

List of Items Required

S.No	Parameters	Values or Notes
<u>Master Node: Quantity 1</u>		
1	Processor	2 x Intel Xeon E5-2630V3 (2.4GHz/ 8-Core /20MB / 8.0GT-s QPI)
2	Memory	64GB (4x 16GB) DDR4 Reg. ECC 2133MHz (4GB/core) with necessary free slots and provision to add at least another 128GB in future using the same DIMM modules
3	Internal Storage	4x 3TB hot-swap SATA Enterprise class 7.2K rpm (RAW) with total 8 HDD bays
4	RAID Card	1x 8-Port RAID Card supporting RAID 0, 1, 5 & 6
5	I/O Ports	1x Single-Port QDR 40Gbps Infiniband Adpater, 1x 2M QDR QSFP Infiniband Cable, 2x Gigabit Ethernet Port and 1x Dedicated LAN for system management
6	DVD Writer	Internal DVD Writer
7	Power Supply	Redundant Platinum Level (94%) Power Supplies
8	Mount Type	Rack mount Rail Kit
9	Warranty	3 years on-site comprehensive warranty
<u>GPU Compute Nodes: Quantity 2</u> <u>(each node capable of supporting at least 3 K40 GPU's)</u>		
1	Processor	2 x Intel Xeon E5-2630V3 (2.4GHz/ 8-Core / 20MB / 8.0GT-s QPI)
2	Memory	64GB (4x 16GB) DDR4 Reg. ECC 2133MHz (4GB/core) with necessary free slots and provision to add at least another 64 GB in future using the same DIMM modules
3	Internal Storage	1x 1TB hot-swap SATA Enterprise class 7.2K rpm
4	I/O Ports	1x Single-Port QDR 40Gbps Infiniband Adpater, 1x 2M QDR QSFP Infiniband Cable, 2x Gigabit Ethernet Port and 1x Dedicated LAN for system management
5	Power Supply	Redundant Platinum Level (94%) Power Supplies
6	Mount type	Rack mount Rail Kit
7	Warranty	3 years on-site comprehensive warranty
8	GPU Cards & Support	One of the nodes must be populated with 3x K40 cards;

		and the other node must have provision and support for at least 3x K40 cards in future. Necessary power, cooling, GPU power cables must be available
<u>Primary Interconnect: Infiniband Switch</u>		
1	Infiniband Switch	1x 8-Port QDR 40Gbps QSFP Infiniband Switch
Server Rack		
1	24U/27U Server Rack	24U/27U Server Rack (600W x 1000W) with front & back perforated doors, 2 nos. of vertical PDU's with at least 10 universal multi-pin sockets per PDU, adequate fans on top, rolling wheels at the bottom (other things which are required to make it complete)
<u>Secondary Interconnect: Gigabit Ethernet Switch</u>		
1	Gigabit Ethernet Switch	1x 16-Port Gigabit Ethernet Switch with required number of cables to connect all nodes
2	Supplier capability	<ul style="list-style-type: none"> The bidder (System Integrator) should have Technical expertise in implementing GPU/Accelerator cluster, which includes installation configuration, maintenance and customization as per requirement.
3	Other conditions	<ul style="list-style-type: none"> The server and all its components should be verified and recommended by the motherboard manufacturer by means of compatibility list. The part number/model numbers of the memory and HDD should be provided. The entire cluster solution should be in the lowest foot print and the lowest power consumption
4	Installation, Warranty and Training	<ul style="list-style-type: none"> The vendor shall install and configure all required hardware and open source software suites, including but not limited to racking and stacking, cluster networking, configuring all nodes, installation of open source compilers and applications, configuration of environment variables and license utility configuration. Necessary GPU drivers, toolkit and SDK must also be installed and shown to work as a cluster MATLAB and GPU GROMACS must be installed and shown to be working The vendor to ensure that the hardware and

		software components are compatible with each other, and provide necessary cables/wires and any other accessories necessary for connecting the supplied components. Bidder must install the complete system interconnecting all the components above.
5	Acceptance Test	<ul style="list-style-type: none"> As part of acceptance procedure, bidder must install GPU GROMACS and show the working by compiling and running the input file given by the end-user.
5	Compliance statement	<ul style="list-style-type: none"> Compliance statement needs to be provided by vendors clearly specifying COMPLY/NON COMPLY with remarks of all of the points mentioned above.
<p>Note: It will be sole discretion of IITM to choose one or more technical qualified vendors. Compliance to this point is mandatory.</p>		

General Conditions

1. The bidder must have supplied, installed and integrated at least five similar systems across India, preferably in IIT Madras/other IITs/ R&D labs. Please provide a list of your installations.
2. Delivery time, from the date of issue of PO, should be indicated by the vendor.
3. The period of warranty will be for **three years (comprehensive on-site)** from the date of acceptance.
4. Quotations must be supplied by postal mail and must have a validity period of at least 60 days.

I may be contacted at athi@iitm.ac.in or +91-44-2257-4140, if there are any questions.

Sincerely,



N. Athi Narayanan
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