

Invitation for Global Tender for Supply of a High Performance Computing Cluster
(Tender Reference No. SSP/09/2012-13/Tender/RP)

Indian Association for the Cultivation of Science invites Tenders for a High Performance Computing Cluster (HPCC) to be procured from DST grant. 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 **superscribed with High Performance Computing Cluster, tender reference no., due date and time of opening**. Two bids i.e. Technical Bid and Price Bid should be identical in all respect except that the Technical Bid should have blank space at the places where prices have been stated in the Price Bid.

Interested venders may please send their quotations to:

Dr. Raja Paul,
Department of Solid State Physics
Indian Association for the Cultivation of Science
2A & 2B Raja S. C. Mullick Road, Jadavpur
Kolkata – 700032

Tender Reference	SSP/09/2012-13/Tender/RP
Last date and time of submitting tender	August 14, 2012 at 2:00 p.m.
Pre-bid meeting to discuss technical specifications	July 30, 2012 at 3:00 p.m.
Date and time of opening tender	August 14, 2012 at 3:00 p.m.
Place of opening tender	I.A.C.S., Kolkata
Contact	Email: ssprp@iacs.res.in Tel: +91-33- 2473 4971 (ext 310)

If holiday is declared on the schedule date of opening, the quotation will be opened on the next working day at 3.00 P.M. The technical bids will be opened first to evaluate technical specifications of the equipment and there after the price bids of only the technically qualified companies will be opened.

Specifications of the High Performance Computing Cluster are mentioned below.

1. Master Node (Qty. 1):

Processor	2 x Intel® Xeon® processor Sandy Bridge 8 Core, E5-2670 @ 2.6GHz or above
Memory	At least 4GB DDR3-1600 MHz memory per processor core
HDDs	4 x 3000 GB capacity hot-swap Enterprise class HDDs, configured with Hardware Raid
Optical	Internal DVD RW drive
NIC	4 x Gigabit Ethernet ports (excluding management port)
Management	IPMI or equivalent. Supports KVM over LAN.
Exp Slots	3x PCI-E 3.0 x16, 3x PCI-E 3.0 x8 (Slot free for future upgradability)
Port Controllers	As per manufacturing specifications and requirements
Chassis and Form Factor	Rack-mountable with rails, Small form factor
Power Supply	Redundant hot-plug power supplies
Operating System	Open source Linux based OS, compilers for Fortran 90, C, C++, essential cluster computing software, cluster management software, job scheduler etc.

2. Compute Nodes (Qty. 6):

Processor	2 x Intel® Xeon® processor Sandy Bridge 8 Core, E5-2670 @ 2.6GHz or above
Memory	At least 4GB DDR3-1600 MHz memory per processor core
HDDs	1 x 1000 GB or higher capacity hot-swap Enterprise class HDDs, , configured as RAID (Hardware Raid) 0, 1, 5, 10
NIC	2 x Gigabit Ethernet ports (excluding management port)
Management	IPMI or equivalent. Supports KVM over LAN.
Exp Slots	3x PCI-E 3.0 x16, 3x PCI-E 3.0 x8 (Slot free for future upgradability)
Port Controllers	As per manufacturing specifications and requirements
Chassis & Form Factor	Rack-mountable with rails, Small form factor
Power Supply	Redundant hot-plug power supplies
Operating System	Open source Linux based OS, compilers for Fortran 90, C, C++, essential cluster computing software, cluster management software, job scheduler etc.

Note: The system must support at least 16 GB DDR3 ECC memory per core. The power supply on master node and compute nodes should have average efficiency of more than 90% with minimum 92% efficiency at half-load.

3. Ethernet Switch (Qty. 1): 24-port (RJ45) Layer-3 managed Gigabit Ethernet Stackable switch, Rack-mount with wire-speed layer-3 routing, Switching capacity 130 Gbps or more, Support for Metering/Rate limiting and Port Mirroring

4. KVM Switch (Qty. 1): Appropriate KVM switch (16 port or more) with requisite cables

5. Software: Open-source software are to be used for the cluster implementation, management, and scheduling. The vendor should be able to install the system and run it as a single HPCC cluster with the open-source software.

6. Additional Features: If the vendor provides any other extra features on the Hardware or Software which are not mentioned above, that should be highlighted in clear terms.

7. UPS and Power: The vendor should mention clearly the UPS/Power requirement for the whole cluster with a backup of 1 hour on full load.

8. Cooling Requirement: The vendor should mention clearly the cooling requirement for the whole cluster.

9. Warranty: Three + Two (3+2) years on-site warranty all components. The warranty period will commence from the date of certification of successful installation of the equipment.

10. 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 1 TFLOPS in the last three years in India. A brief proof for such experience (copies of orders/installation certificate) should be included in the technical bid.

ii) Submitting Tender: The Tender should not contain any material (eg. brochures, company profiles etc.) other than the two above-mentioned covers containing specifically the items requested. 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 breakups. Fax, e-mail Tender will not be accepted. Duplicate Bid document must be submitted in separate closed cover.

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 highly desirable if the vendor has proven capability to install some commonly used open-source scientific software e.g., LAMMPS, NAMD, GROMACS etc

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 service the HPCC installation along with their contact details in India.

vii) Tender updates: Prospective bidders please refer to our website <http://www.iacs.res.in> for any changes which may appear from time to time.

Important information

1. I.A.C.S., Kolkata may accept or reject any or all the bids in part or in full without assigning any reason. The Association at its discretion may change the quantity / upgrade the criteria / drop any item or part thereof at any time before placing the Purchase Order.

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. R. Paul, at the address mentioned above.

Registrar