

**INDIAN INSTITUTE OF TROPICAL METEOROLOGY
PASHAN, PUNE-411008**

(PS/Tender/22/2011)

TENDER NOTICE

Director, Indian Institute of Tropical Meteorology (An autonomous Institute under the Ministry of Earth Science, Govt. of India), Dr.Homi Bhabha Road, Pashan, Pune- 411 008 (India) invites sealed tenders (Part-I – Technical Bid, Part-II – Financial Bid) in separate sealed covers from Manufacturers / Suppliers and their accredited selling agents for the supply, installation, commissioning, and satisfactory demonstration of **“Petabyte Storage System” Qty – 01 Set.**

Tender documents with details can be obtained from Purchase & Stores Section of the Institute or can be download from Institute’s website.

Pre-Bid Meeting of tender at IITM, Pune : 17th April 2012 at 11:00 hrs.
Last date of receipt of Tender at IITM, Pune : 2nd May 2012 at 12:00 hrs.
Opening of Tenders (Technical bids only) : 2nd May 2012 at 15:00 hrs.

The Institute reserves the right to reject any or all tenders without assigning any reason thereof. For further details please visit our Website: <http://www.tropmet.res.in>

**Senior Technical Officer-II, for Director
Email :vipin@tropmet.res.in**

INDIAN INSTITUTE OF TROPICAL METEOROLOGY
Pashan, Pune – 411 008

(Enclosure to Enquiry No. PS/128/76/2011/ dated 29.03.2012)

TECHNICAL SPECIFICATIONS(BOQ)

Sr No.	Features	Storage System Specifications	Compliance (Use ✓ mark)
1	Intended Use	1PB usable storage system to be used as scratch space is needed for state of the art High Performance Cluster computing system based on Power 6 processor with AIX 5.3 OS (upgradable to later versions of AIX during the warranty period) , GPFS 3.4 Parallel File System and Tivoli 5.5 implementend as 3 tier stoarge at Indian Institute of Tropical Meteorology	
2	Eligibility	Storage OEM vendor must have supplied minimum 500TB of storage with the proposed model to at least 1 site in top500 in year 2011. Vendor must provide reference of these sites with storage architecture and contact details of the reference	
3	Architecture	Storage solution should have - No single point of failure - Dedicated I/O Servers (physical or integarted with controllers/storage arrays) - QDR or better Infiniband Network Interconnect to cluster - 8 Gbps Fibre channel / QDR or better IB / 10 Gb connectivity to storage - Storage with dual active-active hardware RAID controllers Vendors are expected to provide a building block with measureble performance and capacity where multiple such blocks can be integrated into single file system and global namespace.	
4	Protocols	Storage system must support GPFS native protocol on QDR or better Infiniband as well as NFS v3 protocol on QDR Infiniband to IBM P6 575 client nodes running AIX 5.3 and 6.1 operating systems (upgradable to later versions of AIX during the warranty period) .	
5	I/O Servers	These servers must have: - High Availability to tolerate server failures - Multiple redundant paths to storage - 64 bit Processors, minimum 48GB Memory - Redundant Boot Disks - Must support AIX 5.3 or Redhat Enterprise Linux 5, 6 or any other enterprise vendor supported Linux OS. - 40Gbps QDR IB or better /10Gb Ethernet / 8 GB Fibre channel Inconnectivity to storage	
6	Controllers	Minimum Two storage controllers in active/active configuration. Controllers must support - RAID6 (8+2) configurations - SAS, SATA & Solid State Disks - Redundant Hot Pluggable Power & Cooling modules - Dedicated firmware/OS for storage processing only - At least 12GB ECC protected battery backed cache	
7	Capacity	Storage system must provide 1PB usable space, after RAID creation and filesystem formatting. Same system must be able to scale to 2 PB usable capacity - without any performance hit or migration activity - just by adding disks, enclosures and rack to existing storage - without affecting performance mentioned below.	
8	Disk Type	Storage must be configured with 3 TB or higher SATA -2 HDDs (3Gbps or higher, 7200 RPM or higher). Storage system must support high speed 15K RPM & 10K RPM SAS disks and Solid State Disks which might be required for caching when scaling capacity. Storage system should accommodate higher capacity drives (e.g. 4TB SATA) without changing controllers or hardware will be preferred.	
9	RAID Level	Storage system must be Hardware RAID with filesystem data stored on RAID6 LUNs. - System must support protection against double disk failures in same RAID group. - System must support at least 2 concurrent RAID rebuild operations without affecting the performance not greater than 25 % of performance	

		- System must support RAID parity checking on read and write operations	
10	Performance Requirement	GPFS Parallel file system must demonstrate at least: - 5 GB/Sec simultaneous write & read throughput This throughput needs to be demonstrated with IOR or IOZone benchmarks running either read or write operation at a time with 1 MB blocksize. Both read and write performance criteria must be met by supplying: - IOR/IOZone output clearly showing the configuration of the benchmarked system using same features(cache protection, parity checking etc) and RAID6 layout that will be used in production system - Any extrapolation must be clearly mentioned with measured benchmarks and extrapolated results with proper justification - benchmark output with fully functioning system and system with 1 drive rebuilding and 2 drives rebuilding must be provided. - Vendors are also required to demonstrate this performance when system will be installed at customer premises. The performance during Rebuild should not fall more than 25% of the 5GB throughput	
11	Storage System Features	Software features of storage must include - Integrated automatic RAID Manager - CLI & GUI for management - Email alerts, SNMP based monitoring - Provides usage, health and performance statistics	
12	Interoperability	Storage system must support: - IBM GPFS version 3.4 and Tivoli version 5.5 - RedHat Enterprise Linux 5 and 6 or SUSE or AIX 5.3 on server side - IBM AIX Operating system version 5.3 and 6.1 on client side - 40 Gbps QDR Infiniband front end ports - The integrator must demonstrate the copy or movement of DATA between existing storage tiers, Tape and the proposed Scratch storage using Tivoli.	
13	Data Integrity	Storage system must support detection of silent data corruption by doing parity checking on write and read operations both. There must not be any performance impact of more than 20% because of parity checking on read and write operations. System must also support fixing of corruption in case of parity mismatch.	
14	System robustness	There must not be any single point of failure in entire storage solution. Storage solution must be able to withstand failure of single controller, disk enclosure, up to 2 disks in same RAID group, I/O paths from servers to storage, power supply, cooling fan without needing user intervention.	
15	Footprint	A dense and power efficient solution is desired for this requirement. Entire storage solution for 1PB (including controllers, enclosures, I/O servers, management switches, SAN/IB switches etc) must not consume more than 2 No.s of industry standard rack space. Storage solution that can spin down disk drives when not in use are preferred. Vendors must provide peak power, cooling and weight requirements for the entire solution.	
16	Pricing	Following price points must be submitted along with commercial bid: 1. 1PB usable storage with GPFS server licenses and 3 years with 9x5 NBD support and optional quote for 24 X 7 support. 2.. 1PB usable storage with GPFS server licenses for two more years (4th and 5th) with 9x5 NBD support and optional quote for 24 X 7 support.	
17	Accessories	All the required Switches SAN/IB, cables, connectors, IO nodes and any other spares should be considered along with the quote	
18	Power and cooling	The supplier must provide the power and cooling requirements as part of his offer. The suppliers are welcome to visit the existing DC environment on the day of Pre-bid meeting.	
19	Evaluation	The Bids will be evaluated on total cost of ownership for a period of 5 years.	

(V. R. Mali)
Senior Technical Officer-II
for Director

INDIAN INSTITUTE OF TROPICAL METEOROLOGY PUNE 411 008

TERMS & CONDITIONS

ENQUIRY NO: **PS/128/76/2011**

Tender Notice No. **PS/Tender/22/2011**

- 1) The Tenderers are requested to give detailed sealed tender in their own forms in two Bids i.e.
Part – I Technical Bid.
Part - II Commercial Bid, both the bids addressed to the Director, Indian Institute of Tropical Meteorology, Dr. Homi Bhabha Road, NCL Post, Pashan, Pune – 411 008, INDIA.
- 2) This tender is not transferable.
- 3) If a request is made to IITM for Tender Documents a sum of **Rs.500/- (Rs. Five Hundred only) (Non-refundable)** has to be paid in the form of Demand Draft drawn in favour of “The Director, Indian Institute of Tropical Meteorology, Pune” **preferably from Nationalized Bank**. Otherwise tender will not be considered.

Tender documents are also available on Institute’s website, bidder can download the same. However, tender fees as mentioned above required to pay along with technical bid.

- 4) Tenders addressed to the Director, Indian Institute of Tropical Meteorology, Pune 411008 are to be submitted for each item in duplicate in double cover, under two bids system. Superscribed with Tender No. **PS/128/76/2011 (Tender Notice No. PS/ Tender/22/2011)** for purchase of “**Petabyte Storage System**” Qty – 01 Set due on **2nd May 2012**.
- 5) You have to submit two separate bids in two separate envelopes and you may keep both the bid envelopes in an envelope for sending to us.

One envelope will contain only the TECHNICAL SPECIFICATIONS of the indented equipment.

Another envelope will contain only the financial bid in which price and any other information, which has financial implications, will only be given.

The main envelope, which will contain both the bids, should be super scribed with our tender enquiry No.**PS/128/76/2011** due on **2nd May 2012**.

- 6) Please indicate page nos. on your quotation ex. If the quotation is containing 25 Pages, please indicate as 1/25, 2/25, 3/25 -----25/25.
- 7) Cost of the items should be mentioned clearly in the Commercial Offer (Part-II) only.

- 8) Last date for the receipt of completed tender is **up to 12:00 hrs.** on **2nd May 2012 &** will be opened (Technical Bid only) on the same day **at 15:00 hrs** in the presence of the representatives of the vendors present.
- 9) The tender must be valid for a period of at least **90** days from the date of opening.
- 10) The purpose of certain specific conditions is to get or procure best Equipment / service etc. for IITM. The opinion of Technical Committee shall be guiding factor for Technical short listing.
- 11) Supplier shall finally warrant that all the stores, equipment and components supplied under the SUPPLY ORDER shall be new and of the first Quality according to the specifications and shall be free from all the defects (even concealed fault, deficiency in the design material and workmanship).
- 12) Tender must clearly indicate the features offered unit price, VAT tax, transport, transit-insurance, installation charges. Institute cannot furnish any certificate for exemption or reduction in VAT tax or any other duty/tax. The vendor should mention the price of the equipment and the duties/taxes to be paid such as customs duty/excise duty/VAT taxes etc. separately.
- 13) The complete equipment including operational manuals should be supplied within stipulated period mentioned in the supply order and the vendor should install the equipment within **fifteen days** after the delivery of the equipment.
- 14) As this Institute is exempted from payment of Custom Duty and Excise Duty, exemption certificate will be issued on request.
- 15) The equipments must carry on-site warranty for **Three Years** from the date of taking over of the equipments after the acceptance tests. Warranty period will stand extended for a period of total downtime of the equipments.
- 16) The vendor has to furnish a Bank Guarantee to the extent of 10% of the order value from a nationalized bank in the prescribed format valid for the entire period of warranty including extension if any.
- 17) No advance can be paid.
- 18) The **payment terms** shall be as follows:
 - i) 60% payment against delivery.
 - ii) 30% payment after satisfactory installation, and successful completion of acceptance tests and training.
 - iii) 10% payment after execution of Bank Guarantee from a Nationalized Bank and successful completion of acceptance test. The Bank Guarantee will remain valid until the expiry of warranty period including the extensions if any.

- 19)The prices quoted should be firm and irrevocable and not subject to any change whatsoever, even due to increase in cost of raw material components and fluctuation in the foreign exchange rates and excise duty.
- 20)Vendor should arrange appropriate training to the users free of charge, **if required**.
- 21)Indicate the names of the Indian reputed Organizations where you have supplied the similar equipment and may attach the satisfactory performance report of the Personal Computer from user Organization.
- 22)The vendor should have supplied and deployed similar kind of Installation (wireless and 10G offering) in govt. Institutes like IITM (research and educational). Completion certificate for the same should be enclosed.
- 23)a) If you have supplied identical or similar equipment to other Institutes under Ministry of Earth Sciences and Ministry of Science & Technology, the details of such supplies for the preceding three years should be given together with the prices eventually or finally paid.
- b) Based on the above information IITM will have its option to obtain details of the equipment, their performance, after sales services etc. for evaluation of the tender, directly from the concerned Labs. /Scientists etc.
- 24)The Institute is autonomous scientific research organization under the Ministry of Earth Sciences and is a recognized center for studies leading to M.Sc. and Ph.D. of the University of Pune and various other Universities. As such, all possible concessions / discounts / rebates applicable for educational Institutions may be given.
- 25)The Tenderers / bidders are requested to quote for Educational Institutional Price for equipment, since we are eligible for the same.
- 26)Any upgrade of OS and associated other software during the warranty period should be supplied free of charge.
- 27)The vendor should have appropriate facilities and trained personnel for supply, installation and warranty-maintenance of the equipment to be supplied. Detailed information in this regard may be furnished.
- 28)Kindly attach a of copy of your latest DGS&D, New Delhi registration Certificate under the compulsory Scheme of Ministry of Finance regarding the registration of Indian Agent of foreign supplier wherever it is applicable.
- 29)The Tenderer is required to furnish the Permanent Account Number (PAN) Allotted by the Income Tax Department. If registered with the National Small Industries Corporation, the registration number, purpose of registration and the validity period of registration' etc. should also be provided in Technical Bid for Indian Agents.

30) Vendor should clearly mention the following:

- **Make and model of every item quoted.**
- Delivery period.
- Company profile with a list of those institutes/users should be attached where vendor has supplied the equipments in question in past.
- A letter of AUTHORISED REPRESENTATIVE from the Principal should invariably be attached with quotation
- A copy of latest Income Tax clearance Certificate from Income Tax Department (INDIA)

31) Discount offered should be mentioned clearly in the commercial bid only.

32) Octroi payment if any, the same may please be shown separately.

33) Acceptance tests to be prescribed later will be carried out after installation and the items will be taken over only after successful completion of the acceptance tests.

34) The equipments are required to be installed at **IITM, Pune** and subsequently Training is to be provided to the concerned persons of the Institute, **if required.**

35) The equipment will be networked by the vendor in the existing **LAN** of the Institute.

36) The item should be supplied with manuals and the manuals including technical / Electronic drawings / circuit diagrams should be complete in all respects to operate the system without any problem.

37) The Tenderer / bidder has to state in detail the Electrical Power/UPS requirements, floor Space, head room, foundation needed and also to state whether Air-conditioned environment is needed to house the system and to run the tests. i.e. pre-installation facilities required for installation may please be intimated in the technical bid. *

38) Goods should not be dispatched until the Vendor receives a firm order.

39) The Date and Time of opening for Part-II (Commercial Bid) will be intimated only to pre-qualified and technically acceptable Tenderers / bidders for the item at a later date.

40) **Earnest Money Deposit:**

- a) The Earnest Money Deposit of **Rs. 4,00,000/- (Rs. Four Lakh only)** must be paid / sent along with your technical bid in the form of a Demand Draft, Banker cheque or Bank Guarantee **(from a Nationalized Bank only)** drawn in favour of The Director, Indian Institute of Tropical Meteorology, Pune payable at Pune, otherwise your technical & financial bids will not be considered at all. The Earnest Money of successful bidder will be returned only after installation, satisfactory demonstration and on acceptance of the equipment by the user Scientist / HOD as per the terms of our purchase order. If the successful bidder

fails to fulfill the contractual obligations before the due date, he will forfeit the EMD.

The Earnest Money of the unsuccessful bidder whose technical bid has not been found suitable will be returned within **forty five days** after receipt of Technical Committee recommendations.

- b) Those who are registered with Central Purchase Organization (e.g. DGS&D), National Small Industries Corporation or the concerned Ministry / Department need not to furnish EMD along with their bids.
 - c) Though EMD has to be submitted by Demand Draft, Banker's Cheque or Bank Guarantee, we prefer to have Bank Guarantee for easy return to the bidders once a decision is taken by IITM. (Specimen of Bank Guarantee is enclosed at Annexure 'A').
 - d) Tenders not accompanied with Demand Draft / Bank Guarantee towards "Earnest Money Deposit" will summarily be rejected.
- 41) Successful bidder is required to furnish an amount equivalent to 10% of the total order value as a **'Performance Security Deposit'** in the form of Demand Draft / Bank Guarantee (from any Nationalized Bank only) in favour of 'Director, IITM, Pune'.
- Performance Security should remain valid for a period of sixty days beyond the date of completion of all contractual obligation of the supplier including warranty obligation.
- 42) Part and incomplete tenders are liable to be rejected.
- 43) Conditional Offers will not be considered.
- 44) The tenders must be clearly written or typed without any cancellations / corrections or overwriting.
- 45) Fax / E-mail / Telegraphic / Telex tenders will not be considered.**
- 46) IITM will not be responsible:
- a) For delayed / late quotations submitted / sent by Post / Courier etc.
 - b) For submission / delivery of quotations at wrong places other than the Office of Director, IITM, Pune – 411 008.
- 47) If the supplier fails to Supply and Install the system as per specifications mentioned in the order within the due date, the Supplier is liable to pay liquidated damages of one percent value of the Purchase Order awarded, per every week delay subject to a maximum of 10% for every week beyond the due date and such money will be deducted from any money due or which may become due to the supplier.

- 48) In case of any dispute regarding part-shipment, non-compliance of any feature etc., the Director, Indian Institute of Tropical Meteorology, Pune will be the final authority to decide the appropriate action and it will be binding on the vendor.
- 49) The Vendor Should give an SLA for (24X7) support valid for three years with 4 hours response time and same day resolution including configuration issues, 10G trunk etc.
- 50) The vendor needs to have a full fledged office, PoC or testing centre to showcase and test the functionality of the ordered equipments in Pune.
- 51) Director reserves the right to reject any or all tenders without assigning any reason.

Note : *Technical compliance sheet may please be given in Technical Bid & cost of the item may please be mentioned in Commercial Bid only.*

(V. R. Mali)
Senior Technical Officer-II
for Director
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BID SECURITY FORM

Whereas 1 (hereinafter called "the Bidder") has submitted its bid dated (*date of submission of bid*) for the supply of _____ (*name and/or description of the goods*)(hereinafter called "the Bid").

KNOW ALL PEOPLE by these presents that WE _____ (*name of bank*) of (*name of the country*), having our registered office at (*address of bank*)(hereinafter called "the Bank"), are bound unto (*name of Purchaser*) (hereinafter called "the Purchaser") in the sum of _____ for which payment well and truly to be made to the said Purchaser, the Bank binds itself, its successors, and assigns by these presents. Sealed with the Common Seal of the said Bank this ___ day of 20___ THE CONDITIONS of this obligation are:

1. If the Bidder withdraws it's bid during the period of bid validity specified by the Bidder on the Bid Form; or
2. If the Bidder, having been notified of the acceptance of it's bid by the Purchaser during the period of bid validity:
 - a) fails or refuses to execute the Contract Form if required; or
 - b) fails or refuses to furnish the performance security, in accordance with the Instruction to Bidders.

We undertake to pay the Purchaser up to the above amount upon receipt of its first written demand, Without the Purchaser having to substantiate its demand, provided that in its demand the Purchaser will note that the amount claimed by it is due to it owing to the occurrence of one or both of the two conditions, specifying the occurred condition or conditions.

This guarantee shall remain in force up to one year after the period of the bid validity, and any demand in respect thereof should reach the Bank not later than the above date.

(Signature of the Bank)
Name of Bidder.