ट्रांसलेशनल स्वास्थ्य विज्ञान
एवं प्रौद्योगिकी संस्थान

thsti

TRANSLATIONAL HEALTH SCIENCE
AND TECHNOLOGY INSTITUTE

TENDER DOCUMENT
FOR
Local Area Networking (LAN)
at
NCR – Bio Science Cluster, Faridabad.

(TENDER NO: THSTI/NIT/IT-LAN2/2014-15)

28th November, 2014

INDEX

PART A : Notice Inviting Tender

1.0   Tender Notice:

Online bids under Two- bid System are invited on behalf of Executive Director, THSTI for award of contract pertaining to creation of Local Area Network facility at NCR-Bio Science Cluster, Faridabad, Haryana. The scope of work includes supply, installation, integration, testing and commissioning of Active and Passive network equipments for Local Area Networking as per attached technical specification and bill of quantity (BoQ).

Tender No.	:	THSTI/NIT/IT-LAN2/2014-15
Name of Work	:	Local Area Networking at NCR-Bio Science Cluster, Faridabad, Haryana.
Location of supply/work	:	NCR-BSC, Faridabad, Haryana - 121004
Sale of Tender documents	:	From 28.11.2014 to 17.12.2014 upto 14.30 hrs
		Tender documents can be obtained from IT Department, THSTI- Gurgaon on all working days (Monday to Friday) from 9 AM to 5.30 PM or can be downloaded from THSTI website : www.thsti.res.in or CPPP portal https://eprocure.gov.in.
Cost of tender documents	:	Rs 1500/- by DD in favour of THSTI, Gurgaon payable at Gurgaon. In case of Tender document being downloaded from website, DD should be submitted along with EMD. The tender fees is non refundable.
Earnest Money Deposit	:	EMD of Rs 320000/- (Rupees Three lakh twenty thousand only) is to be submitted to THSTI directly in a separate sealed envelope so as to reach us on or before the due date of opening of technical bids. The EMD shall be in the form of Demand Draft, drawn in favour of THSTI payable at Gurgaon. EMD will be refunded to the unsuccessful bidder after award of the work.
Submission of Bids	:	The bids are required to be submitted online on the CPP portal i.e http://eprocure.gov.in . Under the Two bid system the Technical bid and Price bid are required to be uploaded separately on the Portal.
Website for Online bid Submission	:	https://eprocure.gov.in

Last date and time for online submission of bids   :   17.12.2014 upto 14.30 hrs (BID DUE DATE)

Date and time of opening of tender   :   17.12.2014 at 15.00 hrs (Technical Bid Only)

Period for completion of work   :   4 months from the date of release of Work Order.

KINDLY NOTE THAT ONLY ONLINE BID WILL BE CONSIDERED AGAINST THIS TENDER. Further, requests for postponement will not be entertained. Bids send by post/Fax/email bids shall be rejected straightway. Executive Director, THSTI reserves the right to accept/ reject any or all tenders either in part or in full without assigning any reasons thereof.

Store & Purchase Officer
THSTI

Note :

1. **Corrigendum/amendments etc., if any, will be notified only on the THSTI web site/CPP portal and no separate advertisement will be released for the same. Prospective bidders are therefore advised to regularly visit the THSTI web site or the CPP portal for any such updates.**

2. **The bidders who had submitted their bids in response to NIT no. THSTI/NIT/IT-LAN/2014-15 dated 22nd Aug, 2014 are exempted from submission of EMD against this tender.**

PART B : Schedule of Requirements

1.0 **Introduction**

Translational Health Science and Technology Institute (THSTI) and Regional Centre for Biotechnology (RCB) are autonomous research Institutes under the Dept. of Biotechnology, Ministry of Science and Technology, Government of India. The interim facilities of both the Institutes are located at Gurgaon, which will soon be moving to its permanent campus at NCR-BSC, Faridabad. THSTI and RCB have constructed a 4 lakhs sq. feet building space in NCR-Bio Science Cluster, Faridabad consisting of 5 floors. The building work is completed and we are now looking for a suitable agency to supply, install, integrate and commission the Local Area Network in this building.

The purpose of NCR-Bio tech (THSTI-RCB) network is to provide connectivity to the all users so as to share and access applications, data, & internet services. This is a NETWORK which will construct high speed connectivity to various departments like Administration, Academic, Labs of THSTI and RCB spread across the campus building. This network will provide steady and reliable access of Intranet along with various applications to all departments from the data center which is planned at the 2nd floor of Library and will also provide the support for applications. The network will also comprise of WLAN and will provide wi-fi facility to all the mobile users for their laptops and smart phones in future phase. Users must experience rich connectivity to available recourses in network. Network shall be constructed in structured manner and shall keep strong LAN management system.

NCR Biotech Cluster, Faridabad wishes to establish an OFC Local Area Network and Wireless to provide connectivity to all users using Indoor Access Points.

2. **Objective**

THSTI –RCB wishes to set up the LAN for the entire campus and thus providing high connectivity, scalable, reliable, secure and robust network architecture. We intend to build a new network for NCR-BSC 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 departments users across the building.

The network infrastructure as well as the IT setup should offer minimal downtime due to failure or breakdown of links or devices and even for planned outages. 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 active components to be deployed now.

3. **Network Plan**
The Backbone connectivity of the NCR-BSC network will be on 10G OFC in order to ensure minimum network downtime. For troubleshooting and debugging the network will be managed centrally. To ensure security, various security application and appliances will be deployed into the network. Following are the different layers of the network architecture:

Core layer:
The core layer comprises of heavy duty modular Ethernet switches to which all the links from Access/Edge, Aggregation/Distribution, WAN & Internet and Servers/Storage connect. The core layer forms the heart of the network and performs all Layer-2 – Layer4 switching & forwarding of traffic. Access Policies, Quality of Services to control and manage bandwidth, etc., all are applied at this core layer.

Access / Edge Layer:

The user-end devices like – PC/Workstation, network printers & plotters, IP-Phones, Wireless LAN Access Points, IP based Surveillance Camera's, etc in near future, along with the Layer-2/3 managed stackable Ethernet Switches to which these devices connect form the Access or Edge layer.
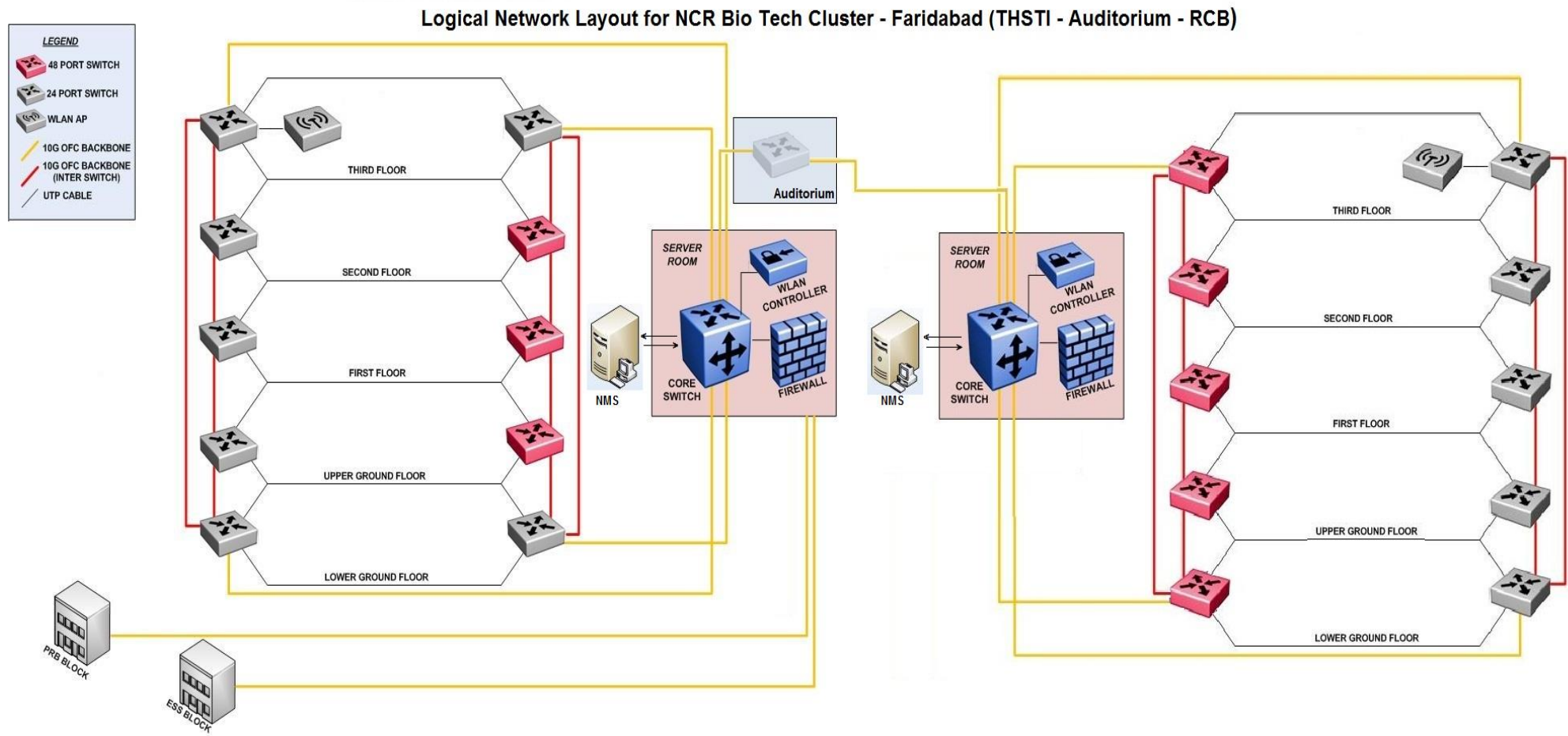
Network security at NCR-BSC will consist of the provisions and policies adopted by a network team to prevent and monitor unauthorized access, misuse, modification, or denial of a computer network and network-accessible resources. Network security involves the authorization of access to data in a network, which is controlled by the network administrator. Users choose or are assigned an ID and password or other authenticating information that allows them access to information and programs within their authority. Network security covers a variety of computer networks, both public and private, that are used in everyday jobs conducting transactions and communications among businesses, government agencies and individuals. UTM is the evolution of the traditional firewall into an all-inclusive security product able to perform multiple security functions within one single appliance: network firewalling, network intrusion prevention and gateway antivirus (AV), gateway anti-spam, VPN, content filtering, load balancing, data leak prevention and on-appliance reporting. It secures the network, as well as protecting and overseeing operations being done. UTMs represent all-in-one security appliances that carry a variety of security capabilities including firewall, VPN, gateway anti-virus, gateway anti-spam, intrusion prevention, content filtering, bandwidth management, application control and centralized reporting as basic features. The UTM has a customized OS holding all the security features at one place, which can lead to better integration and throughput than a collection of disparate devices.

4. Estimated Nodes at THSTI building

The LAN Implementation for the NCR Bio tech Cluster, Faridabad is surveyed. THSTI and RCB and had shown the requirement 500+ Nodes to be connected on WLAN/LAN. The THSTI-RCB connectivity is spread over the following locations.

S.No	Building	Floors	Nodes	Racks		Switches			
						PoE		Core Switch	Total Switches
				15U	42U	24 Port	48 Port		
1	THSTI	Lower Ground Floor	21	1			1		1
			5	1		1			1
2		Upper Ground Floor	40	1			1		1
			22	1			1		1
3		First Floor (ServerRoom)	47	1		1	1	1	3
			23	1	1		1		1
4		Second Floor	40	1			1		1
			24	1			1		1
5		Third Floor	11	1		1			1
			23	1			1		1
6	Block 1*	Provision		1		1			1
7	Block 2*	Provision		1		1			1
8	Library	First Floor	10	1		1			1
9	Auditorium	Ground Floor	15	1		1			1
10	RCB	Lower Ground Floor	22	1			1		1
			5	1		1			1
11		Upper Ground Floor	38	1			1		1
			11	1		1			1
12		First Floor (ServerRoom)	37	1			1	1	2
			10	1	1	1			1
13		Second Floor	37	1			1		1
			9	1		1			1
14		Third Floor	15	1			1		1
			11	1		1			1
Total			476	24	2	12	13	2	27
				26		25			27

Nodes Details for **NCR Biotech Science Cluster - Haryana : Faridabad Campus**

Racks + Switches

5. Proposed Network Connectivity Diagram

Logical Network Layout for NCR Bio Tech Cluster - Faridabad (THSTI - Auditorium - RCB)

PART C : Bidder/ OEM Eligibility criteria

1. Bidder should have experience in successfully implementing works of similar nature in any central/state government organisations, PSU's, Universities, government research institute or other government organisations in India during the last 5 years ending 31st Oct, 2014. The work execution should be either of the following:

    i) One similar order costing not less than Rs 128 Lakhs.

       Or
    ii) Two similar orders each costing not less than Rs 96 Lakhs.

    Similar order means "Supply, installation and commissioning of Network Switches, Router and Firewall etc.".(Bidder to submit copy of PO/Completion Certificate from the Client).

2. The Bidder should be OEM or Authorized Dealer/Distributor/System Integrator of the OEM of the offered product (Bidder to submit documentary proof).

3. The bidder should be in Networking business for a period of Minimum 5 years (supporting documents to be enclosed).

4. The average financial turnover during the last three consecutive financial years should be at least Rs. 80/- lacs per year for similar works.

5. The bidders should attach solvency certificate for minimum value of Rs. 64 lakhs issued by a scheduled commercial bank. The certificate should not be more than six months old.

6. The Bidder should have their service /spares centre in Delhi-NCR, details of the same should be enclosed. If the Bidder doesn't have a service facility in Delhi-NCR, necessary proof for the understanding with vendor having service centres in Delhi-NCR to provide service support to THSTI for this project to be enclosed.

7. The OEM / Bidder should have a clean Track record, i.e. The OEM/ Bidder / its sister concern/ any group company should not have been black listed by any Govt. or Quasi- Govt/ Govt. Under taking companies in India at any point of time. (Declaration in this regard to be submitted along with Technical bid).

8. The Bidder shall have been assessed by the income tax department of India during last 3 Financial years, supporting copies should be enclosed.

9. The OEM/ Bidder should give an undertaking that service & spare support will be provided for at least 3 years, after the specified warranty period on separate commercial terms.

10. All switches shall be from same OEM.

11. Bidder should be single party, consortium will not be accepted.

12. The Bidder is required to quote for the complete BoQ. Partial quote are liable to be rejected.

13. The Bidder should be ISO 9001:2008 or ISO 140001:2004 certified.

14. Detailed Network Diagram / Solution document of the offered system should be attached in the technical bid.

PART D : Instruction to Bidders

1.0 Special Instructions :

1 The Bidder shall carefully examine and understand the specifications/conditions of the tender document and ensure that they have understood all specifications/conditions of the tender document. If no such clarifications are sought in writing, it will be taken that the Bidder has read, understood and accepted all the terms, conditions and specifications in the tender document.

2 The Bidder is required to upload a copy of this tender document, with all pages signed by the authorized person, to confirm that Bidder has read and understood the conditions of this tender document and that the proposal is submitted in full understanding and agreement of the requirements of THSTI.

3 The Bidder should visit the site with prior appointment and carry out necessary inspection and test/measurement as are necessary before submitting its bids. All costs associated with such site visit and in preparation and submission of the Bid will have to be bear by the bidder. THSTI will in no case be responsible for such costs, regardless of the conduct or outcome of the bidding process.

4 THSTI reserves its rights to amend any of the terms and conditions of this tender document. Such amendment shall be published on THSTI and CPPP website only and will not be published in newspapers. The bidders are advised to regularly visit the website for any such update.

5 The complete bid shall be without alteration or erasures, except those to accord with instructions issued by the THSTI or as necessary to correct errors made by the bidder, in which case such corrections shall be initialled by the person or persons signing the bid.

8 The bidder shall submit only one option, which is best suitable to meet THSTI requirements. The bids submitted with more options shall be liable to be rejected.

9 The Bid prepared by the Bidder, as well as all correspondence and documents relating to the Bid exchanged by the Bidder and THSTI, shall be in English only.

10 The bidder shall base his solution on the basis of continuous availability of spares for at least 3 years, after the specified warranty period.

11 Wherever a specific form is prescribed in the Bid document, the Bidder shall use the form to provide relevant information. If the form does not provide space for any required information, space at the end of the form or additional sheets shall be used to convey the said information. For all other cases, the Bidder shall design a form to hold the required information.

12   The Bidder shall explicitly indicate the non-compliance or deviation of the Solution offered in the Proposal to all the terms, clauses, conditions and specifications stipulated in this RFP. If non-compliance or deviation for any term, clause, condition or specification is not explicitly indicated, it will be construed as compliance and if successful in the bid, the bidder is obligated to comply with all the

requirements (excluding those non compliances explicitly accepted by T H S T I in writing) in toto.

13   Successful bidder shall perform all the obligations specified in accordance with the terms and conditions laid down in the RFP. All details provided by the Bidder should be specific to the requirements specified in this RFP. Detailed clarification may be provided by Bidder, if so desired by THSTI. The Bidder shall specify the responsibilities of THSTI, if any, separately for the successful implementation of the project.

14   Bidder shall ensure that all documents are uploaded with the Technical bids or Price bid as per the checklist given at Annexure- I.

2.0   General Instructions :

1.   Quotation/Tender should be uploaded on or before the bid due date stated in the NIT. Quotations/Tenders received after the bid due date will not be considered.
2.   Quotation should clearly specify delivery schedule.
3.   When quotation is in foreign currency, agency commission payable, if any, should be shown separately in Indian rupees.
4.   Any taxes or statutory levies payable should be shown separately, otherwise quoted price will be treated as all inclusive.
5.   Any deviation from T H S T I's specification of items shall be clearly indicated in quotation itself.
6.   The validity of quotation should be for a minimum of 90 days from the bid due date.
7.   The bidder should be existing and in operation in India for the last 5 years.
8.   The Annual turnover of the bidder for the last 3 years may be submitted.
9.   The bidder should submit the list of major works carried out (Govt./ semi Govt.), with client details such as name, contact address, email, phone etc.
10.   Bidder should preferably have an office in Delhi-NCR.
11.   Items offered should be as per requirements mentioned in the Technical specification.
12.   The bidder may quote the items, which meets the requirements and specification. In such case, the bidder shall provide the layout, make, model, material specifications, dimensions, brochures, photo catalogues of items quoted along with the bid, if available.
13.   Items are to be supplied and installed at NCR-BSC Campus, Faridabad.
14.   Delivery of material at site and installation including loading and unloading shall be the responsibility of supplier.
15.   Bidders are advised to visit and familiarize themselves with the site conditions and concerned areas before submission of tender documents.
16.   Bidder shall contact the tenderer for any clarification regarding the technical requirement.
17.   The bidder should inform acceptance of Purchase Order within three days of receiving the order.

PART E : General and Special Tender Conditions

1. Period of validity:

   The tender shall remain valid for acceptance for a period of ninety days from the bid due date.

2. Bidding Format:

   a. The bidder should submit its bid in the Technical and Financial bid format as provided in Part 'H' and Part 'I' of this tender document. All the enclosures are required to be attached with the bids as per the sequence mentioned therein.

   b. Split-up part numbers of each item of the BoQ is to be shown in the financial bid with line item cost.

   c. Being a research organization, THSTI is entitled for Customs & Excise duty exemption, as mentioned under clause 8.0 below. Hence, bidders are requested to take note of the same while submitting their bids.

3. Award of Contract

   The contract will be awarded to the bidder whose bid has been determined to be eligible and to be substantially responsive to the bid documents and who has offered the lowest evaluated bid.

4. Performance Security

   a. Within 15 days of receipt of the Work Order from the THSTI, the successful Bidder shall furnish to THSTI a Security in the form of a Bank Guarantee from Nationalised/Scheduled bank for an amount of 10 percent of the Contract sum as per format prescribed at Annexure-II .

   b. The validity of the Performance Security as per the Notification of Award for work shall be upto the end of the Warranty period with 3 months claim period after expiry of warranty period.

   c. Failure of the successful Bidder to lodge the required Bank Guarantee shall constitute sufficient grounds for the annulment of the Award and forfeiture of the Bid Security, in which event the THSTI may make the Award to the next lowest evaluated Bidder or, if there are no other Bidders, call for new Bids.

5. Supply and Installation Terms:

a. The Bidder shall provide the detailed (technical specifications, dimensions, brochures, make, model, photo catalogues, and conformance to standards) mentioned about the quoted components and system along with the bid.

b. The required delivery schedule must be mentioned against each item.

c. The successful bidder should supply items as per the quantity listed in the BOQs.

d. Supply & Installation is at NCR-BSC, Faridabad.

6.   Project Duration:

a. The entire work including Supply, Installation, Integration, Testing and Commissioning should be completed within four months of releasing the work order.

b. The entire documentation and testing reports should be submitted within the project duration of four months.

c. Training to the identified group of engineers in THSTI & RCB also to be provided within the project duration of four months.

d. Final acceptance certificate will be issued by THSTI only after completing point a, b & c mentioned above.

7.   Final Acceptance Certificate:

a. On successful completion of the work as per the 'Scope of work' specified under Part 'G' of this tender document, the contractor shall submit its application to THSTI for issue of 'Final Acceptance Certificate' for the work carried under this contract.

b. The complete work shall be subject to inspection by the technical committee consisting of expert members. The performance of the system as a whole will be tested to comply with the acceptable standards and norms as per the 'Scope of work'.

c. On successful testing of the system the bidders will be issued the 'Final Acceptance Certificate'. In case any deficiencies are noticed during the inspection, the bidder will be liable to make good the deficiency failing which the 'Final Acceptance Certificate' will not be issued.

d. The bidder will be entitled to submit its bill for payment only when 'Final Acceptance Certificate' is issued by THSTI.

8.   Taxes, Duties and other charges :

a. Sales Tax: Full CST/VAT applicable. 'C', 'D' forms not applicable.

b. Excise Duty: THSTI is a Govt. Of India Organisation Registered with the Department of Scientific and Industrial Research (DSIR) and is Exempted from Payment of Excise Duty vide Central Excise notification No 10/97 and amended vide 16/2007. The necessary ED Exemption Certificate shall be

provided by THSTI, Gurgaon for availing exemption. Tenders are requested to take note of the ED exemption available and accordingly submit the offer without ED element.

c. Customs Duty: T H S T I is a Govt. Of India Organisation Registered with the Department of Scientific and Industrial Research (DSIR). We are hence availing exemption for customs duty Vide Notification No: 51/96 as amended vide Notification No: 24/2007. Necessary Customs Duty Exemption Certificate will be Provided by THSTI, Gurgaon for availing CD Exemption.

Note : Since THSTI is entitled to concession on payment of custom duty/excise duty as per above stated notification, the bidders should keep this point in mind while submitting their bids. The responsibility to claim concession on payment of custom duty/excise duty on items to be used for the works shall be that of the bidder. THSTI will only issue concessional custom duty form as and when requested by the bidder.

9.   Payment Terms:

a. The payment schedule for Part A, B, & C of the 'Financial Bid' will be as under:

Part-A   :   Payment equal to 50% of the value of material delivered at site will be released subject to submission of PBG of equivalent value and balance 50% after successful installation & commissioning of the system subject to issue of 'Final Acceptance Certificate' as per clause 7.0 above.

Part-B & C :   100% payment to be made after successful installation and integration of the system subject to issue of 'Final Acceptance Certificate' as per clause 7.0 above.

b. Quantities mentioned under BoQ, as per Part -F are approximate only. So the successful bidder should supply items listed in this section as and when required during the execution of the work. The payment will be made only for actual/supply installed/ utilized quantities & labour at the site.

c. The Contractor shall pay all taxes, duties, levies, work contract tax etc. of the Government provisions of the Income tax Act or as per the advice of the Income Tax Authority. Deduction of Income tax/ Works Contract tax/ other taxes shall be made from payment as per the relevant provisions of the Income tax Act or as per the advice of the Income tax Authority/ other Competent Authority.

10.   Liquidated Damages for Delay

If the Contractor fails to complete the execution of works or any section by the time for completion, within the relevant time prescribed by Clause 4.0, then the Contractor shall pay to THSTI liquidated damages at the rate of the 0.5 % of contract value for per week of delay or part thereof subject to

maximum of 5% of the contract value. The Employer may, without prejudice to any other method of recovery, deduct the amount of such damages from any monies due or to become due to the Contractor. The payment or deduction of such damages shall not relieve the Contractor from his obligation to complete the Works, or from any other of his obligations and liabilities under the contract.

11. Warranty Clause

a. All devices as per BoQ (UTM, Core Switch and Access Switches) should have comprehensive onsite warranty for three years from the date of commissioning of the network.

b. During the first year of warranty, the bidder will have depute atleast one qualified network engineer (CCNA Certified) at site for configuration of network devices, troubleshooting and service support. The engineer so deputed will have to remain necessarily at site during the working hours of THSTI/RCB and will be responsible for smooth functioning of the network.

c. All ongoing software upgrades for all major and minor releases should be provided during the warranty period.

d. Bidder should ensure that there is a back-to-back agreement with OEM to meet above hardware and software warranty terms.

e. Bidder should ensure service & spare support for at least 3 years, after the specified warranty period on separate commercial terms.

12. Price Variation Clause

The rates quoted by the bidder shall be firm throughout the contract period and there shall be no upward revision of the rates quoted by the bidder for any reason what so ever.

13. Liability / Accident :

The bidder shall indemnify and keep indemnified THSTI & RCB against all losses and claims for injuries and damages to any person or property whatsoever which may arise out of or in consequence of the construction or maintenance of the work and against all claims, demands, proceedings, damages, costs, changes , expenses whatsoever in respect thereof in relation thereto.

14. Extra Item

Any unforeseen item of work/supply / extra item of work as being authorised by the Centre and not included in the contract, shall be done by the Contractor at mutually agreed rates. Written prior approval of THSTI should be obtained before undertaking any extra work. Payment of such items shall

be made at actual supported by necessary documentary evidence duly approved.

15. Termination

Not withstanding anything elsewhere provided herein and in addition to any other right or remedy available to THSTI under the contract or otherwise including right of THSTI to claim compensation for delay, the THSTI may, without prejudice to his right against Contractor in respect of any delay, bad workmanship or otherwise or to any claims for damage in respect of any breaches of the contract and without prejudice to any rights or remedies under any of the provisions of this contract or otherwise and whether the date for completion has or has not elapsed by intimation in writing, absolutely determine the Contract.

A) Default or failure by the contractor in any of the under mentioned cases, including but not limited to the following shall be the basis of taking action under this clause of the contract:

1) Failure to provide at the job site, sufficient labor, material, equipment, machinery, and / or facilities, required for the proper and / or due execution of the work or any part thereof:
2) Failure to execute the works or any of them in accordance with the contract .
3) Disobedience of any order or instruction of the Site Engineer and / or Engineer-in-charge.
4) Negligence in carrying out the work or carrying out of work found to be unsatisfactory by the Engineer-in-charge/THSTI.
5) Abandonment of the works or any part thereof.
6) Failure to execute the Contract in terms of the form of Contact forming part of the tender documents within Ten days of notice in this behalf from THSTI.
7) If the Contractor is incapable of carrying out the work.
8) If the Contractor misconduct in any manner.
9) If there is any change in the constitution of the Contractor (if a firm) or in the circumstances or organization of the Contractor, which is detrimental to the interests of THSTI.
10) Dissolution of the Contractor (If a firm or commencement of liquidation) or winding up (whether voluntary or compulsory) of the Contractor (if a company or appointment of a receiver or Manager of any of the Contractor's assets and / or insolvency or the Contractor (if a sole proprietorship) or of any partner of the Contractor (if a firm).
11) Delay in execution of work, which in opinion of THSTI shall delay the completion of work beyond the stipulated date of completion.
12) Distress, execution, or other legal process being levied on or upon any of the Contractors goods and /or assets.
13) Death of Contractor (if an individual)
14) If the Contractor of any person employed by him shall make or offer for any purpose connected with the contract any gift, gratuity, royalty, commission, gratification or other inducement (whether money or in any other form) to any employee or agent to THSTI.

The decision of the Executive Director, THSTI as to whether any of the events/ contingencies mentioned in aforesaid clauses entitling THSTI to terminate the contract has occurred shall be final and binding upon the Contractor. The reason for the termination stated in the notice of termination shall be final and binding upon the Contractor and shall be non-arbitral. The jobs left however by the Contractor shall be got done at his risk and cost through the other agencies and the Contract shall be determined accordingly.

16. Force majeure

The right of the contractor to proceed with the work shall not be terminated because of any delay in the completion of the work due to unforeseeable causes beyond the control and without the fault or negligence of the contractor, including but not limited to acts of god, or of the public enemy, restraints of a sovereign state, floods, unusual severe weather conditions.

17. Arbitration

Any claim, dispute or difference arising out of or in connection with this agreement and which cannot be settled by mutual consultations, shall be referred to sole Arbitration or an Arbitrator to be appointed by mutual consultations. The award of the Arbitrator shall be final and binding between the parties as per the terms and conditions of the Agreement to be executed on award of contract. The Arbitration proceeding shall be governed by the Arbitration and Conciliation Ordinance dated 26th March, 1996 and shall be conducted in Haryana.

18. Jurisdiction of Dispute

All dispute under this contract shall be subject to the jurisdiction of Haryana high court.

19. Terms not expressly provided for

In case this tender document does not contain a provision or terms for dealing with a situation thay may arise during the execution of the works, the relevant provisions contained in the CPWD manual or any other laws/rules shall be followed in such cases and the same will be binding on the Contractor.

PART F : BoQ and Specification

1.0   Bill of Quantity -

I.   ACTIVE COMPONENTS

Sl. No	Description	Unit	QUANTITY (Approx)		
			THSTI	Auditorium	RCB
1	Unified Threat Management	Nos	1	0	1
2	Log Analyser	Nos	1	0	1
3	Core Switch	Nos	1	0	1
4	Access Switch-Type I (48Port PoE)	Nos	6	0	3
5	Access Switch-Type II (24Port PoE)	Nos	4	1	3
6	Access Switch-Type III (24Port PoE)	Nos	2	0	2
7	Access Switch-Type IV (48Port PoE)	Nos	2	0	2
8	Wireless Controller	Nos	1	0	1
9	Wireless Access Points	Nos	55	10	50
10	Network Management & Security software				
10 (a)	Element Management Software	Nos	1		1
10 (b)	NAC Software for Network Security	Nos	1		1
11	3 KVA Online UPS	Nos	2		2

II.   PASSIVE COMPONENTS

Sl. No	Description	Unit	QUANTITY (Approx)		
			THSTI	Auditorium	RCB
1	Cat6 UTP cable box (305 mtrs)	Nos.	8	1	7
2	CAT6 1 Mtr. Patch Cord	Nos.	306	25	400
3	CAT6 2 Mtr. Patch Cord	Nos.	256	15	320
4	CAT6-24 Port PMP	Nos.	16	1	15
5	6 Core MM OFC (OM3 50/125)	Meters	1800	200	800
6	LIU MM Loaded 12 Port Loaded with Duplex Adaptors (OM3 50/125)Adaptors(OM3 50/125)	Nos.	7	1	4
7	LIU MM Loaded 24 Port Loaded with Duplex Adaptors (OM3 50/125)	Nos.	2	0	1
8	MM-SC Pigtails (OM3 50/125)	Nos.	108	12	48
9	MM/SC-LC Fiber Patch Cord 3 Mtrs.	Nos.	20	4	10
10	15 U Wall Mount Data Rack (600x500)	Nos.	13	1	10
11	42U Floor Standing Data Rack	Nos.	1	0	1
12	25mm PVC conduit/casing capping	Meters	1600	200	1600
13	32/40 mm HDPE Pipe for outdoor OFC	Meters	1200	200	400
14	OFC Route marker, tagging etc.	Nos.	20	10	20

2.0 Detailed Specification of Active Component

2.1 Specification for Unified Threat Management

Sl. No.	Description	Compliance Yes / No	Document Cross Reference, Page No. & Remarks
	Unified Threat Management		
1	Firewall: Appliance based firewall with build in OS		
2	Should have CLI, GUI and console option		
3	Vendor should have ICSA and or VPNC lab certification for Firewall and or IPSEC, if not the exact model or product line		
4	Vendor should have FIPS 140-2 lab or checkmark Certification not necessary the exact model or product line		
5	Vendor should have EAL 4 certification		
6	Number of NIC slots, should have minimum 10x10/100/1000 Mbps Ethernet interfaces, 8x SFP interface for fibre connectivity		
7	Firewall should have Internal Storage 120 GB SSD		
8	The Antivirus should have a guaranteed throughput of more than 3.4 Gbps (flow based)		
9	Operating system should be based on real time , secure, embedded operating system		
10	Number of sessions : should support at least 6 million concurrent sessions and at least 2,80,000 new sessions per second		
11	Should have a Stateful throughput of at least 16 Gbps for Firewall		
12	The Intrusion Prevention should have a guaranteed throughput of more than 4.7 Gbps		
13	Licensing: should be as per device license and not user/IP based license.		
14	Number of tunnels supported by the device should be minimum 2000 IPSec VPN client to gateway tunnels.		
15	Integrated purpose built in Firewall and VPN: This feature should be easy to configure and use. Should have a support inbuilt for IPSEC VPNs, should support DES, 3 DES and AES (128,192, 256)		
16	Integrated SSL VPN with license for 500 users should be provided from day one.		
17	Firewall should have build in IPS, Antivirus and web filtering license and should get automatically updates from the internet.		
18	Should also have support for Antibot, DLP and application control as well		
19	Should have integrated application control. Should be able to define security policy and enforcement for thousands of applications, regardless of the port or the protocol used for communication. Control popular IM/P2P protocols: AOL-IM, Yahoo, MSN, KaZaa, ICQ, Gnutella, BitTorrent, MySpace, WinNY, Skype, eDonkey, Facebook etc		
20	Management: should support management of the box through HTTPS as well as SSH along with console access.		
21	Security Policy: should be easy to configure and manage the firewall policies. Should support policy level logging. Should support policy level natting.		

Sl. No.	Description	Compliance Yes/No	Document Cross Reference, Page No. & Remarks
22	NAT: should support dynamic NAT as well as one-to-one NAT.		
23	Performance : Robust High Level Performance for firewall and VPN and should minimum of 16 Gbps firewall throughput and 14 Gbps VPN Throughput		
24	High Availability: The firewall should be able to support high availability (active - active and active - hot standby)		
25	Build in URL filtering should be able to integrate with AD and should have minimum 76 categories		
26	Multi WAN/ISP support: should support automatic ISP failover as well as ISP load sharing for outbound traffic. Should have separate interfaces for terminating dual ISP Ethernet connectivity.		
27	Traffic Management: option to configure traffic shaping on a per policy basis for specific application/specific networks and should be able to define guaranteed bandwidth and maximum bandwidth per policy.		
28	The appliance should support VLAN tagging (IEEE 802.1q) and should support VLANs on all interfaces and minimum of 1024 VLAN should be Supported		
29	Should have option to block file based on their extension.		
30	RIPv1 and RIPv2 routing must be supported.		
31	The Firewall should support OSPF & BGP		
32	Logging & Reporting : should support secure logging to a external logging device and generate reports based on the firewall logs		
33	Should have configurable options to enable logging at a firewall policy level		
34	Should be able to log denied traffic details		

2.2 Specification for Log Analyser

Log Analyser			
Sl. No.	Description	Compliance Yes/ No	Document Cross Reference, Page No. & Remarks
1	The appliance should be an Security Hardened Platform		
2	The appliance should have support minimum 150 Number Devices from day one		
3	Minimum 4 Number of NIC slots, should have minimum 10x10/100/1000 Mbps Ethernet interfaces		
4	It should have 1TB of Total Hard Drive Capacity		
5	Should have CLI, GUI and console option		
6	It should support Up to 350 (Logs / Sec) Standalone Mode Performance		
7	Should support Analyze logs from multiple devices, by user, or by group of users, and generate a variety of reports that enable you to proactively secure networks as threats arise, avoid network abuses, manage bandwidth, monitor Web site visits, and ensure appropriate usage policies.		
8	Should have Archived content is data mined to report on types of traffic on your networks as well as actual content of data transferred in Web, FTP, email and IM traffic.		

Sl No.	Description	Compliance Yes / No	Document Cross Reference, Page No. & Remarks
9	Firewall systems that do not have a hard disk, the Analyzer offer the ability to quarantine infected or suspicious files entering your network environment. A quarantine browser allows you to view the files to determine whether they are dangerous or not.		
10	Log Browser enables you to view any log file or messages from registered devices. All log files and messages are searchable and can be filtered to drill down and locate specific information.		
11	Real-time display of information allows you to follow real-time trends in network usage such as the source IP address and the destination URL for HTTP traffic or IM message traffic.		
12	The integrated network analysis tool allows any available interface on the Analyzer to be used to monitor traffic on a segment of network. Analyzer network analyzer functions much like a packet capture device to capture traffic data save it to the Analyzer hard disk and display the data for analysis.		
13	The integrated or external vulnerability scanner identifies vulnerabilities on a host or server, such as a mail server, FTP server or other UNIX or Windows host and generates vulnerability reports showing potential weaknesses to attacks that may exist for a selected device. The vulnerability scanner appliance must be from day one.		
14	The analyzer should support multiple types of report format PDF.		

2.3 Specification for Core Switch

Core Switch			
Sl No.	**Description**	**Compliance Yes / No**	**Document Cross Reference, Page No. & Remarks**
1	Switch should be non blocking wire speed architecture for all ports from day one.		
2	Switch should have a modular operating system with resource separation, restart process separately, restart process independently and should have protected memory for stability.		
3	Switch should have at least dedicated 12 x 1000 Base T RJ45 100 meter over UTP, dedicated 36 x1/10GB Base-X SFP+ (populated with 12 SR SFP+ and 2 x 10G Direct attach SFP+ 3m from day one) and upgradable to add dedicated 4x40G BaseX QSFP+ Uplink Ports in future.		
4	Switch should be mountable on 19" standard rack.		
5	Switch should have IPv4 and IPv6 support.		
6	Switch should support virtualization feature by which two or more switches can be clustered together to act as one single virtual switching system. In such case the software, configuration & policies across both switches shall be automatically synchronize		
7	Switch fabric, throughput: Minimum 1280 Gbps full duplex or more, 950 Mbps throughput or more.		
8	Higher speed and Non-Blocking architecture		
9	Port level security to lock and limit option for stopping unauthorized station from accessing switch.		

10	RAM 1GB or higher and Flash 512MB or higher. Support two switches should be acting as one virtual switch (stackable)		
11	Switch should have at-least 4000 active VLANS using 802.1Q and 4000 VLAN ID.		
12	Switch should have IEEE compliance for 802.1d STP ,802.1w RSTP ,802.1s M STP		
13	Switch should have support BPDU PROTECTION FOR Spanning tree protocols,		
14	Switch should have support loop protection for Spanning tree protocols.		
15	Switch should have support Root protection for spanning tree protocols ,		
16	Switch should have support VLAN spanning tree protocols(VSTP),		
17	Should have At least 96K or above MAC address table size		
18	Switch should support MAC-Based VANs		
19	Switch should support Multiple VLAN registration protocol(MVRP)		
20	Switch should support IETF RFC 5517 VLANs or port-isolation		
21	Switch should support Q-IN Q and Selective Q-in-Q tunneling.		
22	Switch should support Redundant trunk groups.		
23	Switch should support Routed VLAN interface (RVIs)		
24	Switch should support LDP.		
25	Flow control IEEE 802.3X when full duplex, back pressure for half duplex & Head of line blocking prevention		
26	Jumbo frame up to 9K bytes.		
27	Switch Should have following for both IPv4 & IPv6 version Routing protocols RIPv1, RIPv2, RIPng, OSPFv2, OSPFv3, VRRPv2, VRRPv3, PBRv4 and PBRv6 from day one. Should support PIM-SIM, PIMv6, PIM-SSM, BGP4, BGPv4+, MBGP, ISISv4 and ISISv6 with license upgrade.		
28	Switch should support Bidirectional Forwarding Detection(BFD)		
29	Switch should support IPv4 & IPv6 Filter-Based forwarding		
30	Switch should support Jumbo frames on routed VLAN interfaces (RVIs)		
31	Switch Should have support Static Routing, Virtual route forwarding lite (VRF lite) or MPLS VPN based VRF		
32	Switch hardware should support for OpenFlow 1.0 or 1.3 or equivalent , ONF/Open day light SDN southbound API for future upgrade/license		
33	Switch should have support for IGMP Version 1, 2 & 3, IGMPv1/v2/v3 snooping, MVR, from day one and PIM-SM , PIMv6, PIM-SSM upgradable with license in future.		
34	Switch should have Class based queuing with prioritization, Layer2 and Layer 3 classification, rewrite, and Queuing; strict priority queuing on egress.		
35	CoS support on route VLAN interface (RVIs)		
36	Switch should have support port shaping and queue shaping.		

37	Switch should have support Shaped Deficit weighted Round-robin(SDWRR) or Weighted Round Robin (WRR)		
38	Switch should have support Single-rate two color marking.		
39	Switch Should support Layer2- 4 Access Control Lists		
40	Switch Should support Dynamic ARP inspection (DAI) and MAC limiting ,MAC address limit per port, persistent MAC learning(sticky MAC)		
41	Switch should support Static ARP support.		
42	Should support integrated security features like DHCP relay, Control Plane DOS protection, Should Support MAC Authentication		
43	Should have support for RADIUS and TACACS+		
44	The switch should support 2000 Security ACL's and various type of ACLs like port based/VLAN based		
45	The Switch should support Port-security		
46	The Switch should support Automatic recovery for port error disable conditions		
47	Support embedded DHCP Server, NTP server, Capabilities to define events and take action, Support for Open Application Architecture (OAA) for flexible deployment and intelligence		
48	Should Support secure management via SNMPv3, Radius, TACACS+ and SSH. For SCP support alternative SSH, For SFTP support alternative FTP/TFTP, For XMP API support alternative Open Application Architecture. Should have audit rail feature for per user configuration changes.		
49	Should have compatible with SNMP v1, v2, v3 base devices.		
50	Should have command line interface based management console to provide out band dedicated Ethernet management interface. (separate then console)		
51	External USB/compact flush for fast implementation/restoration of firmware & configurations preferably.		
52	Mirroring for 4 or more sessions. Local & Remote mirroring to multiple destination ports, L2 ping and L2 trace route or alternative Ethernet OAM, Port management feature.		
53	Switch should have support RMON, and uplink failure detection		
54	Switch should have support WEB interface (preferable), for switch configuration and management		
55	Switch should have support Link Aggregation Control Protocol (LACP)		
56	Switch should have support Link Aggregation Group (LAGs).		
57	Switch should have support Virtual Router Redundancy Protocol (VRRP)		
58	Switch should have support Virtual Router Redundancy Protocol (VRRP) for IPv6		
59	GRES for ARP entries ,forwarding database and Layer 3 protocols GRES for LACP		

60	802.1d,802.1w, PVST+/ RPVST+ or IEEE 802.1s		
61	Dual internal hot swappable AC redundant power supply from day one.		
62	Internal hot swappable fan tray with redundant fans from day one.		
63	Should support software upgrades with minimal traffic disruption during the upgrade		
64	Nonstop forwarding/ nonstop routing /Nonstop software upgrade(NSSU) or In Services Software Upgrade (ISSU) or Modular Software Upgrades (MSU)		
65	OS should be modular based ie. Individual process restart to prevent reboot in case of software process crash.		
66	Gigabit Ethernet : 1000BASE-X(mini-GBIC/SFC),1000BASE-SX,1000BASE-LX/LH based SFP support		
67	10G ETHERNET : 10Gbase-SR,10Gbase-LR		
68	40G ETHERNET : 40base-SR4,40Gbase-LR4, 40GBase Direct Attach		
69	IEEE 802.1D Spanning-Tree Protocol		
70	IEEE 802.3AD LACP		
71	IEEE 802.3AB LLDP		
72	IEEE 802.1S & 1W for Rapid Spanning tree and Multiple Spanning tree convergence		
73	IEEE 802.1P CoS Prioritization		
74	IEEE 802.3x Flow Control		
75	Optionally support advanced IPv6 features : RFC 2461,IPv6 DAD,RFC 4193 ULCv6 RFC 4862,IPv6-IN-IPv4 tunnels,624 tunnels and IPv6 advertisement guard filtering etc.		
76	Operating Temp: 0° C to +40° C		
77	Operating Humidity: 10% to 90% non-condensing.		
78	Should support variable speed fan to auto adjust to different temperature conditions		
79	The switch hardware family with common software operating system certified or status is applied for (in earlier version or current version) for either in one of the two: a) ISO/IEC 15408 CC EAL 2 or 3 as recognized by Common Criteria Recognition Arrangements (CCRA) with India represented by STQC, Department of Electronics and Information Technology (DeitY), Ministry of Comm. & Info. Tech, Govt of India. b) Network Device Protection Profile Version 1.1 as recognized by Common Criteria Evaluation and Validation Scheme (CCEVS)		
80	All switches , transceivers should be from same OEM and managed by NMS		

2.4   Specification for Access Switch-Type I

Access Switch - Type 1			
Sl. No.	Specification Required	Compliance Yes / No	Document Cross Reference, Page No. & Remarks
1.0	Product details- Please specify		
1.1	Make, Model No with part no.		
2.0	Architecture		
2.1	Switch should offer Wire-Speed and Non-Blocking Switching.		
2.2	Switch should have 48 10/100/1000 PoE+ RJ45 Ethernet with minimum 370 PoE wattage		
2.3	Switch should have 2 ports of 10G SFP+ from day 1 for Stacking over 10GE between floors. Must include stack cable with two optics for stacking on 10GE with stack distance of 10 meters to adjacent floor		
2.4	Should have Flash ROM of 64MB or more.		
2.5	Should have DRAM of 256MB or more.		
2.6	Should have dedicated out of band management Ethernet port and dedicated serial port		
3.0	Performance & Scalability		
3.1	Should provide Non-Blocking switch fabric capacity of 136Gbps or more.		
3.2	Should provide wire-speed packet forwarding of 101Mpps or more.		
3.3	Should support 16,000 MAC addresses or more.		
3.4	Should support 16 or more MSTP instances		

2.5   Specification for Access Switch-Type II

Access Switch - Type II			
Sl. No	Specification Required	Compliance Yes / No	Document Cross Reference, Page No. & Remarks
1.0	Product details- Please specify		
1.1	Make, Model No with part no.		
2.0	Architecture		
2.1	Switch should offer Wire-Speed and Non-Blocking Switching.		
2.2	Switch should have 24 10/100/1000 PoE+ RJ45 Ethernet with minimum 370 PoE wattage		
2.3	Switch should have 2 ports of 10G SFP+ from day 1 for Stacking over 10GE between floors. Must include stack cable with two optics for stacking on 10GE with stack distance of 10 meters to adjacent floor		
2.4	Should have Flash ROM of 64MB or more.		
2.5	Should have DRAM of 256MB or more.		

2.6	Should have dedicated out of band management Ethernet port and dedicated serial port		
3.0	Performance & Scalability		
3.1	Should provide Non-Blocking switch fabric capacity of 88Gbps or more.		
3.2	Should provide wire-speed packet forwarding of 65Mpps or more.		
3.3	Should support 16,000 MAC addresses or more.		
3.4	Should support 16 or more MSTP instances		

2.6   Specification for Access Switch-Type III

Access Switch - Type III			
Sl. No	Specification Required	Compliance Yes / No	Document Cross Reference Page No & Remarks
1.0	Product details- Please specify		
1.1	Make, Model No with part no.		
2.0	Architecture		
2.1	Switch should offer Wire-Speed and Non-Blocking Switching.		
2.2	Switch should have 24 10/100/1000 PoE+ RJ45 Ethernet with minimum 370 PoE wattage		
2.3	Switch should have 2 ports of 10G SFP+ from day 1 for Stacking over 10GE between floors. Must include one optic, cable for stacking on 10GE with stack distance of 10 meters to adjacent floor and one SR SFP+ to complete stack of top-to-bottom hub room's.		
2.4	Switch should have 2 additional 10G SR SFP+ ports from day 1 loaded with two SR SFP+ for uplink to core		
2.5	Switch should have 2 additional 10G SFP+ ports from day 1 for adding high capacity endpoints as and when required		
2.6	Should have Flash ROM of 256MB or more.		
2.7	Should have DRAM of 512MB or more.		
2.8	Should have dedicated out of band management Ethernet port and dedicated serial port		
3.0	Performance & Scalability		
3.1	Should provide Non-Blocking switch fabric capacity of Min.128Gbps or more.		
3.2	Should provide wire-speed packet forwarding of 95 Mpps or more.		
3.3	Should support 16,000 MAC addresses or more		
3.4	Should support 32 or more MSTP instances		

2.7   Specification for Access Switch-Type IV

Access Switch - Type IV			
Sl. No	**Specification Required**	**Compliance Yes / No**	**Document Cross Reference Page No & Remarks**
1.0	Product details- Please specify		
1.1	Make, Model No with part no.		
2.0	Architecture		
2.1	Switch should offer Wire-Speed and Non-Blocking Switching.		
2.2	Switch should have 48 10/100/1000 PoE+ RJ45 Ethernet with minimum 370 PoE wattage		
2.3	Switch should have 2 ports of 10G SFP+ from day 1 for Stacking over 10GE between floors. Must include one optic, cable for stacking on 10GE with stack distance of 10 meters to adjacent floor and one SR SFP+ to complete stack of top-to-bottom hub room's.		
2.4	Switch should have 2 additional 10G SFP+ ports from day 1 loaded with two SR SFP+ for uplink to core.		
2.5	Switch should have 2 additional 10G SFP+ ports from day 1 for adding high capacity endpoints as and when required		
2.6	Should have Flash ROM of 256MB or more.		
2.7	Should have DRAM of 512MB or more.		
2.8	Should have dedicated out of band management Ethernet port and dedicated serial port		
3.0	Performance & Scalability		
3.1	Should provide Non-Blocking switch fabric capacity of 176 Gbps or more.		
3.2	Should provide wire-speed packet forwarding of 130Mpps or more.		
3.3	Should support 16,000 MAC addresses or more		
3.4	Should support 32 or more MSTP instances		

Common Specifications for all four types of Access switches

Common Specifications for all four types of Access switches						
Sl. No	**Specification Required**	**Compliance Yes/No**				**Document Cross Reference Page No & Remarks**
		Type1	Type2	Type3	Type4	
1.0	Layer 2 Features					
1.1	Should support 1000 VLANs with 4000 VLAN IDs					
1.2	Should support 802.1Q with tagging					
1.3	Should support 802.1ad (Q-in-Q) tagging					

1.4	Should support VTP/GVRP/MVRP or equivalent					
1.5	Should support Port-based VLANs					
1.6	Should support Protocol VLANs (IPv4, dynamic IPv6 etc)					
1.7	Should support 802.1p Quality of Service (QoS) with Strict Priority (SP) and Weighted Round Robin (WRR)					
1.8	Should support ACL-based rate limiting QoS					
1.9	Should support 802.1D Spanning Tree Protocol (STP)					
1.10	Should support 802.1s Multiple Spanning Tree					
1.11	Should support 802.1W Rapid Spanning Tree (RSTP)					
1.12	802.1d,802.1w, PVST+/ RPVST+ or IEEE 802.1s					
1.13	Should support 802.3ad link aggregation (dynamic trunk groups)					
1.14	Should support Link Aggregation Control Protocol (LACP) with support for Single link LACP					
1.15	Should support Uni-directional Link Detection (UDLD) or equivalent					
1.16	Should support Dynamic Host Configuration Protocol (DHCP)					
1.17	Should support IGMP v1/v2/v3 Snooping					
1.18	Should support 8 hardware queues per port					
1.19	Should support 802.3af PoE & 802.3at PoE+ on all copper ports.					
2.0	Layer 3-LiteFeatures					
2.1	Should support IPv4 & IPv6 static routes from day 1					
2.2	Should support Layer 3/4 ACLs from day 1					
2.3	Should support virtual interfaces and routed interfaces from day 1					
2.4	Should support RIP v1/v2 and RIPng from day 1					
2.5	Should be upgradable to support OSPF v2 & OSPFv3 routed edge from day 1					
2.6	Should be upgradable to support Virtual Route Redundancy Protocol (VRRP) from day 1					
3.0	System-Level Features					
3.1	Should support ACL-based mirroring					
3.2	Should support ACL-based rate limiting					
3.3	Should support Packet-based broadcast, multicast, and unknown-unicast rate limits					
3.4	Should support DiffServ support					
3.5	Should optionally support Digital Optical Monitoring or SFF-8472 based DOM					

3.6	Should support Flow control					
3.7	Should support Symmetric flow control with the ability to transmit and receive, 802.3x, PAUSE frames					
3.8	Should support Port flap dampening					
3.9	Should support Software Redundant link groups					
3.10	Should support Port mirroring and monitoring (mirroring of both inbound and outbound traffic on individual ports)					
3.11	Should support System time using a Simple Network Time Protocol (SNTP) server or local system counter					
4.0	Stacking and Virtual Chassis Functionality					
4.1	Should support a stack of up to 8 switches or more to form a virtual chassis.					
4.2	Should support a stacking BW of 40G or more					
5.0	Security Features					
5.1	Should support 802.1X port security with RFC3580 for integrating with Network Access Control (NAC)					
5.2	Should support 802.1X authentication RADIUS timeout action					
5.3	Should support Access Control Lists (ACLs) for filtering transit traffic with support for inbound ACLs and support Outbound ACLs					
5.4	Should support Address locking for MAC addresses					
5.5	Should support Authentication, Authorization and Accounting (AAA) with support for RADIUS and TACACS/TACACS+					
5.6	Should support Denial of Service (DoS) attack protection					
5.7	Should support DHCP Snooping					
5.8	Should support Dynamic ARP Inspection					
6.0	Management Features					
6.1	Should support 802.1X accounting.					
6.2	Should support AAA support for console commands					
6.3	Should support DHCP Server					
6.4	Should support Open Application Architecture (OAA) for flexible deployment and intelligence					
6.5	Should support manageability using an Element or Network Management System. This EMS or NMS should be able to configure and monitor the switch.					
6.6	Should support Remote monitoring (RMON)					
6.7	Should support sampled Flow export with sFlow or IPFix or equivalent Netflow-lite from day one.					
6.8	Should support NTP/SNTP Client					
6.9	Should provide Industry-standard Command Line Interface (CLI), including support for Serial and Telnet access,					
6.10	Should support SNMP v1, v2, v3					

6.11	Should have dedicated out of band management Ethernet port and dedicated Serial port.					
6.12	Should Support secure management via SNMPv3, Radius, TACACS+ and SSH. For SCP support alternative SSH, For SFTP supports alternative FTP/TFTP, For XMP API support alternative Open Application Architecture. Should have audit rail feature for per user configuration changes.					
7.0	Physical Attributes, Power Supply and Fans					
7.1	The switch should be 19" Universal EIA (Telco) rack mountable and should be provided with a rack mount kit.					
7.2	Should support100-240VAC, 50/60 Hz internal universal power; Indian type power cord.					
7.3	Should support Optional Internal/External Redundant AC Power Supplies for System Power.					
8.0	Operating Environment					
8.1	The switch should have operating temperature of 0 to 40 C					
8.2	The switch should Operating relative humidity: 10% to 90%, non-condensing					
9.0	OEM Make					
9.1	The switch hardware family with common software operating system certified or status is applied for (in earlier version or current version) either in one of the two a) ISO/IEC 15408 CC EAL 2 or 3 as recognized by Common Criteria Recognition Arrangements (CCRA) with Indi represented by STQC, Department of Electronics and Information Technology (DeitY), Ministry of Comm. & Info. Tech, Govt of India. b) Network Device Protection Profile Version 1.1 as recognized by Common Criteria Evaluation and Validation Scheme (CCEVS)					
9.2	All switches, transceivers should be from same OEM and managed by NMS.					

2.8   Specification for Wireless Controller

Wireless Controller		
Sl. No.	**Description**	**Compliance Yes / No** / **Document Cross Reference, Page No. & Remarks**
1	Should be Rack Mountable physical WLAN appliance or virtual VMWare appliance. The physical appliance must be dedicated WLAN Controller	
2	The controller should be web manageable.	

3	Wireless controller shall control 70 Access Points from day one but expandable up to 250 AP's. Must support licenses for all AP's with mesh, QoS, role based access control from day one and controller should support cluster/HA redundancy		
4	The appliance should support IEEE 802.11a/b/g/n/ac standards-based wireless Access Points		
5	Supports strong Authentication and Encryption Standards Include Open/ WEP64/ WEP128/ Shared, Guest Captive Portal, WPA /WPA2 802.11i Pre-shared key, WPA / WPA2 802.11i with Radius support		
6	The wireless controller support the following types of client load balancing:		
6(a)	Access Point Hand-off - the wireless controller signals a client to switch to another access point.		
6(b)	Frequency Hand-off - the wireless controller monitors the usage of 2.4GHz and 5GHz bands, and signals clients to switch to the lesser-used frequency automatically		
6(c)	Optionally support Fast Roaming (IEEE 802.11r) or equivalent. This includes Seamless rapid mobility across VLAN and subnets Includes 802.11i pre-auth and fast roaming		
6(d)	Support fast roaming across L2, and L3 for video, audio and voice over wireless client		
7	Allow IP connectivity between the Controller and the APs for external VLAN routing where the Controller and the APs are on different VLANs		
8	The wireless controller should include the following features.		
8(a)	Wireless guest management		
8(b)	Captive portal with capability to capture login credentials or identity		
8(c)	Wireless Mesh, Bridging Features		
8(d)	IEEE 802.1x (RFC 3580) NAC Posturing and BYOD (Bring Your Own Device) Support with NAC Integration		
8(e)	User and application control		
8(f)	Encrypted Remote Access point support		
8(g)	Traffic Rate shaping		
9	The wireless Controller should support the following RF Management features		
9(a)	Having Automatic Channel Allocation		
9(b)	Having Automatic Power Control		
9(c)	Supporting Neighbourhood scanning of RF environment to minimize neighbouring AP interference and leakage across floors.		
9(d)	Having Coverage Hole Detection		
9(e)	Providing alerts when APs are down or compromised RF environment is detected		

9(f)	Having Self healing - Automatic neighbouring AP power increase to fill in for coverage losses		
9(g)	Support 802.11i/WPA/WPA2 Enterprise with standard interface to external AAA/RADIUS Server		
10	Support IEEE 802.11e Media Access Control (MAC) Protocol, Wi-Fi Multimedia (WMM) and Traffic Specification (TSPEC).		
11	Restrict ingress traffic to the wired network - should also allow restriction of bandwidth per user, device, SSID		
12	Prioritise all traffic by a minimum of four categories (highest to low voice, video, best effort and background		
13	The wireless Controller should support Rogue AP detection and Blocking		
14	It should be able to detect the 3rd party wireless enabled Mobile devices with Hot spot programs and able to prevent the users from connecting those mobile devices		
15	Wireless Controller should able to Block Intra SSID traffic		
16	It should Include Wireless Guest Access Provisioning for Allowing non-IT staff to create Guest account, Assign Time quota, generate temp password, print, email or SMS the information to the Guest user		
17	The controller should be able to add perpetual license for full WIPS/WIDS for Intrusion Attacks such as Unauthorized Device Detection, Rogue/Interfering AP Detection, Ad-hoc Network Detection and Containment, Wireless Bridge Detection, Misconfigured AP Detection, Weak WEP Detection etc		
18	Basic Firewall feature to prevent and block unnecessary traffic between various SSID's		
19	For rack mountable Wireless controller - physical appliance should support two or more gigabit copper interfaces with auto sensing 10/100/1000 capability.		
20	Should have 1 console port		
21	Should support VLAN tagging (IEEE 802.1q)		
22	Should have authentication for Users/Admins (Local and Remote – RADIUS, LDAP & TACACS+)		
23	Support for RSA SecureID or other Token based Products or via NAC 802.1X authentication		
24	Support for Windows Active Directory and LDAP Directory Integration via NAC		
25	Should support PKI / Digital Certificate Authentication via centralized NAC		
26	The Controller should be able to provide all reports.		

2.9   Specification for Wireless Access Points

Wireless Access Points

Sl. No.	Description	Compliance Yes / No	Document Cross Reference, Page No. & Remarks
1	The Access Point should support IEEE 802.11a/b/g/n standards		
2	Should have the dual radio option and should be able to support devices on 2.4GHz and 5 GHz simultaneously.		
3	Should have at least 4 Internal or external Antennas		
4	Should have 1 x 10/100/1000 Interface		
5	Should support Power over Ethernet (PoE) 802.3af		
6	Support 2x2 MIMO dual stream or better		
7	The access Point should support aggregate throughput of minimum 300 Mbps Bandwidth		
8	Should support L2 and L3 wireless controller discovery		
9	Should support auto-selection of RF channel and transmit power		
10	Should support Simultaneous AP and dedicated air monitor or concurrent 2.4Ghz and 5Ghz AP with background scan		
11	WME Multimedia Extensions support 4 priority queues for voice, video, data and background traffic		
12	Certified by the Wi-Fi Alliance's Wi-Fi Multimedia™ certification program		
13	Should support 16 Simultaneous SSIDs		
14	Support EAP-TLS, EAP-TTLS/MSCHAPv2, PEAP/EAP-GTC, EAP-SIM/EAP- AKA, EAP-FAST		
15	support self-healing, self-optimizing local mesh extending network availability to areas without an Ethernet infrastructure		
17	Should support at least 17dBm Transmission Power		
18	Should be centrally managed through the wireless controller		
19	Should support DNS based Controller discovery or DHCP Based Controller discovery or Provisioned based controller discovery		
20	Should support web-based secured management interface and or SNMP		
21	Command line CLI or SNMP		
22	AP must be UL2403 certified from day one. Support Wall or False Ceiling mounting option. All necessary mounting kits must be supplied along as per site's requirement.		
23	Operating Temperature = 0 to +40 C		
24	Should include the necessary mounting kits		
26	Should include the necessary mounting kits		
27	Support EMC Directives for UL 60601-1-2 or EN EN 60601-1-2 for medical applications		

2.10 Specification for Network Management System & Security Software

a) Element or Network Management System

Sl. No.	Description	Compliance Yes / No	Document Cross Reference, Page No. & Remarks
	Specification for NMS		
1	Single Glass of pane NMS for aggregated wired and wireless network information for centralized and simplified management of all infrastructure components as a single system from day one.		
2	The NMS shall be hardened 64bit OS delivered as Virtual Appliance or Physical Appliance by OEM.		
3	The NMS Virtual Appliance/Physical Appliance shall come with an initial license managed all supplied switches in 5 different stacks. The NMS appliance shall have the capability to extend the node limit to 250+ switches, 2000+ AP's future by purchasing the additional node licenses.		
4	The software shall enable centralized management of proposed network elements with a variety of automated automates management of device configurations and provides tools to capture, modify, load, verify configurations		
5	Shall support unified web-based interface and fine-grained interactive search for network analysis, problem solving, help desk visibility and reporting		
6	Shall provide performance management including CPU utilization, Memory utilization, Bandwidth utilization, TopN statistics, threshold- based alarming etc.		
7	Shall support single glass of pane providing easy-to-use, exceptionally detailed information about connected end systems		
8	Shall support automating the definition and enforcement of network- wide policy rules controlling QoS, priority, bandwidth, and security		
9	Shall support optimizing network management and help desk troubleshooting with anywhere, anytime access to critical information using popular mobile devices and tablets		
10	Shall support comprehensive configuration Management like Bulk configuration, scheduled backup and restore, base lining and notification of changes etc		
11	Shall Transform complex network data into business-centric, actionable information and easily integrate with business apps with Software Defined Networking		
12	Shall provide flexible reporting capabilities including pre-defined and custom reports with scheduled and flexible delivery options.		
13	Shall provide a simple, open, programmable and centrally managed way to implement Software Defined Networking (SDN) for any network		

Sl. No.		Description		
14		The software shall have modular architecture supporting other software plug-ins to enrich the network's management capabilities. This shall include Wireless Network Heat Maps, Network Analysis Module, Network Traffic Analyzer (using sflow/Netflow/IPFixetc),etc		
15		The NMS shall have be hardened 64bit OS delivered as Virtual Appliance or physical appliance by OEM.		

b) NAC Software for Network Security

Specification for NAC				
Sl. No.	**Specification Header**	**Description**	**Compliance Yes/No**	**Document Cross Reference Page No & Remarks**
1	Concurrent Device Capacity	Minimum 500 concurrent endpoint devices at day one.		
2	Services	Device detection, profiling, on boarding and web based registration, authentication, authorization and remediation as well as guest portal services must be hosted from day one. All necessary physical/virtual appliances must be provided from day one.		
3	Operating system	must be delivered on a hardened 64-bit OS(Linux/windows)		
4	Deployment Method	Out of band		
5	Interoperability	Must interoperate for L2 enforcement with supplied switches and any kind of switch or wireless products that support RFC3580 (802.1X and/MAC) .		
6	Network Visibility	Automatically detect and track in real time all connected users and devices on the network - tracking needs to include mac, IP, hostname, OS, device type, user, location, timestamp and also externally configurable options		
7	IT Integration	Must provide XML (REST and SOAP) based API to retrieve user and device information as well as the ability to modify the policy engine configuration via the API		
8	Workflow Integration	Must be able to trigger configurable actions as changes on the network occur - like new devices, location change, state change occur		
9	Guest Access services	Must have web based authentication, registration, sponsored registration and SMS or Email based verification of guests		
10	Authentication services	Must be able to act as a full radius server and proxy with configurable backend authentication via LDAP, SMB (AD) and RADIUS as well as local user		

		authentication		
11	Authorization	Must be able to support heterogenous switch infrastructures with a configuration abstraction that allows to return different types or policies and attributes based on switch type		
12	Policy Creation	Offer flexibility to create the right network policies for each individual enterprise. Fine grained control should allow NAC administrator to define High Risk, Medium Risk, and Low Risk thresholds based on local security policies and concerns.		
13	Dissolvable Client	Persistent, multi-platform client for added peripheral protection for guest machines		
14	Network Access Control & Compliance Management	Automate network access control and bring devices into security policy compliance without disrupting the user.		
15	Policy Creation	Offer flexibility to create the right network policies for each individual enterprise. Fine grained control should allow NAC administrator to define High Risk,Medium Risk, and Low Risk thresholds based on local security policies and concerns.		
16	Policy Compliance	Built-in mechanisms to automate user and device compliance checks and remediation or containment of non-compliance devices.		
17	Notifications	Alert / inform the user of policy violations. Automated notifications and actions such as trouble ticketing, emails, browser hijacks, and redirects with auditable end-user acknowledgement to enable tracking of warnings to users.		
18	Access Control	Automatically limit non-compliant devices access to specified resources without disrupting user productivity while remedial action is taken.		
19	Role-based Network Control	Apply network access policies at the user and group level, based on roles defined in the directory service.		
20	Enforcement	Custom fit the enforcement action to the level of policy violation and avoid interruption of user productivity unless absolutely necessary.		
21	Endpoint security	Detect gaps and failures of existing security systems – such as antivirus, patch management, encryption, etc. and automatically remediate endpoint security deficiencies.		
22	Auto-Remediation	Work with existing services to provide guided remediation. Integration with third-party remediation services like patch management, anti- virus, anti-spyware, vulnerability management, etc. to automate correction of policy violations.		

23	Blocking	Ability to completely block the access of any malicious device on the network by turning off the switch port or with virtual firewall.		
24	Disabling	Kill unauthorized or illegal processes and applications on the endpoint.		
25	Post Connection Monitoring	Continuously monitor the network or integrate with monitoring solutions for policy violations or threats from connected devices to ensure the network is always safe and devices are compliant with established network security policies.		
26	Reporting	Reporting engine that allows filtering of both current and historical data to help IT staff monitor and control device compliance and fulfill regulatory audit requirements.		
27	Inventory	Get accurate inventory of all endpoints and ensure compliance at all times.		
28	Management	Management application must include: Customized reporting for historical and real-time data - Interactive topology maps - Device views - Events logs - Device search functionality		
29	Certification	The NAC product family (previous or current software version) should be certified or status is applied for any one of the three: a) ISO/IEC 15408 CC EAL 2 or 3 as recognized by Common Criteria Recognition Arrangements (CCRA) where is India is represented by STQC, Department of Electronics and Information Technology (DeitY), Ministry of Comm. & Info. Tech, Govt of India. b) Network Device Protection Profile Version 1.1 as recognized by Common Criteria Evaluation and Validation Scheme (CCEVS) c). The NAC product family should be FIPS-140/ EAL2/3 or NDPP compliant		
30	BYOD	BYOD should be having below features on NAC: a) Android device, Iphone, Ipad, blackberry, etc and host name b) Detect client device Mac address, device type (such as windows device, Android device, Iphone, Ipad, blackberry, etc) c) NAC Software should be able to allow or deny traffic based on device type		

2.11   3KVA Online UPS system

SI. No.	Items	Description	Compliance Yes / No	Document Cross Reference Page No. & Remarks
UPS – Power Backup			
Specification for 3KVA Online UPS			
1	Technology	True On Line UPS with double conversion technology Rectifier and inverter should be based on IGBT		
2	Power Rating Input	3000 VA / 2400 W		
3	Voltage Range	160 VAC – 300 VAC @ 100% Load, 110 VAC – 300 VAC @ 50% Load		
4	Frequency	40 Hz ~ 70 Hz		
5	Power Factor Output	≥ 0.95		
6	Voltage Range	220/230/240 VAC + 3%		
7	Voltage Distortion	≤ 4% (Linear Load) ≤ 7% (non Linear Load)		
8	Frequency	47.5 ~ 52.5 Hz		
9	Power Factor	0.8		
10	Crest Factor	3:1		
11	Inverter Overload			
12	Transient Response	Less or equal to 3% for 100% nonlinear load (Battery mode)		
13	Battery	1u cable manager with PVC Loops		
14	Type	Sealed Maintenance Free, Valve Regulated Lead Acid		
15	Number of Battery cells	One set of 8 Batteries of 12V		
16	Rated Voltage	96 VDC		
17	Backup Time	30 min		
18	Protection	Inbuilt protection for surge suppression and EMI/RFI filter provided		
19	Environmental and Other			
20	Audible Noise	Less than 45dB at 1 meter		
21	Operating temp & Humidity	20 – 90%RH @ 0 – 40°C (non condensing)		
22	LCD Display	UPS Status, Load level, Battery level, Input / Output voltage, Discharge Timer & Fault conditions		
23	Management			

24	SMART RS 232	Supports Windows, Novell, Linux and FreeBSD		
25	USB Port			
26	SNMP	Power Management from SNMP manager and web browser option should be present		
27	Power Outlet	Should have programmable power management outlet for independent control of load segment.		
28	ECO Mode	Should be capable of operating in ECO mode for energy saving.		
29	TVSS	25 KA TVSS for surge protection		
30	Credentials	Manufacturer Should be ISO 9001:2000 and 14001 certified		

Note: The vendors must necessarily fill the column "Document Cross Reference Page No. & Remark" failing which the bid will be rejected straight away.

3.0 Detailed Specification of Passive Component:

a)   General Conditions

1.   All Fiber Components should be from the same OEM.
2.   The OEM should be ISO 9001:2000 & QS: 9000 Certified. In the changing needs of the global resources if the company has environmental management systems in place like ISO 14001 accreditation the same shall be added advantage.
3.   The cabling should be certified to have application support warranty for next 25 years. The complete cabling system (copper as well as fiber) offered shall be upgradeable to the intelligent system if required in future by retrofitting of sensors. The OEM should have at least 01 site on intelligent system within India. The bidder/OEM should be able to physically demonstrate intelligent system monitors (for both copper & fiber), patch cords etc. if so required by the customer.
4.   The premium brands like Molex, Tyco, AMP and Systemax will only be considered wherever applicable.
5.   Payment for passive components will be made on actuals measurement basis.

b)   Technical Specifications -

3.1   Category 6 UTP Cable, 4 Pair CM rated, with LSZH

Characteristic	Min. Required Specification
	Category 6 Unshielded Twisted Pair 100Ω cable shall be compliant with EIA/TIA 568-C.2 transmission performance specifications
Features	Category 6 UTP cables shall extend between the work area location and its associated telecommunications closet and consist of 4 pair, 23 AWG, UTP

	The 4 pair Unshielded Twisted Pair cable shall be UL Listed
All Category 6 cables shall meet or exceed the following characteristics:	
Mechanical Characteristics	Construction: 4 twisted pairs separated by internal X shaped, 4 channel, polymer spine / full separator. Half shall not be accepted.
	Conductor: Solid Copper
	Conductor Diameter: 0.57±0.005mm (23 AWG only)
	Insulator Polyolefin
	Jacket: LSZH
	Outer Diameter: 6.0±0.4mm
	Filler: PE
	Weight (kg/km): 42
	Fire performance - 332.1
	NVP (%): 68
	Insulation Dia. (±0.05mm): 1.04

3.2   MOUNTING UTP Patch Cords (1 Mtr. 2 Mtr.)

Characteristic	Min. Required Specification
Features	Category 6 Equipment cords
	The work area equipment cords shall, at a minimum comply with proposed ANSI/TIA/EIA-568-C.2 Commercial Building Cabling Standards Transmission Performance Specifications for 4 pair 100Ω Category 6 Cabling.
	Category 6 modular equipment cords: Shall be round, and consist of eight insulated 24 AWG, stranded copper conductors, arranged in four color-coded twisted-pairs
	Equipped with modular 8-position plugs on both ends, wired straight through with standards compliant wiring.
	Should have 50 micro inches of gold plating over nickel contacts.
	Modular cords should include slim clear anti-snag slip-on boots
	Mounting cords should have ETL component compliance. (ETLcertificate to be enclosed)
Mechanical – Cable	Conductor size: 24 AWG stranded bare copper
	Nominal outer diameter: 5.9mm
	Jacket: LSOH / LSZH
	Temperature range: - 20°C to + 60°C
Mechanical Characteristics – Plug	Operating life: Minimum 750 insertion cycles
	Contact material: Copper alloy

	Contact plating: 50µ" Gold/100µ"Nickel
	Plug dimensions compliant with ISO/IEC 60603-7-4 and FCC 47 Part 68
	Fire Propagation tests: LS0H Sheath: CSA FT1, IEC 60332-1, IEC 61034
Electrical Characteristics – Plug	Max voltage: 150 VAC (max)
	Max current: 1.5A @ 25°C
	Operating temperature: -20°C to +60°C

3.3   24 PORT UTP PMP

Characteristic	Min. Required Specification
Features	Be made of cold rolled steel, in 24 port configurations. Each jack should have spring loaded shutter inside the jack for 100% dust free environment.
	Allow for a minimum of 750 plug mating cycles
	Have port identification numbers on the front of the panel.
	Should have self-adhesive, clear label holders (transparent plastic window type) and white designation labels with the panel, with optional color labels / icons.
	Each port / jack on the panel should be individually removable on field from the panel.
	Should have integrated rear cable management shelf (Cable support Bar)
	Should comply to the following : TIA/EIA-568-C.2 Component Compliant FCC Subpart F 68.5 Compliant IEC-603-7 Compliant ISO 11801 Class E Compliant UL 1863 CSA C22.2

3.4   6 Core MM Optical Fiber Cable

Item	Description of Requirement	Compliance (Y/N)	Datasheet page no.
Make & Model Offered	Mention Make & Model →		
Features	- All Fiber Components should be from the same OEM. - The OEM should be ISO 9001:2000. - In the changing needs of the global resources if the company has environmental management systems in place like ISO 14001 accreditation the same shall be added advantage. - The cabling should be certified to have application support warranty for next 20 years or higher. Single Gang square plate, 86mmx86mm		
	- Indoor riser rated 6 core Multi Mode, 50 micron, OM3 optical fiber cable:		

- The cable should consist of 900m tight-buffered optical fibers reinforced with Aramid Yarns and sheathed in flame retardant PVC. - Characteristics-Optical Performance - Max. Attenuation: At 850 nm: 3.5 db/KM, At 1300 nm: 1.0 db/KM - Min. Bandwidth: At 850 nm: 200 MHz/KM, At 1300 nm: 500 MHz/KM - Fiber Identification: Color Coded - Fiber Insulation: Colored Nylon or PVC - Reinforcing: Aramid Yarns - Sheath: PVC - Diameter (Nominal): 5.6 mm - Mass (Nominal): 38 Kg/KM - Min. Bending Radius (Full Load): 105 mm - Max. Tensile Strength (Short Term): 0.6 kN - Operating Temp. Range: -10degree centigrade to +60 degree centigrade - Crush Resistance (Short Term) : 1.0 kN/100mm		

3.5   LIU - FIBER PATCH PANELS – RACK MOUNT

Characteristic	Min. Required Specification
	Have sufficient slots accommodate duplex SC adapters individually.
	Should have fiber management provision inside
	Should be Rack Mount as well as Wall Mount
	Have earthing plugs and other accessories.
	Panel cover should be slide out for easy maintenance
	Provide self-adhesive, clear label holders (transparent plastic window type) and white designation labels with the panel, for front panel labelling .
	Should be upgradeable as Intelligent Patch Panel without changing the existing Patch Panel hardware by simple retro fitting of intelligent sensors as and when required.

3.6   SC DUPLEX ADAPTORS

Characteristic	Min. Required Specification
Features	All SC adaptors should be duplex type with shutter for protection. Adapters should be snap mount for easy insertion and removal.

3.7   Optical Fiber Pigtails (SC)

Characteristic	Min. Required Specification

Features	_ Standard or custom assemblies _ Precision ferrule endface geometry _ Controlled fibre protrusion _ Factory polished, tested and serialized.
	Connector End : 1xSC connectors, single mode, zirconia ceramic ferrule, composite body Insertion Loss: 0.35dB max. Retention Strength : 100N Operating Temperature : -10°C to 60°C
	Cable Sheath Material : PVC Colour : Random
	Characteristics Cable : 900µm Buffered Outside Diameter : 900µm Buffer Diameter : 900µm tight buffer Min. Bend Radius : 30mm Attenuation : @ 850nm <2.5dB/km @ 1300nm <0.7dB/km

3.8   Optical Fiber Equipment Cords (3 Mtr.,)

Characteristic	Min. Required Specification
Features	All optical fiber patch leads shall comprise of Multimode mode 50/125µm fiber with SC, fiber connectors terminated at each end. The optical fiber patch leads shall comply with the following specifications:
	Connector: Zirconia ceramic ferrule
	Pre-radiuses and pre-polished ferrule
	Epoxy type fiber encapsulation
	Color-coded connector boots fitted to connectors on duplex patch leads.
	Dust caps shall be fitted on each connector at the assembly
	Sheath – LSZH only
	Cable: 50/125, OM3
	Strength member: aramid yarn

Bandwidth : @ 850nm 2000MHz/km @ 1300nm 500MHz/km Attenuation : @ 850nm <2.5dB/km @ 1300nm <0.7dB/km	

3.9   42U Floor Mounting Rack

Specification for Floor Standing 42U Rack				
Sl. No.	**Items**	**Description**	**Compliance Yes / No**	**Document Cross Reference, Page No. & Remarks**
1	Physical	42 U rack for Passive installation		
2	Make	APW President		
3	Model	To be indicated by the bidder		
4	Material	Powder coated steel		
5	Width	800mm		
6	Depth	800mm or higher		
7	Front Door	100% perforated 19"		
8	Rear Door	100% Hexognal perforated on 19" rails, easy to remove,		
9	Side Panels	Removable side panels		
10	Bottom	Cable entry cut-out provided.		
11	Castor wheels	100kg med duty		
12	Load rating	700 Kg or more		
13	Fan	4 Fans mounted at top of the rack		
14	Equipment mounting angles.	19" equipment mounting angles at front and rear. With Reducing cable channel with pvc loops		
15	Power Supply	Vertical AC mains channel with 10 or more 5/15A sockets with MCB and indicator.		
16	Horizontal cable mgmt	1u cable manager with PVC Loops		
17	Vertical cable management	Vertical cable channels for vertical cable management at rear		
18	Earthing kit	earthing kit split		
19	Mountig fasteners	40 nos of mounting nut bolt to be provided.		

20	Locking arrangement	Lock with 2 keys for both front and rear doors		

3.10 15U Wall Mounting Rack

Specification for Wall Mount 15U Rack				
Sl. No.	Items	Description	Compliance Yes / No	Document Cross Reference, Page No. & Remarks
1	Physical	15U wall mounted rack		
2	Make	APW President		
3	Model	To be indicated by the bidder		
4	Material	Powder coated steel (gray colored)		
5	Width	550mm		
6	Depth	500mm		
7	Front Door	tuffen glass door		
8	fans	2fans top mounted 90 cfm 230vac		
9	tray	1nos 255mm cantilever tray		
10	PDU	6 socket 5 amp with fuse and indicator		
11	cable manager	1u pvc lopps cable manager		
12	hardware	M-6 hardware pkt of 20		
13	Bottom/Top	Cable entry cut-out provided.		

3.11 Specification for 25mm PVC conduit/casing capping & 32/40 mm HDPE Pipe for outdoor OFC

PVC pipe minimum 25mm dia, ISI mark, HMS grade (2mm thick), accessories for PVC pipes of the same make that of pipe; such as Spacers & Saddles, Couplers, Bends, inspection or non-inspection type Elbows, Tees, Junction boxes of required ways and resin / adhesive to make all joints rigid. Black pipe shall not be used for surface type wiring. Permanently Solid Lubricated HDPE Pipes (33 mm inner dia, 40 mm outer dia).

3.12 OFC Route Marker:

The marker should be of Cast Iron for cable route marking. Suitable Tagging and marking of all other active and passive components for easy identification.

PART G : Scope of Work (SoW)

1. Scope of Supply

- Supply of all Active and Passive components as per BoQ at THSTI, NCR-BSC campus, Faridabad. Further, during execution of the above work, the vendor may also be required to provide temporary LAN connection as per user requirements to meet any urgency.

2. Scope of Installation, Configuration and Integration

- Physical installation and powering of all Active and Passive components as per Network diagram provided by THSTI.
- Proper marking of cable, Safety Sign board/Route marker to be installed for cable laid underground and other miscellaneous work.
- Any structure, permanent or temporary, dismantled or destroyed during the execution of the work shall, will be refill/remake or restore to its previous condition by the network vendor at its own cost.
- Any extra electrical points and data points required in the server room shall have to be provided by the network vendor at his own cost.
- The required UPS power points in the rack shall be provided by THSTI.
- Configuration and Integration of all of Active and Passive components as per the approved implementation plan.
- Configuration of VLAN and Inter VLAN routing as per implementation plan.

3. Scope of Acceptance testing and commissioning

- After installation and configuration of each and every subsystem, integrating various systems and providing various services, tests shall be conducted for system performance as a whole.
- Commissioning shall mean end-to-end commissioning of the network with testing of live applications. Test parameters, commitments etc shall be submitted along with implementation plan, which is shall be approved by THSTI.
- In the event, the test parameters, commitments are not submitted or not accepted explicitly in

writing/minutes by THSTI, the Test parameters, commitments etc as decided by THSTI will be final and binding.

- Penetration test of the network after installation of IT/Network Devices.

- Upon Self testing and Commissioning, the system shall be offered for inspection by THSTI.

- The successful Bidder, along with THSTI shall prepare an inspection and acceptance schedule with details of each activity.

4. Scope of Documentation

- Providing original manuals of all hardware items supplied.

- Implementation plan, to be approved by THSTI before initialising the installation and configuration activity.

- Test parameters, commitments etc for acceptance testing to be enclosed along with implementation plan. The bidder will have to submit pentascan report for all network ports or wherever applicable.

- Documentation on Equipment/ rack layout plan and connectivity Diagram

- Technical write up of the network design and functioning, System and Network architecture diagram, Active and Passive components configuration details, Security implementation.

- As built network configuration details (portwise) with IP address, subnet, VLAN, port description, etc for all active components.

- Security implementation including VPNs, Firewall rules, IDS/IPS, ACL details etc.

- Operator manual for shutdown/start of the active resources.

- Acceptance test reports, performance test reports of networking components.

- Any other Relevant Documentation

5. Scope of Training

- Training on the THSTI building Network design and functioning, Network architecture, Configuration of active components and Security implementation

- The participants for the training shall be two (2) THSTI engineers for minimum 2 days at THSTI, NCR-BSC Campus.

- Course material for the above (one copy each per participant) to be provided.

PART- H : Format of Technical bid including Organisational capability

ATTACHMENT #1

General Information of the BIDDER

1	Name of BIDDER	
2	Address	
3	Telephone Number	
4	Fax Number	
5	Email	
6	Web Site	
7	Legal status • Government/ Public Sector Undertaking • Propriety firm • Partnership firm (if yes, give partnership deed) • Limited company or limited corporation • Member of a group of companies (if yes, give name and address, and description of other companies) • Subsidiary of a large corporation (if yes give the name and address of the parent organisation) If the company is subsidiary, state what involvement if any, will the parent company have in the project.	
8	Is the firm a registered company? If yes, submit documentary proof. Date of Establishment	
9	Correspondence Address Name Address E-mail Phone fax	
10	Is the firm registered with sales tax department? If yes, submit valid sales tax registration certificate.	
11	Income Tax	
11	Is the firm registered for service tax with Central Excise Department (Service Tax Cell)? If yes, submit valid service tax registration certificate.	
12	Is the firm registered under Labour Laws Contract Act? If yes, submit valid registration certificate.	
13	Number of years of experience in the relevant field	
15	Number of Offices / Project Locations	
16	Do you have a local representation /office in Delhi-NCR	

	? If so, please give the address and the details of staff, infrastructure etc in the office and no. of years of operation of the local office		
17	Is your organization has SEI –CMM / ISO 9000 certificates? If so, attach copies of the certificates. State details, if certified by bodies, other than that stated.		
18	List the major clients with whom your organization has been/ is currently associated.		
19	Whether the OEM is ISO 9001:2008 OR ISO 14001:2004 Certified. Documentary proof to be provided.		

Signature of Bidder
Seal of Bidder

ATTACHMENT # 2   FINANCIAL INFORMATION

Sl. No	Name of the bidder	Turnover (Rs. Crores)			Networth (Rs.Crores)
		2011-12	2012-13	2013-14	2013-14

Note:
1. Submit the audited financial statement/ audited annual report of the last three financial years.

ATTACHMENT # 3

Letter of authorization from the OEMs that the bidder is representing them, and that the bidder's commitment shall be met in Toto by them.

ATTACHMENT # 4 FORMAT FOR TECHNICAL CAPABILITY –
                Network actives – Supply, Installation and c onfiguration

S. No.	Name of Client	Project Name	Start Date	End date/ status	Brief Description of the Project & Scope of work (Supply, installation and configuration)	Role of bidder	OEM and devices supplied	Value of the project	Contact details of the Customer

Note:
1. Submit the copy of purchase order indicating the project value, customer contact details, customer completion/satisfaction certificate.

ATTACHMENT #5

Detailed Technical Proposal meeting the bid requirements covering detailed specifications should include

- I. Make, model and part no. of items and sub-items quoted. II. Detailed Description of Technical specifications
- III. Detailed brochure with specifications for the offered items with model & part nos. highlighted.
- IV. Relevant test certificates/performance certificate/End-user acceptance certificate of the offered components/ systems

ATTACHMENT # 6

Any proposed deliverable/ functional aspects/ technical aspects/ terms/ conditions or any other item NOT IN compliance to tender Requirement

Sl No	Section/ Page No. in tender	Sl.No. as in tender	Requirement as specified in tender	Deviation	Remarks/ Reasons /Alternatives

ATTACHMENT # 7

Detailed Project Schedule.

ATTACHMENT # 8

Financial Bid with value/price information masked. Make, model, quantity etc of each of the line item with sub-items indicated.

ATTACHMENT # 9

Facilities sought from THSTI

ATTACHMENT # 10

Any other relevant matter.

PART – I : FINANCIAL BID FORMAT
(PART A + PART B + PART C)

PART A - SUPPLY OF UTM, WIRELESS AND SWITCHES

Sl.No	Part Nos.	Description	Unit	Quantity (Approx)	Unit Rate	AMOUNT	
						In Foreign currency	In INR
Active Components							
1		Unified Threat Management	Nos.	2			
2		Log Analyser	Nos.	2			
3		Core Switch	Nos.	2			
4		Access Switch-Type I (48Port PoE)	Nos.	9			
5		Access Switch-Type II (24Port PoE)	Nos.	8			
6		Access Switch-Type III (24Port PoE)	Nos.	4			
7		Access Switch-Type IV (48Port PoE)	Nos.	4			
8		Wireless Controller	Nos.	2			
9		Wireless Access Points	Nos.	115			
10		Network Management System & Security software					
10 (a)		Element Management Software	Nos.	2			
10 (b)		NAC Software for Network Security	Nos.	2			
11		3 KVA Online UPS	Nos	4			
SUB TOTAL							
Passive Components							
1		Cat6 UTP cable box (305 meters)	Nos.	16			
2		CAT6 1 Mtr. Patch Cord	Nos.	731			
3		CAT6 2 Mtr. Patch Cord	Nos.	591			
4		CAT6-24 Port PMP	Nos.	32			
5		6 Core MM OFC (OM3 50/125)	Meters	2800			
6		LIU MM Loaded 12 Port Loaded with Duplex	Nos.	12			

		Adaptors (OM3 50/125)Adaptors (OM3 50/125)					
7		LIU MM Loaded 24 Port Loaded with Duplex Adaptors (OM3 50/125)	Nos.	3			
8		MM-SC Pigtails (OM3 50/125)	Nos.	168			
9		MM/SC-LC Fiber Patch Cord 3Mtrs.	Nos.	34			
10		15 U Wall Mount Data Rack (600x 500)	Nos.	24			
11		42U Floor Standing Data Rack	Nos.	2			
12		25mm PVC conduit/casing capping	Meters	3400			
13		32/40 mm HDPE Pipe for outdoor OFC	Meters	1800			
14		OFC Route Marker, tagging etc	Nos.	50			
15		Any other Item not included above					
		SUB TOTAL					
FOR FOREIGN SUPPLY							
1		Freight, Transit Insurance and other charges	Lump				■
2		Custom duty (as applicable)					■
3		Custom clearance and other misc. charges	Lump				■
FOR LOCAL SUPPLY							
1		Excise Duty	Lump			■	
2		Sales Tax	Lump			■	
3		Freight and other misc. charges	Lump			■	
Total DDP Price/ FOR THSTI, Faridabad Price (PART – A)							

Note: The bidders are requested to submit this part of the commercial bid in foreign currency /Indian currency as per their choice.
Separate columns have been provided for quoting price in Indian or Foreign currency. Please fill the rates in the relevant columns only.

PART B - INSTALLATION, CONFIGURATION AND INTEGRATION

SL NO.	Part No.	Item Description	Unit	Quantity	Unit Rate Rs	Total Amount Rs	Taxes Rs	Gross Total Rs
		Active Components						
1		Installation and configuration of Unified Threat Management	Nos	2				
2		Integration and configuration of Log Analyser	Nos	2				
3		Configuration of Core Switch	Nos	2				
4		Access Switch-Type I (48Port PoE)	Nos	9				
5		Access Switch-Type II (24Port PoE)	Nos	8				
6		Access Switch-Type III (24Port PoE)	Nos	4				
7		Access Switch-Type IV (48Port PoE)	Nos	4				
8		Configuration, Installation & Integration of Wireless Controller	Nos	2				
9		Mounting of Access Points	Nos	115				
10(a)		Element Management Software	Nos	2				
10(b)		NAC Software for Network Security	Nos	2				
11		3 KVA Online UPS	Nos	4				
		Passive Components						
1		Laying of Cabt6 UTP Cable through PVC Conduit/Casing capping	Mtrs.	4880				
2		Fixing and termination of Cat 6-24 port PMP	Nos.	32				
3		Fiber Splicing per Core	Nos.	168				
4		Installation of Fiber LIU With accessories	Nos.	15				
5		Laying of Fiber through existing laid HDPE Pipe/PVC Conduit/Cable Tray	Mtrs.	2800				
6		Installation of 15U Rack including cable dressing	Nos.	24				
7		Installation of 42U Rack including cable dressing	Nos.	2				
8		Laying of PVC Conduit/Casing capping on wall/ceiling	Mtrs.	3400				
9		Laying of underground HDPE in Soft Soil	Mtrs.	900				
10		Laying of underground HDPE in Hard Soil/road	Mtrs.	620				
11		Laying of HDPE on wall/ceiling	Mtrs.	750				
12		Fixing of OFC route marker	Nos.	50				
13		Installation and Commissioning Charges for relevant components	Lump					
14		Any other Item not included above						
		Total Cost- FOR THSTI, Faridabad (Part- B)						

PART C - TRAINING AND DOCUMENTATION

SL NO.	Item Description	Unit	Quantity	Amount (in Rs.)	Taxes Rs.	Net Total (Rs)
	DOCUMENTATION					
1	Original manuals of all hardwares supplied	set	1			
2	Equipment/ rack layout plan and connectivity Diagram	set	2			
3	Technical write up of the network design and functioning, System and Network architecture diagram, Active components configuration details, Security implementation	set	2			
4	As built network configuration details(portwise) with IP address, subnet, VLAN , port description, etc for all active components	lot	2			
5	Security implementation including VPNs, Firewall rules, IDS/IPS, ACL details etc.					
6	Operator manual for shutdown/start of the active resources	lot	2			
7	Acceptance test reports, performance test reports of networking components.	lot	2			
8	Any other Relevant Documentation	set	2			
	Sub Total (A)					
	TRAINING					
1	Training on the building Network design and functioning, Network architecture, Configuration of active components and Security implementation to Identified THSTI engineers for minimum 2days.Course material for the above (one copy each per participant) to be provided.	Lump	1			
	Sub Total (B)					
	TOTAL PRICE (Part C)					

COST SUMMARY

SI.No	COMPONENT	TOTAL AMOUNT
1	SUPPLY	
2	INSTALLATION, CONFIGURATION & INTEGRATION	
3	DOCUMENTATION & TRAINING	
	GRAND TOTAL (PART A + B + C)	

PART- J : ANNEXURES

ANNEXURE-I

CHECK LIST

Sl. No	Description	Included (Y/N/NA)	Remarks
1	Technical bid should contain copy of EMD of Rs. 3,20,000/- only in the form of DD. The original Demand Draft should reach the THSTI office on or before the due date of opening of technical bid.		
2	Technical bid should contain copy of demand draft of Rs. 1500/- only payable towards cost of Tender documents (Non refundable) in the form of Demand Draft, in case tender document is downloaded.		
3	Technical bid should contain all information as in the Financial bid, except for the price information. The split-up part numbers of each line item of the BoQ should be present.		
4	Copy of Audited balance sheet for last 3 years, ending 2013-14 to be uploaded along with technical bid..		
5	Copy of PO/Completion Certificate from the Client for similar works as specified in Part 'C' to be uploaded along with technical bid.		
6	Certificate for proving that the Bidder is OEM or Authorised dealer / Distributor / System integrator to be uploaded along with technical bid.		
7	Document to prove experience of 5 years in Networking business to be uploaded along with technical bid		
8	Details of service/spare centre in Delhi-NCR to be uploaded along with technical bid.		
9	Undertaking with vendor having service/spare centres in Delhi-NCR to provide support to T H S T I, if Bidder doesn't have such facility in Delhi-NCR to be uploaded along with technical bid.		
10	Declaration that the Bidder has a clean track record to be uploaded along with technical bid.		
11	Document on Income tax assessment for last three Years to be uploaded along with technical bid		
12	Undertaking that service & spare support will be provided for at least 3 years, after the specified warranty period on separate commercial terms to be uploaded along with technical bid.		
13	Copy of the Bidder's ISO 9001:2008 and/or ISO 14001 Certificate to be uploaded along with technical bid.		
14	All switches are from same OEM.		

15	Bidder is single party, not consortium.		
16	Detailed Network Diagram / Solution document of the offered system attached in the technical bid.		
17	Technical Bid (incl. Organisational capability) and Financial bid are to be uploaded separately.		
18	A copy of the tender document, with all pages signed by the authorized person is to be uploaded along with the technical bid.		
19	Complete BoQ is quoted.		
20	Financial bid (i.e Part A + Part B+ Part C) should contain full price details including taxes.		
21	Split-up part numbers of each item of the BOQ is to be shown in the financial bid with line item cost.		

Form of Performance Bank Guarantee/Bank Guarantee

BG No.:………………………………… Date…………………………………….

From	To
The Name of the Bank	Translational Health Science Technology Institute,496, Udyog Vihar, Gurgoan-122016

In consideration of the Translational Health Science and Technology Institute, 496, Ph-III, Udyog Vihar, Gurgoan (hereinafter called "The INSTITUTE") having offered to accept the terms and conditions of the proposed agreement between The Institute……and……………………… (hereinafter called "the Contractor(s)"for the work……………. (hereinafter called "the said agreement") having agreed to production of an irrevocable Bank guarantee for Rs…………… (Rupees………….only) as a security/guarantee form the contractor(s) for compliance of his obligations in accordance with the terms and conditions in the said agreement.

1. We ………………….. (hereinafter referred to as the "Bank") hereby undertake to
   (Indicate the name of the Bank) Pay to the Institute an amount not exceeding Rs…………
   (Rupees…………… only) on demand.

2. We…(indicate the name of the Bank) …………………… Do hereby undertake to pay the amounts due and payable under this Guarantee without any demur, merely on a demand from the Institute stating that the amount claimed is required to meet the recoveries due or likely to be due from the said contractor(s). 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 Rs……………… (Rupees…………………………………only).

3. We, The said Bank, further undertake to pay to the Institute any money so demanded notwithstanding any disputes raised by the contractor(s) in any suit or proceeding pending before any Court or Tribunal relating thereto, our liability under this present being absolute and unequivocal. The payment so made by us under this bond shall be a valid discharge of our liability for payment thereunder, and the contractor(s) shall have no claim against us for making such payment.

4. We (indicate the name of the Bank) …………………… 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 it shall continue to be enforceable till all the dues of the Institute under or by virtue of the said agreement have been fully paid, and its claims satisfied or discharged, as per the terms and conditions of the said agreement have been fully and properly carried out by the said contractor(s), and accordingly discharges this guarantee.

5. We……(name of the bank)………………… further agree with the Institute that the Institute shall have the fullest liberty without our consent, and without effecting in any manner our obligations hereunder, to vary any of the terms and conditions of the said agreement or to extend time of performance by the said contractor(s) from time to time or to postpone for any time or from time to time any of the powers exercisable by the Institute against the said contractor(s), and to forbear or enforce any of the terms and conditions relating to 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 not be relieved from our liability by reason of any such variation or extension being granted to the said contractor(s) or for any forbearance, act of omission on the part of the Institute or any indulgence by the Institute to the said contractor(s) or by any such matter or thing whatsoever which under the law relating to sureties would, but for this provision, have effect of so relieving us.

6. This Guarantee will not be discharged due to the change in the constitution of the Bank or the contractor(s).

7. We ……………(Name of the bank)……. lastly under take not to revoke the Guarantee except with the previous consent of the Institute in writing. This bank Guarantee on the Bank or its successors or permitted assigns.

8. We……(Indicate the name of the Bank)………… lastly undertake not to revoke this Guarantee except with (indicate the name of the Bank) the previous consent of the Institute extended on demand by the Institute. Notwithstanding anything mentioned above, our liability against this Guarantee is restricted to Rs…………………(Rupees………………..only), and unless a claim/demand is made on the bank in writing on or before ……………………all your rights under the Guarantee will be forfeited and we shall be relieved and discharged from all liabilities thereunder.

                                        Authorised Signatories of the Bank with name and Seal

Name of the Officer:

Designation:

Code if any:

Date:

Place

Guidelines to bidders on CPPP e-Procurement Module

1. **Procedure for Registration by the Bidder**

1.1. Bidders are required to enroll on the e-Procurement module of the Central Public Procurement Portal (URL: https://eprocure.gov.in/eprocure/app) by clicking on the link "Click here to Enroll" on the CPP Portal.

1.2. As part of the enrolment process, the bidders will be required to choose a unique username and assign a password for their accounts.

1.3. Bidders are advised to register their valid email address and mobile numbers as part of the registration process. These would be used for any communication from the CPP Portal.

1.4. Upon enrolment, the bidders will be required to register their valid Digital Signature Certificate (Class II or Class III Certificates with signing key usage) issued by any Certifying Authority recognized by CCA India (e.g. Sify / TCS /

nCode / eMudhra etc.), with their profile.

1.5. Only one valid DSC should be registered by a bidder. Please note that the bidders are responsible to ensure that they do not lend their DSC's to others which may lead to misuse.

1.6. Bidder then logs in to the site through the secured log-in by entering their user ID / password and the password of the DSC / e-Token.

2. **Searching for Tender Documents**

2.1. There are various search options built in the CPP Portal, to facilitate bidders to search active tenders by several parameters. These parameters could include Tender ID, organization name, location, date, value, etc. There is also an option of advanced search for tenders, wherein the bidders may combine a number of search parameters such as organization name, form of contract, location, date, other keywords etc. to search for a tender published on the CPP Portal.

2.2. Once the bidders have selected the tenders they are interested in, they may download the required documents / tender schedules. These tenders can be moved to the respective 'My Tenders' folder. This would enable the CPP Portal to intimate the bidders through SMS / e-mail in case there is any corrigendum issued to the tender document.

2.3. The bidder should make a note of the unique Tender ID assigned to each tender, in case they want to obtain any clarification / help from the Helpdesk.

3. **Procedure for preparation and submission of bids**

3.1. The documents should be page numbered and contain the list of contents with page numbers. The deficiency in documentation may result in the rejection of the Bid.

3.2. Bidder should take into account any corrigendum published (if any) on the tender document before submitting their bids.

3.3. Bidders are advised to go through the Tender advertisement and 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.

3.4. Bidder, in advance, should get ready the bid documents to be submitted as indicated in the tender document / schedule and generally, they can be in PDF formats. Bid documents may be scanned with 100 dpi.

3.5. To avoid the time and effort required in uploading the same set of standard documents which are required to be submitted as a part of every bid, a provision of uploading such standard documents (e.g. PAN card copy, annual reports, auditor certificates etc.) has been provided to the bidders. Bidders can use "My Space" area available to them to upload such documents. These documents may be directly submitted from the "My Space" area while submitting a bid, and need not be uploaded again and again. This will lead to a reduction in the time required for bid submission process.

3.6. As part of the bid, bidder should provide all the documents as follows:-

- Bidder should log into the site well in advance for bid submission so that he/she upload the bid in time i.e. on or before the bid submission time. Bidder will be responsible for any delay due to other issues.
- The bidder has to digitally sign and upload the required bid documents one by one as indicated in the tender document.
- The serve time (which is displayed on the bidders' dashboard) 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.
- All the documents being submitted by the bidders would be encrypted to ensure the secrecy of the data. The data entered cannot be viewed by unauthorized persons until the time of bid opening. The confidentiality of the bids is maintained using the secured Socket Layer 128 bit encryption technology. Data storage encryption of sensitive fields is done.
- The uploaded tender documents become readable only after the tender opening by the authorized bid openers.
- 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. and the date & time of submission of the bid with all other relevant details.
- The bid summary has to be printed and kept as an acknowledgement of the submission of the bid. This acknowledgement may be used as an entry pass for any bid opening meetings

4. Assistance to Bidders

Any queries relating to the NIT document and the terms and conditions contained therein should be addressed to the Store Purchase Officer, Translational Health Science and Technology Institute, Plot No. 496, Phase III, Udyog Vihar, Gurgaon -122016, Telephone Number:0124-2876431,405.

Any queries relating to the process of online bid submission or queries relating to CPP Portal in general may be directed to the 24x7 CPP Portal Helpdesk. The contact number for the helpdesk is 1800 3070 2232.