



भारतीय प्रौद्योगिकी संस्थान इन्दौर
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IIT Indore

NIT No.: IITI(MM)/ CH/1A/1A/599/BP-SSB /2018-2019

March 11, 2019

Pre-bid Report

The meeting for Pre-bid discussion and presentation was held at IIT-Indore on 28/02/2018 at 3.00 PM for procurement of "High Performance Computing Cluster".

Sl. No.	Query raised by	Reference of the Tender Doc.	Query/Clarification/Deviation sought	Clarification/ Response from IITI	Remarks
1.	Netweb Technologies India Pvt. Ltd.	Chapter - 6 (Annexure I) PART-II Item 1 : For Bidding Bidders must quote for INTEL GOLD 6136 processor (12 core; 24.75M ; 3.0 GHz). Note : Bidder must quote for INTEL Omni-Path Architecture (INTEL OPA) for HPC configuration with 100Gbps Transferability.	If your requirement is cores specific then Intel 6148 can also meet the exception that has 20 cores. We shall have to take 36 No. of compute nodes in order to achieve 1440 CPU Cores{36 x 40 (Each Node consists of Dual Intel 6148 i.e. of 20 cores)}. If you consider the Theoretical Peak Performance of total 1440 CPU Cores(Using Intel 6136 processor across 60 Nodes), it will be 138.24 TFlops which can alternatively be met by 1800 CPU Cores(Using Intel 6148 processor across 45 Nodes). We hereby request you to allow Intel 6148 processor to be quoted either across 36 or 45 nodes for aforementioned requirement.	1 Bidder can quote for either INTEL GOLD 6136 or INTEL GOLD 6226 proc. (minimum 2.8 GHz frequency) 2. Bidder must quote for a 2 X INTEL PROC configuration for the master node and all the computing nodes. 3. Bidder can quote for either INTEL OPA or MELLANOX based interconnect with a minimum of 100 Gbps non-blocking transferability with required number of ports and cables to configure the server.	

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Further , kindly allow option of Infiniband - EDR (100 Gbps) Intel OPA is a proprietary product & having the same will lead to lack of equality and competition with other products available globally. You are hereby requested to consider Infiniband EDR(Mellanox or Equivalent) 100 Gbps interconnect which is acceptable worldwide and running successfully everywhere in Top most research Institutes/Centres. On request, references can be given. Infiniband EDR(Mellanox or Equivalent) 100 Gbps is well compatible with OFED(Open Fabric Infiniband Stack), OpenSM and Open MPI; able to provide full performance on open source software(Linux-OFEDOpenMPI).

			<p>Further , kindly allow option of Infiniband - EDR (100 Gbps) Intel OPA is a proprietary product & having the same will lead to lack of equality and competition with other products available globally. You are hereby requested to consider Infiniband EDR(Mellanox or Equivalent) 100 Gbps interconnect which is acceptable worldwide and running successfully everywhere in Top most research Institutes/Centres. On request, references can be given. Infiniband EDR(Mellanox or Equivalent) 100 Gbps is well compatible with OFED(Open Fabric Infiniband Stack), OpenSM and Open MPI; able to provide full performance on open source software(Linux-OFEDOpenMPI).</p>		
2.		<p>Chapter - 6 (Annexure I) PART-II Item 5 : Rack Type (2U Rack) 19 inch 2U server rack for configuration, with required number of PDUs, cable managers, keyboard tray and all other required accessories</p>	<p>Kindly clarify whether you need 42U server rack</p>	<p>Bidder must quote for 2U rack configuration.</p>	
3.		<p>Chapter - 6 (Technical Bid) PART-I (ELIGIBILITY CRITERIA) :- Point No. 06 - Spares and Accessories The supplier must have a back to back agreement for uninterrupted supply of Spares and Accessories for a period of 10 Years to IIT Indore to avoid phase out or obsolete situation of the equipment. By the manufacturer.</p>	<p>Kindly change this to 07 Years.</p>	<p>1. Bidder must quote for a warranty period of 5 years. 2. Bidder must provides spares and accessories throughout the warranty period.</p>	

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4.		<p>Chapter - 6 (Technical Bid) PART-I (ELIGIBILITY CRITERIA) :- Point No. 10 - OEM Eligibility Criteria 1. OEM of the server preferable if they have 3 entries in top500 list of supercomputing in the year 2018-2019</p> <p>2. Firm should have supplied similar item: a) 01 Purchase Order of Value of Rs. 2 Crore or b) 02 Purchase order of Value of Rs. 1 Crore or c) 03 Purchase order of value of Rs. 75 Lakhs</p>	<p>Kindly remove the first point. (OEM of the server preferable if they have 3 entries in top500 list of supercomputing in the year 2018-2019)</p>	<p>1. OEM of the server must have one entry in the top500 list of supercomputing in the year 2018-19. 2. Bidder must have atleast one purchase order of minimum worth 5 crore (or same amount in USD \$).</p>	
5.	Mellanox Technologies Ltd.		<p>Bidder must quote Intel Omnipath Architecture (Intel OPA) for HPC communication with 100Gbps transferability : I would like to high light that Mellanox is the leading vendor for HPC interconnect with more than 90% market share in India for HPC interconnect – then why is IIT Indore has request an inferior technology. I would request you to kindly change this to HDR – 200Gbps</p>	<p>Refer reply for query number 1.</p>	
6.	Mellanox Technologies Ltd.		<p>Network Interface : You have requested for Intel OPA 100Gbps Architecture IB Switch with cables of suitable length : Kindly note there is nothing like Intel OPA – IB Architecture : Kindly change this to Infiniband based 200Gbps – HDR interconnect.</p>	<p>Refer reply for query number 1.</p>	


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7.	Mellanox Technologies Ltd.		Again on the Switch side IIT Indore has request : Intel OPA – IB Architecture – Managed switch ; Kindly note there is nothing like this. Request you to change this to Infiniband HDR – managed switch.	Refer reply for query number 1.	
8.		<p>a) Network Benchmark: Benchmark for Uni-directional, Bi-directional bandwidth and latency should be submitted. MPI Collective latency (All reduce) should be demonstrated to be less than 10 microsecond across the entire cluster.</p> <p>b) Latency for MPI 8-byte all_reduce for 128, 256, 1K, 2K etc. cores. This is a most basic scale test to differentiate latest high-performance interconnect technologies from older generation hardware.</p> <p>c) All-to-all MPI bandwidth performance for 64 node system. (physical node quantity should be the size of system on which users plan to run a single job for scale testing)</p> <p>d) All-to-all MPI latency distribution for 64 node system.</p>	We would request IIT Indore to incorporate Network benchmark into the tender in order to get the best interconnect for the system	Many thanks, but this is not mandatory.	
9.	Dell EMC	(2) PIN (Pre dispatch Inspection)	We would like to know how many people would be visiting of PDI at On Site Factor	NOT Mandatory.	


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10.		page 16 on compute nodes (1TB SATA per node,7200RPM Disk Hardware RAID Controller with hardware RAID 0 ,1,01,10,5,6,50,60)	Only one disk is requested so there is no need of a high end RAID Controller. Request you to remove it	Bidder only quote for RAID controller on master node.	
11.		page no 15 for compute nodes INTEL OPA	Requesting customer to allow Mellanox Infiniband as an option for 100 Gbps throughput. Request to change this clause as "Note : Bidder must quote for Intel Omni-Path Architecture (Intel OPA) / Mellanox Infiniband for HPC configuration with 100 Gbps Transferability	Refer reply for query number 1.	
12.		page no 16 - master nodes - INTEL OPA	Requesting customer to allow Mellanox Infiniband as an option for 100 Gbps throughput. Request to change this clause as "Note : Bidder must quote for Intel Omni-Path Architecture (Intel OPA) / Mellanox Infiniband for HPC configuration with 100 Gbps Transferability	Refer reply for query number 1.	
13.		page no 17 - INTEL OPA Switch	Requesting customer to allow Mellanox Infiniband as an option for 100 Gbps throughput. Request to change this clause as "Intel OPA Switch / Mellanox Infiniband Switch(100 Gbps)"	Refer reply for query number 1.	
14.	Locuz Enterprise Solutions Ltd.	Page No 14, point 2, PDI- pre-dispatch inspection at factory at suppliers cost	Request IIT Indore to please remove this clause. Genral prcatice for PDI is at customer's cost.	NOT Mandatory.	
15.	Locuz Enterprise Solutions Ltd.	Page No 14, point 6, supply of spares and availability for 10 years to IIT Indore	Request IIT Indore to please change it to 7 years from the date of Instalation and acceptance	Refer reply for query number 3.	

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16.	Locuz Enterprise Solutions Ltd.	Page No 14, point 7, Extended warranty and AMC	We suggest IIT Indore to take Proposal for upfront 7 years warranty.	Refer reply for query number 3.
17.	Locuz Enterprise Solutions Ltd.	Page No 15, clause 2 for CPU, Bidder must quote for Intel gold 6136 processor for "MASTER NODE"	We request IIT Indore to consider below clause: "bidder must quote for either Intel GOLD 6136 processor or Intel GOLD 6226"	Refer reply for query number 1.
18.	Locuz Enterprise Solutions Ltd.	Page No 15, clause 2 for RAM DDR4-2666 (required 8GB/Core) for "MASTER NODE"	We request IIT Indore to consider DDR4-2666 Mhz or Better	1. Bidder must quote for 16x12 DIMM configuration or better (DDR4-2666 Mhz or better). 2. Bidder must quote for a minimum of 8GB RAM/core.
19.	Locuz Enterprise Solutions Ltd.	Page No 15, clause 2 for USB Ports/VGA & HDMI Ports for "MASTER NODE" "3 USB Ports (2 type 2.0 and 1 type 3.0, 1 X management port, 2 X Video (1 VGA and 1 HDMI	Request IIT Indore to kindly relax to 3 USB Ports (2 type 2.0 and 1 type 3.0, 1 X management port, 1 X Video (1 VGA) for "MASTER NODE"	For master node: Bidder must quote for a minimum of; 3 USB ports (two type 2.0 and one type 3.0), 1 VGA port, 1 HDMI port, 1 management port.
20.	Locuz Enterprise Solutions Ltd.	Page No 16, For Compute nodes: for CPU, Bidder must quote for Intel gold 6136 processor	We request IIT Indore to consider below clause: "bidder must quote for either Intel GOLD 6136 processor or Intel GOLD 6226"	Refer reply for query number 1.
21.	Locuz Enterprise Solutions Ltd.	Page No 16, For Compute nodes: RAM DDR4-2666 (required 8GB/Core)	We request IIT Indore to consider DDR4-2666 Mhz or Better	Refer reply for query number 1.
22.	Locuz Enterprise Solutions Ltd.	Page No 16, For Compute nodes: Hardware RAID Controllar with Hardware RAID	We request IIT Indore to drop this clause as Requested RAID card will not get use due to only 1 disk requested in compute node which we get use only for OS images	Refer reply for query number 6.

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23.	Locuz Enterprise Solutions Ltd.	Page No 16, For Compute nodes: in Network Interface, 4 X 1GbE ports	Request IIT Indore to relax this clause to 2 X 1GbE port out of 1 will be getting use for cluster management	Bidder must quote for a 2 X 1GbE ports for all the computing nodes.
24.	Locuz Enterprise Solutions Ltd.	Page No 16, For Compute nodes: USB Ports/VGA & HDMI ports	Request IIT indore to Drop this asked as it has no use on compute nodes	Bidder must quote for a single VGA port per computing node.
25.	Locuz Enterprise Solutions Ltd.	Form Factor for Compute Nodes	Request IIT Indore to asked 2U 4Nodes dense chassis for Compute Nodes. This will help less footprint and power consumption	Refer reply for query number 2.
26.	Locuz Enterprise Solutions Ltd.	Page 16, For OPA Switch	Request IIT Indore to asked for minimum 48 Ports Managed switch for OPA and OPA Architecture should be 100% Non-Blocking.	Refer reply for query number 1.
27.	Locuz Enterprise Solutions Ltd.	Page 16, point 04, Ethernet Switch	Request IIT Indore to remove clause 96gbps Non-Blocking switching as this not applicable in Ethernet switch	Bidder must quote for a ethernet based switch (with required number of ports and cables of suitable lengths) with a total of fabric capacity of 96 Gbps.
28.	Locuz Enterprise Solutions Ltd.	Page 18, KVM Switch	Request IIT Indore to Drop this clause as current generation servers comes with KVM Functionality which can be control from Master node.	A KVM based switch and console is preferable.
29.	Locuz Enterprise Solutions Ltd.	Suggestion	We here by Suggest IIT Indore to make sure all bidders are providing commercially quoted support for complete cluster including Scientific applications, Cluster Softwares and configurations for the period of warranty.	All the licenses or open source software and applications provided by the bidder must have warranty throughout the warranty period of server.

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All prospective/willing bidders are requested to take note of this report as part of the Tender document. All other parts of the tender including the terms and conditions of the will remain Unchanged.

Bid Submission Schedule:

Last date of bid submission: 19th March, 2019 upto 03.00pm(IST)

Opening of Technical bids: 20th March , 2019 upto 03.00pm(IST)

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