



MOLECULAR BIOPHYSICS UNIT
UGC Centre for Advanced Study

INDIAN INSTITUTE OF SCIENCE
BANGALORE: 560 012, INDIA

Anand Srivastava

Date: 01/11/2017

Dear Sir/Madam,

Subject: (revised highlighted) Request for quotation for a high performance cluster

I would like to purchase a high-performance computational cluster. Following are item wise specification. Only core components are cited below and the bidders are expected to also quote for and supply the necessary unlisted accessories (e.g. LAN, Rail, Software etc) that will be required for setting up the complete solution.

1) **2 Compute Nodes** with following specifications.

- a. **Skylake processor**. 12 cores or higher. 2.6 GHz clock speed or higher
- b. **64 GB (8GB X 8 NOs)** DDR4 memory configured in each compute node (1Rx4 DDR4-2666 R ECC)
- c. SAS/SATA hard disk @ 7200 rpm or higher, minimum 2 TB capacity per node.
- d. Interconnect: Omnipath architecture

2) **Master Node**: A separate master node with the same configuration as the compute nodes but with following additional requirement

- a. 2 x 4 TB SATA/SAS HDD
- b. DVD-RW drive
- c. SAS controller card for external storage connectivity

3) **Network/Interconnect:**

- a. 24 ports OPA switch with preference for Omnibus architecture.
- b. A separate 1G network should be provided for management and administration of the cluster.
- c. Also, all network cables and drives should be listed and supplied.

4) **Software:** Installation costs should be quoted separately.

- a. Cluster Management Software: Following criteria should be considered while quoting for cluster management software
 - i. GUI (Web) Cluster Management (Add, Modify, Delete Nodes)
 - ii. Fully automated system image and scheduler
 - iii. Managed Services from cluster tool (DNS, DHCP etc.)
 - iv. GUI (Web) Cluster Monitoring (CPU, Memory, Network & Disks)
 - v. Power Management support and Parallel command execution
- b. Job Submission Portal
 - i. Submission of jobs from any location should be allowed
 - ii. E-mail notifications, Flexible Authentication
 - iii. Real time Resource monitoring of cluster.
 - iv. Capable of generating reports on Cluster usage, node usage, job, individual user, Department etc. for specified period

- a. The components of the server/chassis and management/monitoring software must be from OEM and it is preferred that they are from same OEM.
- b. All the equipment must be compatible with Indian electrical standards/codes
- c. The bidder must carry out installation, commissioning and cabling of all supplied hardware components and software.
- d. The HPC cluster solution must be housed in suitable chassis. Chassis for compute nodes is available. Quote only for master node chassis. Dense computing platform with extensibility option is preferred.
- e. The bidder must provide three years 24x7 comprehensive onsite warranty for the supplied hardware and also three years onsite warranty for maintenance of software and cluster management.
- f. The bidder should provide manufacturing authorization form (certificate from OEM for quoting the requirement)
- g. Also, bidder/OEM must provide at least three references where they have carried out the installations. The purchase committee will independently obtain inputs from referees before making the final decision on the bid.
- h. The lowest commercial bid and/or the most agreeable technical bid should have the option for further negotiations.

6. Eligibility Criteria:

Should have installed and maintained similar systems in IISC, Bangalore (require documents) and should have office in Bangalore

Either OEM or Vendor or both (preferred) should be among TOP 100 IT company in India with a turnover of more than 500 crore (FY2016-17) –

Should be ISO 9001:2000 and ISO 27001 certified company

Should be listed in NSE/ BSE

Should be an authorised partner and provide MAF during bidding

One vendor should be allowed to participate with one OEM only.

Submission of Proposal

The quotation should be in two parts:

Part I (Technical bid) and Part II (Commercial bid)

Part I should be put in a sealed cover and superscripted “Technical Bid”. Part II should be put in a separate sealed cover and superscripted “Commercial Bid”. Technical bid should be exactly same as commercial bid except that prices are not shown in technical bid. Technical bid should have item wise compliance report of all specifications. The above covers should be put in another cover. This cover should be sealed and subscribed “Bid for High –Performance Computational cluster for Dr. Anand Srivastava (Molecular Biophysics Unit)”.

The Technical bid should not have any details about pricing. **The commercial bid should have pricing for each of the configuration quoted in the technical bid.** The last day for submitting the bid is 21th November 2017. The offer should be valid for a period of at least 60 days from the last date for submission of quotes. Prices quoted should be inclusive of all taxes / duties. The prices quoted should be inclusive of delivery of the items to the site and installation at site and should include both rupee and US dollar quotes.

Payment will be made after satisfactory supply and installation. The system supplied may be tested/certified by us through an identified person/committee. Three year on-site warranty should be provided for the hardware. The warranty period will commence from the date of acceptance of the equipment.

Prices should NOT be given anywhere in the technical bid. Mention of prices in technical bid may result in disqualification. A copy of the Price bid with prices masked but giving all other details should be enclosed along with the technical bid.

The prices can be quoted either in foreign denominations or in INR. Provide itemized pricing for each item. Please specify the statutory taxes and duties, if any. Please note that IISc, being an academic institution **with University status** is eligible for customs duty exemption. INR price to be specified with applicable TAX separately.

IISc may decide to increase/decrease node count at the time of negotiation based on budget availability. SBI price of dollar on the last date for submitting of tender will be considered for all calculation.

Likely Timeline

Last date for receiving queries: Nov 12, 2017. Please email anand@iisc.ac.in

Last date for submission of bids: Nov 21, 2017. 5 PM

Bid Evaluation :-

The Technical Committee constituted by the Institute will evaluate the bids received from the bidders. The decision of the technical committee is final and binding on all bidders.

The technical bids are evaluated first. The mandatory conditions mentioned elsewhere must be adhered to and *failure of the same will result in disqualification of the bid.*

Each bidder has to obtain the minimum score under each category of the Technical Evaluation to qualify for opening of the commercial tender.

Sl. No.	Description	Max. Score	Min. Score (to qualify)
	Technical bid Evaluation:		
1.	Operational Cost	30 marks	10 marks
2.	Solution Superiority (Stress on extensibility of the solution, i.e: Ease of adding new nodes to cluster in future)	30 marks	10 marks
3.	Benchmark Performance	25 marks	8 marks
4.	Clarity and quality of RFP response document and presentation	15 marks	5 marks

The top three qualified bids will be considered. They will be marked as T1, T2 and T3.

Sl. No.	Commercial bid Evaluation:	Max. Score	
5.	Price Evaluation	100 marks	

The vendor with lowest price will be given the PO and IISc has the right to negotiate the

price based on suggestions made by the committee. If the winner of the bid is unwilling to negotiate, the bidder with the next highest joint score will be considered.

Technical Bid Evaluation:

1. Operational Cost:- Lower operating cost will attract higher marks. This is evaluated using the sum of rated IT and cooling load of the proposed HPC solution by the bidder.

2. Solution Superiority:- Solutions meeting the technical requirement of the tender will be given 10 marks. 10 marks are allocated for ease of extendibility (how much time, effort and installation costs will be required to add new nodes to the cluster). Additional 10 marks are given if the proposed solution has advantages of superior interconnect, higher reliability of product such as redundant power supplies, hot swappable fans, hot swappable power supplies, hot swappable compute blades etc.

3. Benchmark performance:- Benchmark data should be provided with standard LAPACK subroutines and LINPACK benchmarking. Also, it is desirable to provide benchmark with software such as LAMMPS, NAMD and GROMACS. Input files will be provided.

4. Clarity and quality of the RFP response document and presentation:- Large difficult-to-read documents where the important information is hidden deep within will attract less marks. Clear, concise document with all details of important information will obtain more marks. Information should not be scattered but should all be at one place for a particular item.

Thanking You,
Yours sincerely,



Best regards,
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