College of Engineering & Technology
Techno-Campus, P.O. - Ghatikia, Kalinga Nagar, Bhubaneswar- 751003
Website: www. cet.edu.in

No. 3715 /CET   **Date-19/10/2012**

TENDER CALL NOTICE

CET invites sealed offers in Two-Bid form for **Delivery/Supply, Installation / laying, Commissioning, Execution & Testing of Networking and Wi-Fi Connectivity inside Campus** to be done at CET, Ghatikia, Bhubaneswar and the details of which are available in college website: www.cet.edu.in.
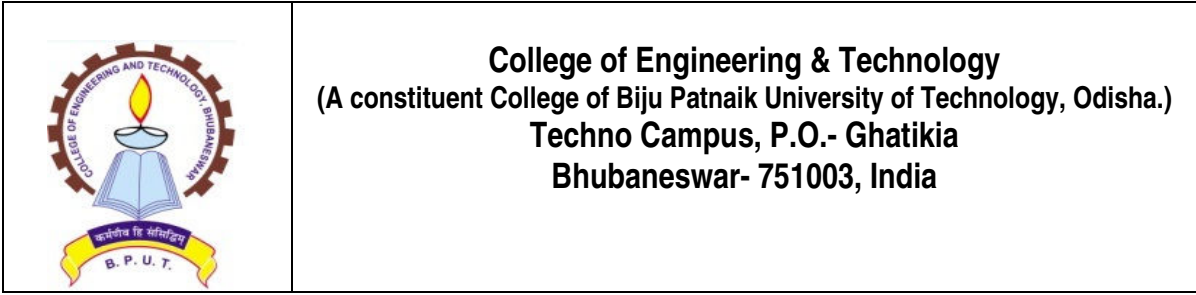
Interested parties may collect the Tender Document from CET, Bhubaneswar, as per following schedule: The tender document can also be down loaded from www.cet.edu.in

1. **Date of Issue of Tender Document: 20.10.2012   (from 10 AM to 4PM on all working days)**
2. **Last date of Submission of Bids: 30.11.2012 up to 4PM**
3. **(a) Technical Bid Opening Date: 01.12.2012 at 3PM**
   (b) Financial Bid opening Date: 10.12.2012 at 3 PM

4. Tender fee (Non-Refundable): Rs. 5000/-(Rupees five thousand only) in the form of a DD/Pay Order favoring The Principal, CET, Techno Campus payable at Bhubaneswar. In case documents are down loaded from the website, DD / Pay Order of Rs. 5000/-favoring principal, CET payable at Bhubaneswar must be enclosed with the Technical Bid.

The authority reserves the right to accept / reject any or all tenders without assigning any reason thereof.

Sd/-
19/10/2012
Principal

	College of Engineering & Technology **(A constituent College of Biju Patnaik University of Technology, Odisha.)** **Techno Campus, P.O.- Ghatikia** **Bhubaneswar- 751003, India**

Tender Notice for Delivery/Supply, Installation / laying , Commissioning, Execution & Testing of Networking and Wi-Fi Connectivity inside Campus of College of Engineering & Technology(CET), Techno Campus, P.O.- Ghatikia, Bhubaneswar- 751003

CET invites sealed offers in Two-Bid form for **Delivery/Supply, Installation / laying , Commissioning, Execution & Testing of Networking and Wi-Fi Connectivity inside Campus** to be done at CET, Ghatikia, Bhubaneswar.

Interested parties may collect the Tender Document from CET-Bhubaneswar, as per following schedule: The tender document can also be down loaded from www.cet.edu.in

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5. Earnest Money Deposit: The Bidder shall submit their quotes along with EMD of Rs. 3,00,000/-(Rupees Three Lakhs only). EMD should be in the form of DD / Bank Guarantee favoring The Principal, CET, Techno Campus, Ghatikia, Bhubaneswar- 751003 payable at Bhubaneswar. This Bank Guarantee should be valid for Bid Validity period mentioned in **Clause 1 under SECTION** II.

SECTION I: INVITATION FOR BIDS (IFB)

Sub: Supply, Installation / Laying, Commissioning, Execution & Testing of Networking and Wi-Fi Connectivity at CET, Bhubaneswar.

1. Scope of Work & Technical specifications:
Detailed scope of work and technical Specifications are as per enclosed **Annexure I**

2. Eligibility Criteria for bidders:

The eligibility criteria for pre-qualification of bidders are as under:

- The bidder or (principal/ OEM in case bidder is authorized channel partner etc) must have an experience of minimum 05 years or more for Sales, Installation & Service support for **Supply, Installation / Laying, Commissioning, Execution & Testing of Networking projects.**

- The bidder should be an organization/company in operation with office and Service Support Center for the last Five years as on 31st March 2012 in Odisha preferably in Bhubaneswar, to ensure satisfactory service support after sales.

- The tender(s) should have executed installations of the similar nature work out of which 1 no. (One) must be of 500 ports (Switch Ports) or at least 2 Nos. of 300 ports (Switch Ports) or more. (Similar nature of work means: Execution of Network Infrastructure works shall be treated as similar work). Proofs of the same like PO copies, installation & completion reports, performance certificates, with address & contact details of the reference installation list should be submitted with the bid. In absence of supporting documents, the bid is liable to be rejected.

- The bidder should be a registered firm with Sales Tax Authority. The bidder should furnish the registration certificate, TIN No. certificate, VAT registration certificate, PAN No. detail, TIN No. details along with the tender paper and necessary clearance certificates up to March, 2013. Enclose copies supporting documents. In absence of such certificate, the Bid is liable to be rejected.

- The Tenderer(s) must submit the exclusive tender specific authorization from the Principal/OEM. In case the Tenderer(s) should not submit the exclusive authorization letter from the manufacturer failing which the offer will be summarily rejected. The certificate so furnished should clearly incorporate the

firm name and address from where after sales services shall be rendered. In absence of such authorization, the Bid is liable to be rejected.

- The bidder's firm must be a financially sound have turnover of more than 20 Crores per year for last three financial years and established firm fulfilling all statutory & regulatory requirements of its functioning in India & Odisha. Proof of the registration & other compliances and turn over, audit reports, balance sheets etc for company's financial soundness as required may be furnished for last three financial years from 2009-10, 2010-11, and 2011-12 (must be certified by CA failing which the bid is liable to be rejected).

- **All the Switching, wireless & Network Management System (NMS) must be from the same OEM.**

- The OEM should be present in Gartner's quadrant for enterprise LAN and Wireless products for last three years.

- The OEM's net worth should be positive for last three years.

- **The bidder should not be black listed in any of the Gov. Organization. Undertaking in this regard must be submitted.**

- Before submission of the tender, please verify the eligibility criteria and ensure fulfilling all the terms and conditions.

3. **Bid Submission:**

The offer must be submitted in two parts sealed separately as Part-I (Technical Bid) and Part-II (Price Bid) in separate sealed envelopes. Both the bids shall be enclosed in another sealed envelope super scribing:

"Offer for Supply, Installation / Laying, Execution & Testing of Networking and Wi-Fi Connectivity at CET Campus, Ghatikia, Bhubaneswar" and the address of the firm should be mentioned in the sender side of the envelope with phone number.

Tender Notice No.   **: 3715/CET   Dated 19/10/2012**

Due date & time   **: 30.11.2012 up to 4 PM**

3.1 Part – I (Technical Bid) shall contain:

- Technical bid with full details including description of make & model of materials so as to enable technical assessment of the proposal.

- An Undertaking / Authorization certificate as mentioned under Eligibility Criteria.

- **Company Profile (as per PROFORMA I & II) along with all the supporting documents as desired.**

- Non-Refundable Tender fee of Rs. 5000/-(Rupees Five thousand only) in the form of DD / Pay Order favoring Principal, College of Engineering & Technology, payable at Bhubaneswar. (In case the tender document is down loaded from the website). Quotations without Tender Fee shall be rejected.

- Refundable Earnest Money Deposit (EMD): For details please refer Page No. 1 of this tender document. Offers without Earnest Money Deposit will be rejected.

- The warranty services are required at CET, Ghatikia, Bhubaneswar. The bidder must provide the plan / arrangement, for installation and warranty services to be provided at CET Campus. A certificate of warranty as specified in the technical specification should be provided by the OEM in original.

- The detailed technical specifications with Make & Model, Compliance Statement must be as per the technical specifications (as per Annexure-I) which needs to be supported by relevant product brochure etc. Without proper Compliance Statement the bid is liable to be rejected.

- Acceptance to the terms and conditions laid down in the tender document. Any deviation in the general terms and condition will lead to the rejection of the bid.

If the technical offer contains any price information the offer will be summarily rejected.

3.2 Part –II (Price Bid) should contain Only Price Details in the prescribed format as per **Annexure-II** with proper seal and signature of authorized person. Prices should be given in INR in both figures and words.

4. Opening of Technical & Price Bid

Only the technical bids will be opened on 01.12.2012 at 3 PM. Interested bidders may attend the technical bid opening as per the schedule. Price Bids of only the short-listed / technically qualified bidders will be opened in presence of the bidder or their authorized representative at the time & date, to be informed later.

The outer cover super scribing in which these sealed covers (i.e. Part I & II) are to be placed should be addressed and reach to the

The Principal,
College of Engineering & Technology
Techno Campus, Ghatikia
Bhubaneswar-3
Odisha, India.

SECTION II: INSTRUCTION TO BIDDERS (ITB)

1. Bid Validity

Bids shall be valid for minimum 120 Days from the date of opening of technical bid. A bid valid for a shorter period shall not be considered. CET-Bhubaneswar may ask bidders to extend the period of validity.

2. Delivery & Installation:

The complete delivery and installation as per our present requirement must be completed at CET, Techno Campus, Ghatikia within **14 weeks from the date of P.O t**o meet the time lines. However, separate order may be placed for additional quantities on the same rates on "As and When Required" basis within the Bid Validity period as above. CET-Bhubaneswar reserves the right to increase or decrease the Bill of Material as per the requirement without any change in the rates quoted.

3. Product Specifications & Compliance Statement

The bidder should quote the products strictly as per the tender specifications and only of desired / preferred brands. Complete technical details along with brand, specification, technical literature etc. highlighting the specifications must be supplied along with the technical bid. **A Compliance statement in the form of "Complied" or "Not Complied" shall be given against each item as per prescribed format given in Annexure I.** The compliance statements should be supported by authentic documents**. Each page of the bid and cuttings / corrections shall be duly signed and stamped by the authorized signatory. Failure to comply with this requirement may result in the bid being rejected.**

4. In case of any discrepancy between rates mentioned in figures and words, the latter shall prevail. 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.

5. Materials must be properly packed against any damage and insured up to the destination. The material should be directly supplied to CET, Bhubaneswar. All the expenses involved in shipping the equipment to CET, Bhubaneswar shall be borne by the Bidder. All aspects of safe delivery shall be the exclusive responsibility of the Bidder. CET-Bhubaneswar will have the right to reject the component/equipments supplied, if it does not comply with the specifications at any point of installation/inspection.

6. CET-Bhubaneswar reserves the right to divide / split the order between more than one technically qualified bidder to meet the **Technical Requirements and Delivery Schedule.**

7. Earnest Money is liable to be forfeited and bid is liable to be rejected, if the bidder withdraw or amends, impairs or derogates from the tender in any respect within the validity period of the tender.

8. The Earnest Money of all the unsuccessful bidders shall be returned as early as possible but within the Bid Validity period but not before 30 days from the date of Purchase Order. No interest will be payable by CET on the Earnest Money Deposit. The Earnest Money of successful bidder shall be returned after acceptance of the order and submission of Performance Bank Guarantee.

9. If any equipment or part thereof is lost or rendered defective during transit, the supplier shall immediately arrange for the supply of the equipment or part thereof, as the case may be, at no extra cost.

10. The rates should be quoted in Indian Rupees for delivery at the Site **BOTH IN FIGURES & WORDS.** All prices shall be fixed and shall not be subject to escalation of any description during the bid validity period.

11. The price should be inclusive of all taxes strictly as per the format of Annexure-II. However the bidder may give details of tax components like basic price, VAT, Sales Tax, Service Tax etc in a separate sheet which to be enclosed in the price bid in Annexure II. The offers which are not as per the format will be rejected.

12. CET-Bhubaneswar reserves the right to accept / reject the offers or cancel the whole tender proceedings without assigning any reason whatsoever. Offers through Email / Fax, etc and open offers shall not be accepted. Late / Delayed offers shall not be accepted under any circumstances. Incomplete offers shall be rejected outright. In case the specified date for the submission of offers being declared as a holiday for CET-Bhubaneswar, the bid-closing deadline shall stand extended to the next working day up to the same time.

13. Any attempt of negotiation direct or indirect on the part of the tenderer with the authority to whom he has submitted the tender or authority who is competent finally to accept it after he has submitted his tender or any endeavor to secure any interest for an actual or prospective bidder or to

influence by any means the acceptance of a particular tender will render the tender liable to be rejected.

14. The prospective bidders requiring any clarification about the contents detailed in the tender document may notify to CET-Bhubaneswar in writing at CET's address. Clarifications received till 96 hours before the closing date / time of receipt of bids will be responded.

15. The equipment must be supported by the bidder's technical support engineers. The support must be available 24 hours in a day, seven days a week and 365 days a year. Also provide toll free number / web / email so that it should be possible to contact the Principal Bidder's (OEM's) support Centre.

16. Unsatisfactory Performance

The Parties herein agree that CET-Bhubaneswar shall have the sole and discretionary right to assess the performance(s) of the Bidder components(s), either primary and or final, and CET-Bhubaneswar, without any liability what so ever, either direct or indirect, may reject the system(s) component(s) provided by the Bidder, in part or in its entirety, without any explanation to the Bidder, if found unsatisfactory and not up to level of the acceptance of CET-Bhubaneswar.

17. Disclaimer

This Tender / Request for Proposal (RFP) is not an offer by CET-Bhubaneswar, but an invitation for bidder's response. No contractual obligation whatsoever shall arise from the RFP process.

18. Declaration:

The bidder would be required to give certificate as below in his commercial bid.

19. Solving Disputes:

The Institution & the Tenderer shall make all efforts to resolve amicably by direct informal negotiation on any disagreement or dispute arising between them under or in connection with this contract.

All disputes arising out of the contract shall be referred to courts under the jurisdiction of the Bhubaneswar court only.

The above terms and conditions except those otherwise agreed upon shall form a part of the Purchase Order.

20. Force Majeure

Notwithstanding the provisions of GCC clauses 22,23 and 24, the supplier shall not be liable for forfeiture of its performance security, liquidated damages or termination for default, if and to the extent that its delay in performance or other failure to perform its obligations under the contract is the result of an event of Force Majeure.

For purposes of the clause, "Force Majeure" means an event beyond the control of the supplier and not involving the supplier's fault or negligence and not foreseeable. Such events may include, but are not limited to, acts of the purchaser either in its sovereign or contractual capacity, wars or revolutions, fires, floods, epidemics, quarantine restrictions and freight embargoes.

If a Force Majeure situation arises, the supplier shall promptly notify the purchaser in writing of such conditions and the cause thereof. Unless otherwise directed by the purchaser in writing, the supplier shall continue to perform its obligations under the contract as far as reasonably practical, and shall seek all reasonable alternative means for performance not prevented by the Force Majeure event.

21. Termination for insolvency

If the supplier becomes bankrupt or otherwise insolvent, the purchaser may terminate the contract by giving written notice to the supplier, without any compensation to the supplier, provided, the such termination will not prejudice or affect any right of action or remedy which has accrued and / or will accrue thereafter to the purchaser.

"I/We UNDERSTAND THAT THE DETAILS OF THE SERVICES AS PROVIDED ABOVE ARE SUBJECT TO CHANGE. I/WE AGREE THAT IN CASE OF ANY CHANGE IN THE QUANTITIES REQUIRED FOR ANY OF SERVICES, I/ WE WOULD BE SUPPLYING THE SAME AT THE RATES AS SPECIFIED IN COMMERCIAL BID. I /WE AGREE TO ADHERE TO THE RATES GIVEN ABOVE EVEN IF THE QUANTITIES UNDERGO A CHANGE".

SIGNATURE OF THE BIDDER WITH STAMP

SECTION III: SPECIAL CONDITIONS OF CONTRACT (SCC)

1. Price Basis
Price quoted should be in the prescribed format as per Annexure-II. The quoted price will be considered firm and no price escalation will be permitted during the bid validity period.

2. Billing :
Billing is to be done in the name of The Principal, CET, Techno Campus, Ghatikia Bhubaneswar-751003. The payment would be on the basis of the actual bill of material supplied and duly certified by authorized representative of CET. The payment shall be made on actual measurement basis.

3. Performance Bank Guarantee (PBG)
The successful bidder will be required to furnish the Performance Bank Guarantee from a nationalized bank towards 10% amount of the Purchase Order value. This Bank Guarantee shall remain valid for 3 years, which shall be commencing after the completion of entire job. If the products are with more than 3 years warranty the Bidder should enter with an agreement with CET after expiry of 3 years. The agreement should be notarized by a notary Public of Bhubaneswar only. Else the bank guarantee shall be extended for another 3 years. The warranty certificate must be provided by the OEM in his letter head in original.

4. Payment
70% of invoice value after successful Supply by the Party and inspection of the same materials by CET authority, 30% after Installation / Laying, Commissioning, Execution & Testing of Networking and Wi-Fi Connectivity at CET, Bhubaneswar and submission of PBG. The inspection time of all the supplied material be completed by CET within Seven working days.

5. Penalty for Delayed Services
Since Timely completion is the essence of the contract, **the penalty will be levied @ 0.5 % of the contract value per week**, in case of delay/non-completion of work within the stipulated time period. Maximum penalty should be 1% of the P.O value.

6. Warranty (Active Components only)

a) All active hardware items except Unified Threat Management (UTM) firewall appliance covered in the schedule of requirements, shall carry standard **7 Years Onsite Comprehensive warranty** from the date of completion of installation and **bidders are requested to quote the AMC price for 8th, 9th & 10th year respectively.**

b) Onsite support should be provided within maximum 24 working hours. The bidder must undertake to provide the installation and warranty service at CET, Techno Campus, Ghatikia, Bhubaneswar. The repairing / rectification, if any of the items under warranty must be done at site only. The bidder should submit along with the technical bid, the detailed plan for providing installation and warranty services at site. Prompt and efficient after sales service must be provided within the warranty period.

c) All passive components shall carry warranty for 3 years.

d) UTM Firewall appliance shall be assumed to carry one year warranty based on its subscription and the same shall be considered for renewal on a year-over-year basis.

e) **During the warranty period vendor is to provide one competent engineer at site (CET, BBSR). The stationed engineer should have minimum 02 years experience in Networking (preferably in wireless).**

Annexure-II PRICE BID

Sl. No	ITEM	Qty	Make & Model	Rate per unit (In Rs.)	Total Price (In Rs.)
1	Managed Core Switch	01			
2	Layer-2 Power over Ethernet (PoE) Access Switch	17			
3	Access Point – Type 1	100			
4	Access Point – Type 2	07			
5	NMS	01			
6	24 Port Managed Distribution Switch	08			
7	UTM Firewall Appliance	01			
8	Network Rack 42U	02			
9	12U Rack with UPS	06			
10	6U Rack	11			
11	Desktop with 22" LCD for NMS	01			
12	Resident Engineer (1 no.) for 1 year	Lum psum			
13	Fiber Connectivity & Other Charges	Lum psum			
Grand Total (Rs.)					
Grand Total (In words)					
Optional Part					
14	AMC for 8th Year	Lum psum			
15	AMC for 9th Year	Lum psum			
16	AMC for 10th Year	Lum psum			

Note: Price bid evaluation shall be done excluding the quote for AMC for 8th/9th/10th year.

PRE-QUALIFICATION/ELIGIBILITY   **PROFORMA-I**

PARTICULARS OF THE BIDDERS TO BE FURNISHED IN TECHNICAL BID FOR THE PURPOSE OF PRE-QUALIFICATION:

1	Name of Organization/Firm/Company	
2	Address & Telephone Number	
3	Year of establishment	
4	Status of the Firm (Company/Firm/Proprietary) enclose the supporting document	
5	Whether registered with the registrar of companies/registrar of firms. If so attach the copy of certificate.	
6	a)Name & Mobile Number of Directors/Partners/Proprietor	i) ii) iii)
7	Whether registered with sales tax. If so, mention number & date. Furnish also copies of sales tax registration certificate Mention the VAT/ CST enclose the relevant copies with required clearance certificates upto March, 2013.	
8	Whether an assesses of income tax. If so, mention permanent account number. Furnish copy of PAN	
9	State Annual turnover of the company. Furnish copies of audited balance sheet & profit & loss account for the last three years Certified Auditor.	
10	Specify the maximum value of single work executed in the year in the country/State.	
11	Status and details of disputes/Litigation/Arbitration, if any.	i) ii) iii)

Place:
Date:

Name, Signature & Seal of Bidder:

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PRE-QUALIFICATION

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PROFORMA-II

PARTICULAR IN RESPECT OF 3 MAJOR WORKS EXECUTED IN LAST 3 YEARS

(TO BE FURNISHED IN TECHNICAL BID)

SL. No.	Name of work and project with address	Short Description of work executed	Name and address of owner	Value of work executed	No. of Ports (Switch Ports)	Stipulated time of completion	Actual time of completion

NB: Copies of Work Order / P.O., Completion certificate, Performance certificate must be attached.

Place:

Date:

Signature of contractor

FORMAT OF PERFORMANCE BANK GUARANTEE

Bank Guarantee

(To be stamped in accordance with Stamp Act)

Ref: Bank Guarantee
No.
                                                                                                    Date:

To
   The Principal,
   College of Engineering & Technology,
   Techno Campus, Ghatikia
   Bhubaneswar-3
   Odisha.

Sub: Performance Bank Guarantee for your purchase order/work order No. _____Date_____

Dear Sir,
Dated   this,   the………………………………………..Day of………………………………………………
WHEREAS
………………………………………………………………………………………………
………………………………………………………………………………………………
………………………………………………………………………………………………
………………………………………………………………………………………………
……………………………………………………………………

(Name of the Supplier with Address) hereinafter called "Supplier" has undertaken, in pursuance of RFP No. …………………………………………….,(hereinafter referred to as "Tender") and purchase order/work order as mentioned above for supply and installation/laying, commissioning, execution & testing of Networking and Wi-Fi connectivity in CET, Ghatikia, Bhubaneswar.

AND WHEREAS it has been stipulated in the above purchase order/work order that the supplier shall furnish a performance Bank Guarantee ("the Guarantee") from a scheduled bank of the sum Rs._____/- (Rupees_____ _____only) being 10% of the total value of the order specified therein as security for supply of the items.

WHEREAS

We…………………………………………………………………………………………
………………………………………………………………………………………………
………………………………………………………………………………………………
………………………………………………………………………………………………
………………………………………………………………………………………………

……………………………..("the Bank" Bank Name with complete address, which expression shall be deemed to include it, successors and permitted assigns) have agreed to give CET Bhubaneswar the Guarantee:

Dated this, the………………….. Day of…………………………………….

THEREFORE the Bank hereby agrees affirms as follows

1. The Bank hereby irrevocably and unconditionally guarantees the payment of all sums due and payable by the supplier to CET, Bhubaneswar, adhering and withstanding all the terms therein RPF No…………………………………………………….and purchase order/work order No. _____ Date_____ an account of full/partial/non-supply/non-Installation/delayed/defective supply & Installation of Networking and Wi-Fi connectivity in CET, Bhubaneswar Provided however, that the maximum liability of the Bank towards CET, Bhubaneswar under this Guarantee shall not under any circumstances exceed the amount Rs._____/-(Rupees _____only) as indicated in Tender No…………………………………………… and purchase order/work order No………………. Date………………………..

2. In pursuance of this Guarantee, the Bank shall, immediately upon the receipt of written notice from CET, Bhubaneswar reason to full/partial/non-supply/non-installation/delayed/defective supply & installation of Networking and Wi-Fi connectivity in CET, Bhubaneswar which shall not be called in question, in that behalf and without delay/demur or set off, pay to CET, Bhubaneswar any and all sums demanded by CET, Bhubaneswar under the said demand notice, subject to the maximum limits specified in clause 1 above.

   A notice from CET, Bhubaneswar to the Bank shall be sent by Registered Post (Acknowledgement Due) at the following address:

   ………
   ………
   ………
   ………………………………………………………………………………………(Bank   name   with complete address).

3. This Guarantee shall come into effect immediately upon execution and shall remain in force for a period of 3 years from date of its execution.

4. The liability of the Bank under the terms of this Guarantee shall not , in any manner whatsoever, be modified, discharge, or otherwise affected by:

i) Any change or amendment to the terms and conditions of the contract or the execution of any further Agreements.

ii) Any breach or non-compliance by the Suppliers with any of the terms and conditions of any Agreements/credit arrangement, present or future, between the supplier and the Bank.

5. The Bank also agrees that CET, Bhubaneswar at its option shall be entitled to enforce this Guarantee against the Bank as principal Debtor, in the first instance without proceeding against supplier and not withstanding any security or other guarantee that CET, Bhubaneswar may have in relation to the supplier's liabilities.

6. The Bank shall not be released of its obligation under these presents by reason of any act of omission or commission on the part of CET, Bhubaneswar any other indulgence shown by CET, Bhubaneswar or by any other matter or thing whatsoever which under law would, but for this provision, have the effect of relieving the Bank.

7. This Guarantee shall be governed by the laws of India and only the High Court of Odisha shall have exclusive jurisdiction in the adjudication of any dispute which may arise hereunder.

Dated this, the…………………………………………Day of………………………………….

Witness

(Signature)   (Signature)
(Name)   Bank Rubber
Stamp
(Official Address)   Designation
with Bank

Dated: date:

TECHNICAL SPECIFICATIONS
1) Managed Core Switch (CISCO/HP/Motorola or equivalent)

Sl. No	Specifications	Compliance (Yes/No)	Remarks
1	Chassis based Architecture, with minimum 6 payload slots for accommodating line-cards / modules		
2	Should have 480 Gbps switch fabric.		
3	Packet forwarding rate for 64-byte packets required at least 357 million packets per second forwarding rate at both layer 2 & layer 3		
4	The Switch should have distributed/local switching on each Module. All relevant hardware required distributed forwarding should be provided from Day1		
5	The Switch should have the following interfaces from Day 1:		
	24 x 10/100/1000 Base-Tx interfaces		
	24 x 1G SFP interfaces in 2 separate line cards (12 x 1G SFP per line card configuration)		
	Should be populated with 12 nos. of LX-LC SFP modules		
6	Hot swappable chassis Components such as power supply and interface modules		
7	Should have redundant CPU, power supplies and fans from day 1.		
8	Should support following protocols:		
	· 802.1s, 802.1d, 802.1w		
	· 802.3ad		
	· 802.1v		
	· 802.3x		
	· 802.1ad Q-in-Q		
9	Support for 2000 Active VLANs.		
10	Layer 3 features, VRRP or equivalent to create redundant, fail-safe routing topologies,		
11	Should support service modules to port network as well as business applications like Firewall, IPS, Server Load Balancing, etc.		
12	Should have integrated Wireless Controller module		
13	The proposed Wireless Controller should be able to manage 100 Access Points from Day1 and scalable up to 200 Access Points		
14	The proposed Wireless Controller module should support: • IEEE 802.11 n/a/b/g access points and/or access devices • 2,000 simultaneous guest access users It should include the following services: : – Plug-and-play AP management and WLAN management – Guest access – Captive portal – Support for Real-Time Location Services (RTLS) – Advanced fast roaming with VoWLAN support – L2 & L3 roaming support		

Sl. No	Specifications	Compliance (Yes/No)	Remarks
	– Support for up to 64 SSIDs – Unified policy enforcement and network visibility		
15	Should support Static IP routing, RIPv1&2, OSPF & BGP from Day1.		
16	Should support SSHv2, and SNMPv3 allowing secure access to the switch		
17	Should support DHCP protection blocking DHCP packets from unauthorized DHCP servers		
18	Standard and extended ACLs on all ports		
19	Should support 802.1x user authentication, Web-based authentication and MAC-based authentication		
20	Should have support for IPv6		
21	CoS: Should support port-based COS assignment and CoS trust		
22	Queue per port: Should have minimum 8 hardware queues per port		
23	MAC address table size of 64,000 entries		

2) Layer-2 PoE Access Switch (CISCO/HP/Motorola or equivalent)

Sl. No.	Specifications	Compliance (Yes/No)	Remarks
A.	**Architecture**		
1	The switch should have 24 x 10/100/1000 PoE ports where 4 ports shall at least support 1000 Base SFP		
2	Should support 1000 Base- SX, LX, BX LH and 100Base-FX Mini-GBICs		
3	Should have 56 Gbps switching fabric		
4	Should have 41.7 Mpps Switching throughput		
5	Should support IEEE 802.3af PoE on all copper ports with minimum PoE power budget of 170 watts per switch		
6	Should have MAC Address table size of 8,192 entries		
7	The Switch should be 19" Rack-Mountable		
8	Should support operation and static routing at full wire speed IPv4 & IPv6		
9	Should have 128 MB RAM and adequate flash to support continuous operation		
B.	**Resiliency and high availability**		
1	Should support IEEE 802.3ad Link Aggregation Control Protocol (LACP)		
2	Should support IEEE 802.1s MSTP with backward support for IEEE 802.1d STP & IEEE 802.1w RSTP		
C.	**Layer 2 features**		
1	Should support IEEE 802.1Q VLANs up to 256 ports VLANs		
2	Should support GVRP VLAN Registration Protocol allowing automatic learning and dynamic assignment of VLANs		

Sl. No.	Specifications	Compliance (Yes/No)	Remarks
3	Should support Jumbo frames on 10 kilo bytes		
D.	**Security**		
1	Should support MAC and IP based ACLs and time based ACLs		
2	Should support IEEE 802.1X and RADIUS based authentication		
3	Should support Denial-of-service and/ or firewall protection for the network		
4	Should support management access security encrypted through SSL and SNMPv3		
5	Should support Web and MAC based authentication		
E.	**Convergence and QoS**		
1	Should support IGMP and MLD		
2	Should support IEEE 802.1AB Link Layer Discovery Protocol (LLDP)		
3	Should support rate limiting		
4	Should support IPv6 ACL and QoS		
5	Should support IEEE 802.1p Traffic prioritization		
6	Should support IP multicast (data driven IGMP) to automatically prevent flooding of IP multicast traffic		
F.	**Manageability**		
1	Should support SNMP V1/V2c/SNMPV3		
2	Should support web interface for switch configuration		
3	Should support Port mirroring		
4	Should support RMON		
5	Should have CLI		
6	Should support Multiple configuration files		

3) Access Points – Type 1 (CISCO/HP/Motorola or equivalent)

Sl. no	Technical Specifications	Compliance (Yes/No)	Remarks
A.	**Architecture**		
1	The access point should have 1 x RJ-45 auto-sensing 10/100/1000 port (IEEE 802.3 Type 10Base-T, IEEE 802.3u Type 100Base-TX, IEEE 802.3ab Type 1000Base-T)		
2	Should be dual-radio supporting 802.11a/b/g/n with support for two spatial streams and 3x3 MIMO		
3	The AP should have dedicated 802.11n support without allowing legacy clients (802.11a/b/g) on the same radio to achieve maximum 802.11n data rates. Shall support latest IEEE 802.11n specifications with at least 300Mbps per radio		
4	Should support per-radio software-selectable configuration of the 2.4 GHz and 5 GHz frequency bands and Should be available on both radios		
5	Should have up to Six Integrated, dual-band, omni antenna (4dBi gain for 2.4GHz & 7dBi gain for 5 GHz)		
6	Should be able to deploy them either for Local Client Access, Mesh connectivity and Wireless Packet detection mode		
7	The access point should be PoE compliant and operate on the existing power supplied by IEEE 802.3af power injectors		
8	Should be Plenum-rated for indoor wireless coverage		
B.	**Mobility Features**		
1	Should support self-healing, self-optimizing local mesh extending network availability to areas without an Ethernet infrastructure		
2	Should be Wi-Fi Alliance certified for interoperability with all IEEE 802.11a/b/g client devices		
3	Should support up to 16 Service Sets with unique SSIDs with a unique MAC address		
4	Each SSID should be independently configurable for authentication, encryption, VLANs, and up to four QoS levels		
5	Should support TOS/DiffServ and 802.1p for end-to-end QoS across wired and wireless networks		
6	Should support QoS classification based on TCP/UDP port		
7	Should support direct source-to-destination traffic forwarding (distributed traffic forwarding) to maximize application delivery		
C.	**Security features**		
1	Should support IEEE 802.11g WPA and WPA2 Wireless Multimedia (WMM), WMM Power save EAP-TLS, EAP-TTLS/MSCHAPv2, PEAPv0/EAP-MSCHAPv2, PEAPv1/EAP-GTC, IEEE 802.11h		
2	Should support enforcement of client authorization based on user credentials (802.1X/EAP), hardware identifiers (MAC address, WEP key),		

Sl. no	Technical Specifications	Compliance (Yes/No)	Remarks
	and HTML login		
3	Should support hardware-assisted encryption using WPA2/AES (IEEE 802.11i), WPA/RC4 and/or WEP		
4	Should support simultaneous detection and prevention of wireless threats on 2.4 GHz and 5 GHz frequency bands		
5	Should support Layer-2 client isolation per Service Set		
6	Should support protocol filtering per Service Set to deny unwanted traffic		
7	Should support IP filtering per-user and per-Service Set to forward traffic to a pre-defined location		
8	Should support management communication via SSH/SSL, IPSec, and digital certificates		
D.	**Management features**		
1	Should support both centrally controlled mode (configured and updated via wireless controller) and autonomous mode which is software selectable		
2	Should support auto-selection of RF channel and transmit power		
3	Should support PCAP packet capture on WLAN or LAN interface		
4	Should support SNMP, CLI, and web-based management interfaces		
5	Operating temperature of up to 50 degree Celsius		

4) Access Point – Type 2 (CISCO/HP/Motorola or equivalent)

S.No.	Item Description	Specifications	Compliance (Yes/No)	Remarks
	General	Outdoor AP with Dual Radios that supports latest IEEE 802.11n specifications with at least 450Mbps per radio and concurrent operation on 802.11a/n (5 GHz) and 802.11b/g/n (2.4 GHz).		
		Outdoor Omni-directional Antenna with 6/ 8 dBi gain and supporting 5 GHz operation.		
		Lightening arrestor of same make to be supplied and installed by bidder.		
		Should include hardware for pole and wall mount applications		
		Outdoor enclosure should be IP67 rated and NEMA 4X rated. Omni-directional and directional MIMO antennas should be weather proof and tested to meet the IP67 rating		
		Should be able to deploy them either for Local Client Access, Mesh connectivity and Wireless Packet detection mode		

S.No.	Item Description	Specifications	Compliance (Yes/No)	Remarks
		Should support per-radio software-selectable configuration of the 2.4 GHz and 5 GHz frequency bands and Should be available on both radios		
		Should support self-healing, self-optimizing local mesh extending network availability to areas without an Ethernet infrastructure		
		Should support up to 16 Service Sets with unique SSIDs with a unique MAC address		
		Each SSID should be independently configurable for authentication, encryption, VLANs, and up to four QoS levels		
		Should support direct source-to-destination traffic forwarding (distributed traffic forwarding) to maximize application delivery		
		Should support both centrally controlled mode (configured and updated via wireless controller) and autonomous mode which is software selectable		
	Radio Transmit Power	At least 10 dBm; configurable		
	Interface	Single 10/100/1000BaseT Ethernet Port		
	Power	Dedicated Power input from AC/DC Adapter or from PoE switches		
	Encryption	Dedicated hardware-based line-rate encryption for certified operation of WPA (TKIP), WPA2, (AES), 40-bit WEP,128-bit WEP, and Dynamic WEP		
	Radio features	3 x 3 MIMO (3 Radio Transmit and 3 Radio Receive chains) with at least three spatial streams		
		20 MHz and 40 MHz channels		
		PHY data rates up to 450 Mbps per radio and 900 Mbps aggregate total		
		Should be able to run both radios at concurrently 5 GHz		
		Should support Beamforming to provide better coverage area and better performance at distances from the AP		
		Should support Band steering to steer wireless clients to the 5 GHz band for outstanding performance		
		802.11n :Adaptive Frame Aggregation on L2 and L3 Cyclic Delay Diversity (CDD)		
	Environmental	Operating temperature: 0°C to 55°C or better		
		Humidity: 10% - 95% (non-condensing) or better		
		150 Km/h wind speed survival capability		

S.No.	Item Description	Specifications	Compliance (Yes/No)	Remarks
	Status Indicators	LED indicators to indicate various states like Power and activity for both Radios		
	Quality of Service	802.11e quality of service (QoS) (WMM),		
		802.11i Fast Roaming (PMK Cache)		
		802.1Q VLAN tagging		
	Standards / Certification	Safety standard: UL 60950-1; IEC 60950-1; EN 60950-1; EN 60601-1-2; CAN/CSA-C22.2 No. 60950-1		
		Medical standard: EN60601-1-2		
		Environmental: EN 55022 Class B; EN 60601-1-2; EN 301 489-1; EN 301 489-17; ICES 003 Class B; FCC Part 15, Class B;		

5) **NMS (From the same OEM)**

S. No.	Technical Specifications	Compliance (Yes/No)	Remarks
	NMS features		
1	NMS should have sufficient license to manage all proposed Active networking devices with 25% scalability support.		
2	It should be FCAPS based		
3	NMS should offer intelligent, automatic discovery of network devices to create topology views of the network, including a detailed inventory of the network		
4	NMS should intelligently analyze fault conditions, detecting problems before they become network disruptions		
5	NMS should provide network response and availability information for LAN network.		
6	Historical reporting facility that will allow for the generation of on-demand and scheduled reports of Business Service related metrics with capabilities for customization of the report presentation		
7	All the devices and the associated links should be continuously monitored by the NMS and the alarms/alerts will be provided in case of failure of any device/link		
8	Network monitoring shall be based on SNMP, which is basically server-client architecture.		
9	All network components shall be configured to alert the centralized NMS server via SNMP incase of any events, so as to reflect real status of all network components and links across LAN		
10	Additionally whenever there is any network component failure, the NMS should log all the faults in the event window with a timestamp, event description or event details, component affected, etc		
11	The NMS should collect raw data and store the same in a database repository. The database should be integral part of EMS/ NMS and		

S. No.	Technical Specifications	Compliance (Yes/No)	Remarks
	not separate entity.		
12	The offered solution should be able to manage all network devices (Wired, Wireless, Security etc.) in the network and should be scalable. **The vendor should include operating system, database (if any) and any other required software in the bill of materials.**		
13	The reporting engine should generate the reports based on the data collected, and help user in accessing these graphical reports using standard Web browser or any standard browser etc. such as Internet Explorer or Mozilla		
14	The NMS should have the provision for automated report consolidation		
15	User should be able to create his /or her customized reports based, such as on basis of certain objects or for any time period of the choice		
16	Should be able to view Reports in a number of formats, including .pdf and .xls, and can be sent automatically via email, or scheduled to run on a set schedule		
17	The system must be capable of automatically discovering manageable elements connected to the network and mapping the connectivity between elements, including port-level connectivity		
18	The solution should have the capability to discover Layer2 & Layer3 Devices & connectivity.		
19	The system must provide visualization tools to display network topology and device to device connectivity. The system must also be able to document since the last update. connectivity changes that were discovered		
20	The state of the network components on the topology map shall be represented by a unique color scheme, such as Red to denote device 'Critical' or unavailable and Green to indicate that the device is working fine.		
21	The system must provide a real time business services Dashboard that will allow the viewing of the current health of network elements		
22	The NMS should be able to detect the number of active and faulty links and other devices on the network at any time		
23	NMS should be able to accept traps and alarms from the devices & display appropriate message on NMS console		
24	NMS should allow management support for new devices added to the network.		
25	Real-time link Status, performance monitoring, configuration management and reporting		
26	Must support the ability to manage QoS by adding modules of the same system.		
27	Must include ability to create, manage, and re-configure VLANs		

S. No.	Technical Specifications	Compliance (Yes/No)	Remarks
28	The NMS should have the capability to notify status change, an event, or a problem on a server or network equipment by sending a message as an e-mail or triggers the message is a problem, NMS shall take appropriate actions to correct the problem.		
29	The NMS can forward or help in generating Trouble tickets in 'Help Desk' system automatically		
30	The NMS shall have suitable mechanism to ensure the integrity of the data stored		
31	Should enable the network administrator to perform centralized management on configuration files and software files, perform backup, restoration and batch update of configuration files, and software/firmware backups and upgrades		
32	Should store and track different versions of device configuration and can compare and determine changes of configuration files		
33	Should support new modules to be added to enrich a network's management capabilities. Modules for user access management, VPN management, and traffic analysis. The architecture should allow modules to share information and provide collaborative policy creation and reports.		
34	Should support virtualization management; management and monitoring of both physical and virtual networks. It should provide insight into and management of virtual networks and reduce migration complexity by aligning and automating network policies with virtual images		
35	With additional modules, NMS should be able to analyze a network endpoint's security status to locate security threats, detect security events, and carry out protective measures to reduce network vulnerabilities. This should be able to determine endpoint patch level, ARP attack, abnormal traffic, and the installation and operation of illegal software. Administrators can choose enforcement policies and remediation options that are appropriate to particular endpoints.		
36	With or without additional modules of the same NMS, the system should be able to collect flow information from sflow-, nflow-, and netstream-capable devices. Through traffic analysis, it should help identify network bottlenecks, recognize anomalous traffic, and pinpoint varying levels of bandwidth traffic for different services and applications.		
37	Should support the control of access control lists (ACLs) with effective policy-based control of network security and quality of service (QoS) across an organization's network infrastructure		

6) 24 Port Managed Distribution switch. (CISCO/HP/Motorola or equivalent)

Sl. No.	Technical Specifications	Compliance (Yes/No)	Remarks
A.	**Architecture**		
1	The switch should have 20 x 10/100/1000 BaseT ports with 4 dual-personality ports for RJ-45 10/100/1000 or mini-GBIC fiber Gigabit connectivity. 1 no. of SX-LC SFP should be populated from Day1		
2	The switch should support up to four optional 10-Gigabit ports		
3	Should support 1000 Base- SX, LX, BX, LH and 100Base-FX Mini-GBICs		
4	Should have at least 128 Gbps switching fabric		
5	Should have switching throughput of up to 95 million pps		
6	MAC Address table size of 16,000 entries		
7	The Switch should be 19" Rack-Mountable		
B.	**Resiliency and high availability**		
1	Should support IEEE 802.3ad Link Aggregation Control Protocol (LACP) up to 24 trunks each with up to 8 links (ports) per trunk.		
2	Should support IEEE 802.1s Multiple Spanning Tree Protocol		
3	Should support Redundant Power Supply		
C.	**Layer 2 and Layer-3 features**		
1	Should support IEEE 802.1Q (4,096 VLAN IDs) and 256 VLANs simultaneously		
2	Should support GARP VLAN Registration Protocol allowing automatic learning and dynamic assignment of VLANs		
3	Should support Jumbo frames on Gigabit and 10-Gigabit ports		
4	Should support Static IP routing, RIP v1/v2 routing protocols.		
5	Should be IPv6 Capable supporting IPv6 host, Dual stack (IPv4/IPv6) and MLD snooping		
D.	**Security**		
1	Should support Port security and MAC address lockout		
2	Should support Access control lists (ACLs) to provide IP Layer 3 filtering based on source/destination IP address/subnet and source/destination TCP/UDP port number		
3	Should support IEEE 802.1X user authentication, Web-based authentication and MAC-based authentication		
4	Multiple IEEE 802.1X users per port up to eight IEEE 802.1X users per port		
5	Should support Dynamic ARP protection to block ARP broadcasts from unauthorized hosts, preventing eavesdropping or theft of network data		

6	DHCP protection to block DHCP packets from unauthorized DHCP servers, preventing denial-of-service attacks		
7	Should support STP BPDU protection preventing forged BPDU attacks		
8	Should support Secure FTP for secure file transfer to/from the switch		
9	Should support Source Port Filtering allowing only specified ports to communicate with each other		
10	Should support TACACS+ and RADIUS authentication for secure switch CLI logon		
11	Should support SSHv2 and SSL allowing secure access to the switch		
13	Should support UDLD (Uni-Directional Link Detection)		
E.	**Convergence and QoS**		
1	Should support IP multicast Snooping (data-driven IGMP)		
2	Should support IEEE 802.1AB Link Layer Discovery Protocol (LLDP)		
3	Should support LLDP-MED (Media Endpoint Discovery) to automatically configure QoS/VLAN to network devices such as IP phones		
4	Should support IEEE 802.1p Traffic prioritization allowing real-time traffic classification into 8 priority levels mapped to 8 queues		
5	Should be able to set the IEEE 802.1p priority tag based on IP address, IP Type of Service (ToS), L3 protocol, TCP/UDP port number, source port, and DiffServ		
6	Should support Layer 4 prioritization enabling prioritization based on TCP/UDP port numbers		
7	Should support Per-port broadcast throttling to selectively configure broadcast control on heavy traffic port uplinks		
8	Should support per-port Rate Limiting setting ingress enforced maximums		
F.	**Manageability**		
1	Should support sFlow and extended RMON for traffic monitoring		
2	Should support Port mirroring		
3	Should support command authorization leveraging RADIUS to link a custom list of CLI commands to individual network administrator's login		
4	Should have Dual-flash images for redundant switch software images		
5	Should support Multiple configuration files		
6	Should support single IP address management for a virtual stack of up to 16 switches.		

7) UTM Firewall Appliance

Sl. No.	Technical Specifications	Compliance (Yes/No)	Remarks
1	Standalone appliance based on multi-core parallel processing architecture with hardened operating system		
2	Shall have complete IPv4 and IPv6 support		
3	Shall have the following features including required license from day-1:		
	a) 20 x 10/100/1000Mbps interfaces with hardware-bypass		
	b) Support for 50000 new sessions per second		
	c) Support for 1000000 minimum concurrent sessions		
	d) Minimum 10Gbps firewall throughput		
	e) Minimum 2Gbps IPS throughput		
	f) Minimum 1Gbps UTM throughput		
	g) Unrestricted node/user license		
4	Shall support future up-gradation to high-availability configuration in both active-active and active-passive modes of deployment		
5	Shall work as standalone HTTP proxy server with integrated firewall, anti-virus, anti-spam, content filtering, and IPS		
6	Shall support user-based policy configuration for security & Internet management		
7	Shall provide on appliance reports based on user credentials and/or on the basis of user IP address		
8	Shall support mixed mode deployment in layer-3 route and/or layer-2 transparent mode		
9	Shall support administration via secured communication over HTTPS and SSH including from console		
10	Shall be able to export and import configuration backup including user objects		
11	Shall support integration with Windows NTLM, Active Directory, LDAP, RADIUS or Local Database for user authentication		
12	Shall support automatic transparent Single Sign on (ASSO) for user authentication. SSO must be proxy independent and support all applications for authentication.		
13	Shall support Dynamic DNS configuration		
14	Shall provide bandwidth utilization graph on daily, weekly, monthly or yearly for total or individual ISP link		
15	Shall provide real time data transfer/bandwidth utilization done by individual User/IP/application		
16	Shall support Parent Proxy with IP/FQDN support		
17	Shall support User/IP/MAC binding functionality to map username with IP address & MAC address for security reason		
18	Shall support version rollback functionality		
19	Shall support session time out & Idle time out facility to forcefully logout the users		

20	Shall support ACL based user creation for administration purpose		
21	Shall support inbuilt PPPOE client and should be capable to automatically update all required configuration whenever PPPOE get changed		
22	Shall support SNMP v1, v2c & v3		
23	Shall be firmware based instead of normal software with capability to keep three firmware instant roll back		
24	Shall provide flexible, granular role-based GUI administration		
25	Shall support of Thin Client (Microsoft TSE, Citrix) authentication and must be able to differentiate users coming from same IP address		
26	Shall support load balancing & failover for more than 2 ISPs		
27	Shall support explicit routing based on Source, Destination, Username, & Application		
28	Shall provide option to create failover condition on ICMP, TCP or UDP protocol to detect failed ISP connection		
29	Shall send alert email to admin on change of gateway status		
30	Shall support Active/Active and/or Active/Passive configuration in high-availability failover scenario		
31	Shall have encrypted traffic between the peers on high-availability configuration		
32	Shall support automatic & manual synchronization between peers in high-availability configuration		
33	Shall support stateful inspection with user based one-to-one & dynamic NAT including PAT		
34	Shall support user identity as matching criteria along with Source/Destination IP/Subnet/group, destination Port in firewall rule		
35	Shall support facilitate to apply unified threat policy like anti-virus, anti-spam, IPS, content filtering, bandwidth policy & policy based routing decisions on firewall rule for ease of use		
36	Shall support inbound load balancing		
37	Shall support 802.1q VLAN tagging		
38	Shall support dynamic routing like RIP and BGP4		
39	Shall support Fully Qualified Domain Name (FQDN) based host and host group		
40	Shall have singnature based and protocol anomaly based Intrusion Prevention System (IPS)		
41	Shall have comprehensive IPS signature database with minimum 3000 signatures and automatic signature updates		
42	Shall support blocking of anonymous open HTTP Proxy running on port 80 or any other port & also shall support client based open proxy like "Ultra surf"		
43	Shall generate historical reports based on top alerts, top attackers, severity wise, top victims, protocol wise		
44	Shall have integrated virus scanning and removal capabilities over		

	SMTP, FTP, POP3, HTTP including FTP over HTTP		
45	Shall have integrated anti-spam features with real time spam detection & proactive virus detection technology which detects and blocks the new outbreaks immediately and accurately.		
46	Shall support spam detection using Recurrent pattern detection technology (RPD) to identify spam out breaks		
47	Shall have comprehensive web content filtering features with minimum 50 different content categories		
48	Shall have support for blocking of HTTPS sites		
49	Shall be able to block HTTP and HTTPS based anonymous proxies available on the Internet		
50	Shall be able to generate reports based on username, IP address, URL, groups, categories & category type		
51	Shall support creation of internet access time policy for individual users or on group basis		
52	Shall have integrated bandwidth management		
53	Shall able to set guaranteed and burstable bandwidth per User/IP/Application on individual or shared basis		
54	Shall be VPNC Basic interop & AES interop certified		
55	Shall provide on appliance SSL-VPN solution with Web Access (Clientless), Full Tunnel and Split Tunnel control. Solution should provide per user / group SSL-VPN access (Must be free license for unlimited users)		
56	Shall have buit-in hard-disk for storage of logs and reports		
57	Shall have on-appliance comprehensive reporting features with inherent ability to provide reports in HTML, CSV, PDF, Excel & graphical formats		
58	Shall provide data transfer reports on the based of application, username, IP address		
59	Shall provide connection wise reports for user, source IP, destination IP, source port, destination port or protocol		
60	Shall be able to provide detailed reports about all mails passing through the firewall		
61	Shall provide detailed reports for all files uploaded via HTTP or HTTPS protocol. The report should include username/IP address/URL/File name/Date and Time		
62	Shall be capable to do the forensic analysis to help organizations reconstruct the sequence of events that occurred at the time of security breach		
63	Shall have rack-mount configuration		
64	Shall run on AC power		
65	Shall be bundled with all applicable licenses for smooth functioning of the following features for 12 months:		
	a) Web content filtering		
	b) intrusion prevention system		
	c) Anti-virus		

		Compliance (Yes/No)	Remarks
d) anti-spam			
e) anti-malware			
f) application filtering and control			

8) Network Rack 42U

Sl. No.	Technical Specifications	Compliance (Yes/No)	Remarks
A.	Architecture		
1	Width : 800mm Depths : 800mm		
2	Side covers plain with lock.		
3	Front & Rear Steel Perforated Doors with lock		
4	Equipment mounting Hardware.		
5	Castor Set and Leveling Legs.		
6	PDU 14x5/15Amp, Indian round pin, 16 Amp Rated.		
7	Cooling fans (Qty – 4 No`s).		
8	Cable management: 2 x Vertical cable managers on the front side		
9	19`` Mounting Angles.		
10	Earth continuity kit.		
11	Sheet Steel, Powder coated black.		

9) 12 U Rack with UPS

Sl. No.	Technical Specifications	Compliance (Yes/No)	Remarks
1	Width : 600mm Depths : 500mm		
2	Bolted Construction.		
3	Cable entry at Top and Bottom.		
4	Front glass door, with lock.		
5	19 "mounting angles at front are recessible.		
6	PDU 6x5Amp, 5 Amp Rated.		
7	Cooling Fan , 230 VAC / 50 Hz.		
8	Cable Manager, 19", with PVC Loops.		
9	Mounting Hardware PKT.		
10	Line interactive UPS 650VA.		

10) 6U Rack

Sl. No.	Technical Specifications	Compliance (Yes/No)	Remarks
A.	Architecture		
1	Width : 600mm Depths : 500mm		
2	Bolted Construction.		

3	Cable entry at Top and Bottom.		
4	Front glass door, with lock.		
5	19 "mounting angles at front are recessible.		
6	PDU 6x5Amp, 5 Amp Rated.		
7	Cooling Fan , 230 VAC / 50 Hz.		
8	Cable Manager, 19", with PVC Loops.		
9	Mounting Hardware PKT.		

11) Desktop with 22" LCD Monitor For NMS.

Sl. No.	Technical Specifications	Compliance (Yes/No)	Remarks
A.	Spec: Core i5 or better, 4GB RAM, 320 GB HDD, DVD-R/W, 10/100/1000 NIC, OS: Win-7 Pro. With 22" LCD monitor(Touch Screen)		

12) Resident Engineer (1 no.) for 1 year

13) Fiber connectivity and other charges.

Sl. No.	Technical Specifications	Remarks
1	6 core Single Mode 9/125 um cables	
2	SM SC-LC duplex fiber Patch cord (2mtrs.)	
3	12 Port LIU (Rack Mountable & Wall Mountable)	
4	SM SC Pigtail (1mtr.)	
5	SM SC single mode Adapter	
6	1x6 SC Adapter plate	
7	Laying of Conduit HDP Pipe.	
8	Underground Fiber laying	
9	Digging of Hard soil Including all Labour cost.	
10	SC connectorisation per fiber core.	
11	HDP Pipe (25 mm)	
12	UTP CAT-6 cable	
13	Casing, Punching, Spicing & installation of UTP cable Per Mtr.	
14	24 Port CAT 6 Patch panel.	
15	I/O Box with SMB (Single) and Backbox.	
16	Cat-6 UTP Patch cord (1 mtr.)	
17	Access point cage.	
18	OFC Marker.	
19	Installation & configuration of Core switch, access point & distribution switch.	
20	Antenna Mast for Each building (10 ft) with RCC base	

Note: Vendors are requested to verify the site before quoting. The quantity mentioned in the technical specification is approximate quantity. Original quantity may vary. Please submit the location wise details of materials required for networking.