Department of Electrical Engineering

Enquiry No.: EE/YSC/2017/07

Opening Date: 8th May, 2017

Closing Date: ~~24th May~~ 5th June, 2017

Sub.: Purchase of branded Master Node cum Storage for HPC

Please send sealed quotation to undersigned for the same. The envelope should be marked as "MSN–EE/YSC/2017/07".

Quotations should be submitted in two parts (Two Bid System): Technical bid and financial bid in two separately sealed envelopes.

Part-I (Technical) should contain all the technical details cum specifications of the offered solutions.

Part-II (Financial) should contain the prices of the offered solutions along with the commercial terms and conditions. Please mention the unit price separately for each product i.e. separate price for master cum storage node and each accessory.

Financial bids for products whose technical bid is not acceptable will not be opened. Any quote where the financial bid is included in the technical bid will be summarily rejected. The sealed envelopes with the quotes should be super scribed with Inquiry number and whether it is a technical or financial bid.

Master Node cum Storage for HPC:

Configuration	Description of Requirement
Chassis	2U Rack Mountable in 1075mm rack with mounting Rail Kit
CPU	2x Intel E5-2643v4 (6 Cores, 3.40GHz, 20MB Cache) Processor
Motherboard	Intel® C610 Series Chipset
Memory	128GB DDR4 2400MHz ECC REGISTERED RDIMM (Max. up to 768GB)
Memory Slots	Server Should have 24 DIMM slots must support up to 768GB. Should be capable of identifying and reporting genuine OEM memory installed.
Memory Protection	Advanced ECC with multi-bit error protection and Memory Online Spare Mode.
HDD (Primary)	1x 300GB Enterprise 12G 10K-SAS
HDD (Secondary)	2x 1.2TB Enterprise 12G 10K-SAS 4x 2TB Enterprise 12G 7.2K-SAS
HDD Bays	16 Hot swap HDD bays with Drive Carriers
Storage Controller	Internal PCIe 3.0 based, Transfer Rate: 12Gb/s SAS per physical link and 6Gb/s SATA per physical link, PCI Express Gen3 x8 link width, Internal Ports: 16 physical links across 2 x8 ports, RAID levels 0, 1, 10, 5, 50, 6, 60 and 10 Advanced Data Mirroring with 4GB Flash-backed write cache.
Optical drive	1x DVD RW Drive

System FAN	Hot-Plug Redundant High Performance
On Board I/O	2x FDR IB Port, 4x RJ-45 Lan Port, 1x RJ-45 Dedicated IPMI Lan Port, 3x USB 3.0 and 1x VGA port, 1x Micro-SD Slot
Expansion Slots	Three PCI-Express 3.0 slots, at least two x16 slots
Graphics	Integrated Graphics Controller supporting 1280 x 1024 (32 bpp) and 1920 x 1200 (16 bpp)
Ethernet	**4x Gigabit Ethernet (Integrated) and 1x Gigabit Mgmt. LAN** 4-port 1Gbps network adaptor should support advanced features such as Large Send offload capability, TCP checksum and segmentation, VLAN tagging, MSIX, Jumbo frames, IEEE 1588, and virtualization features such as VMware NetQueue and Microsoft VMQ.
Management	IPMI 2.0 with virtual media over LAN and KVM-over-LAN support;
Management License	**Factory Integrated Advanced Electronic License inclusive 1 Year 24x7 Support on Licensed Features.** 1. System remote management should support browser based Graphical remote console along with Virtual Power button, remote boot using USB/CD/DVD Drive. It should be capable of offering upgrade of software and patches from a remote client using Media/image/folder. It should support server power capping and historical reporting and should have support for multifactor authentication. 2. Server should have dedicated 1Gbps remote management port. Remote management port should have 4GB NAND flash with 1GB available for user access. NAND flash should be used for keeping system logs and downloading firmware from website or internal repository. 3. Server should support agentless management using the out-of-band remote management port. 4. The server should support monitoring and recording changes in the server hardware and system configuration. It assists in diagnosing problems and delivering rapid resolution when system failures occur. 5. Applications to access the server remotely using popular handheld devices based on Android or Apple IOS should be available. 6. Remote console sharing up to 6 users simultaneously during pre-OS and OS runtime operation, Console replay - Console Replay captures and stores for replay the console video during a server's last major fault or boot sequence. Microsoft Terminal Services Integration, 128 bit SSL encryption and Secure Shell Version 2 support. Should provide support for AES and 3DES on browser. Should provide remote firmware update functionality should provide support for Java free graphical remote console.

	7. Should support managing multiple servers as one via Group Power Control, Group Power Capping, Group Firmware Update, Group Configuration, Group Virtual Media and Group License Activation.
InfiniBand	2x Mellanox ConnectX-3 FDR InfiniBand with QSFP Interface
Power Supply	1+1 Platinum Hot-Plug Redundant Power Supply.
Power Cord	2x C13 to C14 Power Cord 250V AC
OS Support	Red Hat RHEL Server 6 and 7
Warranty	Server Warranty includes 3-Year Parts, 3-Year Labor, 3-Year Onsite support with next business day response.

Accessories:

Name of the item	Description	Quantity
IB Cable	InfiniBand FDR QSFP Copper Cable 2M	2
PDU 1-Phase	Rack PDU Basic Vertical 0U 11KVA (30) C13, (6) C19 Outlets with 48A 1-Phase AC 230V 3-Wire Input Cord length 2.4M min.	1
PDU 3-Phase	Rack PDU Basic Vertical 0U 11KVA (36) C13, (6) C19 Outlets with 16A 3-Phase AC 230V 5-Wire Input Cord length 2.4M min.	1

Firm's authorization	1. The bidder must be authorized by the manufacturer or OEM to supply, install and maintain the system. 2. The firm should have successfully delivered and installed at least 25 nos. similar systems in any Central Govt. Organization, preferable R&D and Premier Educational Institutions (attach proof).

Note:

- System should be factory assembled and tested at the OEM site.
- No on-site assembling or integration allowed. Only rack mounting and installation of OS and application and other services are allowed.

Terms and Conditions:

- The vendor should have installed at least five HPC clusters/servers in central government organizations in India in last five years. Details of these previous installations must be provided. International OEM with at least 10 entry in top 500 organizations should only quote.
- OEM should have support center either directly or thru authorized legal distributor /service partner in Kanpur/Lucknow (preferably) or Delhi.
- In addition, vendor should provide a guarantee for application software (Intel compilers, FFTW, open-MPI, LAMMPS, Quantum Espresso) integration.
- Installation and maintenance charges should be mentioned separately.

- The institute reserves the right of accepting or rejecting any quotations without assigning any reason thereof.
- The ordered quantity of items may increase/decrease as per the discretion of IIT Kanpur.
- Your quotation shall contain Authorization Letter from manufacturer specifically for this tender.
- Quotation must be valid for 90 days.
- Delivery period should not be more than 6 weeks.
- Payment terms will be as per IIT Kanpur rules.
- Send complete detail of the product(s) including brochure etc.
- All prices are to be FOR IIT Kanpur and must include all duties, taxes and delivery charges etc.
- Institute is exempted for payment of Excise Duty under notification No. 10/97 & partially @ 5.15% Custom Duty exemption certificate under notification 51/96 and road permit will be provided if applicable.
- Supplier must help in installing open source compilers, libraries etc. He should also make sure that parallelization/job scheduling of open source software such Quantum-Espresso and other software is correctly working on the cluster.

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