

INDIAN ASSOCIATION FOR THE CULTIVATION OF SCIENCE

2 A & B RAJA S. C. MULLICK ROAD

JADAVPUR, KOLKATA – 700032

Invitation for Tender for Supply of a High Performance Computing Cluster^[L]_[SEP]

(Tender Notice No. IACS/SCS/AD/Project/2021-22/56, Dated: 04.05/2021.)

Indian Association for the Cultivation of Science invites Sealed Tenders for purchase of a **High Performance Computing Cluster (HPCC)** to be procured from the DST – SERB Project (File No. CRG/2020/000301).

The bids are to be submitted in Two-Bid pattern i.e. **Technical Bid** and **Price Bid** in two separate sealed covers distinctly marked accordingly and both to be put inside another envelope, which should be sealed and **super scribed with 'High Performance Computing Cluster Tender' Tender Notice No., Due date and time of opening.** Two bids i.e. Technical Bid and Price Bid should be identical in all respects except that the Technical Bid should have blank space at the places where prices have been quoted in the Price Bid.

Interested vendors may please send their Bids to:

Prof. Ayan Datta, School of Chemical Sciences, Indian Association for the Cultivation of Science, Jadavpur, Kolkata -700032. Email: spad@iacs.res.in
Mobile: 9874295938.

Tender Notice No.	Tender Notice No. IACS/SCS/AD/Project/2021-22/56, Dated: 04.05/2021
Last date and time of submitting tender	May 25, 2021 at 3:00 p.m.
Pre-bid meeting to discuss technical specifications	May 17, 2021 at 3:00 p.m.
Date and time of opening tender	May 25, 2021 at 4:00 p.m.
Place of opening tender	I.A.C.S., Kolkata
Contact	Email: spad@iacs.res.in ^[L] _[SEP] Tel: +91-33- 2473 4971 (ext 2105)

In case the scheduled date of opening of tender is declared as holiday, the tender will be opened on the next working day at 3.00 P.M. The technical bids will be opened first to evaluate the technical specifications of the equipment and the price bids of the technically qualified companies only will be opened thereafter.

1. TECHNICAL BID: The Technical Bid should contain technical specifications and kept in a separate envelope duly super scribed as “**Technical Bid**” on the outer side of the envelope as detailed above.

The Technical Specifications acceptable for the '**Computer Cluster**' are as follows:-

(a) 384 cores in 8 computing nodes

Processor 2 x Intel® Xeon® CLX 5220R 2P 24C/48T 2.2G 35.75M
10.4GT 150W 3647 B1
Memory 128 GB DDR4-2933 ECC RDIMM
Storage 2 TB SATA Ent HDD 7.2 K RPM
Storage Controller SATA 3.0 with RAID 0, 1,5, 10 Support
Connectivity Gigabit Ethernet with suitable cable(s), & Mellanox®
ConnectX-5 VPI EDR controller with Single QSFP28 port and speed up to
100Gbps with Cable
Chassis 4 independent compute nodes share single 2U chassis and
power supply
Graphics Integrated
Management 1 x Dedicated IPMI 2.0 LAN
P. Supply Redundant Power Supplies Platinum Level
OS CentOS Enterprise Linux
Warranty 3 years Comprehensive on-site warranty (NBD) on Hardware
and cluster software

(b) GPU Workstation

Processor(s) Ryzen Threadripper PRO, UP 32C/64T 3.5G 128M 280W SP3
Chipset AMD WRX80
GPU(s) Nvidia Rtx 3090
RAM 128 GB DDR4-3200 ECC RDIMM

HDD(s)	4 TB, 7200 RPM, Enterprise SATA HDD
NIC	1 x 10GBase-T LAN port, 1x 1GbE LAN port (shared with IPMI)
Graphics	Integrated
Exp Slots	6 PCI-E 4.0 x16 slots,M.2 Interface: 4 PCI-E 4.0 x4, RAID 0, 1, 5 & 10,M.2 Form Factor: 2280, 22110,M.2 Key: M-Key,U.2 Interface: 2 U.2 sockets (Software RAID 0,1)
Drive Bays	4 fixed internal 3.5"/2.5" SATA drive bays, 2 fixed front 2.5" SATA drive bays, 4 M.2
Chassis	5U Tower
P. Supply	2000W Platinum Level Power Supply
OS	CentOS
Warranty	3 Years On-site

Power, Heat & Cooling: - . Power consumption and heat dissipation estimate for the total cluster should be mentioned clearly.

2. PRICE BID:

The financial bid indicating item-wise price for the items mentioned in the technical bid should be kept in a separate sealed envelope duly super scribed as “**PRICE BID**” on the outer cover of the envelope as already detailed above. The price bid of only technically qualified bidders will be opened and they will be intimated the date and time of opening at their email id-s. Rest of the bids will stand rejected.

BID SECURITY DECLARATION IN TERMS OF ORDER NO F.9/4/2020-PPD dated 12.11.2020 of Ministry of Finance:

1. An Account Payee Demand Draft/ Pay Order for **Rs. 70,000/-** (Rupees Seventy Thousand Only) drawn in favour of "**Indian Association for the Cultivation of Science**" is to be furnished along with Technical Bid as Bid Security money (or EMD). Bidders registered with the Central Purchase Organizations, National Small Industries Corporation etc. may be exempted from paying EMD subject to their submission of a copy of valid registration certificate with their Technical Bids, failing which their bids will be rejected.

2. The Demand Draft/ Pay Order for the Bid-Security money should have at least 45 (forty five) days validity period after the opening of the Bids.

3. In case of non-award of the work, the Bid Security money would be returned to the bidders.

PERFORMANCE SECURITY in terms of order no F.9/4/2020-PPD dated 12.11.2020 of Ministry of Finance:

1. An Account Payee Demand Draft/ Bank Order/Bank Guarantee of **Rs. 1,05,000/-** (Rupees One Lakh Five Thousand Only) drawn in favour of "**Indian Association for the Cultivation of Science**" is to be furnished by the successful bidder to be awarded the contract, as "Performance Security" money.

2. Performance Security should remain valid for a period of 60 (sixty) days beyond the date of completion of all contractual obligations of the supplier including warranty obligations.

3. Bid Security would be refunded to the successful bidder on receipt of Performance Security.

General Instructions:

(i) Vendor Eligibility: The bids must be submitted by OEMs or OEM supported single vendors only with original authorization certificates from the OEMs. Vendors should have proven experience in setting up a HPCC of minimum 100 TFLOPS in the last three years in India and a minimum of 3 installation of atleast 15 TFLOPS in Kolkata Region. A brief proof for such experience (copies of orders/installation certificate) should be included in the technical bid. All the two materials namely the Compute nodes, and GPU have to be quoted by a single vendor. Part Quotation by a vendor is not admissible as future warranty and maintenance are difficult in the cases of fragment purchases. The OEM/OEM supported vendor should have their own service centre in Kolkata with technical knowhow to troubleshoot HPCC requirements. Sub – leasing of service/technical support by OEMs or OEM supported vendors is not admissible. The response time should not be more than 24 hours/next working day.

ii) Submitting Tender: The Tender must contain materials related to this specifications and should not contain materials that can overtly or covertly try to canvass for the vendor. The vendors are allowed to deviate from the specifications given below only when such deviations are demonstrated to be technically superior. Additional features in the quoted items which are better than those in the indent – may be highlighted. The technical bid should not have any mention of pricing. The commercial bid should have the pricing for each option separately. Prices should be inclusive all charges (taxes/duties as applicable, shipping charges, delivery at site, installation etc.) with clearly indicated break- ups. Fax, e-mail Tender will not be accepted. Duplicate Bid document must be submitted in Separate closed cover. The vendors should quote CIF Kolkata for foreign make items.

(iii) Installation and Commissioning: Free of cost at IACS, Kolkata. The vendors are required to give an estimate of the time required for installation, fine-tuning of the cluster and hand- holding/training of the principal users in the technical bid. The

vendor shall be responsible for setting up of High Performance Linux Cluster using Enterprise Linux OS or equivalent (to be provided by vendor). It will be highly desirable if the vendor has proven capability to install some commonly used quantum chemistry programs like Gaussian, ADF, Gamess, Polyrate, NWChem, Molpro, DeMon2K, NAMD, VASP, Crystal 17, Quantum Espresso. Parallelized installation of quantum chemistry codes like Gaussian 09 TCP Linda is highly desirable.

iv) Training: Free training on operation, maintenance and troubleshooting of the whole HPCC Solution should be imparted to at least 2 persons for a period of two weeks at the site of installation.

(v) Compliance List: The vendor must submit a table indicating the compliance of the features of the model of the components being quoted with those given in the indent. In case of non-compliance against a particular item, the vendor should justify that.

(vi) Post-sale service: The vendor must submit the names of the service engineers employed by them who are competent to serve the HPCC installation along with their contact details in India.

vii) Tender updates: Prospective bidders may please refer to our website <http://www.iacs.res.in>, occasionally for any update on the tender which may appear from time to time either in respect of pre-bid meeting or otherwise.

Important information

1. Incomplete tenders will be summarily rejected.
2. In case of any dispute, the decision of the Institute authority shall be final and binding on the bidders.
3. For any query pertaining to this bid document correspondence may be addressed to Dr. Ayan Datta through email: spad@iacs.res.in
4. I.A.C.S., Kolkata reserves the right to accept or reject any or all the bids in part or in full without assigning any reason / drop any item or part thereof at any time before placing the Purchase Order. [SEP]

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