

INDIAN ASSOCIATION FOR THE CULTIVATION OF SCIENCE

2 A & B RAJA S. C. MULLICK ROAD JADAVPUR, KOLKATA - 700032

Tender Notice

NIT No. : IACS/Spec./AD/Project/2016-17/66 Dtd. 05/12/2016

Sub: Invitation for Tender for Supply of a High Performance Computing Cluster

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 ĩ SERB Project .

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 venders may please send their Bids to:

Dr. Ayan Datta,

Department of Spectroscopy

Indian Association for the Cultivation of Science

2 A & B Raja S. C. Mullick Road,

Jadavpur Kolkata ĩ 700032

Tender Notice No.	IACS /Spec./AD/ Project/2016-17 / 66 Dtd.05/12/2016
Last date and time of submitting tender	December 30, 2016 at 2:00 p.m.
Pre-bid meeting to discuss technical specifications	December 20, 2016 at 3:00 p.m.
Date and time of opening tender (Technical Bids)	December 30 , 2016 at 3:00 p.m.
Place of opening tender	I.A.C.S., Kolkata
Date & Time of opening of Price Bids	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
Contact	Email: spad@iacs.res.in 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 ĩ**Technical Bid**Ĺ on the outer side of the envelope as detailed above. The Technical Specifications acceptable for the '**High Performance Computing Cluster**' are as follows:-

Master Node

Features	Specification
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Processor:	1 x Intel® Xeon® processor Broadwell 8C E5-2620V4 2.1G 20M 8GT QPI
Chipset:	Intel® C612 chipset
Memory:	32 GB DDR4-2400 ECC RDIMM (16x DIMM slots)
Storage:	2 x 1 TB and 2 x 6 TB Enterprise SATA HDD, Hardware Raid Controller supports Raid 0,1,5,6,50,60
Interconnect:	Dual Gigabit Ethernet onboard with suitable cable(s), 1 x QDR Infiniband with cable
Chassis:	2U Rack Mountable chassis with sliding railkits.,supports 8 HDD Bays
Graphics:	Integrated
Management:	IPMI 2.0 compliant with dedicated port. Supports KVM over LAN
P. Supply:	Redundant Power Supplies 80 PLUS, Platinum Level (94%) (N+1)
OS:	CentOS Enterprise Linux
Warranty:	3-year Parts, 3-year labour, 3-year on site Supports

Compute Nodes 4 No's With Infiniband

Features	Specification
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Processor:	2 x Intel® Xeon® processor Broadwell E5-2683 v4 (40M cache, 16 Cores, 32 Threads, 2.10 GHz (120W) 9.60 GT/sec Intel® QPI, 14nm)
Memory:	64 GB DDR4-2400 ECC RDIMM (Max Up to 1 TB)
Storage:	1 TB Enterprise SATA,
Gigabit Ethernet:	Dual Port Gigabit Ethernet onboard with suitable cable(s), 1 x QDR Infiniband with cable
Chassis:	1 U or less
Graphics:	Integrated
Management:	IPMI 2.0 compliant with dedicated port. Supports KVM over LAN and Virtual Media redirection
P. Supply:	Redundant Power Supplies Titanium Level (96%) (N+1)
OS:	CentOS Enterprise Linux
Warranty:	3-year Parts, 3-year labour, 3-year on site Supports

Compute Nodes 2 No's

Features:	Specification
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Processor	2 x Intel® Xeon® processor Broadwell E5-2683 v4 (40M cache, 16 Cores, 32 Threads, 2.10 GHz (120W) 9.60 GT/sec Intel® QPI, 14nm)
Memory:	64 GB DDR4-2400 ECC RDIMM (Max Up to 1 TB)
Storage:	1 TB Enterprise SATA,
Gigabit Ethernet:	Dual Port Gigabit Ethernet onboard with suitable cable(s),
Chassis:	1 U or less
Graphics:	Integrated
Management:	IPMI 2.0 compliant with dedicated port. Supports KVM over LAN and Virtual Media redirection
P. Supply:	Single Power Supply Titanium Level
OS:	CentOS Enterprise Linux
Warranty:	3-year Parts, 3-year labour, 3-year on site Supports

Compute Node Xeon Phi 1No

Processor(s):	2 x Intel® Xeon® processor Haswell E5-2683 v4 (40M cache, 16 Cores, 32 Threads, 2.10 GHz)
Xeon Phi:	1 x Intel Xeon Phi 7120P Coprocessor
RAM:	64 GB DDR4-2400 ECC RDIMM (Max 1TB, 16 DIMMs)
HDD(s):	1 x 1 TB, 7200 RPM, Enterprise SATA HDD Seagate
NIC:	2 x Gigabit(10/100/1000Mbps) Ethernet ports on-board
Graphics:	Integrated
Management:	IPMI 2.0 with dedicated LAN and KVM over LAN support
Chassis:	1U rack-mountable with sliding rails
P. Supply:	redundant, hot-plug power supplies (80PLUS Platinum)
Connectivity	

Infiniband: 1 x QDR Infiniband Switch

Gigabit Switch: 24 Port Gigabit Ethernet Switch with required no's of cables, 1U Rack Mountable
UPS

UPS: APC 10KVA Online UPS with 30 Mins Battery backUp

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

Warranty: - Three years on-site warranty for all components.

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:

1. An Account Payee Demand Draft/ Pay Order for **Rs. 1,00,000/-** (Rupees One Lakh only) drawn in favor 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:

1. An Account Payee Demand Draft/Bank Guarantee of **Rs. 1,75,000** (Rupees One Lakh Seventy 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 150 TFLOPS in the last three years in India and a minimum of 3 installation of atleast 10 TFLOPS in Kolkata Region. A brief proof for such experience (copies of orders/installation certificate) should be included in the technical bid. All the three materials namely the Master, Slave nodes and SMP (A, B and C in the Technical specifications) 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 ĩ leasing of service/technical support by OEMs or OEM supported vendors is not admissible. The response time should not be more that 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 ĩ 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. Pricing should be in CIF Kolkata. Price validity should be atleast 120 days from the date of opening the price bid.

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, 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.

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.

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.

Registrar (Acting)