

**SARDAR VALLABHBHAI NATIONAL
INSTITUTE OF TECHNOLOGY (SVNIT)-
SURAT**



TENDER DOCUMENT

FOR
SUPPLY OF


HIGH PERFORMANCE CLUSTER (HPC) SYSTEM

APPLIED PHYSICS DEPARTMENT
S. V. NATIONAL INSTITUTE OF TECHNOLOGY
SURAT – 395 007, GUJARAT
(YEAR 2017-18)

APPLIED PHYSICS DEPARTMENT
S. V. NATIONAL INSTITUTE OF TECHNOLOGY (SVNIT)
ICHCHHANATH, SURAT 395 007, GUJARAT, INDIA

TENDER NOTICE

Sealed Tenders are invited for **HIGH PERFORMANCE CLUSTER (HPC) SYSTEM** under Science and Engineering Research Board (SERB) - Department of Science and Technology (DST) funded project at Advanced Materials Laboratory in Applied Physics Department. The details Tender documents, technical specifications of the HPC system, schedule of issue, receipts of Tender documents are available on Institute website www.svnit.ac.in.


DIRECTOR
SVNIT, SURAT

TENDER FORM

1. **Tender Form Issued to**
M/s. _____

2. Nature of Work: **Supply, Installation & High Performance Computing (HPC) system at Advanced Materials Laboratory of Applied Physics Department.**
3. Issue of the Blank Tender Form: 10 July 2017
4. Last date of Submitting the tender offer: 10 August 2017 (up to 16:00 hours)
5. Date of opening the tender if is possible: 11 August 2017 (at 12:00 hours)
6. Tender form fees: Rs.500/- paid by DD in favour of "Director, S. V. National Institute of Technology, Surat". Must be enclosed with tender document.
By crossed Demand Draft No.
Dated _____ drwan on payable at surat.
7. Tender reference no.: No.: Phy/Tender/YAS/SERB/264 dated 03/07/2017
8. Earnest Money Deposit: Total estimated Cost of items quoted i.e. Rs. 30,000/- By Crossed DD/ No. _____ dated _____ Drawn on _____ payable at Surat.
9. Time Limit: 90 Days (Providing, installing, Commissioning, testing & training)
The Earnest money of above amount will have to be paid by Crossed Demand Draft in favour of "**Director, S. V. National Institute of Technology, SURAT**", and enclosed along with the Tender documents. EMD shall not bear any interest and without this amount, the Tender shall not be considered. No correspondence in this regard shall be entertained.
10. Name of the Authority : **The Director,
S. V. National Institute of Technology
Surat – 395007, (GUJARAT),India**

Y. Sonvane
3-7-17

Y. Sonvane
3/7/2017
**Head,
APD, SVNIT, Surat**

TENDER DOCUMENTS

THIS TENDER DOCUMENT CONTAINS:

- I. SCHEDULE OF TENDER**
- II. TERMS AND CONDITIONS**
- III. GENERAL TERMS AND CONDITIONS**
- IV. DECLARATION**

I. SCHEDULE OF TENDER

Providing installing & Commissioning, testing & training for High performance Cluster (HPC) system is to be procured for the Advanced Materials Laboratory of Applied Physics Department.

1. Configurations for Master Node (One)

| | |
|------------|--|
| Processor | 2 x Intel Xeon E5-2620V4 or Higher |
| Chipset | Intel C612 chipset |
| RAM | 64GB DDR4-2133 ECC REG. |
| HDD | 4 x 4000 GB SATA Enterprise 7200 RPM 3.5" HDDs (for Data) : 2 x 2400GB or higher Data centre grade SSD for (OS) |
| ODD | 16x or better DVDRW Drive |
| RAID | Onboard SATA3 via Intel® C612; RAID 0, 1, 10 (RAID 5 Windows only) (Optional Hardware RAID) |
| Management | IPMI 2.0 with virtual media over LAN and KVM-over-LAN support Onboard |
| NIC | Dual Gigabit (10/100/1000Mbps) Ethernet onboard |
| Infiniband | 1 x Single-port 56Gbps FDR IB HBA + cable of suitable length |
| Exp. Slots | 2 x PCI-E 3.0 x16 (FHHL) - via riser card (1 free slot) |
| Ports | 1 x Header, 4 USB 3.0, 1 x VGA, 2 x RJ45 LAN ports, 1 x RJ45 Management Port |
| Chassis | 2U rackmountable with mounting Rails (8x 3.5" Hot-swap SAS/SATA HDD Bays) |
| P. Supply | High Efficient Redundant Power Supplies |
| OS | Linux |

2. Configurations for Compute Node (Three or more)

| | |
|------------|---|
| Processor | 2 x Intel Xeon E5-2650 V4 or Higher |
| Chipset | Intel C612 chipset |
| RAM | 2 x 32 GB (64 GB) DDR4-2400 ECC REG or higher |
| HDD | 1 x 1TB SATA Ent 7200 RPM 3.5" HDD (3 x 3.5" Hot-swap SAS2/SATA3 HDD Bays) |
| RAID | SATA3 (6Gbps) with RAID 0, 1 (RAID 5 Windows only) Onboard |
| Management | IPMI 2.0 with virtual media over LAN and KVM-over-LAN support Onboard |
| NIC | Dual Intel Gigabit (10/100/1000Mbps) Ethernet onboard |
| Infiniband | Mellanox ConnectX-3 FDR Infiniband 56Gbps Controller Onboard + Cable (2Mts) |
| Exp. Slots | 1x PCI-E 3.0 x8 (LP) slot |
| Ports | 1 x serial, 2 USB 3.0, 1 x VGA, 2x RJ45 LAN ports, 1 x RJ45 Management Port |
| Chassis | 1U rackmountable with mounting Rails |
| P. Supply | High Efficient Redundant Power Supplies |
| OS | Linux |

3. Infiniband Interconnect

SwitchX®-2 based FDR 56 Gbps InfiniBand 1U Switch, 12 QSFP ports, 1 Power Supply (AC), unmanaged, short depth, P2C airflow, RoHS6 with Rack installation kit for SX6005/SX6012 and SX1012 series short depth 1U switches, allows installation of One or Two switches side-by-side into standard depth racks

4. HPC Software & Installations

OS: Linux

Job Schedulers:

- ✓ GUI based Job monitoring and management
- ✓ GUI based reporting,
- ✓ Workload cum resource manager with policy-aware, resource-aware and topology-aware scheduling
- ✓ Advance reservation support
- ✓ Support of job submission through CLI, Web-services and APIs
- ✓ Heterogeneous cluster support
- ✓ Multi-cluster support
- ✓ Preemptive and backfill scheduling support
- ✓ Application integration support
- ✓ Live reconfiguration capability
- ✓ SLA/Equivalent
- ✓ GPU Aware scheduling
- ✓ Intuitive web interface to submit and monitor jobs

MPI : OpenMPI, MVAPICH

Libraries : Open Source Libraries for C, C++ & FORTRAN, MPI, MKL, BLAS, ATLAS, FFT3, Lapack, Scalapack etc.

Software: VASP, Quantum Espresso, Siesta, Gaussian & Gromacs in serial & Parallel mode, USPEX, Matlab/Octave, Boltztrap, ShengBTE, phonopy etc.

5. Cluster Management S/W: The cluster management stack with a GUI based cluster monitoring for all the cluster nodes.

Cluster monitoring and management software with the following features

- ✓ Cluster manager with provisioning, monitoring and reporting capabilities
- ✓ Support Package and Image based provisioning
- ✓ Support Disk and diskless cluster deployment
- ✓ Intuitive web interface to manage and customize the cluster
- ✓ Customizing networks and compute node profiles through GUI
- ✓ Customizing compute nodes to max, upto changing kernel parameter
- ✓ Able to Push configuration changes and updates to the compute nodes without reinstalling and rebooting

6. Training

Installation & Training by Certified Professionals

II. TERMS AND CONDITIONS

Please fill up the Following Details

1. Mode of Delivery : F.O.R. Institute Basis
2. If delivery is Ex-godown/shop/show room the rate of packing, forwarding and freight charge etc. must be specified clearly.
3. Taxes : Exclusive / Inclusive
 - (a) If exclusive, rate of
 - (1) Sales Tax : _____%
 - (2) Surcharges on S.T. : _____%
 - (3) C.S.T. : _____%
 - (4) Service Tax if any : _____%
4. Excise duty : Exclusive / Inclusive
Rate of Excise duty, if applicable : _____%
5. Octroi : As per directive of Surat Municipal Corporation (SMC) authority the Octroi exemption certificate will be issued to the outside parties only.
6. Delivery Period including instillation, Commissioning & testing of system : _____ Days
7. Payment : **After providing installing, Commissioning, testing & training of HPC system**
8. Validity : _____ Days
9. Discount : _____%
10. Warranty : **3 Years Minimum**
11. Insurance : **3 Years Minimum**
12. Telephone No :
Fax No. :
E-Mail Address :

SIGNATURE OF THE PARTY WITH FULL ADDRESS & STAMP

III GENERAL TERMS AND CONDITIONS

1. Preference will be given to the vendor who can provide maximum number of core with optimized RAM (64 GB) for HPC Cluster.
2. Vendor/Bidder should have an experience in deployment of HPC cluster for last 7 years in Research Institutes/Centre, Govt of India. Minimum 5 copies of Purchase Order for HPC in which one HPC Cluster should be of more than 10TFlops with **only CPU** should be submitted followed by successful Installation Reports/Certificates along-with technical offer.
3. Server's Motherboard & Chassis should adhere the same OEM, Assembled systems are not acceptable.
4. Bidder must submit an Authorization certificate from OEM for service & support. One OEM can authorize one bidder only and one bidder can represent only one OEM.
5. Bidder should be an ISO certified Company.
6. **Bidder/Vendor should have a prior experience in deploying scientific applications on provided HPC facility. A User certificate stating the same must be enclosed along-with technical bid.**
7. Quoted OEM should have minimum Two (2) entries in latest top500.org list.
8. Vendor should submit complete scope of supply not limited to Racking, OS installations, Packages & other scientific applications (Open Source).
9. Vendor must have office/service center near (300 KM) to SVNIT, surat for quick support/service.
10. List of Deliverable/Bill of Material must be submitted with technical offer.
11. The taxes charged should be at the concessional rates allowed to educational institutions as per the relevant notification of the Government.
12. The rates mentioned in the quotation must be **Inclusive of all Taxes.**
13. The rates mentioned in the quotation are **inclusive** of packing & forwarding charges.
14. The Institute is exempted from the Central Excise Duty and Custom Duty (DSIR Certificate).
15. In case of dispute, the matter will be subject to Surat Jurisdiction only.
16. The **validity** of the Tender shall be kept open for a minimum period of **90 days or more** from the date of offer. However, it is desirable to have a longer validity period.
17. The supplier shall provide **technical / service manual, operation/ installation manual along with calibration charts free of cost.**
18. Supplier should clearly mention the after sales service facility / capability and provide the same during guarantee / warrantee period.
19. **Payment:**
 - (i) Advance Payment: No advance payment.
 - (ii) On Delivery and Final Acceptance: Full payment of contract price shall be paid to the supplier within 60 days on receipt of Goods, upon submission of the

documents and after the satisfactory installation and commissioning of the goods and training of personnel for use and servicing of the equipment.

- (iii) Payments shall be made promptly by the Purchaser but in no case later than sixty (60) days after submission of the invoice or claim by the Supplier.
- (iv) This Institute is a Technical Education National Institute under MHRD, Govt. of India. All payments shall be made as per the prevailing norms of Govt of India and SVNIT, Surat.

20. **The Earnest Money Deposit:**

- ❖ The Earnest money will have to be paid by Crossed Demand draft / Fixed Deposit Receipt (FDR) drawn in favour of **Director, S. V. National Institute of Technology, Surat**, and enclosed along with the Tender documents. This amount will be refunded later (only after satisfactory execution of the purchase order), on receipt of written request from supplier. EMD shall not bear any interest. Tender document without EMD amount shall not be considered. No correspondence in this regard shall be entertained.

NOTE:

- ❖ After receiving the purchase order, if the supplier fails to execute the order, the EMD will be forfeited and institute will be constrained to make note of this for necessary action against the party.
21. The goods are required to be duly insured with any Nationalized Insurance Company and the insurance charges will be borne by the supplier against the relevant documents of the insurance company.
 22. **The Director reserves the right to increase or decrease the quantity of the Tender items or split of the Item/Items of the Tender. Rights are also reserved with the Director to reject any or all the Tenders without assigning any reasons thereof.**
 23. The Tender for equipment must be sent in sealed envelope with the superscription Tender for the supply of **High Performance Cluster (HPC) system in Advanced Materials Laboratory and addressed to The Head, Applied Physics Department, SVNIT, Surat, Ichchhanath, Surat-395 007, Gujarat, India.**

NOTE:

- ❖ The Tender may be accompanied with an undertaking from the party / supplier that the terms and conditions of the Tender are acceptable and binding on the party/supplier.
- ❖ Please return this copy of terms and conditions duly signed and stamped along with the Tender documents. Technical and financial bids are placed in separate envelopes.

IV. DECLARATIONS

I/We hereby declare that the terms and conditions of the Tender stated herein, and as may be modified / mutually agreed upon are acceptable and binding to me/us.

**Name and Address of
Supplier/Manufacturer**

**Name and Signature of
Tenderer with Office Stamp**

Place:

Telephone No:

Fax Number:

Email ID:

Mobile No :

Date: