Tender No. : AKCSIT/ADMN/35/2017-18
Date:31.10.17

TENDER NOTICE

Vendors enlisted by University of Calcutta are hereby requested to send their quotations for the following items in sealed envelope within five (7) days from the date of announcement of this tender to The Coordinator, A.K.Choudhury School of Information Technology, University of Calcutta,JD-2, Sector – III, Salt Lake, Kolkata – 700106.

A . Server Rack 1 no.

1	**Basic Structure**	Rack should be of All Steel Construction with powder coated finish. Rack design should enable shipping of the rack in (CKD) Completely Knock Down condition and it should permit an easy assembly of the racks at site as per the requirement at site. All Steel structure of frames and depth mounting channels should rest positively fastened onto the integral Plinth of box like Configuration. Thus ensuring the higher level of Rigidity of the Basic rack skeleton while effectively distributing and transferring the entire load to integrated Plinth. Construction of all direct load bearing structural members like Frames, Plinth and Vertical Mounting rails should not be less than 2.0mm CRCA Steel. Integral Plinth should have provision for Cable Entry on rear and two sides along with cable entry gland plate on the top face of the Plinth. Minimum opening of this top gland plate on the plinth should be at least 300mm x 300mm with separate opening for electrical / power cables entry.
2	**Plinth & Castors**	The plinth should also have provision to mount castors (4 Nos.) and Leveling Feet – (4 Nos.) simultaneously. This is required for the facility of moving the rack while installation process and then resting the same rigidly at the final location. When the rack is resting on the leveling feet, castors should not touch the ground surface. (All castors should be without any brake or any other locking mechanism)
3	**Front Door**	Front door – Fully Perforated with Center Handle Lock for security purpose. This door should have provision to get mounted on Right or Left side of the rack front. This means that it should be possible to change the door configuration from Left to Right at site. It should also be possible to open this door by 180 Degrees to ensure proper approach to front of rack.
4	**Rear Door**	Rear door should be completely perforated to facilitate the air circulation at the maximum without offering any resistance to the same. Ideally, it should be possible to remove it easily and should have center handle lock for the security purpose. Rear doors should have provision to mount fan trays.
5	**Side panel**	Side Panels should be easily removable type along with the provision for locking. Ideally, the panels should have latching arrangement to facilitate easy removal and putting back the panel along with locks for the security purpose.

6	**Space**	Height - The Rack should Provide 42U Usable Space.
		Width – The rack should be 600mmW with 19” mounting provision
		Depth – The rack should be at least 1000mmD. Usable Depth should be not less that 900mm
7	**Load Bearing Capacity**	Load carrying capacity of rack should be 750 Kg.
8	**Mounting Provisions**	Mounting rails (for Standard 19" mounting) should be made up of steel. (Minimum 2.0mm thickness) and should be of Multi-fold design for enhanced loading capacity and rigidity. It should have unique U Marking along with U locator notch. U Number Markings should be clearly visible even after mounting of the equipment.
9	**Cable Management**	1U Cable Managers to be supplied. Cable Manageres should have Metal Hoops
10	**Heat Management**	Top roof should be well ventilated, especially with ventilation provided on the vertical side of the roof. This will greatly enhance the hot air outflow while in operation. Roof should also have provision to mount the cooling fan trays. It should be possible to mount at least 4 nos. of 90 CFM cooling fans on this roof and in addition there should be space for the cable entry from the top.
11	**Powder Coating Details**	Thickness of powder coating should be 60 microns or more.
		Colour of the cabinet should be : White & Blue
12	**Thickness of Material**	The structure and all its components should be made from CRCA Steel Material – at least 1.2mm thick
13	**Shelving Options**	The rack should be provided with 1 Heavy Duty Shelf of 727mmD
14	**Power Management**	Vertical power distribution units provided should have 12 outlets of 5/15 amp capacity. These should be split in to two internal circuits so as to avoid overloading of the interconnection cables inside the unit. All cables used should be of ISI grade with 2.5sq mm cross sectional area. All the connecting ends must be tinned so as to avoid any loose wire strands. Rack should have the appropriate mounting provision for the multiple of these PDUs at the rear of the rack. Each Rack should have 2 Nos PDU per Rack
15	Preferred Make	Rack and PDU should be from same OEM. Approved Make - WQ
16	ISO Certifications	OEM should be have 9001:2008, 14001:2004 and 18001:2007 ISO Certifications
17	Warranty	Product should have an warranty of 5 Years

B. Switch 6 Nos.

Switch	Aruba 2530 24G Switch
1	Architecture
1.1	Shall be 1RU, 19" Rack Mountable
1.2	24 RJ-45 autosensing 10/100/1000 Base-T ports and 4 x 1G SFP Ports to support 1000 Base-T, SX, LX transceivers
1.3	1 RJ-45 (serial RS-232C) or USB micro-B console port
1.4	128 MB flash, 256 MB DRAM
1.5	Packet buffer size of minimum 1.5 MB to support video/ streaming traffic and huge file transfers
1.6	Shall have switching capacity of 56 Gbps for providing non-blocking performance on all Gigabit ports
1.7	Shall have up to 41 million pps switching throughput to achieve wire-speed forwarding on all Gigabit ports
1.8	Shall provide Gigabit (1000 Mb) Latency of < 3 us
2	Resiliency
2.1	IEEE 802.1D Spanning Tree Protocol, IEEE 802.1w Rapid Spanning Tree Protocol and IEEE 802.1s Multiple Spanning Tree Protocol
2.2	IEEE 802.3ad Link Aggregation Control Protocol (LACP) up to eight links (ports) per group
2.3	Shall support Virtual stacking to provides single IP address management for up to 16 switches
3	Layer 2 Features
3.1	MAC address table size of 16000 entries
3.2	Shall support up to IEEE 802.1Q (4,094 VLAN IDs) and 512 VLANs simultaneously
3.3	Shall support GARP VLAN Registration Protocol or equivalent feature to allow automatic learning and dynamic assignment of VLANs
3.5	Shall support Jumbo frames to improve the performance of large data transfers
3.6	Internet Group Management Protocol (IGMP)
3.7	Multicast Listener Discovery (MLD) snooping
3.8	IEEE 802.1AB Link Layer Discovery Protocol (LLDP) and LLDP-MED (Media Endpoint Discovery)
3.9	IPv6 host and Dual stack (IPv4/IPv6) support to provide transition mechanism from IPv4 to IPv6
4	QoS and Security Features
4.1	Access Control Lists for traffic filtering
4.2	Source-port filtering or equivalent feature to allow only specified ports to communicate with each other
4.3	Traffic prioritization based on IP address, IP Type of Service (ToS), Layer 3 protocol, TCP/UDP port number, source port, and DiffServ
4.4	Shall support traffic classification into eight priority

	levels mapped to two or four queues using Weighted deficit round robin (WDRR) queuing
4.5	Shall support traffic rate-limiting per port
4.6	IEEE 802.1x to provide port-based user authentication with multiple 802.1x authentication sessions per port
4.7	Media access control (MAC) authentication to provide simple authentication based on a user's MAC address
4.8	Web-based authentication to provide a browser-based environment to authenticate clients that do not support the IEEE 802.1X supplicant
4.9	Concurrent IEEE 802.1X and Web or MAC authentication schemes per port
4.10	Port security to allow access only to specified MAC addresses
4.11	MAC address lockout to prevent particular configured MAC addresses from connecting to the network
4.12	STP BPDU port protection to prevent forged BPDU attacks
4.13	STP Root Guard to protect the root bridge from malicious attacks or configuration mistakes
4.14	Shall support RA Guard, DHCPv6 Protection
5	Management Features
5.1	Configuration through the CLI, console, Telnet, SSH and browser-based management GUI (SSL)
5.2	SNMPv1, v2, and v3 and Remote monitoring (RMON) support
5.3	sFlow (RFC 3176) or equivalent for traffic analysis
5.4	TFTP and Secure FTP support
5.5	Dual flash images to provide independent primary and secondary operating system files
5.6	Multiple configuration files to allow multiple configuration files to be stored to a flash image
5.7	RADIUS/TACACS+ for switch security access administration
5.8	Simple Network Time Protocol (SNTP) or equivalent support
5.9	Shall support virtual stacking to provides single IP address management for up to 16 switches
6	Environmental Features
6.1	Shall support IEEE 802.3az Energy-efficient Ethernet (EEE) to reduce power consumption
6.2	Operating temperature of 0°C to 45°C
6.3	Safety and Emission standards including EN 60950; IEC 60950; VCCI Class A; FCC part 15 Class A
6.4	3 Years Warranty

C. UPS 1 No.

UPS Rating	3kVA / 2400 W
UPS Type	Emerson Liebert True Online Double Conversion UPS system with IGBT based Rectifier.
Input Voltage	UPS having Single phase input with the Voltage Range 110V to 280VAC based on load.
Input Power Factor	>= 0.99 for 100% load.
Input Frequency	40Hz to 70Hz
Output Voltage	200/208/220/230/240 V Single Phase with ±1%
Output Frequency	50 Hz or 60Hz +/- 0.1 Hz
Output vTHD	<= 3% for Linear Load
LCD Display	UPS Should be LCD Status Display
Efficiency	88% AC Mode
Crest Factor	3:1
Waveform	Pure Sine Wave
Over Voltage Cut off Device	Should be inbuilt into the UPS System
Battery Block	6 nos SMF battery
Battery Bank	Battery bank will be suitable for around 30mins battery backup require minimum 3024 VAH. Battery type will be SMF VRLA only. Battery Make Rocket / Quanta.
Alarm	Battery Mode, Low Battery, Overload, Fault.
Environment	Humidity 20-90% RH @ 0-40˚C (Non Condensing) . Noise level : < 50dB @ 1mtrs.
Intelligent Monitoring Slot	UPS should have incorporate with Smart RS-232 / USB along with option for SNMP module.
Warranty	3 Years Warranty
Certificates Required.	i. UPS Manufacturer's ISO 9001:2008 certificate
	i. UPS Manufacturer's ISO 14001 certificate

D. Implementation

Server Implementation	Operating System – CentOS 6/7, Applications- Oracle Database 11g, MATLAB, NS2

Technical Terms and Conditions

a. Preferred MSMED certification of the bidder.

b. Technical bid should also contain a “Compliance Certificate” duly signed by the manufacturer or bidder.

c. Installation, testing, commissioning, and integration of the components/equipment purchased is to be done by supplier(s) at our premises. Charges on account of installation and commissioning, if any, should be quoted separately. Otherwise it will be treated that all the charges for the same is included in quoted price

d. Tender Specific Authorization from respective OEM for participation for this Tender.

e. Bidder or OEM must not be blacklisted at CU or any Government Organization in Country

f. Technical Catalogue/Brochure should be enclosed without fail for quoted equipment / devices

g. Minimum Turnover of 10 Crore for last 3 financial years.

h. *Photo copies of IT/ST/VAT/ISO Registration Certificate to be enclosed*

i. Account No of Bank of the vendor/bidder

j. IFS code of Bank of the vendor/bidder

k. Linux certified Support Personnel

l. Please note that CU reserves the right to select the Vendor for placing Work Order and lowest quotation does not guarantee selection of Vendor