



तेजपुर विश्वविद्यालय / TEZPUR UNIVERSITY

(संसद के अधिनियम द्वारा स्थापित केंद्रीय विश्वविद्यालय)

(A Central University established by an Act of Parliament)

कुल सचिव का कार्यालय/ OFFICE OF THE REGISTRAR

नपाम :: तेजपुर - 784028 :: असम

NAPAAM :: TEZPUR - 784028 :: ASSAM

SHORT QUOTATION NOTICE

TU/11-24/Pur/Qtn/2017-18/1824 dated: 26.07.2017.

Sealed quotations are invited from reputed manufacturers/authorized dealers/vendors for supply, installation & commissioning etc. of following items required for the DST-SERB Sponsored Research Project of Dr. Ashwini Kr. Phukan, Department of Chemical Sciences, Tezpur University.

High Performance Computing Cluster (HPCC): Technical Specifications and Compliance

| 1. Master Node: | |
|-----------------------|--|
| Item | Description |
| CPU | 2 x Intel Xeon E5-2630 v4 (2.2GHz, 25M Cache, 10Core) |
| Chipset | Intel C610 chipset or Higher |
| Memory Requirement | 96 GB to be configured using 2400MHz DDR4-ECC RDIMMs. Adequate DIMMs to be configured to populate all memory channels in a balanced manner. Compute node should be scalable to 16 DIMMs. |
| Memory protection | Advanced ECC |
| Memory scalability | Should be capable of scaling upto 512 GB Memory. |
| Disks scalability | Up to 6 numbers of SAS/SATA/SSD hot swap HDD Bays |
| Disks required | To be configured with six (06) numbers of 1.8TB SAS 10K rpm . The Hard Disks should be configured with RAID-6 from DAY-1. |
| Networking | 2 x 1Gbps ports with PXE boot capability& 1 x 10Gbps Card |
| Server Management | OEM embedded controller with IPMI 2.0 compliance and Server Management Tool from same OEM; Must provide server Management software to remotely manage all servers from a Single console. Software must be from the same OEM. |
| Power Supply | 1 + 1 Redundant Platinum rated efficient power supply to sustain above configuration. Power supply with 80+ Gold certified for better utilization. |
| Cooling | Redundant and hot swap Fans for sufficient cooling |
| Optical Drive | Internal DVD-ROM drive |
| Graphics controller | Integrated Graphics with at least 16MB Video Memory |
| Management Port | Min 3 USB ports(Out of which 1 Port should be USB 3.0), 1 Serial, keyboard, mouse, graphics (DB-15) , 1Gbps Remote Management Port |
| PCI-Express 3.0 slots | Minimum 2xPCIe 3.0 slots. |



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|----------------------------------|---|
| Industry standard certifications | The quoted server models should have the following Certifications : Microsoft Windows Server2008 R2, Microsoft® Windows® HPC Server 2008, Novell SUSE Linux Enterprise Server, Red Hat Enterprise Linux, Sun Solaris, Microsoft® Windows Server® 2008 Hyper-V, VMware® ESXi Version 4.1, Citrix® XenServer 5, FCC, UL, ROHS |
| Industry standard support | User-selectable power cap (subsystems throttle to maintain the specified power cap), ACPI 3.0 Compliant, PCI 2.3 compliant, PXE and WOL Support, IPv4 and IPv6 support |
| Warranty | 3 Years comprehensive onsite warranty with next business day response. |
| 2. Compute Node: | |
| Item | Description |
| CPU | 2 x Intel ® Xeon E5-2650 v4 (2.2GHz, 30M Cache, 12Core) |
| Chipset | Intel C610 chipset or Higher |
| Memory Requirement | 96 GB to be configured using 2400MHz DDR4-ECC RDIMMs. Adequate DIMMs to be configured to populate all memory channels in a balanced manner. Compute node should be scalable to 16 DIMMs. |
| Memory | Advanced ECC |
| Disks scalability | Upto four (04) nos. of SAS/SATA/SSD hot swap HDD Bays |
| Disks required | To be configured with two (02) numbers 600GB SAS or SATA Enterprise 10K rpm. |
| RAID Levels | Integrated RAID Controller, Support for RAID 0,1 and 5 |
| Networking | 2 x 1Gbps ports with PXE boot capability and 1 x 10Gbps Card |
| Server Management | OEM embedded controller with IPMI 2.0 compliance and Server Management Tool from same OEM; Must provide Server Management software to remotely manage all servers from a Single console. Software must be from the same OEM. |
| PCI-Express3.0 slots | Minimum 2xPCIe 3.0 slots |
| Graphics | Integrated Graphics with at least 16MB Video Memory |
| Power Supply | (1+1) Dual, Hot-plug, Redundant Power Supply Platinum rated efficient power supply to sustain above configuration. Power supply with 80+ Gold certified for better utilization. |
| Cooling | Redundant and hot swap Fans for sufficient cooling |
| Industry standard certifications | The quoted server models should have the following Certifications : Microsoft Windows Server2008 R2, Microsoft® Windows® HPC Server 2008, Novell SUSE Linux Enterprise Server, Red Hat Enterprise Linux, Sun Solaris, Microsoft® Windows Server® 2008 Hyper-V, VMware® ESXi Version 4.1, Citrix® |
| Industry standard support | User-selectable power cap (subsystems throttle to maintain the specified power cap), ACPI 3.0 Compliant, PCI 2.3 compliant, PXE and WOL Support, IPv4 and IPv6 support |



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| Warranty | 3 Years comprehensive onsite warranty with next business day response. |
| 3. Switches, Console, Rack & Software: | |
| Item | Description |
| Switch | 24-port 10 Gigabit Switch should be capable of minimum 1. 24 Dedicated 10GBase-T ports supporting 10G/1G speeds 2. Protocols: LACP, Spanning Tree, Network Access Control. 3. Jumbo Frame upto 10K. 4. Bandwidth minimum 480Gbps |
| KVM Switch | 16-Port KVM Switch with related cables & accessories to support Master & Compute Nodes. |
| Console/Monitor | Slide IN and OUT type Rack mountable 19" TFT Display with Keyboard and TouchPad |
| Form Factor | 1U/ 2U form factor . Each of the Server nodes should be individually serviceable, without shutting down the other Server nodes. |
| Server Rack | Height 42U with all accessories, Sufficient depth for Servers, Castor with brake, Server Power strip with at least 15 sockets, Mounting hardware, Cooling Fans, Front & Rear perforated doors, detachable side panels, Locking system, Cable entry provision at top & bottom, Powder coated, Vertical & Horizontal Cable Managers. |
| Cluster Management Software | Cluster Management (Open source), Cent OS(Open Source), Commercial Solution Optional. FORTRAN Compiler for the cluster MPI libraries, OPEN MPI libraries and other parallel Libraries. |
| Installation | Full Installation at the site & configuration of Hardware, OS, Cluster Management. Software with Queuing, Job Scheduling etc. Installation and integration of HPCC with network for remote access. |
| Training | Thorough training should be provided to the users about the HPCC Cluster |
| Specific Terms and Conditions: | |
| 1. The Bidder must have been in the I.T Business for at least 3 year (36 months). Documentary Evidence like Company Registration Certificate etc. should be submitted along with the offer. | |
| 2. The Bidder should submit an Undertaking confirming that they will maintain and provide after sales support for 3 years for the entire Systems including HPC Cluster. | |
| 3. The OEM/Bidder should have their own service Centre in North East India or should have an authorized service provider who is having their registered office in North East India. Documentary evidence of the same should be enclosed with their Offer. | |



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| 4. The Servers whose Product has been quoted should have at least Three entry in Top 100 in the list for world's fastest super computers (refer http://www.top500.org) |
| 5. The Bidder should have an experience of supplying, installing & maintaining minimum 3 Nos of High Performance Computing (HPC) infrastructure in any Central Govt Institution/Govt Institution/ PSU etc in North-Eastern Region in the last 3 Years. The Bidder should submit proof of executing the order (like installation Certificates/Feedback Letter from Customer) and the HPC should be up and running and under maintenance of the bidder till the opening of the tender. |
| 6. OEM should be an established vendor with presence in India for the last 5 years. |
| 7. The Data sheets documents and technical documents submitted should be available on the global websites of the respective manufacturer and the URL links to the respective documentation should be provided in the compliance statement. Any document which is not available on the Global website of the OEM would be treated as invalid document submitted and noncompliance against the technical specification asked in the tender. |
| 8. Please mention the unit price separately for each product i.e. separate price for master node, compute node and each accessory along with consolidated prices applicable for both Indigenous and Imported items. |
| 9. (i) The warranty provided by the bidder should have a back to back arrangement with the OEM. The declaration should be the part of a Letter of Authorization and signed by competent authority at the OEM. |
| (ii) The warranty period of an item shall commence after receipt of the items in good working condition and from the date of its satisfactory installation at the project site in Tezpur University. The warranty period and validity of Performance Guarantee shall be extended for the period of delay in satisfactory installation and delay in warranty services. |
| (iii) Warranty shall include free maintenance of the whole equipment supplied including free replacement of parts. The defects, if any, shall be attended to on immediate basis but in no case any defect should prolong for more than 24 hours. |
| (iv) The defects, if any, during the guarantee/warranty period are to be rectified free of charge by arranging free replacement wherever necessary. This includes cost, insurance, freight, custom duty, octroi, local taxes if any should be borne by the supplier or their agent. A clear confirmation should be given for this item. |

10 KVATRUE ONLINE UPS: 10 KVA On Line UPS Systems suitable for Single Phase AC Input & Single Phase AC Output with back up time -120 minutes. With SNMP monitoring & Shutdown facility along with Battery, rack and Inter connecting links.

| Parameter | Required Specifications |
|---------------|--|
| Make & Model | To be specified |
| Configuration | 10 KVA On-Line UPS System scalable upto 20 KVA with battery bank for Total 60/120 minutes back-up. UPS should have provision for parallel redundancy with another UPS of same type and rating. |



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|---|---|
| Technology | True double-conversion (Rack/Tower) On-Line UPS with IGBT inverter and rectifier and Microprocessor based controls |
| Phase | 1 phase in/1 phase out |
| Capacity | 10000 VA/9000 W |
| Isolation Transformer (Optional) | Isolation Transformer of 20 KVA Rating at input of the UPS (in 1:1 ratio), for providing galvanic isolation between input & output such that load is isolated even in Bypass mode. |
| Surge Protection Device | UPS should be provided with a 1 Phase, Type 2 surge arrester (40kA) according to EN 61643-11 at the Input Side. It should provide Lightning Protection (according to IEC 1312-1 and EN 62305) through equi-potential bonding and eliminate transient overvoltage, originating during atmospheric discharges or switching processes. (Datasheet of SPD should be provided) |
| INPUT | |
| Nominal Voltage | 220/230/240 VAC |
| Voltage Range | 110-300 VAC @ 0~60% load; 140-300 VAC @ 60~80 % load; 176-300 VAC @ 80~100 % load |
| Frequency Range | 46 ~54 Hz Hz |
| Phase | Single phase with ground |
| Power Factor | ≥ 0.99 @ 100% Load\ |
| THDi | $\leq 5\%$ @100% load |
| OUTPUT | |
| Output Voltage | 220/230/240 VAC |
| AC Voltage Regulation | $\pm 1\%$ |
| Frequency Range (Synchronized Range) | 46~54 Hz @ 50 Hz |
| Frequency Range (Batt. Mode) | 50 Hz \pm 0.1 Hz |
| Power Factor | Unity |
| Current Crest Ratio | 3:1 |
| Harmonic Distortion | $\leq 2\%$ THD (Linear Load), $\leq 5\%$ THD (Non-linear Load) |
| Waveform (Batt. Mode) | Pure Sinewave |
| Overload | 110%: 10 min; 130%: 1 min; >130%: 1 sec |
| Efficiency (AC-AC) | 94% |
| BATTERY | |
| Type | VRLA Sealed Maintenance Free, lead-acid batteries |
| Backup time | The system must be capable of providing total 120 minutes of battery back-up time VAH Required = 28800 VAH for 120 minutes back-up (Total number of batteries, Voltage of each battery, Ampere-Hour rating and Total Volt-Ampere-Hour rating of the Battery Bank Offered should be clearly |



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| | mentioned.) |
| INDICATORS | |
| LCD Panel | UPS status, load level, battery level, input/output voltage, discharge timer, and fault conditions |
| ENVIRONMENT | |
| Humidity & Temperature | 20-90 % RH @ 0- 40°C (Non-condensing) |
| Noise Level | Less than 58dB@1Meter |
| MANAGEMENT | |
| Smart RS-232/USB | Supports Windows Vista/2008, Windows 7/8/10, Linux and MAC |
| SNMP | Power management from SNMP manager and web browser. SNMP hardware to be integrated within the UPS |
| Certification | <ul style="list-style-type: none"> CE Certification(confirming to IEC 62040-1 & IEC 62040-2 Standards) ISO 9001, ISO 14001, OHSAS 18001 certified. RoHS Compliance |
| Buy- Back | Buy-back cost for old 5 KVAUPS System along with batteries (12V/100 AH) should be offered along with the quotation |
| Warranty | Minimum one (01) year warranty with next day response should be provided. However, the quote should also include cost of extension of warranty by one and two year respectively and it should be clearly mentioned. |

LAPTOP:

| Item | Specifications |
|----------------------|---|
| Processor | Minimum 7 th Generation Intel Core™ i7 -7500U |
| Memory | Minimum 8 GB, 2.6 GHz or more (DDR4-2133 SDRAM) |
| Storage | 2TB , minimum 5400 rpm SATA |
| Operating System | Windows 10 Pro (64 bit) |
| Optical drive | SuperMulti DVD burner |
| Display | 15.6 inch FHD Anti-Glare LED |
| Keyboard | Full-size island-style backlit keyboard |
| Warranty | 3 Year onsite comprehensive warranty with next day response |

GENERAL TERMS & CONDITIONS:

- No separate tender paper will be issued from the office; one should only download the specifications/List from the website.
- The rates should be preferably quoted in Indian Rupee and FOR Tezpur University, Napaam basis.Charges for clearing and transportation should be incurred by the supplier.**
- Quotations should be accompanied by i) An EMD (in the form of Demand Draft/Call Deposit/TDR) of ₹. 5000/- (Rupees Five Thousand) only drawn/pledged in favor of Registrar, Tezpur University, payable at Tezpur. **No request for consideration of earlier deposited EMD will be considered.** ii) A non refundable application (quotation) fee of ₹.1000.00 (Rupees One Thousand) only have to be paid only by Demand Draft drawn in favour of Registrar, Tezpur University payable at Tezpur.
- The rates should be exclusive of taxes and applicable tax % should be clearly indicated.



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5. Applicable levies, surcharge and discounts should be clearly indicated itemwise.
6. Quoted rates should be valid at least for a period of 01 year.
7. The rates should be quoted along with supporting documents of specifications and technical features and list of users.
8. The system must be installed at the laboratory, and after installation a basic training must also be provided by the supplier or their Indian counterpart without any additional costs.
9. All the quotations must be accompanied with supporting documents and / or literature.
10. Demonstration may be sought from the vendors for authentication of quoted specification.
11. Details of availability of after sales support will have to be furnished. After sales support directly from manufacturer and from Assam (Guwahati / Tezpur) will be preferred.
12. The University is exempted from paying Custom and Excise duty.
13. Proprietary items should be quoted with sole Manufacturer/Distributorship certificate.
14. Warranty/Gurantee period should be specifically mentioned in the quotation.
15. No Advance payment will be made. However, for foreign supplier, advance payment will be made either by FDD/Wire Transfer/LC. In such cases 10% Performance Bank Guarantee should be submitted before issuing FDD/Wire Transfer/LC, covering the warranty period.
16. Performance Bank Guarantee also has to be submitted for Major equipments of Indian origin, covering the warranty period.
17. Items of Foreign origin should have Insurance up to installation on site.
18. The University reserves the right to accept or reject any or all the quotations without assigning any reason.
19. Quoted price should be inclusive of essential accessories and should be CIF Tezpur University, Tezpur
20. Applications for release of EMD should be submitted to the Registrar/ Joint Registrar.
21. Apart from the above terms and conditions the University has the right to include any other terms and conditions as and when felt necessary.
22. **Quotation should be submitted in the DROP BOX placed in the reception of the Administrative Building of the University within 21 days from the date of publication of this notice. .If posted/couriered, should reach within 21 days addressed to "The Joint Registrar, Tezpur University". The Quotation Notice No. and date should be clearly superscribed in the envelope/packet containing the quotation.**

Sd/- Joint Registrar
Tezpur University