



भारतीय प्रौद्योगिकी संस्थान कानपुर INDIAN INSTITUTE OF TECHNOLOGY KANPUR

भौतिकी विभाग
DEPARTMENT OF PHYSICS

Dr. V. Ravishankar
Professor & Head

पत्रालय - आई.आई.टी. कानपुर - 208 016 (भारत)
P.O. : I. I. T., Kanpur - 208 016 (INDIA)

September 29, 2011

Sealed quotations are invited from the OEM or their authorized partner (partner must have valid authorization for this tender from the OEM) for HPC Cluster as described in the attached sheets. Only those vendors who have experience in installation & maintenance of HPC cluster of at least 24 nodes or more are eligible to submit their bids. The vendors should also satisfy other terms and conditions as described below.

Terms and Conditions:

1. All quotations must reach the undersigned by 21-10-11, 5 P.M.
2. Quotations must be valid till 30-12-11.
3. Quotations shall be submitted in two parts.
 - Part-I (Technical) should contain all the technical details cum specifications of the offered solutions (items 1 both option and 2).
 - Part-II (Financial) should contain the prices (items 1 both option and 2 separately) of the offered solutions along with commercial terms and conditions. The prices should not be quoted in the technical bid.
 - The envelopes containing Part-I and Part-II should be labeled clearly and kept in a bigger sealed envelope.
4. Warranty: Three years comprehensive on-site.
5. Delivery period will be 8 weeks.
6. IIT Kanpur is exempted from excise duty.
7. IIT Kanpur is exempted for partial custom duty (CD applicable to IIT Kanpur is 5.15%).
8. Installation should be completed within 4 weeks of delivery.
9. Please quote for unit price for each of the items. The vendor must quote for all the items.

M. K. Khush
(Acting Head)
for

(V. RAVISHANKAR)

1. HPC Cluster

OPTION 1:

- **Master Node (Quantity - 1) Rack Server (2U):** 2 X Hex core Intel Xeon processor X5670 @ 2.93 GHz with 12 MB L3 Cache, IQI 6.40 GT/s, Intel 5520 or better chipset, 48 GB DDR3 1333 MHz or higher ECC RDIMMs RAM (expandable up to 96 GB), Quad multifunction Gigabit integrated Ethernet onboard, Management port, dual QDR Infiniband ports, 12 X 600GB SAS 10/15K RPM (Max. speed in the offered FF) hot swap disk (should be scalable up to minimum 16 drive and support SAS raid 0, 1, 5, 6 with 512MB Flash Backed Cache), DVD+/- RW drive, redundant power supply. If system heated due to lack of AC, system should automatically shutdown systematically. Server should have Pre Failure alert mechanism to highlight the deteriorating health of the components like Hard Drives, processors, memory, Voltage Regulator modules, power Supplies and Fans. CMU for the entire cluster Of the Server OEM shall be provided and Configured
- **Compute Node (Quantity - 32) Blade Server:** 2 X Hex core Intel Xeon processor X5670 @ 2.93 GHz with 12 MB L3 Cache, IQI 6.40 GT/s, Intel 5520 or better chipset, 24 GB DDR3 1333 MHz or higher ECC RDIMMs RAM (expandable up to 96 GB), 250 GB 7.2K RPM SATA Disk, dual gigabit NIC, Management port, Infiniband port,
- **OS:** 64 Bit Linux distribution, preferably CentOS, latest version.
- **Blade Chassis:** Full height chassis with fully loaded hot swap power supply configuration with at least N+1 redundancy, fully loaded hot swap cooling units, I/O Ports, DVDROM drive, management and automation tools.
- **Cluster Interconnect:** Infiniband, 4X- QDR, 100 % non-blocking, compatible with OFED and open MPI. single box/ internal/ federated switch based connectivity.
- 1U slide out console with TFT monitor, keyboard & mouse.
- **Software:** Open source Cluster monitoring and management software, compilers: FORTRAN; C; C++ (both GNU and Intel), OPENMPI. The software must be of the latest version.
- **Workload management software:** Free PBS workload management and job scheduling software should be provided.
- 42U OEM Rack to mount master node, blade chassis and required accessories.

Option 2:

Same as above except that the Blade server is replaced by Rack Mount server (1U).

2. Optional Items:

- (1) 48 GB in each compute node in lieu of 24GB.
- (2) PBS Pro for queue manager
- (3) Redhat Linux