



**COLLEGE OF ENGINEERING AND TECHNOLOGY
BPUT, TECHNO CAMPUS, KALINGA NAGAR,
PO: GHATIKIA, BHUBANESWAR-751 003**

Tender Call Notice No. 2270/CET

Dated: 04/08/2015

Tender Call Notice


Sealed Two-bid tenders are invited from **Original Equipment Manufacturers (OEM)/Authorised Dealers/Partners**, for supply, installation, commissioning, execution & testing of Networking connectivity of **Network Switches & other accessories** in the **Central Computer Laboratory-II managed by IT Department**, College of Engineering and Technology (CET), BPUT, Techno Campus, Kalinga Nagar, Bhubaneswar – 751003, Orissa in the prescribed format as per the requirements enclosed in the schedule of items given in bid documents. Bid documents with details terms & conditions is to be downloaded from CET website 'www.cet.edu.in' or can be obtained from office of College of Engineering & Technology (CET), Techno Campus, Ghatikia, Bhubaneswar- 751003.

The tenders along with the tender cost and EMD as given in bid documents in the sealed envelope should be super scribed with "**Tender for Network Switches & other accessories**" and submitted through speed post or in the Tender box at Ground Floor- A-Block, Principal Office at College of Engineering & Technology (CET), Techno Campus, Ghatikia, Bhubaneswar-751003 by 3 P.M on or before 04/09/2015. **The technical bid shall be opened on 04/09/2015 at 3.30 P.M. & Price Bid shall be opened on 21/09/2015.**

The interested bidders can inspect the site at any time during working hours on any working day at their own cost before submission of tender. No consideration shall be entertained regarding non awareness of the site conditions and constraints after submission of tender.

The authority reserves the right to accept or reject any tender in part or whole without assigning any reason thereof. No correspondence in this regard will be entertained.

**Sd/-
PRINCIPAL**

	<p>College of Engineering & Technology (A constituent College of BPUT) Techno Campus, Ghatikia Bhubaneswar- 751003</p>
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Tender Notice for Supply, Installation / Commissioning, Execution & Testing of Networking switch at College of Engineering & Technology(CET), Techno Campus, Ghatikia, Bhubaneswar.

CET

(A Constituent College of BPUT, Rourkela)

Techno Campus, Ghatikia

Bhubaneswar – 751003, Orissa, India

Tel : +91-674-2386075

Fax : +91-674-2386182

CET invites sealed offers in Two-Bid form for Supply, Installation / Commissioning & Testing of Networking switch 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

1. Issue of Tender Document: 04/08/2015
2. Submission of Bids: 04/09/2015
3. Technical Bid Opening Date: 04/09/2015
- 3A. Financial Bid opening Date: 21/09/2015
4. Tender fee (Non-Refundable): Rs. 500/- (Rupees five hundred 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. 500/- favoring principal, CET payable at Bhubaneswar must be enclosed with the Technical Bid.
5. Earnest Money Deposit: The Bidder shall submit their quotes along with EMD of Rs. 10,000/- (Rupees Ten Thousand 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 / Commissioning, Execution & Testing of Networking Switch 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 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 OEM should be present in Gartner's quadrant for enterprise LAN .
- The OEM's net worth should be positive for last three years.
- The bidder should be an organization/company in operation with office and Service Support Center for the last Five years as on 31st March 2015 in Odisha preferably in Bhubaneswar, to ensure satisfactory service support after sales.
- The tender(s) should have executed installations of the similar nature work. (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. Enclose copies supporting documents. In absence of such certificate, the Bid is liable to be rejected. The Tenderer should be ISO 9001 certified.
- The bidder's firm must be a financially sound have turnover of more than 1.00 Crores per year for last three 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 years from 2012 to 2015 (must be certified by CA failing which the bid is liable to be rejected).

- 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 execution of networking projects.
- **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 /Execution & Testing of Networking switch 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. :

Due date & time :

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. 500/- (Rupees Five hundred only) in the form of DD / Pay Order favoring Principal, College of Engineering & Technology, payable at Bhubaneswar. (In case the tender document is downloaded 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. 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 04/09/2015. 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.

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 60 days **from the date of P.O** to 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 72 hours before the closing date / time of receipt of bids will be responded.

16. 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.

17. Unsatisfactory Performance

The Parties herein agree that CET-Bhubaneswar shall have the sole and discretionary right to assess the performance(s) of the Bidder component(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.

18. 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.

19. Declaration:

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

20. 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.

21. 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 restricted to, acts of the purchaser in its sovereign 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.

22. 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.

4. 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.

5. Payment

70% of invoice value after successful Supply and inspection of the materials by CET, 30% after Installation / Commissioning, Execution & Testing of Networking switches at CET, Bhubaneswar and submission of PBG.

6. 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.

7. Warranty (Active Components only)

a) All the switches 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.

Annexure-II PRICE BID

Sl. No	ITEM	Qty	Make & Model	Rate per unit (In Rs.)	Total Price (In Rs.)
1	24 Port Managed Distribution Switch	05			
2	Network Rack 42U (Loaded)	01			
3	24 Port Patch Panel	05			
4	1mtr Patch cord (Machine Punching)	200			
5	3mtr Patch cord (Machine Punching)	25			
6	10mtr Patch cord (Machine Punching)	5			
<u>Grand Total (Rs.)</u>					
<u>Grand Total (In words)</u>					

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 clearance certificates	
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 by CA.	
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:

PRE-QUALIFICATION

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

PROFORMA-III

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, commissioning, execution & testing of Networking 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 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 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)

(Name)

Stamp

(Official Address)

with Bank

(Signature)

Bank Rub ber

Designation

Dated:

date:

Technical Specification**1) 24 Port Managed Distribution switch. (CISCO/HP/Motorola or equivalent)****TECHNICAL SPECIFICATION FOR 24 PORT MANAGED DISTRIBUTION SWITCH**

Sl. No.	Technical Specifications	Compliance (Yes/No)	Remarks
A.	Architecture		
1	The switch should have 24 x 10/100/1000 BaseT ports and 4 x 1000/10000 Base-X SFP+ ports populated with 1 x 1000 Base LX module.		
2	The switch should support stacking via standard interfaces for up to eight switches. Should include suitable stacking cable.		
3	Switch should have SDN readiness from day 1.		
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. Mounting accessories should be included.		
B.	Resiliency and high availability		
1	Should support IEEE 802.3ad Link Aggregation Control Protocol (LACP). Should support smart-link/equivalent feature.		
2	Should support IEEE 802.1s Multiple Spanning Tree Protocol		
3	Should have separate data and control path architecture.		
4	Should support virtual chassis or equivalent virtualization technology where a minimum up to 8 switches can be combined to form a single switching fabric thereby eliminating the need to run complex switching protocols like spanning tree and VRRP.		
C.	Layer 2 and Layer-3 features		
1	Should support IEEE 802.1Q and minimum 512 simultaneous VLANs.		
2	Should support multiple registration protocol (MRP) and multiple VLAN registration protocol (MVRP) allowing automatic learning and dynamic assignment of VLANs. Should have GVRP compatibility as well.		
3	Should support Jumbo frames on Gigabit and 10-Gigabit ports		
4	Should support Static IP routing.		
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 login		
11	Should support UDLD (Uni-Directional Link Detection)/equivalent		
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 support Layer 4 prioritization enabling prioritization based on TCP/UDP port numbers		
F.	Manageability		
1	Should have capabilities to monitor internal events and take automatic actions in response to such events.		
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 and Multiple configuration files		
5	Should have software modularity with process modules running independently in their own protected memory space and with the ability to do individual process restart		
6	Should have the ability to to measure network performance, verify the service levels for IP services and applications, and troubleshoot network problems		
7	Should support management methods such as SNMPv3, XML, RMON, sFlow/equivalent, SSH and SSL.		
G.	Warranty: OEM's lifetime warranty support with NBD hardware replacement (inclusive of power supply and fans) and 24x7 software updates and upgrades during the warranty period.		

2) 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.		