

Intelligent Communication Systems India Ltd. (ICSIL)
(Joint Venture of TCIL – A Govt. of India Enterprise & DSIIIDC – An Undertaking of Delhi Govt.)
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TENDER No: F.1(ICSIL)/01/205/DTT LAN WORK/ Dated: 22.08.2012

SECTION - I INVITATION FOR BIDS

1. Intelligent Communication Systems India Ltd. is a joint venture of Telecommunication Consultants India Ltd. (TCIL), a govt. of India enterprise, under Ministry of Communications & IT and Delhi State Industrial and Infrastructure Development Corporation (DSIIDC), an undertaking of Delhi government. From 1987, the year of its inception, it has provided exemplary service in the IT sector, specializing in providing complete solutions in computerization, networking and telecommunication. With a well-focused vision and a global mission, ICSIL look at greener pastures across the globe.
2. Sealed Quotations from renowned OEMs of **Network Active components** or their authorized business partners /resellers/distributors or **an experienced authorized system integrators** of the OEMs are invited for supply, installation, commissioning, configuration and thereafter maintenance of LAN Network equipment (**Active and Passive Components**) at Department of Trade & Taxes, Govt. of NCT of Delhi (herein referred as Client), on the Terms and Conditions given herein. The rates should be competitive and not exceeding the rates offered to any other government department / institution / PSU / Autonomous body having same specification. The specification of Active and Passive Components with estimated quantity required is given at **Appendix-B to E**. Actual number of Active and Passive components and other related equipment, items can be known by the bidders after visiting the sites at Department of Trade & Taxes, Govt. of NCT of Delhi, Vyapar Bhawan, IP Estate, New Delhi-110002 and understanding the requirement by the intending bidders in consultation with the client. The bidders will have to make their own arrangement at their own cost for the visits before submitting the bid. ICSIL can coordinate with the client department to facilitate the visit by the intending bidders, if required on a scheduled date and time.
3. The tender document can be down loaded from ICSIL's website <http://icsil.in>. The bids are to be submitted as per procedure and manner given in this document.
4. Bidders are advised to study the Tender Document carefully. Submission of Tender shall be deemed to have been done after careful study and site visit and examination of the Tender Document with full understanding of its implications. The Bids should be submitted as per the tender document not later than the date and time given here under.

5. The Technical Bid must be accompanied by:

- i) The Bid Security Deposit (EMD) of Rs.5,00,000 (Rupees Five Lakh Only). The bid security should be in the form of irrevocable and unconditional Bank Guarantee or demand Draft in favour of ICSIL, Delhi. The Bank Guarantee should be valid for 60 days beyond the period of validity of the bid. The Bid Security in original should reach to ICSIL before the closing date & time of the tender. No interest is payable on the Bid Security Deposit.
- ii) Tender Processing Fee of Rs.10,000/- (Rupees Ten Thousand Only) in the form of Bank/Demand Draft is required to be submitted along with the Technical Bid in favour of ICSIL, Delhi and valid for a period of three months. The Tender Processing Fee is non-refundable and non-transferable.

6. Schedule for Invitation to Tender:

S.No	Description of activity	Date & Time
1	Pre-bid conference	27.08.2012 at 11:30 AM
2	Last date for receipt of query	30.08.2012 by 6:00 PM
3	Last date for submission of Tender	07.09.2012 by 2:30 PM
4	Opening of Technical Bid	07.09.2012 by 3:30 PM
5	Opening of Commercial Bid	12.09.2012 at 12:30 PM

7. Venue of submission and opening of Bids:

MANAGING DIRECTOR,
INTELLIGENT COMMUNICATION SYSTEMS INDIA LIMITED (ICSIL),
ADMINISTRATIVE Building,
2nd FLOOR, ABOVE POST OFFICE,
OKHLA INDUSTRIAL AREA, PHASE-III,
NEW DELHI-110 020.

Note:

- i) The Terms & Conditions of the Tender are binding on all intending bidders.
- ii) Terms & Conditions imposed by the bidders either in printed forms or otherwise will not be accepted and summarily rejected.

Conformance to the Eligibility Criteria/Technical

Sr No	Eligibility Criteria	Supporting Documents	Page Nos
1	The bidder should be a Company registered under the Companies Act, 1956 or a partnership registered under the India Partnership Act 1932 with their registered office in India for the last ten years .	Certificate of Incorporation / Registration	
2	An undertaking (self certificate) that the bidder hasn't been blacklisted by a Central /State Government, institution and there has been no litigation with any Government Department / PSU / Corporation in Central / State Government on account of similar services.	A self certified letter by the authorized signatory of the bidder must be submitted on original letter head of the bidder with signature and stamp.	
3	The bidder should be registered with the Service Tax Department and should carry a valid PAN In the name of the firm/company.	Certificate from appropriate authority should be submitted.	
4	Should be an ISO 9001:2008, or ISO 27001: 2005 certified company.	Submit proof	
5	The bidder should be registered with VAT Department	Certificate from appropriate authority should be submitted.	
6	The bidder should have completed at least three similar jobs of LAN Networking i.e. supply installation, testing and commissioning of LAN work of value more than 2 crore each in the last 3 years.	Copy of Work Order to be attached.	
7.	Should have an office in Delhi/NCR	Submit proof	
8.	Net worth of the bidder for the financial year 2008-09, 2009-10 and 2010-11 should be positive.	Submit audited financial statement.	

Section-II
Eligibility Criteria

1. The bidder should be OEM of Network Active components of repute **as stated in Section-I, Para-2 above** having expertise, sound financial base and capability to execute said work using state of the art technology with best industry practices available in the global market. The firm should be in existence and operating in India for the last Five Years. In case the OEM does not want to bid on its own, it can duly **authorize in writing its system integrators certifying that the bidder is fully competent to execute the project on its behalf and undertakes that we (the OEM) shall provide all type of back-end technical support to the System Integrator as and when asked for during the currency of the contract or thereafter during the maintenance period. It may be noted that System Integrator failed to submit the said certificate and undertaking from the OEM along with Technical Bid, will not be considered and their bid rejected.**
2. In the case of OEMs of Active components, the bidder's cumulative Gross Turnover should be Rs.50 Crores (Rupees Fifty Crores) whereas in the case of System Integrators, the Gross Turnover from IT services in India should be Rs.5 crores (Five Crores) in the last three financial years viz. 2008-09, 2009-10, and 2010-11, **taken together. A certificate from the Chartered Accountant or authorized person of the bidder** on both the turnovers for these years, may be submitted.
3. The OEM should have completed at least three successful jobs of LAN work of value more than Three Crore each in the last 3 years. Proof of completion must be submitted.
4. The bidder should be registered with the Service Tax Department and should carry a valid PAN in the name of, the firm/company.
5. The bidder should be registered firm/company under Indian Companies Act). Proof must be submitted.
6. An undertaking by the authorized person of the company (self certificate) that the bidder hasn't been blacklisted by a Central /State Government, institution and there has been no litigation with any Government Department/PSU/Corporation in Central/State Government on account of similar services.
7. Each page should be numbered and conformance to the eligibility criteria/technical bid should be indicated using an index page.
8. The envelope shall be placed in an outer cover superscripted as "ICSIL Tender for LAN work for Department of Trade & Taxes". The outer cover shall be submitted to the office of the Managing Director, ICSIL on or before the due date and time for consideration of bid. Bid not conforming to tender conditions are liable to be rejected.
9. Bidder should have an established office in Delhi/NCR (Attach Proof).
10. The OEM Should be an ISO 9001:2008 or ISO 27001: 2005 certified company. Submit proof.
11. The Network Switches offered should be from the OEM of repute and globally

accepted.

12. Network Switches offered by the OEM should be EAL3 or higher certified. Proof must be submitted and supported with valid documents, certificates.
13. Net worth of the bidder for the financial year 2008-09, 2009-10, 2010-11, should be positive. Submit audited Financial statement duly certified by the chartered accountant or the authorized person of the firm.
14. The bidder should provide the indicative BOM for Passive components for structured cabling for approximately 1500 nodes across 13 Floors of the Vyapar Bhawan. The bidder shall provide the commercial bid for the passive BOM accordingly (for commercial evaluation purpose) along with the Unit rates.
15. The bidder shall optimize the BOM (Active & Passive components) matching the client's requirement. However, payment to the service provider shall be made on the basis of quantity used/consumed. Project site will be cleared by the service provider including surplus material supplied by it. No transportation charges shall be made by the client in this regard.
16. The successful bidder shall have to abide by and comply to the applicable Labour and other Laws of the land as applicable.
17. Address of the consignee shall be as under:
**Commissioner,
Department of Trade & Taxes,
Govt. of NCT of Delhi,
Vyapar Bhawan, I.P. Estate,
New Delhi – 110002.**
18. Following documents/certificates are to be submitted along with the consignment:
 - i) Manufacturers Test report
 - ii) Delivery Challan
19. The successful bidder shall submit the following documents:
 - i) Material consumption report
 - ii) Site plan
 - iii) Network architecture
 - iv) Any other report desired by the client.

Section-III

Bidding Process

1. Bidders are advised to study the bid document carefully. Submission of the Bid will be deemed to have been done after careful study and examination of all instructions, eligibility norms, terms and requirement specifications in the tender document with full understanding of its implications. Bids not complying with the tender document are liable to be rejected. Failure to furnish all information required in the tender Document or submission of a bid not substantially responsive to the tender document in all respects will be at the bidder's risk and may result in the rejection of the bid.
2. All the bids must be valid for the period of 180 days from the date of opening of the Tender. If necessary, ICSIL may extend the bid validity period beyond 180 days. The bidders, not agreeing for such extensions will be allowed to withdraw their bids without forfeiture for their EMD.

3. Bid Composition

The bid shall be submitted in the manner as given below and addressed to :
The Managing Director
Intelligent Communication Systems India Ltd. (ICSIL),
Administrative Building (above Post Office),
Okhla Phase-III
New Delhi-110020.

Tender can be downloaded from our web-site <http://icsil.in>

4. Submission of bid in covers :

A. Cover1: EMD and Tender Processing Fee:

- The envelope shall contain:
- i) EMD in the form of Bank Guarantee/ Demand Draft for an amount of Rs.5,00,000/- (Rs. Five Lacs only) drawn from a scheduled Commercial Bank in favour of ICSIL, New Delhi valid for a period of 225 days from the date of its submission. EMD Bank Guarantee format is given at Appendix-“F”.
 - (ii) Demand Draft for Rs. 10,000/- (Rupees Ten Thousand only) as Tender Fees (Tender fee is non-refundable and non-transferable). The envelope shall be sealed and superscripted “**EMD and Tender Fee – For LAN work at Department of Trade & Taxes, Govt. of NCT of Delhi**”.

B. Cover-2: Technical Bid:

- i) Documents as required in the Tender shall be submitted in this envelope. The envelope should be sealed and superscripted “Technical Bid for LAN Networking”. The document should be properly bounded or tagged with no loose sheets. **Each page should be numbered and conformance to the eligibility criteria/technical bid should be indicated using an index page.**

C. Cover-3: Financial Bid:

- i. The envelope shall be sealed and superscripted “Financial Bid for LAN Work at Department of Trade & Taxes, Govt. of NCT of Delhi”. The bidder

should take into consideration all expenses as required for the consultancy work including site visit etc. as per format of commercial bid. The rates should be quoted for all items that is Active and Passive components and other related items and services as per BOM given in this tender. The financial bids of technically qualified bidders only shall be opened.

- ii. The above two envelopes shall be placed in an outer cover superscripted "ICSIL Tender for LAN Work at Department of Trade & Taxes, Govt. of NCT of Delhi". The outer cover shall be submitted to the office of Managing Director, ICSIL on or before the due date and time for consideration of the bid.

iii. Performance Guarantee:

The selected firm shall deposit Performance Guarantee equal to 10% of the total bid amount quoted by it drawn from a scheduled Commercial Bank in favour of ICSIL, New Delhi **valid for a period of 60 days beyond the contract period from the date of its submission.** The Performance Guarantee should be submitted within five days of receipt of the work order. Performa for performance guarantee is given at Annexure "G".

- iv. The EMD of unsuccessful bidders shall be returned without interest after finalization of the tender. EMD of the successful bidders shall be returned without any interest once the Performance Guarantee is submitted.

5. Forfeiture of Earnest Money Deposit/Security Deposit: The Earnest Money Deposit can be forfeited, if a Bidder:

- (a) Withdraws its bid during the period of bid validity.
 - (b) Does not accept the correction of errors.
 - (c) In case of the successful Bidder Failed to sign the contract agreement.
6. **Any** bid received by ICSIL after the prescribed deadline for submission of bids, will be summarily rejected and **returned unopened to the Bidder.** ICSIL shall not be responsible for any postal delay or non-receipt / non-delivery of the documents. No further correspondence on this subject will be entertained.
 7. The bids submitted by telex/telegram/fax/Email or any manner other than specified above will not be considered. No correspondence will be entertained on this matter.
 8. At any time prior to the last date for receipt of bids, ICSIL, may, for any reason, whether at its own initiative or in response to a clarification requested by a prospective bidder, modify the Tender Document by an amendment. The amendment will be notified on ICSIL's website <http://icsil.in> and should be taken into consideration by the prospective bidders while preparing their bids. Lapses of any kind on the part of the bidder will be at sole risk of bidder.
 9. In order to give prospective bidders reasonable time to take the amendment into account in preparing their bids, ICSIL may, at its discretion, extend the last date for the receipt of bids. No bid may be modified subsequent to the last date for receipt of bids. No bid may be withdrawn in the interval between the last

date for receipt of bids and the expiry of the bid validity period specified by the bidder in the bid. Withdrawal of a bid during this interval may result in forfeiture of Bidder's EMD.

10. The bidders will bear all costs associated with the preparation, site visits and submission of their bids. ICSIL will, in no case, be responsible or liable for those costs, regardless of the outcome of the tendering process.
11. Printed terms and conditions of the bidders, will not be accepted as forming part of their bid.
12. The prices quoted shall be inclusive of transportation charges, Insurance liability and all other expenses including but not limited to those related with the visits of Tenderer's Personnel in connection with the Maintenance and other services during the contract period.
13. The prices quoted shall be inclusive of transportation charges and all other expenses including but not limited to those related with the visits of Tenderer's Personnel in connection with the Maintenance and other services during the contract period.
14. Prices quoted must be firm and final and shall remain constant throughout the period of the contract and shall not be subject to any upward modifications.
15. Commercial bid should clearly indicate the price to be charged as per Commercial Bid Format/BOM without any qualifications whatsoever and the rates quoted should be inclusive of all taxes, duties, levies, cess, fee etc.

The bidder should provide the indicative BOM for Passive components for structured cabling for approximately 1500 nodes across 13 Floors of the Vyapar Bhawan. The bidder shall provide the commercial bid for the Passive BOM accordingly (for commercial evaluation purpose) along with the Unit rates. The Client shall make the payment as per the actual quantities consumed/used.

16. Selection of the firm would be on the basis of lowest quoted rates [L1 bidder] derived from a total cost of all items i.e. Active, Passive components and services and other related items inclusive of all taxes, duties, cess, fees, levies etc., as per summary table given at Annexure-D.

17. Network Architecture:

- i. The firm shall be responsible to draw complete site plan and network layout in the form of diagram or chart of work done and the equipment installed at the site. Complete Network Architecture in detail shall be submitted by the firm to **the client department and ICSIL in soft as well as hard copy.**
- ii. The firm shall perform the services as per best Industry practices and operationalize the system, perform the Services and carry out the scope of work in accordance with the terms of this Contract.

- iii. It is proposed to have all Active Components i.e. Network Switches and related equipment from OEMs of repute and global standard as per the technical specifications. The Passive components should also be of reputed make and standard.

17. Opening of Bids

The bids will be opened in the presence of bidders' authorized representative (only one), who choose to attend the Bid opening on the specified date and time. The bidders' representatives who are present shall sign a register evidencing their presence. In the event of the specified date of Bid opening being declared a holiday for ICSIL, the Bids shall be opened at the same time and location on the next working day.

18. Opening of Cover-1 i.e. EMD and Tender Fee

At the first instance, EMD & Tender Fee envelope will be opened. Bids not accompanied with valid and requisite EMD and Tender fee shall be summarily rejected.

19. Opening of Cover-2 i.e. -Technical Bid

Technical bid envelope of only those bidders, whose EMD and Tender fee are in order, shall be opened on the same date and time. The bids will then be examined and evaluated by a Technical Evaluation Committee (TEC) constituted for the purpose.

20. Opening of Cover-3 i.e. – Financial Bid

Financial bid envelope of only those bidders, who are technically found eligible, shall be opened on the date and time decided by ICSIL. All bidders who are technically qualified shall be informed on phone or e-mail.

21. Bid Validity

All the bids must be valid for a period of 180 days from the date of tender opening. However, the rates should be valid for a period of one year from the date of award of contract. No request will be considered for price revision during the validity period. If necessary, ICSIL will seek extension in the bid validity period beyond 180 days. The bidders, not agreeing for such extension will be allowed to withdraw their bids without forfeiture of their EMD.

22. General Instructions to Tenderer:

- A. Delay by the contractor in the performance of the obligations under the contract shall render the vendor liable for any or all the following sanctions:
 - i. Forfeiture of its performance security, Imposition of liquidated damages and / or termination of contract for default as detailed hereunder:
 - ii. If, at any time during the performance of the contract the vendor encounters conditions impeding timely delivery of the goods and the

performance of services, the vendor shall promptly notify the client in writing of the facts of the delay, its likely duration and its cause(s). The Client shall evaluate the situation and may, at its discretion, extend the time for the performance in which case the extension shall be ratified by an amendment.

- iii. This is a turnkey project. ICSIL will not be responsible for any other payment to the bidder other than the quoted in the Bid.
- iv. All the necessary arrangements such as transportation, creation of facility etc will be done by the successful bidder at no extra cost.
- v. Payment shall be released as per payment terms. The Bill in triplicate shall be raised by vendor along with details of work done satisfactory in terms of quantity and quality. **The bill should also accompany a certificate from the client department stating that the said work has been verified for quality and quantity and completed satisfactory. In the absence of such certificate, payment to the service provider will not be released.**
- vi. In case the firm does not complete the work within the stipulated period, Liquidated damages will be charged @ Rs.10,000/- (Rupees Twenty Thousand only) per week delay and maximum cap of Rs.5,00,000/- (Rupees Five Lakh) only.

23. Local Conditions

It will be imperative for each Tenderer to fully acquaint themselves of all legal conditions and factors which may have any effect on the execution of the contract as described in the bidding documents.

24. Stipulated Time Schedule

It may be noted that the time schedule to complete the job in all respect is 120 days from the receipt of the work order. No extension beyond this date shall be entertained. Failing to adhere to this time schedule will attract penal action as given in the Tender. The bidder shall not be penalized for any delay due to site not being ready due to client reasons. The ready Site shall be made available for installation by the client.

25. Time is of the essence

Time shall be of the essence in respect of any date or period specified in this Contract or any notice, demand or other communication served under or pursuant to any provision of this Contract and in particular in respect of the completion of the activities by the Tenderer by the specified completion date.

26. Address for Correspondence

The bidder shall authorize and designate one person and the official mailing address, place, Mobile No. and Fax number to which all correspondence shall

be sent by the Client. Further, bidder is also required to submit complete escalation matrix.

27. Evaluation of Commercial Bids

The commercial bids shall be evaluated by a Committee constituted for opening the Commercial Bid. Arithmetical errors will be rectified on the following basis. If there is a discrepancy between the unit price and the total price that is obtained by multiplying the unit price and quantity, the unit price shall prevail and the total price shall be corrected. If there is a discrepancy between words and figures, the amount in words will prevail.

Commercial bids will be evaluated on the basis of total price [L1 bidder] of all items (BOM) inclusive of all taxes, duties, levies, fees, cess etc. and not on the basis of individual items.

The Bidder shall clearly and separately mention any deviations. The Client department shall consider the same and decide.

27. Post Qualification and Award Criteria:

ICSIL will award the Contract to the successful Tenderer whose bid has been determined to be substantially responsive and has been determined as the lowest evaluated bid in commercials, provided further that the Tenderer is determined to be qualified to perform the Contract satisfactorily. It will also include examination of the documentary evidence submitted by the Tenderer as part of the bid.

28. ICSIL is not bound to accept the best evaluated bid or any bid and reserves the right to accept any bid, wholly or in part.

29. Notification of Award:

Prior to the expiration of the period of bid validity, ICSIL will notify the successful Tenderer in writing, that its bid has been accepted. The notification of award will constitute the formation of the Contract. ICSIL will promptly notify each unsuccessful Tenderer and will discharge its bid security.

30. Signing of Contract

At the same time as ICSIL notifies the successful Tenderer that its bid has been accepted, the successful Tenderer shall sign and date the Contract **within 10 (Ten) days of notification of the award and also submit the Performance Guarantee as asked for.**

31. The conditions stipulated in the contract will be strictly adhered to by the bidders and violation of any of these conditions will entail termination of the contract without prejudice to the rights of the ICSIL. In addition, ICSIL will be free to forfeit the Security deposit.

32. Intellectual Property Rights: The Bidder will indemnify ICSIL infringement of third party rights be they under the Patents Acts or the IPR of any.

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Section-IV

Scope of Work

1. Background

- a) There are 1000+ Nodes seated across 13 floors of the Department. The network equipment's used are from different OEMs and having different Makes & Models. The floor switches of DTT building are connected with the Fiber & UTP uplinks from L3 & L2 Switch (Located in server room at 12th Floor of the building) and L3 switch terminated to chassis switch through Firewall.
- b) Most of the used devices are end of sales and out of support and services.
- c) Unstructured cabling at Access Layer.
- d) No redundancy is provided. Failure of any devices means non-functional of those entire machine which is directly/indirectly attached to it.
- e) Lack of proper labeling in the devices leads to improper maintenance and fault diagnostic.
- f) Here media converter is used at same floor. As per the standard layered network architecture, it should avoid Media Converter because it slows down the traffic bandwidth.

2. **Network Requirements**

- a) Layered network architecture with structured network cabling to be provided for the entire 13 floors.
- b) All of the existing devices should be replaced, and the entire networking should be undertaken afresh.
- c) Redundancy in every switch to other switches to be provided.
- d) All access switches will be connected to other switches on same floor with the help of CAT-6 cables.
- e) Two 10G uplinks (LACP – Link Aggregation) from Virtual Chassis on each floor would be connected to the Core Switches to provide better performance and link level redundancy.
- f) Uplink on each Virtual Chassis would be connected on first and last switch to ensure that connectivity to other switches are not impacted if any of the switches fails.
- g) End users will be connected to the access switches with 10/100/1000Mbps Bandwidth.
- h) Access switches will also be connected to the other access switches for providing the redundant paths.
- i) Virtual Chassis will be created between the access switches on each floor.

- j) All the fiber uplinks will be directly terminated on the transceivers of the switch itself. Thus eliminating the need of the Media converters.
- k) All 13 floors switches will be connected to the core switch with dual uplink.
- l) Modular Core Switch to have redundancy for CPU and Power supply, high performance, various I/O options and better scalability for future.
- m) The Core switches shall be in redundant mode with single virtual chassis.
- n) Network Management and Event logging/ monitoring/reporting for better management and proactive monitoring.
- o) Unified Access Control for LAN users and secure connectivity for remote users using SSL VPN.
- p) SSL VPN solution for supporting connectivity of approx 2000 concurrent users.
- q) Firewall and IPS to be provided in high availability mode to secure the entire local network.
- r) Security is considered on high priority to ensure sure that Confidentiality, Integrity and Availability of Data is maintained.
- s) Routers in HA mode to provide internet/ WAN connectivity.
- t) EAL3 or higher certification as mentioned in the technical specifications is essential as security assurance of the relevant products are of prime importance.

3. Implementation and Commissioning Schedule:-

Installation and commissioning should be completed within 120 days of receipt of work order. If in case the site is not ready for installation, a site not ready report shall be provided and based on the same, payment due against installation shall be released.

4. No Claim Certificate

The bidder will not be entitled to make any claim, whatsoever, against ICSIL under or by virtue of or arising out of this contract nor will ICSIL entertain or consider any such claim for the jobs accepted post award of contract.

5. Suspension:

ICSIL may by a written notice of suspension, suspend all payments to the selected bidder under the contract, if the selected bidder fails to perform any of its obligations under this contract provided that such notice of suspension:

- a. will specify the nature of the failure and

b. will request the bidder to remedy such failure within specified period from the date of issue of such notice of suspension.

6. Confidentiality

The selected Bidder and their personnel will not, either during the term or after expiration of this contract, disclose any proprietary or confidential information relating to the services, contract or business or operations of ICSIL or its clients without the prior written consent of ICSIL.

7. **AMC of Active and Passive Components should be for 3+1 years i.e. three years warranty after successful commissioning and acceptance and 1 year maintenance after expiry of warranty period. Successful bidder shall depute one qualified network resident engineer at site during warranty and maintenance period without any additional cost to the department.**

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Section-V

1. Project Progress:

- i. ICSIL will Act as an interface between the bidder and client department
- ii. Supervise the project progress until its full implementation and acceptance.
- iii. will ensure that the assigned job is completed as per the schedules given in the work order.
- iv. would advise the bidder to post additional manpower, free of any additional charge, if there are perceived slippages on the time schedules.
- v. Offer clarifications to the bidder queries viz a viz project objectives.

2. Penalty for delays:

In the event of Bidder's inability to make the complete infrastructure operational within the agreed deadline for reasons solely and directly attributable to Bidders or its vendors or sub-contractors, Customer reserves the right to claim from the bidder liquidated damages @ ½% of the total contract value for each week of delay. However, in no event shall the cap for such liquidated damages exceed 5% of the contract value.

Section-VI

1. Payment Terms: Following will be the delivery based payment schedule:

S.NO.	Description	%age of payment
1	On delivery of Active & Passive components <u>in full as per work order of BOM.</u>	40% of total cost of Active and Passive components
2.	On successful installation, configuration, testing and commissioning of all Active & Passive components as per BOM	30% of total cost of Active and Passive components
3.	On submission of completion Certificate w.r.t successful implementation and acceptance of all Active & Passive components as per BOM by the client department	30% of total cost of Active and Passive components

2. The Bill in triplicate inclusive of all taxes, duties, levies, cess etc. shall be raised by vendor along with details of work done duly verified by the client department. TIN, Service Tax No. and PAN of the Company should be mentioned on the body of the Bill.
3. Payment shall be processed and released only after all deliverables/documents are duly verified and certified by the client department.
4. One copy each of the Delivery Challan duly received by the client as per BOM with price shall be submitted to ICSIL in order to release payment.
5. The payments will be released against Pre-Received Bills in triplicate in the name of ICSIL accompanied with end user certification as stated above. Payment will be made within 30 days of submission of bills on back to back basis subject to submission of complete documents complete in all respect. .
6. Service Tax, or any other tax, cess, levies, duties, fee etc as applicable, will be paid by the bidder as per applicable Rules.
7. All payment will be made subject to TDS (Tax Deduction at Source) as per the as per Government of India rules.

Section-VII

1. Arbitration and Jurisdiction:

ICSIL and the bidder will make every effort to resolve amicably by direct negotiation any disagreement or dispute arising between them under or in connection with the work order. If any dispute will arise between parties on aspects not covered by this agreement, or the construction or operation thereof, or the rights, duties or liabilities under these except as to any matters the decision of which is specially provided for by the general or the special conditions, such dispute will be referred to Chairman, Intelligent Communication Systems India (ICSIL), and the award of the arbitration, as the case may be, will be final and binding on both the parties. The arbitrator with the consent of parties may modify the time frame for making and publishing the award.

Such arbitration will be governed in all respects by the provision of the Indian Arbitration Act, 1996 or later and the rules there under and any statutory modification or re-enactment, thereof. The arbitration proceedings will be held in New Delhi, India.

Section-VIII

2. Applicable Law:

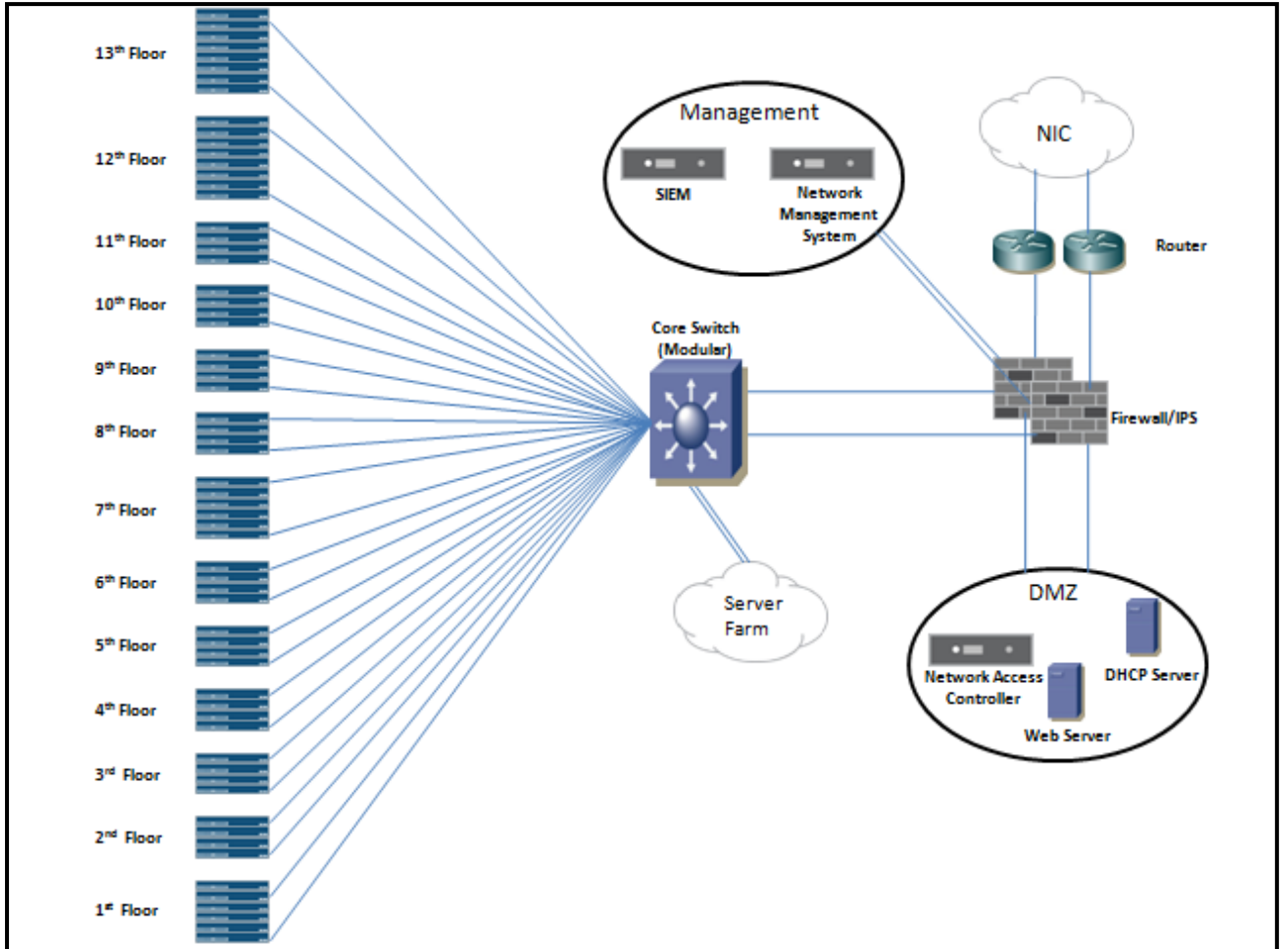
The work orders will be governed by the laws and procedures established by Govt. of India, within the framework of applicable legislation and enactment made from time to time concerning such commercial dealings/processing. Any default in the terms and conditions of the tender by the bidder will lead to rejection of bid/work order and forfeiture of EMD/Security Deposit and cancellation of work order as stated in the preceding paragraphs.

Annexure-I: Pre-Qualifying Eligibility Criteria For Bidders

Sr No	Eligibility Criteria	Supporting Documents	Compliance (Yes/No)
1	The bidder should be a Company registered under the Companies Act, 1956 or a partnership registered under the India Partnership Act 1932 with their registered office in India for the last ten years .	Certificate of Incorporation / Registration	Y/N
2	An undertaking (self certificate) that the bidder hasn't been blacklisted by a Central /State Government, institution and there has been no litigation with any Government Department / PSU / Corporation in Central / State Government on account of similar services.	A self certified letter by the authorized signatory of the bidder must be submitted on original letter head of the bidder with signature and stamp.	Y/N
3	The bidder should be registered with the Service Tax Department and should carry a valid PAN In the name of the firm/company.	Certificate from appropriate authority should be submitted.	Y/N
4	Should be an ISO 9001:2008, or ISO 27001: 2005 certified company.	Submit proof	
5	The bidder should be registered with VAT Department	Certificate from appropriate authority should be submitted.	
6	The bidder should have completed at least three similar jobs of LAN Networking i.e. supply installation, testing and commissioning of LAN work of value more than 2 crore each in the last 3 years.	Copy of Work Order to be attached.	Y/N
7.	Should have an office in Delhi/NCR	Submit proof	Y/N
8.	Net worth of the bidder for the financial year 2008-09, 2009-10 and 2010-11 should be positive.	Submit audited financial statement.	Y/N

APPENDIX-A

Network Architecture



Architecture Description

- a) Two-Tier architecture with Core and access layers.
- b) Access switches on all floors would be in Stack, to provide improved performance and redundancy.
- c) Two 10G uplinks (Link Aggregation) from Stack on each floor would be connected to the Core Switches to provide better performance and link level redundancy.
- d) Uplink on each Stack would be connected on first and last switch to ensure that connectivity to other switches are not impacted if any of the switches fails.
- e) End Users will be connected to the access switches with 10/100/1000 Mbps Bandwidth.
- f) Modular Core Switch to have redundancy for CPU and Power supply, high performance, various I/O options and better scalability for future.
- g) Network Management and Event logging/ monitoring/reporting for better management and proactive monitoring.
- h) Network Access Controller for LAN users.
- i) Firewall/IPS in HA mode (High Availability) to ensure that Network is highly secure from outside attacks/threats.
- j) Security is considered on high priority to ensure sure that Confidentiality, Integrity and Availability of Data is maintained.

Scope Overview

- a) Two-tier network architecture with structured network cabling to be provided for the entire 13 floor building.
- b) Uplink/Device level redundancy to be provided in Data Center as well as Floors.
- c) Security solution to be provided in high availability mode to secure the entire local Network.
- d) Network Management and event logging, managing and reporting to be provided to manage the Network in an efficient manner.

APPENDIX-B

Technical Specifications Active Components

All active devices should be of same OEM

1. Core Switch

SI. No.	Detailed Technical Specifications	Complied (Yes / No)
1.0	Features:	
1.01	Should be Chassis based switch with passive backplane	
1.02	Shall have minimum 10 slots including payload slots and CP cards.	
1.03	Shall have distributed, Non blocking switching architecture, each module should be provisioned with adequate hardware/software to support the same. All the interfaces ports should be wire speed and non blocking.	
1.04	Shall have CPU and power supply redundancy	
1.05	The core switch shall support new technologies like MPLS/Metro Ethernet in hardware with/without upgrading the switching fabric . The Switch should be IPv6 ready and all IPv4 & IPv6 features to be given from day-1	
	Performance:	
1.06	Dual Redundant Switch Fabric/CPU shall offer minimum 1.28 Tbps. The Same Chassis should be scalable up to 4 Tbps Switching capacity.	
1.07	In the event of failure of one switching/routing engine, forwarding shall not stop and failover from one engine to other shall be stateful. The performance of the switch should not degrade in case of failure of one CPU card.	
1.08	The proposed switch shall support simply the changes through In-Service / non-stop OS upgrade mechanism with a minimal disruption of traffic through upgrade process.	
109	Switch shall have tools for LSP trace route, LSP ping, IPv6 traceroute and IPv6 Ping.	
1.10	The proposed switch shall support Net flow/Sflow/IPFIX or J-flow or equivalent. If it is given as services on a module, at least two	

SI. No.	Detailed Technical Specifications	Complied (Yes / No)
	of those modules shall be quoted to ensure redundancy of the solution.	
1.11	Minimum 960 Mbps performance or higher shall be supported for both IPv4 and IPv6	
1.12	Shall be capable of 240Gbps switching capacity per slot and each module should offer non-blocking & wire speed forwarding for ipv4 & ipv6	
1.13	Shall have hardware based unicast, multicast and broadcast suppression.	
1.14	Shall support multi-layer switching, Layer 2 (MAC), Layer 3 (IP address) and Layer 4 (TCP UDP port) switching/application classification and redirection	
1.15	Shall support minimum 8 hardware queues per port for classification and scheduling of network traffic on a packet-by-packet basis	
1.16	Shall support Hot-swappable power supplies and switching modules	
	Layer 1 Features	
1.17	Support for 10/100/1000 BASE-T, 100 BASE FX, 1000 BASE-SX, LX, LH,ZX GBIC/SFP and 10-Gig SR/LR/ZR	
1.18	Chassis shall support - Minimum 384 Gigabit ports - Minimum 64 Nos. of 10-Gig non blocking ports. - 40G/100G interfaces in future.	
	Layer 2 Features	
1.19	Shall have Layer 2 switch ports and VLAN trunks	
1.20	Shall have IEEE 802.3 ad Link aggregation and port Trunking across line cards	
1.21	Shall have IEEE 802.1Q VLAN encapsulation	
1.22	Shall support Secure VTP with MD5 or equivalent centralized VLAN management to reduce administrative burden of configuring VLANs on multiple switches in turn eliminating the configuration errors & troubleshooting in secure manner	

SI. No.	Detailed Technical Specifications	Complied (Yes / No)
1.23	Shall support a mechanism to detect connectivity issues with both fiber and copper cabling to ensures that a partially failed link is shut down on both sides, to avoid L2/L3 protocol convergence issues	
1.24	Shall support connecting two core switches in a way that the two chassis work as one logical unit.	
1.25	Shall support display and clear MAC address information in MAC Address Table	
1.26	Shall have IEEE compliance for 802.1Q VLAN, 801.2p, 802.1d STP, 802.3ad, 802.1w RSTP, 802.1s MSTP, 802.3ad LACP, IEEE 802.1ab Link Layer Discovery Protocol, 802.3af.	
1.27	Shall have 128,000 system wide MAC addresses	
1.28	Shall have minimum 4000 active VLAN support	
	Layer 3 Features	
1.29	Shall have basic Routing-Static IP routing, RIP v1/v2, OSPF, ,RIPng PIM-SM and policy based routing	
1.30	Shall have hardware enabled- advance IP routing protocols -, BGPv4, PIM-DM, PIM-SSM etc. with software license when required in future.	
1.31	Shall have VRRP or equivalent for redundancy	
1.32	Shall have IGMP v1, v2, v3	
1.33	Shall have IP multicast routing protocols PIM	
1.34	Shall support minimum 1000K IPv4 and 500K IPv6 routes.	
1.35	Shall support MPLS functionality with necessary software / hardware upgrade in future.	
1.36	Shall Support MVR	
1.37	Support VRF/VRF-Lite	
1.38	MLD	
	QoS Features	
1.39	Shall have sophisticated QoS and Traffic Management	
1.40	Shall have Per-port QoS configuration	

SI. No.	Detailed Technical Specifications	Complied (Yes / No)
1.41	Support for IEEE 802.1p QoS policies.	
1.42	Support for Diff ServQoS on all ports	
1.43	Shall support minimum eight queues per port in hardware	
1.44	Shall have Advance security – DOS protection.	
1.45	Shall have priority queuing	
1.46	Shall have IP differentiated service code point (DSCP) and IP precedence	
1.47	Shall have classification and marking based on full Layer 3, 4 headers	
1.48	Shall have input and output policing based on Layer 3, 4 headers.	
1.49	Shall support Congestion Avoidance feature	
	Availability	
1.50	Shall be provided with Dual Switching Fabric	
1.51	N+1/1+1 Redundant Power Supply from day one	
1.52	Hot Swap ability on all modules and Power Supply	
1.53	Hot Swappable Fan tray	
	Security:	
1.54	Shall have Filters/Access-List on all ports	
1.55	Shall have 802.1x user authentication	
1.56	Shall have 802.1x accounting	
1.57	Shall support Port Mirroring based on port basis/vlan basis to support intrusion prevention system deployment in different VLANs. Shall support port mirroring across the switches to remotely monitor ports in a Layer 2 switch network from any other switch in the same network	
1.58	Shall support DHCP snooping to allow administrators to ensure consistent mapping of IP to MAC addresses	
1.59	Shall prevents IP spoofing by forwarding only packets that have a source address consistent with the DHCP Snooping table	
1.60	Shall be able to shut down Spanning Tree Protocol Port Fast-	

SI. No.	Detailed Technical Specifications	Complied (Yes / No)
	enabled interfaces when BPDUs are received to avoid accidental topology oops	
1.61	Shall be able to prevent edge devices not in the network administrator's control from becoming Spanning Tree Protocol root nodes	
1.62	Shall have TACACS+/RADIUS enabled.	
1.63	Shall have SSHv1/ SSHv2, SNMPv1, SNMPv2, SNMPv3, SCP/SFTP /SNTP support	
1.64	Shall have Management Access Filter (Access Policies)	
1.65	The Switches offered should be from the OEM in the magic quadrant of the 2011 Gartner Report.	
1.66	The switch should be NEBS Certified.	
1.67	Switch should be EAL3 or higher certified.	
	Minimum Configuration deliverable	
1.68	Core Switch Shall have minimum 96 x 10/100/1000 Mbps Base TX ports and 48 Nos. of 10 Gig ports with 32 Nos. of 10G SR transceivers.	

2. Access Switch

SI. No.	Detailed Technical Specifications	Complied (Yes / No)
2.0	General features:	
2.01	Switch shall be 1 RU rack mountable stackable in nature with minimum of 6 switches in a stack with single IP management.	
2.02	Minimum Switching capacity of the device shall be 88Gbps.	
2.03	Shall have minimum 65 Mpps throughput for Ipv4 and IPv6. The Switch should be IPv6 ready and all IPv4 & IPv6 features to be given from day-1	
2.04	Stacking bandwidth shall be minimum 40 Gbps.	
2.05	All SFP based ports shall be hot swappable	
2.06	Switch shall have 2 SFPP- ports which should support 1GE LX,SX, and 10 GE LR, SR.	
2.07	Switch shall support Redundant power supply.	

Sl. No.	Detailed Technical Specifications	Complied (Yes / No)
2.08	Switch shall support IEEE Standards of Ethernet: IEEE 802.1d, 802.1s, 802.1w, 802.3ad, 802.3x, 802.1D, 802.1p, 802.1Q, 802.3, 802.3u, 802.3ab, 802.3z, 100Base-T, 1000BASE-T, 1000BASE-X (mini-GBIC/SFP), 1000BASE-SX, 1000BASE-LX/LH, 10G Base SR, LR, LRM Shall support minimum 64 instances of Per VLAN spanning tree protocol.	
2.09	Shall support IEEE 802.1Q VLAN encapsulation and up to 1000 active VLANs per switch	
2.10	Shall support a mechanism to detect connectivity issues with both fiber and copper cabling. Ensures that a partially failed link is shut down on both sides, to avoid L2/L3 protocol convergence issues	
2.11	Shall support extensive debugging including layer 2 debugging for troubleshooting	
2.12	Switch ports shall automatically detects the type of device connected and offers a best-practices configuration to the ports	
2.13	Shall have minimum 12000 MAC Address support	
2.14	Shall support DiffServ / TOS Marking & Policing	
2.15	Shall have at least 8 Queues to differentiate and prioritize different applications (Voice / Video / Data)	
2.16	Shall Support for IGMP v1, v2 and v3 and IGMP Snooping	
2.17	Shall have capability for Routing Protocols: Static Route, RIP (Version 1 & 2), RIPng , and be upgradeable to support OSPF, BGP with Software License	
2.18	Shall have capability to upgrade to support Equal-cost routing, Policy-based routing (PBR), Protocol Independent Multicast (PIM) for IP multicast routing, including PIM sparse mode (PIM-SM), PIM dense mode (PIM-DM), PIM sparse-dense mode and Source Specific Multicast (SSM, Virtual routing and forwarding (VRF)-Lite / VRF/ MPLS.	
2.19	Shall support IEEE 802.1x to allow dynamic, port-based security, providing user authentication	
2.20	Shall support MAC Address Based Security on per port basis.	
2.21	Shall support IEEE 802.1x with VLAN assignment for a dynamic VLAN assignment	
2.22	Shall support Port-based ACLs (PACLs) for Layer 2 interfaces allow application of security policies on individual switch ports	
2.23	Shall have the capability to display and clear MAC address	

Sl. No.	Detailed Technical Specifications	Complied (Yes / No)
	information in MAC Address Table	
2.24	Shall support unicast MAC filtering to prevent the forwarding of any type of packet with a matching MAC address.	
2.25	Shall support SSHv2 , SNMPv3, SCP/SFTP/SNTP to provide network security	
2.26	Shall support TACACS+ and RADIUS authentication	
2.27	Shall be able to shut down Spanning Tree Protocol Port Fast-enabled interfaces when BPDUs are received to avoid accidental topology loops	
2.28	Shall be able to prevent edge devices not in the network administrator's control from becoming Spanning Tree Protocol root nodes	
2.29	Shall support DHCP snooping to allow administrators to ensure consistent mapping of IP to MAC addresses.	
2.30	Shall support multilevel security on console access to prevent unauthorized users from altering the switch configuration	
2.31	Shall support 4 Groups of RMON I. It shall also have dedicated out of band management port apart from the port count mentioned	
2.32	Shall support Port Mirroring based on port basis / vlan basis to support intrusion prevention system deployment in different VLANs. Shall support port mirroring across the stack switches to remotely monitor ports in a Layer 2 switch network from any other switch in the same network.	
2.33	Management: Shall support accessibility using Telnet, SSH, Console access, easier software upgrade through network using TFTP etc. Configuration management through CLI, GUI based software utility and using web interface.	
2.34	The Switches offered should be from the OEM in the magic quadrant of the 2011 Gartner Report.	
	Minimum Configuration deliverable	
2.35	Switch Shall have minimum 24 x10/100/1000 BaseTx ports + 2 Nos. of 10Gig SR ports and Stacking Ports with all accessories for stacking purpose.	

3. Router

Sl. No.	Detailed Technical Specifications	Complied (Yes / No)
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SI. No.	Detailed Technical Specifications	Complied (Yes / No)
3.0	General features:	
3.01	Router should have modular hardware architecture	
3.02	Router should have 6 Gbps or higher Backplane capacity and 700 Kpps for the combination of the following commonly used features: IPv4 forwarding, IP Multicast, ACL and QoS.	
3.03	The Performance of the router should be same for IPv4 and IPv6.	
3.04	Support at least 6 interface card slots	
3.05	Support for multiple interface types within each slot (mix and match of LAN, WAN interfaces)	
3.06	The router shall support AC and DC power-supplies option	
3.07	Logical router functionality should be available	
3.08	Should have Redundant and load-sharing power-supplies	
3.09	Should have slot or provision for Redundant Control Processor for future redundancy requirement.	
3.10	Router should permit software reconfiguration online without having to reboot	
3.11	Shall support IP Multicast through IGMPv1, v2, v3 and PIM.	
3.12	The router should provide QoS service to limit bandwidth, and control latency to for real-time and mission critical traffic like voice over other non-mission critical traffic.	
3.13	The router should support MLPPP, MLFR,HDLC.	
3.14	Should support Online Insertion and removal (OIR) of cards	
3.15	Router should support at least four "rollbacks" to ensure quick backtracking of online changes	
3.16	Should have ability to store Operating System software in additional flash memory	
3.17	Should support protocols like RIP, ISIS, OSPF, MPLS.	
3.18	Should support L2VPN, L3 VPN, RSVP-TE, FRR, VPLS, VRF.	
3.19	Multicast support using Multicast routing protocols like PIM-	

Sl. No.	Detailed Technical Specifications	Complied (Yes / No)
	SM,DM, ASM,SSM ,IGMP V2/V3, PIM DM and MSDP	
3.20	Should support Multicast VPN capabilities over MPLS backbone	
3.21	<p>Should support following IPv6 features:</p> <p>The Router should be IPv6 ready and all IPv4 & IPv6 features to be given from day-1</p> <p>Should support Neighbor Discovery for IP Version 6 (IPv6), Internet Protocol, Version 6 (IPv6) Specification, IPv6 Stateless Address Auto configuration, Internet Control Message Protocol (ICMPv6) for the Internet Protocol Version 6 (IPv6) Specification, Transmission of IPv6 Packets over Ethernet Networks, IP Version 6 over PPP, Use of BGP-4 Multiprotocol Extensions for IPv6 Inter-Domain Routing, OSPF for IPv6, Transition Mechanisms for IPv6 Hosts and Routers</p>	
3.22	The performance of router should remain same on migration from IPv4 to IPv6.	
3.23	Support for interfaces E1, DS3, E3, FE, GE, 10GE	
3.24	Support for 8 hardware queue	
3.25	Support for RSVP and diffserv aware Traffic Engineering and LSP policing	
3.26	Support for Diffserv aware Traffic Engineering , Ingress traffic policing, Priority-bandwidth utilization, DiffServ marking	
3.27	Support for queuing mechanisms: WRED, Class based queuing.	
3.28	Support for Access Control Lists for network security ACLs on the basis of source and destination IP address, protocol port number, etc.	
3.29	Support for per flow / per port mirroring without any performance compromise	
3.30	Support of secured encryptions technologies like IPSEC DES , 3DES etc.	
3.31	Support of NAT , PAT, NAT64	
3.32	The router must support FTP or TFTP for easy software upgrades over the network.	
3.33	Router should support SNMPv1,v2,v3 and MIB-II	
3.34	Route should be EAL3 or above certified.	

Sl. No.	Detailed Technical Specifications	Complied (Yes / No)
	<i>Minimum Configuration deliverable</i>	
3.35	Router shall have minimum 4 x 1GE TX , 4 Port Serial and 2 10GE SR.	

4. Firewall IPS

Sl. No.	Detailed Technical Specifications	Complied (Yes / No)
4.0	Architecture:	
4.1	The appliance based security platform shall be capable of providing firewall, IPS and VPN (IPSec) functionality simultaneously.	
4.2	The security appliance shall have at least 4 GE interfaces and 2 Nos. of 10G SR ports and should have at least 6 free slots for future scalability.	
4.3	Shall have a minimum 1 No.of.10/100/1000 Base-T or serial interface for out-of-band management purpose. Shall also have a USB port for storage of configuration and security credentials.	
4.4	The platform shall be based on real time, secure, embedded operating system	
4.5	The appliance shall have in-built support for IPSec VPNs with DES, 3DES, AES (128 & 256bit) encryption.	
	High Availability Support Requirements:	
4.6	The platform shall support Stateful policy inspection with application intelligence for commonly used TCP/IP protocols. And session synchronization between cluster members for firewall and VPN high availability.	
4.7	Shall support Active/Standby or Active/Active failover mode.	
4.8	Shall support On power up the platform shall use built-in system monitoring & diagnostics before going online to detect failure of hardware.	
4.9	Shall have IKE keep alive or equivalent shall be supported that allows the devices to detect a dead remote peer for IPSec redundancy.	
4.10	It shall have redundant hot swappable power supply.	
	Performance Requirements:	

Sl. No.	Detailed Technical Specifications	Complied (Yes / No)
4.11	The security appliance shall support firewall throughput of at least 4 Gbps scalable to 6Gbps. the appliance shall support VPN throughput of 1 Gbps scalable to 1.5Gbps. Appliance should provide minimum IPS performance of 1 Gbps.	
4.12	Shall support at least 400,000 concurrent connections scalable to 500,000.	
4.13	Shall support at least 30,000 connections per second	
4.14	Shall support at least 2000 concurrent IPSec connections	
4.15	Shall have support for other UTM features like gateway Antivirus, Antispam, IPS, Web filtering	
4.16	The security appliance shall support at least 500 Virtual LANs.	
4.17	The security appliance shall support virtual firewalls/systems/interfaces for logical segregation of traffic flows.	
	Feature Requirements:	
4.18	Shall support RIP Version 2, and OSPF routing protocols.	
4.19	Shall support MD5 based authentication for both RIP and OSPF	
4.20	Shall support DHCP server & DHCP Relay Agent functionality	
4.21	The platform shall support for Static & Dynamic Network Address Translation and also Port Address Translation	
4.22	Shall support NAT Transparency	
4.23	Shall support AES 128, 192 and 256 bit key sizes	
4.24	The appliance shall support VLAN and 802.1Q Tagging	
4.25	Shall have IPv6 networking feature. Shall support dual stack of IPv4 and IPv6.	
4.26	Shall support IPv6 ACL to implement security policies for IPv6 traffic.	
4.27	Shall support layer 2 transparent firewall modes where both side of the firewall shall belong to the same IP subnet, While the firewall is working in layer 2 transparent mode; it shall still provide layer 2-7 security services and shall protect the system	

Sl. No.	Detailed Technical Specifications	Complied (Yes / No)
	from network layer attacks.	
4.28	Shall support access control based on layer 2 ether type field to enable security implementations at layer 2.	
4.29	Shall support IP Multicast through IGMP and PIM to support secure real-time multicast application which will have to pass through the firewall.	
4.30	The firewall will have to provide QoS service to to limit bandwidth, and control latency to for real-time and mission critical traffic like voice over other non-mission critical traffic.	
4.31	Shall provide application inspection services for applications like HTTP, FTP, SNMP, DNS, SMTP, NFS, LDAP, RPC, Lotus Notes & MS Exchange, mime, s/mime, etc.	
4.32	The security appliance shall be able to protect the port-80 misuse to block applications such as Instant Messaging like yahoo messenger, MSN messenger etc.	
4.33	Shall be able to block popular peer-to-peer applications like Kaaza.	
4.34	Shall be able to inspect HTTP and FTP traffic when these are deployed using non-standard ports i.e. when HTTP is not using port TCP/80 and FTP is not using port TCP/21.	
4.35	Shall support the following HTTP security services - RFC compliance, protocol anomaly detection, protocol state tracking, Uniform Resource Identifier (URI) length enforcement	
4.36	Shall support the following FTP security services - protocol anomaly detection, protocol state tracking, NAT and PAT support, and dynamic port opening & closing. shall	
4.37	Shall support the following H.323 security services / SIP	
4.38	Shall NAT & PAT based address translation support for SIP phones.	
4.39	Shall support inspection of H.323 and SIP voice traffic	
4.40	Shall support TCP stream reassembly and analysis, TCP traffic normalization, flag and option checking, TCP packet checksum verification services.	
4.41	Shall be able to protect "ARP spoofing" attacks at layer 2 by ARP inspection to prevent malicious users from impersonating	

<i>Sl. No.</i>	Detailed Technical Specifications	Complied (Yes / No)
	other hosts.	
4.42	Shall support HTTP, HTTPS and FTP filtering. Shall support Java and Active-x filtering.	
4.43	Shall support time based access list to control the usage of application and resources based on time parameters.	
4.44	Shall support checking of incoming /outgoing connections against a dynamic database of known bad domain names and IP addresses, and then logs any suspicious activity.	
4.45	Appliance shall support SNMP v3 for secure network management and Netflow/Jflow (or equivalent) to provide administrators with more comprehensive event logging information	
4.46	The Security Gateway and switches offered should be from same OEM	
4.47	Shall be EAL 3 (Common Criteria Certification) or higher certified	
	<i>Minimum Configuration deliverable</i>	
4.48	Shall have minimum 4 x 1 GE T ports and 2 x 10G SR ports.	

5. Integrated Security Log Management & Monitoring System

<i>Sl. No.</i>	Detailed Technical Specifications	Complied (Yes / No)
5.0	The proposed solution should be a hardened appliance based solution.	
5.1	The proposed solution should support minimum 500GB of usable HDD space after implementing RAID.	
5.2	Should support min 12K flows per second.	
5.3	Should be able to collect events data from the proposed switches, routers, firewalls, Intrusion Prevention and other network devices.	
5.4	The proposed solution should support minimum 250 Events per Second at present and 500 Events per second in the future.	
5.5	Should take care of Event collection, flow collection event	

Sl. No.	Detailed Technical Specifications	Complied (Yes / No)
	processing, flow processing, correlation, analysis and reporting.	
5.6	Should come with minimum 200 + canned reports. A Wizard allows users to customize and schedule daily, weekly and monthly reports.	
5.7	It should be possible to export these reports in PDF, HTML, RTF, Word, Excel and XML formats.	
5.8	The appliance should have Broad vendor coverage and extensible APIs for less common formats of logs and events.	
5.9	The following formats should be mandatorily supported:	
5.10	.Netflow	
5.11	Sflow	
5.12	Packeteer SDR	
5.13	SNMP	
5.14	Syslog	
5.15	The solution should support the following Vulnerability Analysis source integration:	
5.16	nCircle	
5.17	NMAP	
5.18	Qualys	
5.19	Nessus	
5.20	Rapid7	
5.21	Event and flow logs should be protected by SHA-x (1-256) hashing for tamper proof log archives.	
5.22	It should also support extensive log file integrity checks including National Institute of Standards and Technology (NIST) log management standards.	
5.23	Correlation rules should allow users to detect specific or sequential events or offenses. A rule should consist of tests and	

<i>Sl. No.</i>	Detailed Technical Specifications	Complied (Yes / No)
	functions that perform a response when events match.	
5.24	The solution should deploy historical profiling extensively for improved accuracy of results. It should collect and stores entire event data for later use.	
5.25	For High-Availability purposes the appliance should support dual redundant power supply and should also have RAID implemented.	

6. Network Access Control

<i>Sl. No.</i>	Detailed Technical Specifications	Complied (Yes / No)
6.1	<p>Real-time, Dynamic Network Security Policy Enforcement</p> <p>It should be an appliance based solution</p> <p>The solution should have one converged gateway for SSL VPN and UAC</p> <p>Should Combine user identity, device security state, and location information to create dynamic session-specific access policy by user that is distributed across the network to enforcement points.</p> <p>The device should support easy change between SSL VPN & UAC personalities.</p> <p>Must check the security posture during the session and not just at the start of the session</p>	
6.2	Simplified, integrated, multiservice client for optimized access to corporate data from mobile and non-mobile devices alike	
6.3	Same license can be used either for SSL VPN user sessions or UAC user sessions	
6.4	<p>Device Deployment and User scalability</p> <p>The Device should support single sign-on (SSO) functionality, which allows the network administrator to configure and manage all application service modules from one central console.</p> <p>The system should support up to 10,000 concurrent SSL VPN</p>	

Sl. No.	Detailed Technical Specifications	Complied (Yes / No)
	<p>users and 20,000 NAC users.</p> <p>The hard disk drives should be field replaceable units to increase network uptime.</p> <p>Should ensure the enforcement of network security policies across all platforms and environments.</p>	
6.5	<p>Should support</p> <ul style="list-style-type: none"> ▪ Host Checker ▪ Captive portal ▪ IF-MAP support ▪ Guest access support 	
6.6	<p>Should be able to integrate with directories, Public Key Infrastructure (PKI), and strong authentication.</p> <p>Should support 802.1X, RADIUS, LDAP, Microsoft Active Directory, SQL (Oracle), RSA Authentication Manager and RADIUS Proxy.</p>	
6.7	<p>Dynamic addressing of unmanageable endpoint devices</p> <p>Should support MAC address authentication via RADIUS, in combination with MAC address white listing and blacklisting; or, leverages existing policy and profile stores like LDAP or asset discovery or profiling</p> <p>solutions for role- and resource-based access control of unmanageable devices such as networked printers, bar code scanners, VoIP handsets, etc</p>	
6.8	<p>Pre-defined Patch Assessment Checks</p> <p>Should carry out Patch assessment checks of devices through OEM integration with patch management solutions.</p>	
6.9	<p>Network and Application Control and Visibility</p> <p>Identity-Enabled Profiler</p> <p>Should Correlate user identity and role information to network and application usage.</p> <p>Should support IF-MAP</p>	

<i>Sl. No.</i>	Detailed Technical Specifications	Complied (Yes / No)
	<p>Role-based Security Policy Application</p> <p>Should have the ability to create and apply role-based threat management policies, such as network IPS, network antivirus, network spyware, and/or network URL filtering.</p>	
6.10	<p>Centralized Policy Management</p> <p>Should deliver centralized policy management</p>	
6.11	<p>Open, Standards-based Solution</p> <p>Should leverage industry-standards like 802.1X, RADIUS, IPSec, and innovative open standards, such as TNC to deliver a standards-based access control solution</p> <p>.Should leverage existing 802.1X-enabled switches and access points.</p>	
6.12	<p>Certifications EN 60950-1, Emissions certifications EN 55022 (CISPR 22), FCC Part 15</p>	
6.13	<p>User License 2000 NAC user license.</p>	

7. Network Management System

<i>Sl. No.</i>	Detailed Technical Specifications	Complied (Yes / No)
7.0	NMS for 100 devices	
7.1	NMS should be an open, secure, and scalable software for optimizing network infrastructure and operations management through dynamic policy.	
7.2	NMS should have standards-based Device Management Interface (DMI) for zero day device support,	
7.3	Should support simple Web 2.0 user interface.	
7.4	Should support automated discovery of network topology (devices and interconnections)	

<i>Sl. No.</i>	Detailed Technical Specifications	Complied (Yes / No)
7.5	Should have tools for visualizing the discovered topology	
7.6	Should have tabular view for device-specific details	
7.7	Should support zooming for fine-grained device view	
7.8	Should support centralized device software installation for all managed devices	
7.9	Should have capability to enable device images to be uploaded from local file system, and deployed onto a device or onto multiple devices of the same device family in a single workflow	
7.10	Should support Image verification for accuracy.	
7.11	Should support configuration editor that provides the ability to view, edit, and delete all aspects of a device's configuration	
7.12	Should support audit log that captures all template deployment operations	
7.13	Should have ability to view a given device's configuration and edit add, or delete portions of that configuration	
7.14	Should support network-wide visibility and control	
7.15	Should support rapid deployment of switching, routing, and security infrastructure	
7.16	Should support Cross-Vendor event and performance management	
7.17	Should have Network intelligence for extending core platform capabilities	
7.18	Should support fast problem identification and resolution	
7.19	Should support APIs for customization and integration	

ANNEXURE-C

TECHNICAL SPECIFICATIONS OF PASSIVE COMPONENTS

1. Structured Cabling for DATA System

1.1 Scope

This document defines the cabling system and subsystem components to include cable, termination hardware, supporting hardware, and to install a complete cabling infrastructure supporting voice and video. The intent of this section is to provide pertinent information to allow the bidder to propose the labor, supervision, tooling, materials, and miscellaneous installation hardware and consumables to install a complete system. However, it is the responsibility of the vendor to propose any, and, all items required for a complete system whether or not it is identified in the specification, drawings and bill of materials attached to this specification.

1.2 *Applicable Documents:*

REFERENCE STANDARDS

Design, manufacture, test, and install data distribution systems per manufacturer's requirements and in accordance with NFPA 70 (National Electric Code), state codes, local codes, requirements of authorities having jurisdiction, and particularly the following ANSI/TIA/EIA Standards.

- 1) This Technical Specification and Associated Drawings
- 2) ANSI/TIA/EIA/568-C.1, Commercial Building Telecommunications Cabling Standard – 2009

- 3) ANSI/TIA/EIA 568-C.3, Optical Fiber Cabling Components Standard
- 4) ANSI/TIA/EIA-569-B, Commercial Building Standard for Telecommunications Pathways and Spaces
- 5) ANSI/TIA/EIA-606-A, Administration Standard for the Telecommunications Infrastructure of Commercial Buildings
- 6) ANSI/J-STD-607-A, Commercial Building Grounding (Earthing) and Bonding Requirements for Telecommunications
- 7) Building Industries Consulting Services International (BICSI) Telecommunications Distribution Methods Manual (TDMM)
- 8) ANSI/TIA-942, Telecommunications Infrastructure Standard for Data Centers

The bidder is responsible to determine and adhere to the most recent edition of these standards when developing their responses

1.3 General

The function of the backbone wiring shall be to provide interconnections between telecommunications closets, equipment rooms and entrance facilities in the telecommunications wiring system. The backbone wiring shall consist of the transmission media, intermediate and main cross connects, and mechanical terminations for interconnection of telecommunications closets, equipment rooms and entrance facilities. The backbone wiring shall include transmission media in the building.

The backbone wiring shall use the star topology wherein each telecommunications closet shall be wired to a main cross connect / patch panel or an intermediate cross connect then to a main cross-connects / patch panel. There shall be no more than two hierarchical levels of cross connects / patch panel in the backbone wiring. Interconnections between any two telecommunications closet shall pass through three or fewer cross-connects / patch panel.

Bridged taps shall not be permitted as part of the backbone wiring.

One of the following types of cables shall be used for backbone wiring as defined in schedule of quantities.

1. 50 / 125 um OM 3 optical fiber cable.
2. 9/125 um optical fiber cables

The bidder has to assure that cross talk coupling between individual, unshielded twisted-pairs shall not affect the transmission performance of multi-pair cables.

**2. TECHNICAL SPECIFICATIONS OF PASSIVE COMPONENTS
AND COMPLIANCE STATEMENT FOR CABLING SYSTEM**

A-TECHNICAL SPECIFICATION FOR COPPER COMPONENTS:

Cat-6a UTP CABLING SYSTEM

Sr No.	Details	Specification	Compliance	Deviation
1	Type	Unshielded twisted pair cabling system, ANSI/TIA / EIA 568-C.2 addendum Category 6a Cabling system	Yes / No	
2	Networks Supported	10 / 100/1000 Ethernet, 155 Mbps ATM, 1000 Mbps IEEE 802.3ab Ethernet, ANSI/ EIA/TIA 568-C-2.10 Category 6A Gigabit Ethernet	Yes / No	
3	Warranty	25 year systems warranty, Warranty to cover Bandwidth of the specified and installed cabling system	Yes / No	
4	Performance characteristics to be provided along with bid	Attenuation, Pair-to-pair and PS NEXT, ELFEXT and PSELFEXT, Return Loss, ACR and PS ACR for the channel	Yes / No	
5	Site Certification	Site certification to be done by DCCE certified installer for 25 years and certificate to be issued.	Yes / No	

Sl.No.	Description	Compliance Yes/No	Deviation
1	CAT-6A UTP Cable		
	23 AWG Annealed bare solid copper, CAT-6A UTP Cable, Channel optimized should be 800 Mhz.		
	Meets ANSI/TIA 568-C-2 Category 6A specifications, Use CM, CMR UL-Rated Plastic.		
	Worst Case Cable Skew: 25 ns/100 meters.		
	Characteristic Impedance: $100 \pm 6 \Omega$ @ 1-600 Mhz. Conductor Diameter: 0.65 mm (nominal).		
	Insulation High Density polyethylene diameter should be 1.1 m.		
	Support for Fast Ethernet and Gigabit Ethernet, 10G, IEEE 802.3/5/12, Voice, ISDN, ATM 52 & 622 Mbps, Broadband.		
	DC Resistance Max: 72 Ohms/1000m.		
	UL verified to "ANSI/TIA/EIA-568-B.2-10" specifications.		
	Sheath Fire retardant PVC Compound (FRPVC) Flame Rating : 60 deg. C As per UL 1685 CM.		
	PAIRS Colour code: Blue / White-Blue, Orange / White-Orange Green / White-Green, Brown / White – Brown.		
	Outer Sheath PVC compound Thickness Diameter 1.45 mm (nominal) Outer diameter 9 mm (nominal). ELECTRICAL CHARACTERISTICS at 20° C Input Impedance (0.772-100 MHz) : $100 + 15 \Omega$ 125-250 MHz) : $100 \pm 22 \Omega$.		
	Mutual Capacitance: 45pF/mtr.		
	Cable should have UL Certification.		

2	24 Port Patch Panel CAT-6A (Straight)		
	Should Modular, PCB based and Keystone type Unshielded Twisted pair, category 6A, EIA/TIA 568-B.2-10.		
	The keystone modules are fire-retardant, moulded plastic modules UL94 VO rated, consisting of horizontal index strips for ease of re-termination..		
	110 IDC Termination 180 degree Punch, allowing wires between 22 – 26 AWG sizes.		
	Meets or Exceeds EIA/TIA – 568 – B.2-10 Category 6A connecting hardware specification.		
	RJ45 (8P8C) T568A/T568B colour coding termination.		
	Cable Guide way to guide the cable on the rear side.		
	1U size for 6/12/24 Ports and 2U for 48 Ports.		
	UL verified to “TIA/ EIA-568-B-2.10” specifications		
4	Cat-6A UTP Jack (Information Outlets)		
	Should meet or exceed TIA/EIA -568-C.2-1, ISO/IEC118012 – 2nd Addition.		
	Should made from high-impact, flame-retardant, UL- RATED 94v 0 thermoplastic – ABS.		
	DC Resistance: 69 milli ohms.		
	DC Resistance imbalance : 20 milli ohms.		
	Insulating resistance 500 Mega ohms minimum.		
	Current Rating : 1.5 A (max).		

	Collapsible Angular Shuttered type jacks.		
	Support for Fast Ethernet and Gigabit Ethernet, IEEE 802.3/5/12, Voice, ISDN, 10G, ATM 155 & 622 Mbps, Broadband.		
	Spring Contact : 50u" gold over 100u" nickel.		
	Meets and exceeds ISO/IEC 118012- 2nd Edition Category 6A , EIA/TIA 568-C.2 Category 6A component specifications.		
	The performance exceeds EIA/TIA 568-C.2 Category 6A component specifications.		
	The outlet is of IDC (insulation Displacement Contact) 180 deg punch type.		
	UL verified to "ANSI/TIA/ EIA-568-B-2.10" specifications.		
	Bidder should offer a mechanism to maintain the quality of the termination irrespective of the skill level of the termination staff.		
	It should have an inbuilt conductor management system for well-controlled terminations. The conductor management piece should be capable of maintaining the pair relationship of the cable.		
6	Cat-6A Patch Cord		
	Should conform to CAT-6A 800 Mhz requirements. ISO/IEC 118012 - 2nd edition.		
	Patch Cord should have conduct 24 AWG , stranded copper and jacket will be PVC.		
	Patch cords to use IDC contact technology for all the conductor terminations for better performance.		
	Plug Protection should be matching colored snag-less, elastomer slim line boot.		
	Individual cable pair separated by a PE former.		

	HDPE Insulation over conductors, PVC jacket all over.		
	Nominal Cable Diameter should be 5.6 mm, Minimum Bend radius- 22.4 mm		
	It's Retention force: 14 kgs min		
	Jack mating life: 750 cycles		
	Jack pull force: 20lbs(89)N		
	Electrical :		
	Current rating: 1.5A max		
	Insulation resistance: > 500mΩ (min)		
	Voltage rating: 30 V		
	Contact Resistance: 15 mΩ (max) per contact		
	It should Back-ward-compatibility with all current Cat6 products and applications.		
	Should support optional locking mechanism for security purpose wherein the patch cords can be locked on servers and all RJ45 ports.		
	All the conductors should be IDC based termination at the RJ-45 plugs without directly crimping the plug on cable.		
	All the conductors should be IDC based termination at the RJ-45 plugs without directly crimping the plug on cable.		
	Should have options for various color coding and available in various length.		
	Should have options for various color coding and available in various length.		
7	Face Plates (Duplex/Quad)		
	Faceplates to accept 1 no, 2 no. or 4 no. of UTP or STP Jacks, with icons and labels for ease of identification with mechanical locking the port support		

	Same Face plate to support STP, UTP I/Os		
	Material should be ABS / UL 94 V-0.		

3. 19" Open Standard Two Post Rack 42U

Sr. No.	Specification	Compliance	Deviation
1	Open Floor-mount two-post rack supports 19" wide rack-mount equipment for Indoor Use	Yes / No	
2	Equipment Space: Heights: 42 RMU	Yes / No	
3	Width: 19"EIA (17-3/4" Clearance)		
4	Finish: Black Powder Coating	Yes / No	
5	19"W, EIA-310D	Yes / No	
6	Universal hole Pattern, 5/8" - 5/8" - 1/2" vertical hole spacing	Yes / No	
7	Threaded #12-24 equipment mounting holes includes 50 each #12-24 equipment mounting screws	Yes / No	
8	Cable Management:	Yes / No	
9	Use Vertical and horizontal cable managers, sold separately as accessories		
10	Load capacity: 1,000 lb of equipment	Yes / No	
11	Material: Aluminum Alloy	Yes / No	
12	Construction: Bolted assembly, Ships unassembled	Yes / No	

TECHNICAL SPECIFICATIONS OF PASSIVE COMPONENTS

TECHNICAL SPECIFICATION FOR FIBRE COMPONENTS:

4. Single-mode Armoured Cable, Loose tube (Multi tube) type, Direct Burial.

SL No	Specifications	Spec. Values
Fibre and Buffering		
1	Fiber Type	Single mode Fibre
2	Core Diameter	9 microns
3	Cladding Diameter	125 Microns
4	Cladding Non –circularity	Max 1%
5	Primary coating Diameter	245 um +/- 5 um
6	Core clad Concentricity	≤ 0.5 um
7	Coating / Cladding non-circularity	≤ 12 microns
8	Min Proof Strength	0.70 (kpsi) Gpa
9	Numerical Aperture	0.14
10	Strain	< 1%
11	Fibre Curl	≥ 4 meters radius of curvature
12	Zero Dispersion Wavelength	1300 to 1324 nm (1313 nm)
13	Zero Dispersion Slope	≤ 0.086 ps / sqnm-km
14	Max (chromatic) dispersion	<5.3 ps/nm-km @1270-1340 nm
		<3.5 ps/nm-km @1285-1330 nm
		<185 ps/nm-km @1550 nm

15	Refractive Index Difference	0.36%
16	Effective Group index of Refraction	1.4677 at 1310 nm; 1.4682 at 1550 nm
17	Polarization mode -dispersion co-efficient	<0.5ps/sqkm @1310 nm & 1510 nm
18	Fibre cut off wavelength	≤ 1260 nm
19	Fibre Macro bend / change in attenuation	
	(100 turns, 60 mm dia)	<0.05 dB @1310 nm & < 0.10 dB @1550 nm
20	Fibre Macro bend / change in attenuation	
	(1 turn @ 32 mm dia)	< 0.5 dB @1550 nm
21	Coating Strip force	Dry : 0.6 lbs (3N)
		Wet, 14 days room temperature : 0.6 lbs (3N)
22	Secondary buffer material	Gel - filled loose tube.
23	Fibre core	UL Listed
Attenuation:		
1	At 1310 nm,	< = 0.35 dB/Km
2	At 1550 nm,	< = 0.20 dB/Km
Sub Cable:		
1	Fibre Strength	Fibre Reinforced plastic (FRP)rod
2	Colour Coded	Standard
Cable Construction:		
5. Sub- Cables with filler/dielectric central strength members		

1	Colour	Black
2	Armour	Corrugated steel tape (0.155mm Min)CSTA
3	Outer jacket	High density polyethylene, anti - termite, anti – rodent
		suitable for direct burial application.
4	Inner Jac	High density polyethylene.

6. Multi Mode Fiber: 50 um/ 125 um OM3

SL No	Specifications	Spec. Values
1. Fiber and Buffering :		
a.	Fiber Type	Graded index Multimode Optical fiber.
b.	Core Diameter	50.0 Microns +/- 3.0 microns
c.	Cladding Diameter	125.0 Microns +/- 2.0 microns
d.	Core Clad Concentricity	≤ 3.0 um
e.	Cladding Non -circularity	< 2.0%
f.	Core Non-Circularity	≤ 5%
g.	Zero Dispersion wavelength	1300 nm - 1320 nm
H	Zero dispersion slope	≤ 0.101 ps/sq nm.Km
I	Primary coating Diameter	245 um +/- 15 um
J	Coating Cladding Concentricity	<12 um
K	Numerical Aperture	0.200 +/- 0.015 um
L	Effective group Index of Refraction (N -eff)	1.490 at 850 nm ;
		1.486 at 1300 nm

M	Coating Strip Force	Dry : 0.6 lbs (2.7 N)
		Wet : 14 days in 23° C water soak : 0.6 lbs (2.7 N)
N	Secondary Buffer Material	Gel filled Loose Tube.

2. Attenuation and bandwidth		
a.	At 850 nm,	Attenuation < = 3dB/Km
		and Bandwidth 200 MHz-Km
b.	At 1310 nm,	Attenuation < = 1.2dB/Km
		and Bandwidth 500 MHz-Km
3. Sub Cable:		
a.	Fiber Strength	Reinforce plastic rod (FRP)
b.	Colour Coded	Standard

4. Cable Construction:		
Sub- Cables with filler/dielectric central strength members		
a.	Colour	Black
b.	Armour	Corrugated steel tape (0.155mm Min)
c.	Inner jacket	High density polyethylene,
d.	Outer jacket	High density polyethylene, anti - termite, anti - rodent
		suitable for direct burial application.

7. Fiber Optic LIU with Splice Trays & Spool

SL No	Specifications	Compliance Yes/No	Deviation
1.	Metal Box		
	Dimensions: 44 * 410 * 280 mm (H*W*D)		
	19 " Rack Mountable Cabinet		
	Complete Aluminium Alloy housing, fully powder coated		
	Panel cover is of slide out for easy maintenance		
	Rubber grommets are provided at the cable entry points for tight sealing.		
	2. Splice Trays:		
	Dimension: 140 * 125 * 10 mm		
	Complete Aluminium body, fully powdered coated		
	12 Port-Provision for 6 fiber splices		
	24 Port-Provision for 12 fiber splices		
	Fully cushioned splice holder containing grooves for fixing splice protective sleeves		
	8. Cable Spools:		
	Flame retardant plastic, high impact resistance		
	Two halves spool design		
	Stackable design, sufficient room		

	provided for storage of excess cable		

8. SC Type Optical Connector.

S. No.	Spec Description	Compliance Yes/No	Deviation
1	Fully in compliance with JIS C5973 F04 Type.		
2	Pre-radius Ceramic Zirconia Ferrule.		
3	Available in Singlemode and Multimode type.		
4	Insertion Loss :		
	SM: ≤ 0.3 dB		
	MM: ≤ 0.5 dB		
5	Operating temperature:- -20 Degree C to +70 Degree C		
6	Durability : 500 Matings.		
7	Connector tip is covered with a cap		
8	Meets and exceeds ITU specifications		

9. Duplex SC Adapter:

S.	Spec Description	Compliance Yes/No	Deviation
1	Fully in compliance with JIS C5973 F04 Type.		
2	Available in Singlemode and Multimode type.		
3	Available in Simplex and Duplex types.		
4	Insertion Loss :		
	SM: ≤ 0.3 dB		
	MM: ≤ 0.5 dB		
5	Operating temperature:- -20 Degree C to +70 Degree C		

6	Durability : 500 Mattings.		
7	Meets and exceeds ITU specifications		

10.SC to LC, SM Duplex Patch Cord

Sn.	Spec Description	Compliance Yes/No	Deviation
1	Available in singlemode and multimode types.		
2	Available in either 1.6mm or 3mm simplex or Duplex Zipcord.		
3	Configurable with standard ST, SC, and LC Terminations.		
4	Distinctive colour coding for positive identification : Yellow colour for Single mode and Orange colour for Multi mode		
5	Meets and exceeds ITU specifications		

Warranty

Department seeks warranty for the installed cable plant from the OEM equipment supplier. Bidder shall ensure that the OEM norms for supply, installation, testing and documentation as specified by the OEM supplier shall be adhered to, provided those are in line with TIA / EIA standards and Owner requirement specifications. The warranty shall be provided by the OEM vendor to Owner and shall be administered in India. The warranty of all Passive Components shall be for a minimum of 25 years and shall cover the system performance, application warranty.

APPENDIX-D

Bill of Material

Bill of Material : Active Components

Sl. No	Item Description	Unit	Qty. Total	Make and Model offered
1.	Core Switch as per technical specifications	Nos.	2	
2.	Access Switch	Nos.	64	
3.	Router	Nos	2	
4.	Internet Firewall with IPS	Nos	2	
5.	Event logging, monitoring and reporting	Nos.	1	
6.	Network Access Control	Nos.	1	
7.	Network Manager	Nos.	1	
8.	Installation and Commissioning (per site)	Nos.	1	
9.	Service Support with 3 Engineer for one year (rate is to be given per man-month)	Man months	36	

Appendix-E
Bill of material

	PASSIVE COMPONENTS BILL OF QUANTITIES		TOTAL
A1	DATA NODES	UNITS	Quantity
1	Cat6 Mounting cord, 7 Ft,Rack end	Nos	1504
2	Face Plate(White)	Nos	1456
3	CAT 6 Information Outlets,Data-Green	Nos	1504
4	4 Pair CAT6 UTP Cable (1Box=305 mtrs)	Box	308
5	24 Port Cat 6 Loaded Jack Panel	Nos	69
6	Cat6 Mounting cord, 7 Ft,WS end	Nos	1504
A2	FIBER BACKBONE		
1	6 Core Multimode Mode Fiber Cable	Mtr	1850
2	24 Port Rack mount LIU with loaded SC couplers, with splice tray and spools	Nos	24
3	Multimode mode Pigtaills,1Mtrs	Nos	288
4	SC-LC Fiber Patch Cord,Singlemode	Nos	48
5	LC-LC Fiber Patch Cord,Singlemode	Nos	10
A3	CONDUIT & CABLE RACEWAY TRAY WITH ACCESSORIES	Unit	Qty
1	PVC Conduit Pipe 25mm	Mtr	7520
3	Raceway Tray 200x40mm	Mtr	428
4	Raceway Tray 100x40mm	Mtr	650
5	HDPE Pipe 32MM	Mtr	1850
6	Gang Box for face plate	No.	1456

A4	RACK & WIREMANAGEMENT WITH ACCESSORIES	Unit	Qty
1	19" 42U Open rack with accessories	1	14
2	ladder set	1	14
3	Power bar 6 socket 5/15 Amps	2	28
4	Vertical wire manager 42U , Depth 6 inches and width 4 inches Double sided, Plastic cover	2	28
5	Horizontal Wire manager 2U, 19"	4	52
B.1	SERVICES FOR CABLING	Unit	Qty
1	UTP cat6a Cable Laying indoor Charges	Mtrs	93940
2	termination Charges for I/O	nos	1504
3	termination Charges for jack panels	nos	67
4	Scanning and testing of Nodes	nos	1504
5	Labeling of complete copper channel	nos	1504
5	fixing of jack panels	nos	69
6	fixing of faceplate	nos	1456
7	Fixing of Floor Racks	nos	14
8	laying of indoor/outdoor fiber cable	Mtrs	1850
9	termination of SC/LC pigtail	nos	288
10	channel scanning at 850 and 1310 wavelength	nos	144
11	labeling of fiber panels	nos	24
12	Laying of 25mm Conduit	Mtrs	7520
13	laying & fixing of 200mm X 40mm Tray/100mm X 40MM tray	Mtrs	1078
14	Documentation	nos	1
15	Project management	nos	1
16	Other miscellaneous works	nos	1
17	fixing of Gang box	nos	1456

APPENDIX-F
BID SECURITY FORM

Whereas _____ (hereinafter called 'the Tenderer') has submitted its bid dated _____ to Intelligent Communication Systems India Ltd. (ICSIL), Administrative Building, Above Post Office, Okhla Industrial Estate, Phase-III, New Delhi- 110020 for LAN Networking which includes supply, installation, configuration and commissioning of Active and Passive components at Department of Trade & Taxes, Govt. of NCT of Delhi, Vyapar Bhawan, IP Estate, New Delhi-110002 .

KNOW ALL MEN by these presents that WE----- of _____ (hereinafter called "the Bank") are bound unto the Intelligent Communication Systems India Ltd., (ICSIL) (herein after called "the Purchaser") to the sum of Rs..... for which payment will and truly to be made to the said Purchaser, the Bank binds itself, its successors and assigns _____ by _____ these presents. Sealed with the Common Seal of the said Bank this _____ day of _____ 2012.

THE CONDITIONS of this obligation are:

1. If the Tenderer, withdraws its Bid during the period of bid validity specified by the Tenderer on the Bid Form; or
If the Tenderer, having been notified of the acceptance of its bid by the Purchaser during the period of bid validity,
(a) fails or refuses to execute the Contract Form, if required; or

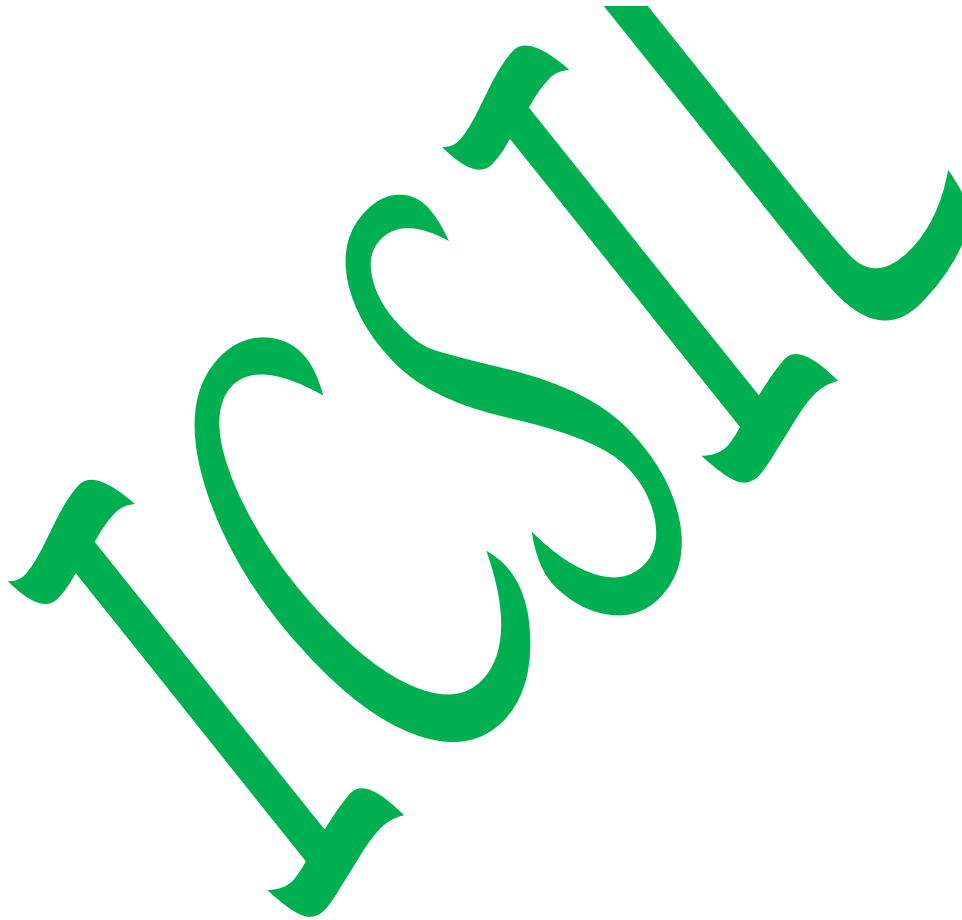
We unde

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

This guarantee will remain in force up to and including 45 days after the period of bid validity, and any demand in respect thereof should reach the Bank not later than the above date.

(Authorized Signatory of the Bank)

Seal of the Bank



ANNEXURE-G

FORMAT FOR PERFORMANCE BANK GUARANTEE

Ref: _____

Date

Bank Guarantee No.

To

The Managing Director,
Intelligent Communication Systems India Limited (ICSIL),
Administrative Building, 1st Floor, Above Post Office,
Okhla Industrial Estate, Phase-III, New Delhi-110020 .

1. Against contract vide Acceptance of the Tender No. _____ dated _____ for LAN Networking of Department of Trade and Taxes, Govt. of NST of Delhi, Vyapar Bhawan, I.P.Estate, New Delhi-110002 heinafter called the said 'contract') entered into between the The Managing Director, Intelligent Communication Systems India Limited (ICSIL), (hereinafter called "the Purchaser") and M/s _____ (hereinafter called the **Bidder**). This is to certify that at the request of the BIDDER we _____ Bank Ltd., are holding in trust in favour of the Purchaser, the amount of _____ (write the sum here in words) to indemnify and keep indemnified the Purchaser against any loss or damage that may be caused to or suffered by the Purchaser by reason of any breach by the bidder of any of the terms and conditions of the said contract and/or in the performance thereof. We agree that the decision of the Purchaser, whether any breach of any of the terms and conditions of the said contract and/or in the performance thereof has been committed by the bidder and the amount of loss or damage that has been caused or suffered by the Purchaser shall be final and binding on us and the amount of the said loss or damage shall be paid by us forthwith on demand and without demur to the Purchaser.
2. We _____ Bank Ltd, further agree that the guarantee herein contained shall remain in full force and effect during the period that would be taken for satisfactory performance and fulfilment in all respects of the said contract by the bidder i.e till _____ hereinafter called the said date and that if any claim accrues or arises against us _____ Bank Ltd, by virtue of this guarantee before the said date, the same shall be enforceable against us _____ Bank Ltd,

notwithstanding the fact that the same is enforced within six months after the said date, provided that notice of any such claim has been given to us _____ Bank Ltd, by the Purchaser before the said date. Payment under this letter of guarantee shall be made promptly upon our receipt of notice to that effect from the Purchaser.

3. It is fully understood that this guarantee is effective from the date of the said contract and that we _____ Bank Ltd, undertake not to revoke this guarantee during its currency without the consent in writing of the Purchaser.

4. We undertake to pay to the Purchaser any money so demanded notwithstanding any dispute or disputes raised by the bidder in any suit or proceeding pending before any court or Tribunal relating thereto our liability under this present bond being absolute and unequivocal.

The payment so made by us under this bond shall be a valid discharge of our liability for payment there under and the bidder shall have no claim against us for making such payment.

5. We _____ Bank Ltd, further agree that the Purchaser shall have the fullest liberty, without affecting in any manner our obligations hereunder to vary any of the terms and conditions of the said contract or to extend time of performance by the bidder from time to time or to postpone for any time or from time to time any of the powers exercise-able by the Purchaser against the said bidder and to forebear or enforce any of the terms and conditions relating to the said contract and we _____ Bank Ltd., shall not be released from our liability under this guarantee by reason of any such variation or extension being granted to the said bidder or for any forbearance by the Purchaser to the said bidder or for any forbearance and or omission on the part of the Purchaser or any other matter or thing whatsoever, which under the law relating to sureties, would, but for this provision have the effect of so releasing us from our liability under this guarantee.

.Date:

Signature

Place:

Printed Name

Witness

(Bank's common seal)

Appendix-H

Rates as per Bill of Quantity for Active Components

Sl. No	Item Description	Unit	Qty. Total	Unit Rate	Total Amount
1	2	3	4	5	6=4*5
1.	Core Switch as per technical specifications	Nos.	2		
2.	Access Switch	Nos.	64		
3.	Router	Nos.	2		
4.	Internet Firewall with IPS	Nos.	2		
5.	Event logging, monitoring and reporting	Nos.	1		
6.	Network Access Control	Nos.	1		
7.	Network Manager	Nos.	1		
8.	Installation and Commissioning (per site)	Nos.	1		
9.	Service Support with 3 Engineer for one year (rate is to be given per man-month)	Man month hs	36		

Appendix-I

Rates as per Bill of Material for Passive Components

The bidder shall provide the commercial bid for 1500 nodes across 13 Floors of the Vyapar Bhawan. the passive BOM accordingly along with the Unit rates.

A1	DATA NODES	UNIT	Qty	Unit rates	Total Amount
1	2	3	4	5	6=4*5
1	Cat6 Mounting cord, 7 Ft,Rack end	Nos	1504		
2	Face Plate(White)	Nos	1456		
3	CAT 6 Information Outlets,Data-Green	Nos	1504		
4	4 Pair CAT6 UTP Cable (1Box=305 mtrs)	Box	308		
5	24 Port Cat 6 Loaded Jack Panel	Nos	69		
6	Cat6 Mounting cord, 7 Ft,WS end	Nos	1504		
A2	FIBER BACKBONE				
1	6 Core Multimode Mode Fiber Cable	Mtr	1850		
2	24 Port Rack mount LIU with loaded SC couplers, with splice tray and spools	Nos	24		
3	Multimode mode Pigtails,1Mtrs	Nos	288		
4	SC-LC Fiber Patch Cord,Singlemode	Nos	48		
5	LC-LC Fiber Patch Cord,Singlemode	Nos	10		
A3	CONDUIT & CABLE RACEWAY TRAY WITH ACCESSORIES	Unit	Qty		
1	PVC Conduit Pipe 25mm	Mtr	7520		
3	Raceway Tray 200x40mm	Mtr	428		
4	Raceway Tray 100x40mm	Mtr	650		
5	HDPE Pipe 32MM	Mtr	1850		
6	Gang Box for face plate	No.	1456		

A4	RACK & WIREMANAGEMENT WITH ACCESSORIES	Unit	Qty		
1	19" 42U Open rack with accessories	1	14		
2	ladder set	1	14		
3	Power bar 6 socket 5/15 Amps	2	28		
4	Vertical wire manager 42U , Depth 6 inches and width 4 inches Double sided, Plastic cover	2	28		
5	Horizontal Wire manager 2U, 19"	4	52		
B.1	SERVICES FOR CABLING	Unit	Qty		
1	UTP cat6a Cable Laying indoor Charges	Mtrs	93940		
2	termination Charges for I/O	nos	1504		
3	termination Charges for jack panels	nos	67		
4	Scanning and testing of Nodes	nos	1504		
5	Labeling of complete copper channel	nos	1504		
5	fixing of jack panels	nos	69		
6	fixing of faceplate	nos	1456		
7	Fixing of Floor Racks	nos	14		
8	laying of indoor/outdoor fiber cable	Mtrs	1850		
9	termination of SC/LC pigtail	nos	288		
10	channel scanning at 850 and 1310 wavelength	nos	144		
11	labeling of fiber panels	nos	24		
12	Laying of 25mm Conduit	Mtrs	7520		
13	laying & fixing of 200mm X 40mm Tray/100mm X 40MM tray	Mtrs	1078		
14	Documentation	nos	1		

15	Project management	nos	1		
16	Other miscellaneous works	nos	1		
17	fixing of Gang box	nos	1456		

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Appendix-“J”

Appendix wise summary of rates (In Rupees) quoted (inclusive of all taxes, duties, levies, cess, fee etc. in Rupees only).

S.Nos	Appendix “H” (BOM) for Active components required	Appendix-“I” (BOM) for Passive components	Grand Total (in Rs.)
1	2	3	4=2+3
Grand Total (in Rs.)			

ICSSIL