INDRAPRASTHA INSTITUTE *of*
INFORMATION TECHNOLOGY
DELHI

TENDER FOR HIGH COMPUTING PERFORMANCE (HPC)
FOR PERMANENT CAMPUS OF THE INSTITUTE AT
OKHLA PHASE-III, NEW DELHI-110020

(Tender no. IIITD/S&P/IT/HPC/2017-18)

INVITIATION FOR BIDS

Indraprastha Institute of Information Technology-Delhi (IIITD), a State University created by an Act of Govt. of NCT of Delhi, invites sealed bids for HPC (as per specifications mentioned under scope of work below) for its permanent campus at Okhla Phase-III New Delhi-110020 (behind Govind Puri Metro Station).

1. An amount of Rs.3,50,000/- (Rupees Three Lakh Fifty Thousand only) towards earnest money (EMD) must be deposited in the form of demand draft in favour of "IIIT-Delhi Collections" account, payable at New Delhi. No interest will be paid on the earnest money deposited by the bidder. Tender Document without earnest money will be summarily rejected.

2. The tender document can be downloaded from the Institute's web-site. Those wishing to get the copy of the document from the Institute may please deposit non-refundable Tender Document Fee of Rs.1000/- (Rupees One Thousand only) in the form of Demand draft drawn in favour of IIIT-Delhi Collections", payable at New Delhi or may deposit Rs.1,000/- with the F&A division of the Institute and enclose the receipt with the filled up tender document.

3. The last date for submission of bid is 7th November, 2017 up to 3:00 PM. The Tender Document should be addressed to:

   Registrar,
   Indraprastha Institute of Information Technology-Delhi
   Okhla Phase-III
   (Behind Govind Puri Metro Station)
   New Delhi-110020.

   The document may be deposited in the Tender Box kept in the Store department at the Service Block of the Institute. Bids received after 3:00 PM will not be accepted or considered under any circumstances.

   Bidding Procedure:

1. Quotations are invited in Two Bids System (1) Technical and (2) Financial.
   Quotations for Technical and Financial bids should be sealed separately and enclosed in a sealed envelope clearly indicating separately "Technical Quotation for HPC" and "Financial Quotation for HPC" addressed to Registrar IIIT-Delhi, Okhla Industrial Area Phase-III, New Delhi.

2. Sealed quotations shall be received not later than 3.00 P.M. on 7th November 2017. No bids will be accepted after this date & time under any circumstances. The Institute will not be responsible for any postal/courier delay and also for reasons beyond control of the Institute.

3. Technical bids must contain the EMD for specified amount, along with complete technical details as desired by this tender. First Technical bids of all the tender will be opened on pre scheduled date, time & venue. Technical bids without EMD will be summarily rejected. The financial bid will be opened after evaluation of the technical bid. Financial bid of only those meeting the requirement of the Institute will be opened and no representation in this regard will be entertained. The date, time of opening of financial bid will be communicated later.

Scope of Work

Master Node – (Qty-1)

S.no	Item	Description of Requirement
1	Make / Model Name	The system should be quoted with BOM and part codes. All the part codes should be from the same OEM
2	Form Factor	Rack mount Server 1U
3	Processor	Intel Xeon E5-2650v4 or higher version, with Minimum 12C/24T, 2.20 GHz
4	No. of processors	2
5	Chipset	Intel Chipset, fully compatible with the processors
6	Memory	96 GB DDR4 Registered ECC with balanced configuration.
7	Memory Features	Advanced ECC/SDDC/Chipkill/ or equivalent
8	HDD	2 x 2 TB disks for OS in RAID 1
9	RAID Controller	Raid controller supporting - RAID Levels 0, 1, 10, 5, 6 for future scalability
10	HBA	2 x 12 Gbps SAS ports with cables with 8 ports SATA3 interface
11	Communication ports	The system should be supplied with 2 x 1 Gbit/s ethernet ports, 1 x Omnipath/EDR ,should support PXE-Boot via LAN from PXE server, 2 x 12 Gbps SAS ports/ iSCSI / FCoE boot even diskless, USB2.0 / USB3.0
12	Management	OEM Server Management Suite, Integrated remote management controller should support graphical console redirection and remote media redirection. Any license for server management and KVM redirection should be included for 3 years.
13	OS	Centos LINUX
14	Power Supply	Redundant hot swap power supply
15	Fans	Redundant hot swap fans
16	Warranty	3 years OEM comprehensive onsite warranty. The OEM should have Service setup in India.
17	Certified on OS	Certified on Microsoft® Hyper-V Server 2012 R2, Microsoft® Windows Server® 2012 R2, Microsoft® Windows Server® 2008 R2, VMware vSphere™ 6.0, SUSE® Linux Enterprise Server 12, Red Hat® Enterprise Linux 7, Citrix® XenServer®, Oracle® Linux 7 & Oracle®
18	Noise	Noise emission level should be according to ISO 9296

Compute Node – (Qty.-3)

S. No	Item	Description of Requirement
1	Make / Model Name	The system should be quoted with BOM and part codes. All the part codes should be from the same OEM
2	Form Factor	Rack mount Server / Chassis - 2U
3	Processor	1 x Intel® Xeon Phi® processor 7230 or higher version, with Minimum 64C/256T, 1.30 GHz.
4	Chipset	Intel Chipset, fully compatible with the processors
5	Memory	96 GB DDR4 Registered ECC 2400 MHz, PC4-2400T-R, DIMM
6	Memory Features	Advanced ECC/ SDDC/ Chipkill or Equivalent
7	HDD	1x 1 TB SAS 7.2K rpm disks.
8	Communication ports	2 x 10/100/1000 Mbit/s Ethernet, 1 x OPA/EDR, USB2.0 / USB3.0
9	Management	OEM Server Management Suite, Integrated remote management controller should support graphical console redirection and remote media redirection. Any license for server management and KVM redirection should be included for 3 years.
11	Power Supply	Redundant hot swap power supply (N+1)
12	Fans	Redundant hot swap fans
13	Warranty	3 years OEM comprehensive onsite warranty. The OEM should have Service setup in India.
15	Noise	Noise emission level should be according to ISO 9296
16	OS	Centos Linux
17	Certified on OS	Certified on Microsoft® Hyper-V Server 2012 R2, Microsoft® Windows Server® 2012 R2, Microsoft® Windows Server® 2008 R2, VMware vSphere™ 6.0, SUSE® Linux Enterprise Server 12, Red Hat® Enterprise Linux 7, Citrix® XenServer®, Oracle® Linux 7 & Oracle®

GPU Node – (Qty.-2)

S. No	Item	Description of Requirement
1	Make / Model Name	The system should be quoted with BOM and part codes. All the part codes should be from the same OEM
2	Form Factor	Rack mount Server 2U
3	Processor	Intel Xeon E5-2650v4 or higher version, with Minimum 12C/24T, 2.20 GHz
4	No. of processors	2
5	Chipset	Intel Chipset, fully compatible with the processors
6	Memory	96 GB DDR4 Registered ECC with balanced configuration.
7	Memory Features	Advanced ECC/ SDDC/ Chipkill™/ or Equivalent
8	HDD	2 x 2 TB disks for OS in RAID 1
9	RAID Controller	Raid controller supporting - RAID Levels 0, 1, 10, 5, 6 for future scalability
10	HBA	2 x 12 Gbps SAS ports with cables with 8 ports SATA3 interface
11	GPU(s)	1 X Tesla P100
12	Communication ports	The system should be supplied with 2 x 1 Gbit/s ethernet ports, 1 x Omnipath/EDR , should support PXE-Boot via LAN from PXE server, 2 x 12 Gbps SAS ports/ iSCSI / FCoE boot even diskless, USB2.0 / USB3.0
13	Management	OEM Server Management Suite, Integrated remote management controller should support graphical console redirection and remote media redirection. Any license for server management and KVM redirection should be included for 3 years .
14	OS	Centos LINUX
15	Power Supply	Redundant hot swap power supply
17	Fans	Redundant hot swap fans
18	Warranty	3 years OEM comprehensive onsite warranty. The OEM should have Service setup in India.
19	Certified on OS	Certified on Microsoft® Hyper-V Server 2012 R2, Microsoft® Windows Server® 2012 R2, Microsoft® Windows Server® 2008 R2, VMware vSphere™ 6.0, SUSE® Linux Enterprise Server 12, Red Hat® Enterprise Linux 7, Citrix® XenServer®, Oracle® Linux 7 & Oracle®
20	Noise	Noise emission level should be according to ISO 9296

SMP Node: (Qty.-1)

Sl No:-	Component	Server Specification
1	Processor	4 x Intel® Xeon® processor E7-4830v4 or higher version (Minimum 14C/28T, 2.00 GHz, TLC: 35 MB)
2	Chipset	Intel Chipset, fully compatible with the processors
4	Memory	8 x 32 GB (1x32GB)
5	Memory Features	Advanced ECC/ Chipkill/ or Equivalent
6	RAID Controller	12 Gbit/s Flexible array controller with 1 GB flash-backed cache with supported RAID levels 0, 1, 10, 5, 6
7	Internal Storage Devices	Internal DVD RW drive 2 x 2TB 6G SAS 7.2K rpm SFF (2.5-inch) SC Midline in RAID 1
8	Communication ports	2 x 1GigE, 1 x 100Gbps IB/OPA, 2 x 12 Gbps SAS ports/ iSCSI / FCoE , Should support 2x10Gb Network Adapter.
9	Form Factor	4U Rack form factor with rail kits for 19" rack mount
10	Power Supply	4 x 1200W Common Slot Platinum Plus Hot Plug Power Supply (N+N redundancy for highly loaded configurations)
11	System Fans	4 Hot Plug Fans (eight rotors with N+1 redundancy)
12	Interfaces	Serial - 1 back, Video - 1 front; 1 back, Remote Management - 1 x 1Gbe dedicated, USB 2.0 / USB 3.0 Ports - 5 total: 3 front; 2 back; 1 internal
13	Industry Standard Compliance	ACPI 2.0. Compliant, PCIE 2.0 Compliant, PXE Support, WOL Support, Microsoft® Logo certifications, USB 2.0 Support
14	Certified on OS	Certified on Microsoft® Hyper-V Server 2012 R2, Microsoft® Windows Server® 2012 R2, Microsoft® Hyper-V™ Server 2008 R2, Microsoft® Windows Server® 2008 R2, VMware vSphere™ 6.0, SUSE® Linux Enterprise Server 12, Red Hat® Enterprise Linux 7, Citrix® XenServer®, Oracle® Linux 7, Oracle® VM 3, noise emission level as per ISO 9296
15	Warranty	3-Year Parts, 3-Year Labor, 3-Year Onsite OEM support with next business day response
16	OS	Centos Linux

Storage: (Qty.-1)

Feature Requirements	Specification
Architecture	All the components should be redundant to avoid any single point of failure.
Availability	99.99%
Number of Controllers	Dual active - active redundant hardware RAID controller, no storage server with internal disks / JBOD is not allowed. No software RAID is allowed
Host interface	Storage system should be quoted with 4 SAS host interfaces .2 x 12 Gbps SAS ports/ iSCSI / FcoE. Should support ISCSI 10G
Drives Interface	SAS
Cache capacity	8 GB or higher
Cache backup	Cache de staging to disk or battery backup should able to hold data more than 72 Hours
RAID levels	Storage system should support hardware RAID 0,1,10,5,6, 50 , 60 for flexibility of speed and security considerations in future. However the required configuration should be quoted with hardware RAID 6
RAID Migration	Should support movement of LUNs dynamically between different groups and drives without interrupting operations.
Capacity	Should be quoted with 100 TB of usable (Usable for Operating system) capacity with 6/8/10 TB NL SAS Disks in RAID 6 for every 10 disk 1 hot spare should be provided
Features	Should support Thin Provisioning, RAID migration, LUN online expansion w/o interruption, Reporting function, Hot part expansion
Snapshots and clones	Should support snapshots and clones and should be quoted with licenses for 8 snapshots.
Power Management	Should be able to spin down the drives not in use for better power management and reduced TCO
Security/Encryption	Should support 128 bit encryption functionality at the LUN Level. Controller based Encryption, HTTPS (SSL), One Time Password, RADIUS, SSH
Redundancies	Should have redundant hardware Raid Controller, fan and Power supplies

Interconnect :(Qty. - 1)

Sl. No.	Interconnect for HPC cluster
1	18 ports or more (OPA/EDR) 100 Gbps switch in 100% non-blocking architecture with appropriate cables
2	16 Ports LCD KVM switch

Service SLA	
1	Response time should be 4 hrs. Vendor/OEM should resolve and recovery on all hardware stacks in next Business day.
	Special consideration
	System delivered should be suited for air cooled data center. No Liquid cool facility available at data center**.**

Minimum Eligibility Requirements

1 The Bidder should be an OEM/Authorized Partner/service provider of the OEM. In case the bidder is an Authorized Partner or Service Provider a valid Agency-ship/Dealership Certificate (MAF specific to this tender) to quote on behalf of   OEM should also be enclosed along with the technical bid.

2 OEM should be present in the list of top 500 supercomputing, in last 3 entries. Latest proof in this regard be attached.

3 OEM and bidder should have support office in Delhi NCR region. Attached self-certified list of offices in Delhi NCR region.

4 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.

5 The bidder should also have experienced and skilled service personnel to support above mentioned requirement. The bidder should have support centre with minimum 3 Server support engineers. Please attach self-certified list of support service staff.

6 The bidder should be ISO 9001 certified. A copy of ISO Certificate should be enclosed.

7 The quoted OEM should have supplied minimum 5 systems each with minimum 10 node cluster in last 5 year in India.

8 The vendor/OEM should be able to provide 24x7 NOC & Tele support of their own if required by IIIT Delhi at agreed terms. Provide an undertaking in this regard on the letter head of the Company.

9 The bidder shall provide the Registration number of the firm along with the valid GST registration with PAN Number allotted by the competent authorities. Attach self-certified copies of each document.

10 The bidder must not be blacklisted by Central Government, State Government or Government of Corporations in India. A certificate or undertaking to this effect must be submitted.

11 If the bidder is an authorized partner or service provider of an OEM, an undertaking from the OEM is required stating that they would facilitate the bidder on a regular basis with technology/product updates and extends support for the warranty as well.

12 The bidder must be responsible for supply, deployment and support of the infrastructure.

13 The bidder must have experience to supply, deploy and support the entire HPC setup.

14. Bidders can seek clarifications, raise queries etc. related to Tender by 23/10/ 2017 via e-mail only at ajay@iiitd.ac.in and abhinay@iiitd.ac.in.   The reply to clarifications sought or queries raised will be replied within 03 days by 27/10/2017 and uploaded on the web-site of the Institute under www.iiitd.ac.in Based on this the bidders may submit bids as prescribed by the due date and time. No clarification in any other form will be provided.

Following information must accompany the financial bid:

1	Name, address and telephone number of the firm/company	
2	Name of the contact person and contact details (mobile/telephone number etc.)	
3	Name of the Bank and full address	
4	Bank Account Number	
5	PAN & GSTN (Attach self-certified copy)	
6	Valid self-certified copy of authorization from OEM	
7	Copy of Partnership Deed/ Certificate of registration of company or any other document evidencing registration of the bidder	
8	Number of Years of Experience	
9	Details of DD towards: Tender Fee: EMD:	
10	Provide the previous PO's of the same items work executed during last three years (attested copies of the Orders to be enclosed)	
11	List of service centres, nearest location of support centre.	
12	Turnover of the bidder in the financial years: 2014-15 2015-16 2016-17 Please attach CA certified copy of the turnover.	
13	ISO 9000 Certification (please attach certified copy)	

I /We hereby certify that the information furnished above is full and correct to the best of my/our knowledge.

(Signature of the authorized Signatory)
Name:
Office Seal.

Date:
Place:

TERMS AND CONDITIONS

1. The financial bid should be valid for a period of not less than 45 days from the date of opening of bid.

2. Upon placing of the Purchase Order (PO), the successful bidder is required to submit performance Bank guarantee (PBG) equivalent to 10% of the PO value within 07 days of the date of PO, failing which the EMD amount will be forfeited and the bidder shall be notified as blacklisted

3. The PBG will be valid for a period of 60 days beyond the stipulated date for cessation of the contract which is co-terminus with the warranty period

4. The bidder will supply original spare parts manufactured by the OEM. If at any point of time it is observed/noticed that any spurious part has been supplied the Institute will replace the same at its cost and recover the price from the service provider.

5. The bidder should have their own test and repair facility with certified engineers.

6. No interest is payable on the PBG.

7. PBG will be realized by IIIT-D in case of termination of the contract for unsatisfactory performance and/or non-performance of the contract.

8. Bids will be opened in the presence of bidder's representatives, who choose to attend on the specified date and time. Only one representative shall be allowed to attend.

9. Sealed bid can be sent either by post or by messenger. The responsibility of delivery of bid lies entirely with the bidder.

10. Payment will be released only on satisfactory services as per scope of work as certified by officer in charge of the Institute and after producing the invoice. The bidders, who do not agree to above payment terms, are requested not to submit their bid.

11. In the event of dispute, Director, IIIT-Delhi shall be the sole arbitrator and his decision shall be final and binding on both the parties.

12. IIIT-Delhi does not bind itself to accept the lowest or any other offer and reserves the right to accept or reject any or all the offers either in full or in part without assigning any reason.

13. In case the bidder is not able to execute the Work as per terms, EMD/PBG shall be forfeited.

14. The bidder must be an ISO-9000 certified organization.

15. The bidder should be Original Equipment Manufacturer (OEM) or authorized service provider of the OEM (attach documentary proof). The authorization issued by the OEM must be valid and enclosed.

16. Both the bidder and OEM must have sales and support service centres in Delhi.

17. Bidder should provide details of its support, certification to this effect from the OEM. If vendor /OEM fails to meet the SLAs, a fine of 2000/- Rs per day for first seven days and @ Rs.5,000/- per day from 8th day onwards will be levied.

PROFORMA FOR FINANCIAL BID

S. No.	Details	Qty.	*All Inclusive Cost (Rs.)- Please quote for each item
1	Master Node (Details as per above)	01	
2	CPU Compute Node (Details as per above)	03	
3	GPU Compute Node (Details as per above)	02	
3	SMP Node (Details as per above)	01	
4	Storage (Details as per above)	01	
5	Interconnect (Details as per above)	01	
	Total Cost (in figures) With Installation		
6	**Discount, if any**		
7	**Total Final Cost (in figures) With Installation**		
	Institute may purchase additional 2 or 3 GPU Compute Nodes. Please quote the price accordingly. The Institute, however, is free to purchase additional note from any other source.		

* Please note the price should be quoted for each of the item and should be inclusive of all taxes/charges and installation at IIIT-Delhi.

The discount, if any should be mentioned herein and nowhere else.

Total Cost (all inclusive) of quantity mentioned above (in words):
We accept that the rate quoted above shall remain valid for a period of 45 days from the date mentioned below. .

(Signature and seal of the Bidder)

Date: 13.10.2017