

TATA INSTITUTE OF FUNDAMENTAL RESEARCH

Centre for Interdisciplinary Sciences

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Date: 12-01-2018

Public Tender Ref. No. TFR/PD/IC17-01/F517/217000

Sub: CORRIGENDUM NO. 1, AGAINST TENDER NO. TFR/PD/IC17-01/F517/217000
Dated 21-12-17 Supply, Installation, Commissioning of High Performance
Computing HPC Cluster for TIFR Hyderabad.

Dear Bidders/Vendors,

Please refer the subject tender published in Times of India (all editions) on 21-12-2017, the following amendment to the subject is being issued:

1. Queries and Clarifications/Amendments shall be read as per the attached Annexure – I.

All other terms & conditions of subject tender shall remain unchanged. This Corrigendum No. 01 is an integral part of the subject tender and a copy of the same must be submitted along with the offer duly signed and stamped.

**ADMINISTRATIVE OFFICER
(PURCHASE SECTION)
TIFR-TCIS, HYDERABAD**

TIFR Hyderabad

S.No	Query/Clarification sought from the tender document	Clarifications/ Amendments
1	Requesting to decrease the Linpack value from 85% to 65% and requested to allow Intel Compilers and its optimized libraries for benchmarking.	Linpack value for a single node should be minimum 79% across multiple should be minimum 65% on a full scale cluster. If bidders use Intel or any other proprietary Compilers and optimized binaries for benchmarking, they should also provide the benchmarking using GNU compilers and its comparison with the proprietary compiler.
2	Requesting to run the benchmarks on any different Intel Gold processor by tweaking the core count, base clock frequency and turbo equal to Intel Gold 6130 Processor	Bidders can run the benchmarks on any different Intel Gold processor by tweaking the core count, base clock frequency and turbo equal to Intel Gold 6130 Processor and produce extrapolated benchmark results, the difference between the extrapolated results and acceptance test results should not be more than 3%
3	Requesting TIFR to mention the Intel SSD models explicitly as the drives will be used for ZFS caching in archival storage and compute storage.	<p>In Item no – 1, 2 and 4</p> <p>Minimum 2 X 480 GB Enterprise MLC SATA SSD hard disks or higher for ZFS Caching (ZIL)</p> <p>2 x Intel P3700 800 GB, NVMe PCIe 3.0 x4 MLC AIC or equivalent for ZFS Caching (L2ARC)</p> <p>read as</p> <p>Minimum 2 x Intel® SSD DC S4600 Series (480GB, 2.5in SATA 6Gb/s, 3D1, TLC) or equivalent for ZFS Caching (ZIL)</p> <p>2 x INTEL® SSD DC S4600 SERIES (960GB, 2.5in SATA 6Gb/s, 3D1, TLC) or higher for ZFS Caching (L2ARC)</p>
4	Requesting to mention the storage requirement in TiB (Tebi Byte) instead of 200 TB (Tera Byte) for all storage and requested to rectify the typo on item no 4 RAID group	<p>Item no – 2</p> <p>200 TB usable space with maximum 8 TB 7.2K RPM Helium filled Enterprise SATA/SAS drives with not more than 11 HDDs (9 + 2) in a RAID group configured with RAID Z2 using open ZFS with minimum two global hot spare. In case of multiple storage boxes, the minimum bandwidth between the storage boxes should be 12 Gb/s. (Preferred makes : HGST Ultrastar/WD/Toshiba/Equivalent)</p>

		<p>Read as</p> <p>200 TiB usable space with maximum 8 TiB 7.2K RPM Helium filled Enterprise SATA/SAS drives with not more than 11 HDDs (9 + 2) in a RAID group configured with RAID Z2 using open ZFS with minimum two global hot spare. In case of multiple storage boxes, the minimum bandwidth between the storage boxes should be 12 Gb/s. (Preferred makes : HGST Ultrastar/WD/Toshiba/Equivalent)</p> <p>Item no – 4</p> <p>200 TB usable space with maximum 4 TB 7.2K RPM NL -SAS/SAS drives with not more than 10 HDDs in a RAID group configured with RAID Z2 (9+2) using open ZFS with minimum 6 global hot spares. In case of multiple storage boxes, the minimum bandwidth between the storage boxes should be 12 Gb/s. (Preferred makes : HGST Ultrastar/WD/Toshiba/Equivalent)</p> <p>Read as</p> <p>200 TiB usable space with maximum 4 TiB 7.2K RPM NL -SAS/SAS drives with not more than 11 HDDs in a RAID group configured with RAID Z2 (9+2) using open ZFS with minimum 6 global hot spares. In case of multiple storage boxes, the minimum bandwidth between the storage boxes should be 12 Gb/s. (Preferred makes : HGST Ultrastar/WD/Toshiba/Equivalent)</p> <p>Item no – 5</p> <p>200 TB usable space with minimum 4 TB 7.2K RPM NL -SAS or SAS drives with not more than 10 HDDs in a RAID group configured with RAID 6 (9D+2P). (Preferred makes : HGST Ultrastar/WD/Toshiba/Equivalent)</p> <p>Read as</p> <p>200 TiB usable space with minimum 4 TiB 7.2K RPM NL -SAS or SAS drives with not more than 11 HDDs in a RAID group configured with RAID 6 (9D+2P). (Preferred makes : HGST Ultrastar/WD/Toshiba/Equivalent)</p>
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5	Whether bidders can quote with higher bandwidth FC adapters than the mentioned 8 Gb/s FC Adapters to achieve the mentioned I/O for PFS?	Yes, bidders can use any higher bandwidth FC adapter than the mentioned 8 Gb/s FC adapters to achieve the mentioned I/O.
6	Whether Item no 5 Parallel File System will be considered for price bid and computing L1 bidder?	No, Item no 5 Parallel File System and Item no 9 Intel Parallel Studio XE latest composer edition or higher along Intel MPI libraries five seater license with one year support are optional items and it will not be considered for computing L1 bidder. But, it is mandatory to quote for all the optional items mentioned below in the revised price bid Annexure – G1 .
7	Requesting to mention the required number of non-blocking ports and number of nodes explicitly for OPA/IB interconnects	Item no 3 Compute nodes Qty – 68 Nos Read as Compute nodes Qty – 76 Nos The quoted OPA/IB switches should be scalable up to minimum 92 nodes with completely non-blocking architecture.
8	Requesting to clarify on the layout of the clusters in the IT racks.	The quoted cluster should fit across 2 no's of 19" Standard IT Racks. All the interconnect should be lengthy enough to connect across two racks. It should not exceed more than two server racks and peak power consumption should not exceed more than 45 KVA.
9	Requesting to allow Power 9 processors in the tender	No, as there are no official processors lineup details and benchmarks on Power 9 available in public.
10.	Revised price bid as per Annexure – G1 in the following page. All the bidders should quote their offer strictly as per the revised Price Bid Format, as per the Annexure G1 only.	
11.	Tender clause 21: should be read as follows: “TIFR is exempted from paying of Custom Duty under the notification No.51/96 dated 23.07.1996, Excise Duty under the notification No.10/97 dated 01.03.1997, for all procurements/supply meant exclusively for Educational, scientific and research purpose. Certificate will be provided by TIFR-Hyderabad”	
12.	All other Specifications, Criteria's, Terms & Conditions remains same	

Annexure – G1

Supply, installation and commissioning of High performance computing cluster

TIFR-H Enquiry No & Date: _____

Due date: _____

Bidder's Quotation Ref No. & Date: _____

Financial Bid

All the Bidders should quote their offer in the following format for uniformity.

S.No	Item Description	Qty	Rate per unit (Currency)	Total Amount (Currency)
A 1	Primary Master Node	1		
2	Archival Storage Node + Secondary Master Node	1		
3	Compute Nodes	76		
4	Compute Storage Node	1		
5	Network/Interconnect & Connectivity	As Req uire d		
6	Fully Automated System Provisioning	1		
7	Miscellaneous			
B	Ex-Works cost (Duly packed Airworthy/Seaworthy of international standard)			
C	FOB /FCA Cost (Name of Airport_____)			
D	CIP/CIF Cost (Up to Hyderabad Airport) (all- inclusive i.e. Cost of Goods, Packing, Insurance, Inland transportation, freight etc.)			

Optional Items: (Quote Compulsory)

S.No	Item Description	Qty	Rate per unit (Currency)	Total Amount (Currency)
A 1	Parallel File System (5.1 and 5.2) (Optional, Quote Compulsory)			
1.1	MDT and OST Storage	1		
1.2	MDS and OSS Servers	4		
2	KVM Display	1		
3	Intel Parallel Studio XE latest composer edition or higher along Intel MPI libraries five seater license with one year support	1		
4	Additional Warranty for 6 th Year	1		
5	Additional Warranty for 7 th Year	1		
B	Ex-Works cost (Duly packed Airworthy/Seaworthy of international standard)			
C	FOB /FCA Cost (Name of Airport_____)			
D	CIP/CIF Cost (up to Hyderabad Airport) (all-inclusive i.e. Cost of Goods, Packing, Insurance, Inland transportation, freight etc.)			

Note:

1. All the column should be appropriately filled and not left blank.
2. Do not include any other charges, taxes, duties etc. in the Basic Cost of the item.
3. Any accessories, optional items should be shown separately using above format.
4. Use separate sheet for detail description, specification of the item, but prices should be quoted in same format.
5. Prices quoted in Indian Currency should be on F.O.R. basis and mentioned separately using different table format showing all the applicable taxes/Duties like GST, service tax, Freight & Transportation charges and installation charges etc.
6. TIFR-H being educational & research institute, discounted price shall be offered.

Signature of the Bidder

Name, Address contact no & email id of the bidder _____

Company Name with company's Stamp or Seal _____

Date: _____

Place: _____