireless Controller (As per detailed technical specification)		Nos.	**2**					
	SECTION (ICT Power-back-up and Digital Asset Recovery Infra)								
I	**UPS**								

1	Supply, installation, testing and commissioning of **20kVA**(Input 3Phase / output 3 Phase) with 30 min backup, Floor Mount Type, Compact & modulate design, along with Powder Coated M.S. Rack with unidirectional wheels for housing the Batteries along with all accessories including interconnecting cables, lugs, Base Frames, Battery Rack & Battery Circuit breaker complete as required. (For Server Room) (As per detailed technical specification)	Set	2						
2	Supply, installation, testing and commissioning of **1 kVA** UPS 15 min. backup complete as required. (For Racks)(As per detailed technical specification)	Set	56						
	Gross Total----> Net offered Price------->								
Net offered Price (in Words)									
	Date:	**Name:**							
		Designation:							
		Mobile No:							

Annexure XX

FINANCIAL BID SUBMISSION FORM

To:
CGM (DES),
EdCIL (India) Limited,
EdCIL House, 18A, Sector- 16A,
Noida- 201 301 (U.P)

Dated: ___/___/2023

Dear Sir,

We, the undersigned, offer to provide **"Selection of System Integrator supplying, installation, testing & commissioning of ip-pbx, lan, wi-fi, ip cctv, biometric attendance system, server & storage at proposed permanent campus of iim sirmaur rampur ghat road, paonta sahib"** In accordance with y**o**ur request for proposal dated ___/___/2023 and certify that no terms and conditions have been stipulated by us in the Financial Bid.

Our attached Financial Bid is for the amount of _____ *[Indicate the corresponding to the amount(s), currency (ies) {Insert amount(s) in words and figures}].*

Please note that all amounts shall be the same as in Form-1. Our Financial Bid shall be binding upon by us subject to the modifications resulting from Contract negotiations, if any, up to expiration of the validity period of the Proposal.

We remain,
Yours sincerely,

Authorized Signature {In full and initials}:
Name and Title of Signatory:
In the capacity of:
Address:
E-mail:

Annexure XXI

<u>Solvency Certificate</u>

Dated:

To,
EdCIL India Limited
EdCIL House
18A, Sector-16A
Noida-201301
U.P (India)

This is to certify that M/S…………………………………. having their office at…………………………………………………. is a regular customer of our bank. They are solvent to an extent of Rs……………………………………

Seal & Signature for the Bank

NOTE: Bankers certificate should be on letter head of the Bank.

Annexure XXII

Land Border Sharing Declaration

(To be submitted in the Bidder's letter head)

I have read the clause regarding restrictions on procurement from a Bidder of a country which shares a land border with India and on sub-contracting to contractors from such countries.

a. I certify that this Bidder is not from such a country or, if from such a country, has been registered with the Competent Authority and will not sub-contract any work to a contractor from such countries unless such contractor is registered with the Competent Authority.

b. I hereby certify that this Bidder fulfils all requirements in this regard and is eligible to be considered. [Where applicable, evidence of valid registration by the Competent Authority shall be attached.]".

For and behalf of _____ (Name of the Bidder)

(Signature, date & seal of authorized representative of the Bidder)"

Annexure XXIII

<u>Declaration / Certificate to be provided by Statutory Auditor or Cost Auditor of the Company (in case of companies) or from a practicing Cost Accountant or practicing Chartered Accountant (in respect of suppliers other than companies)</u>

Please submit the certificate as per format given below:

To
CGM (DES)
EdCIL (India) Limited,
EdCIL House, 18A, Sector- 16A,
Noida- 201 301 (U.P)

Sub: Tender for ……………………….
Ref: Tender No. EdCIL/DES/IIMS/ICT/2023/01

We hereby certify that the goods / software being offered by us vide our proposal, comply with the provisions of Make In India Order No P-45021/2/2017-PP (BE-II), dated 16th Sept 2020 issued by Public Procurement Division, Department of Investment and Internal Trade, Ministry of Commerce, GoI, read with order number W-43/4/2019-IPHW- MeitY, dated 7th September, 2020 issued by IPWH division of MeitY, GoI for respective items.

We also certify that, we are not from a country sharing land border with India as defined in order No. F/No/6/18/2019-PPD dated 23 July 2020 issued by public procurement Division, Dept. of Expenditure, Ministry of Finance, GoI and the goods offered by us comply with the provisions of said order (details provided below).

We hereby certify the details pertaining to goods / software offered by us, against the tender requirement is given below:

Sr No.	Item Description, Make, Model	Country of origin of OEM	Country of Manufacture of item	Percentage of local contents as defined by order number W43/4/2019-IPHW-MeitY, dated 7th September, 2020 issued by IPWH division of MeitY, GoI *	Details of the location(s) at which the local value addition is made
1	Category I & II Items with description			Consolidated MII / Local Content for the complete solution declared by System Integrator (SI)/ Bidder	

Note 1: The Country of origin / manufacturing, should be declared for individual items being offered for both Category I & II items.

Note 2: EdCIL (India) Limited reserves the right to Accept / Reject / Cancel the bid / Bidder, at its sole discretion, based on the responses received against the MII and Land border sharing declarations submitted by the Bidders / vendors.

Note 3: The System Integrator / Bidder, needs to provide the MII / Local content declaration as a consolidated figure for the complete solution. However, location of value addition should be declared for each item.

For (Name of Bidder):
Authorized Signatory Name & Designation:
Mobile No:

Annexure XXIV

A tripartite agreement shall also be signed by the bidder, EdCIL and IIM Sirmaur on a Rs 100/- stamp paper, before issue of LOA.

This will be a part of contract containing the following conditions/clauses.

FORMAT OF TRIPARTITE AGREEMENT

1) Edcil has invited the ICT tender on behalf of IIM Sirmaur.
2) Edcil will handle (Operation & Management) this contract until the completion of one year after the date of commissioning.
3) The operation and management of this contract on behalf of EdCIL, from the start of 2nd year after commissioning till completion of contract, will be transferred to IIM Sirmaur.
4) The operation and management of the contract on the part of EdCIL will then be handled by IIM Sirmaur.
5) The bidder agrees to perform all the obligations as per the terms of the contract, for the total period of contract i.e., for 5 years after commissioning.
6) IIM Sirmaur agrees to perform all the obligations as required on part of EdCIL in the contract after completion of one year after the date of commissioning.
7) All the Technical Guarantees and Warranties shall be obtained by the bidder in the name of IIM Sirmaur.
8) The bidder agrees to provide the financial (Bank) guarantee in the name of IIM Sirmaur.