

TATA INSTITUTE OF FUNDAMENTAL RESEARCH HYDERABAD

**Plot No.36/P, Gopanpally Village, Serilingampally Mandal, Ranga Reddy District.
Hyderabad - 500 107, Telangana, India.**

Telephone: +91-40-2020 3020

Website: www.tifrh.res.in

Email: purchasegroup@tifrh.res.in

Date: 20-01-2022

Notice Inviting Tender cum Tender Document (Two Part Public Tender) for the following items:

Supply, Installation and Commissioning of a High-Performance Computing (HPC) Cluster for TIFR Hyderabad.

As per our technical specifications: Qty. – 1 No.

Public Tender No.	TIFR/PD/CA21-22/21-22/210022
Published on	20-01-2022
Tender Fees	Rs. 00 (USD 00)
Earnest Money Deposit	Rs. 8,00,000/-
Estimated Cost (Estimated cost upto TIFR, Hyderabad inclusive of all applicable charges)	Rs. 4,00,00,000/-
Pre -Bid meeting	24-01-2022 at 11.00 AM
Last Date for Submission of Bid	11-02-2022 up to 13.00 Hrs.
Date of Opening Bids (Part A)	11-02-2022 at 15.00 Hrs.

Both Technical Bid (Part A) and Financial Bid (Part B) to be submitted within the due date and time in separate envelopes and marked on top as Part A and Part B. These two sealed envelopes should be further put in one Master Envelope super scribed with the Tender No., Due Date in Bold Letters.

The Bids should be addressed to the Administrative Officer, Tata Institute of Fundamental Research, Hyderabad, Plot No.36/P, Gopanpally Village, Serilingampally Mandal, Ranga Reddy District. Hyderabad- 500 107, Telangana, India.

TIFR Hyderabad reserves the right to accept/ reject any or all tenders either in part or in full without assigning any reasons there for.

Please see attached sheet for conditions of tender.

Note: All future corrigendum/addendum will be published in CPPP/TIFR Hyderabad website only and no separate advertisement will be released for the same.

All prospective bidders are requested to visit our website regularly for any such updates/Corrigendum.

The pre-bid meeting will be held through online only. Please visit the website for pre-bid meeting link for online meeting schedule.

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

Annexure – A

Supply, installation and commissioning of a High-Performance Computing (HPC) Cluster

Technical pre-qualification for the bidders

Mandatory requirements for a bidder to qualify as a participant in this tender:

s.no	Technical pre-qualification criteria	Compliance Yes/No	Remarks
1.	<p>The bidder should have executed at least five projects using architecture and technologies similar to those being proposed in their quotation against this tender. In addition, the following condition should also be satisfied.</p> <ul style="list-style-type: none">• At least one installation of minimum 80% or• At least two installations of 60% or• At least three installations of 40% of the tender value <p>Note: All the mentioned peak value should be CPU only sustained peak performance ratings, which should be a cluster (more than one node with interconnects). GPU Servers and Single servers will not be considered.</p> <p>Purchase order with final commissioning report with the mention of compute capacity in TF and architecture details duly signed by customer should be submitted with the technical bid.</p>		
2.	<p>The bidders with domestic experience should have successfully executed the above mentioned projects in Serial no - 1 at Government/ Public/ Private Research organizations /institutions /Manufacturing industries performing scientific computation using High Performance Computing Clusters across the country within the last five years.</p> <p>(or)</p> <p>The bidders with global experience should have registered offices and service centers in south India within 1000 KM radius from TIFR-H and they should have installed minimum 5 Nos of HPCs, which should have been listed in the world top supercomputing listing published by https://top500.org/</p>		
3.	<p>The Bidders should have the experience in building HPC Clusters in the global/Indian HPC Market since last 3 years with a Indian warehouse logistics facility for the bidding OEM for the easy access and availability of spares and to ensure the proper back-end support for smooth execution and post-sale support operations. Documentary proofs should be attached.</p>		

4.	All warranty and support must be serviced directly by the OEM or should be from an authorized System Integrator Partner who is authorized to Support the product quoted. TIFR-H requires that there be a Single Point of Contact (SPOC) from OEM/bidder who is responsible for all issues between TIFR-H and the OEM.		
5.	Bidder should be either an Original Equipment Manufacturer (OEM) or should be authorized System Integrator Partner having back to back Support Agreement with the OEM. Manufacturer's Authorization Form (MAF) for participating in this tender is mandatory for bidders and should be attached along with technical bid. The Bidder participating in the tender process should give the MAF confirming the bidder's authorization to participate in the tender with tender number and details.		
6.	Hardware and software warranty support requests to be handled and serviced directly by OEM/Bidder. OEM/Bidder should have required critical spares at local service center.		
7.	The OEM/Bidder must have an India based support infrastructure by maintaining a local spares depot in the country. This is to ensure immediate delivery of spare parts from OEM to its channel partner/system integrator.		
8.	All quotations submitted must follow the prescribed format for technical compliance as in the document below. Failure to do will result in the quotation being summarily rejected. Soft copy of the technical bid document in excel format should also be submitted.		
9.	One bidder can propose only one technical solution and the price bid for the same should be submitted. Quoting multiple technical solutions with multiple price bids will result in the quotation being summarily rejected.		

TECHNICAL QUALIFYING CRITERIA

a) High Performance Computing Cluster

Demonstration of High Performance Linpack (HPL) Benchmark for the single node on the proposed architecture. Other applications for Benchmark – LAMMPS, P3DFFT, GROMACS. (<https://cc.tifrh.res.in/webdata/documents/events/benchmarks/benchmarking.zip>). The results (with TFLOP count where applicable) should be presented in an output file and included in the technical bid. The bidders should reproduce the same results during the acceptance test on the each node of the proposed cluster.

Note: All the above benchmark codes including HPL should be run using open source gnu compilers 9.0 or above, openmpi 4.0 or above. HPL will be considered for evaluating the technical bid. Other commercial compilers or any code optimizations are not allowed for benchmarking.

Provide read-only output of the above benchmark on DVD/CD along with the bid. Do not provide the print out of the outputs. Proposals of vendors who do not fulfill the above criteria or who fail to submit benchmark proof would be rejected.

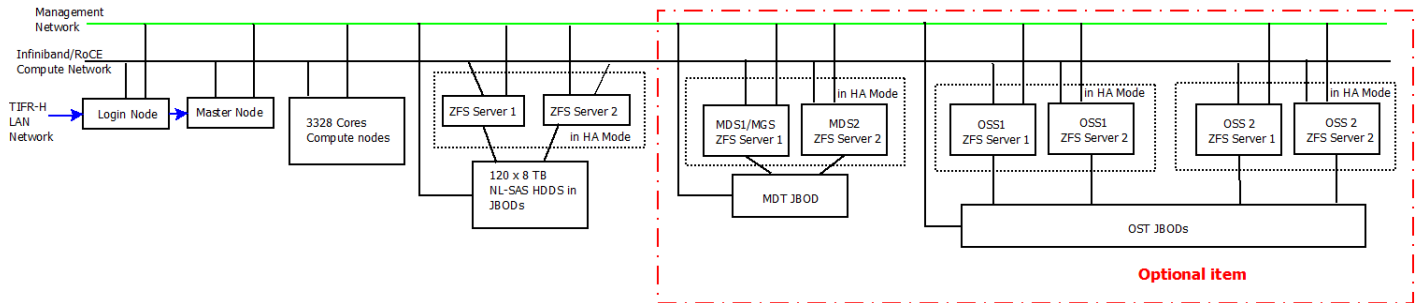
b) Storage Solution

As a part of acceptance test, the bidder should run the following benchmarks on the offered storage solution and results of the same should be submitted.

Open source Bonie++ and IOR/IOZone benchmarks must be used to demonstrate aggregate performance of the storage system. They must be run with many to one distribution of large sequential read and write of 1MB I/O block size.

Scope of Work

Scope of work includes the following



Technical Specifications

Supply, Installation and Commissioning of a High Performance Computing Cluster (HPCC) as per the specifications below

Specifications of the High Performance Computing cluster

Mandatory Clause

1. All warranty and support must be serviced directly by the OEM or should be from an authorized System Integrator Partner who is authorized to Support the product quoted. TIFR-H requires that there be a Single Point of Contact (SPOC) from OEM/Bidder who is responsible for all issues between TIFR-H and the OEM.
2. All the hardware and software deployment will be in vendor's scope of work and vendors need to install open source software required by the end user at the time of deployment.
3. The entire computer nodes must be factory integrated, tested, validated and certified in the bidder/OEM site. No on-site or local assembling of the system at TIFR-H site is allowed. Only rack-mounting, OS and application installation is allowed on-site.
4. The entire HPC and storage solution should be from same processor architecture.

Mandatory items

Computer Hardware			Make/Model/Remark to be filled by the Vendor		
S.No	Description	Qty	Make & Model	Compliance Yes/No	Remarks
1	Login Node	1			
Master node should have minimum 16 Intel Xeon Cascade lake /AMD EPYC Rome generation CPU Cores or higher using dual socket processors and motherboard with minimum base clock speed of 2.8 GHz or better. The processors Must have Native support of AVX2 instructions or better. Along with CPU specifications, the node should have the following configurations or better					
	CPU Details				
	Memory Details – 512 GB DDR4 ECC RAM in a fully balanced configuration with populating all DIMM slots to its fully available bandwidth. Memory speed – Maximum memory speed supported by the quoted CPUs.				
	2 x 960 GB Enterprise 3 DWPD SAS SSD				

	configured in RAID 1 with one hotspare				
	IPMI 2.0 or equivalent Support with KVM and Media over LAN features. Must include any licenses, if required for using these features				
	Form factor - 1U or better full width server form factor with sliding rack mount kit and peripherals				
	80 Plus platinum or better redundant power supply with IEC C13 to IEC C14 cables				
	Minimum 2 x 1 Gbps Ethernet ports to connect to TIFR-H LAN. Required accessories also to be quoted for connecting to the LAN.				
	Compute connectivity as per Item no – 6				
2	Master Node	1			
Master node should have minimum 16 Intel Xeon cascade lake /AMD EPYC Rome generation CPU Cores or higher using dual socket processors and motherboard with minimum base clock speed of 2.8 GHz or better. The processors Must have Native support of AVX2 instructions or better. Along with CPU specifications, the node should have the following configurations or better					
	CPU Details				
	Memory Details – 64 GB DDR4 ECC RAM in a fully balanced configuration with populating all DIMM slots to its fully available bandwidth. Memory speed – Maximum memory speed supported by the quoted CPUs.				
	2 x 960 GB Enterprise 3 DWPD SATA SSD configured in RAID 1 with one hotspare				
	2 x 1 G Ethernet Ports				
	IPMI 2.0 or equivalent Support with KVM and Media over LAN features. Must include any licenses, if required for using these features				
	Form factor - 1U or better full width server form factor with sliding rack mount kit and peripherals				
	Compute connectivity as per Item no – 6				
	80 Plus platinum or better redundant power supply with IEC C13 to IEC C14 cables				
3	Compute Nodes	35 Nos. (Minimum 96 cores per node) or As per core density per node quoted by bidders for a total of 3360 Cores			
Each compute nodes should have minimum 96 or better Intel Xeon Cascade lake /AMD EPYC Rome generation CPU Cores or higher with a minimum base clock speed of 2.3 GHz or better. The processors Must have Native support of AVX2 instructions or better. Each node should have a memory of minimum 4 GB/Core DDR4 ECC					

RAM or better in a fully balanced configuration with populating all DIMM slots to its fully available bandwidth. RAM speed should be the maximum memory speed supported by the quoted CPUs. The bidders should run linpack across all nodes for 24 hours and submit the results as a part of commissioning. Along with the CPU ratings, the nodes should have the following configurations or better.

	CPU Details				
	Memory Details				
	1 x 120 GB Enterprise M.2 PCIE Gen4 SSD/SATA SSD for operating System				
	1 x 3.84 TB or higher Enterprise M.2 PCIE Gen4 SSD /SATA SSD for local scratch				
	2 x 1 G Ethernet Ports				
	1 x IPMI 2.0 or equivalent with KVM and media over LAN features				
	Preferred Form factor - 1U servers in a chassis with sliding rack mount kit and peripherals. The maximum allowed form factor is 2U chassis with full width servers in a chassis with sliding rack mount kit				
	80 Plus platinum or better dual (preferably redundant) power supply with required IEC C13 to IEC C14 cables.				
	Compute connectivity as per Item no – 6				
4	Dual controller ZFS compute Storage	1			

2 Nos of storage controller servers should have minimum 16 Intel Xeon Cascade lake /AMD EPYC Rome CPU Cores or higher using dual socket processors and motherboard with minimum base clock speed of 2.8 GHz or better. The processors Must have Native support of AVX2 instructions or better. Both the servers should be configured in High Availability mode for failover and it should be installed and configured as storage using latest stable open ZFS according to the user requirements. Along with CPU specifications, the node should have the following configurations or better

	CPU Details				
	Memory Details – 1 TB DDR4 ECC RAM in a fully balanced configuration with populating all DIMM slots to its fully available bandwidth. Memory speed – Maximum memory speed supported by the quoted CPUs.				
	2 x 120 GB Enterprise 3 DWPD SAS SSD configured in RAID 1 for latest stable Centos/Ubuntu Operating System				
	2 x 960 GB Enterprise 3 DWPD SAS SSD configured in RAID 1 for L2ARC				
	2 x 960 GB Enterprise 3 DWPD SAS SSD configured in RAID 1 for ZIL				
	120 x 8 TB NL-SAS 7.2K RPM Hard drives configured in RAID Z2 with maximum 11 Hard Drives per RAID group and remaining Hard drives should be configured as global hotspares.				
	2 x Compatible RAID/HBA 12 Gbps SAS expander kit having minimum 2 GB Cache with its associated accessories for connecting all the JBODs in HA				

	mode.				
	2 x 4U 90 Bay Dual controllers JBOD or better with Redundant Power Supply and IPMI connectivity for management.				
	2 x 1 G Ethernet Ports				
	1 x IPMI 2.0 or equivalent with KVM and media over LAN features				
	Form factor - 1U or better full width server form factor with sliding rack mount kit and peripherals				
	Compute connectivity as per Item no – 6				
	80 Plus platinum or better redundant power supply with IEC C13 to IEC C14 cables				
5	Open Lustre based Parallel File System	1			
5.1	Object Storage Servers (OSS) with Object Storage Target (OST)	4			
<p>4 Nos of servers should have minimum 16 latest Intel Xeon Cascade lake /AMD EPYC Rome CPU Cores using dual socket processors and motherboard with minimum base clock speed of 2.8 GHz. The processors Must have Native support of AVX2 instructions or better. 4 Nos of OSS servers should be configured in High Availability mode with 2 active servers and 2 passive servers for failover and all the 4 Nos of servers should be connected OST JBODs. It should be installed and configured as open source Lustre based parallel filesystem storage using latest stable open ZFS according to the user requirements. Along with CPU specifications, the node should have the following configurations or better</p>					
	CPU Details				
	Memory Details – 512 GB DDR4 ECC RAM in a fully balanced configuration with populating all DIMM slots to its fully available bandwidth. Memory speed – Maximum memory speed supported by the quoted CPUs.				
	2 x 120 GB Enterprise 3 DWPD SAS SSD configured in RAID 1 for latest stable Centos/Ubuntu Operating System				
	2 x 960 GB Enterprise 3 DWPD SAS SSD configured in RAID 1 for L2ARC				
	2 x 960 GB Enterprise 3 DWPD SAS SSD configured in RAID 1 for ZIL				
	120 x 8 TB NL-SAS 7.2K RPM Hard drives configured in RAID Z2 with maximum 11 Hard Drives per RAID group and remaining Hard drives should be configured as global hot spares.				
	2 x Compatible RAID/HBA 12 Gbps SAS expander kit having minimum 2 GB Cache with its associated accessories for connecting all the JBODs in HA mode.				
	2 x 4U 90 Bay Dual controllers JBOD or better with Redundant Power Supply and IPMI connectivity for management.				
	2 x 1 G Ethernet Ports				
	Compute connectivity as per Item no – 6				

	1 x IPMI 2.0 or equivalent with KVM and media over LAN features				
	Form factor - 1U or better full width server form factor with sliding rack mount kit and peripherals				
	80 Plus platinum or better redundant power supply with IEC C13 to IEC C14 cables				
5.2	Meta Data Servers (MDS) with Meta Data Targets (MDT)	2			
<p>2 Nos of servers should have minimum 16 latest Intel Xeon Cascade lake /AMD EPYC Rome CPU Cores using dual socket processors and motherboard with minimum base clock speed of 2.8 GHz. The processors Must have Native support of AVX2 instructions or better. 2 Nos of MDS servers should be configured in High Availability mode for failover and both the servers should be connected MDT JBODs. It should be installed and configured as open source Lustre based parallel filesystem storage using latest stable open ZFS according to the user requirements. Along with CPU specifications, the node should have the following configurations or better</p>					
	CPU Details				
	Memory Details – 256 GB GB DDR4 ECC RAM in a fully balanced configuration with populating all DIMM slots to its fully available bandwidth. Memory speed – Maximum memory speed supported by the quoted CPUs.				
	2 x 120 GB Enterprise 3 DWPD SAS SSD configured in RAID 1 for latest stable Centos/Ubuntu Operating System				
	2 x 960 GB Enterprise 3 DWPD SAS SSD configured in RAID 1 for L2ARC				
	2 x 960 GB Enterprise 3 DWPD SAS SSD configured in RAID 1 for ZIL				
	48 x 1.8 TB Enterprise SATA SSD Hard drives. It should be configured as 4 Nos of RAID Z2 RAID groups with maximum 11 Hard Drives per RAID group and 2 Nos of RAID Z2 RAID group should be mirrored with other 2 Nos of RAID Z2 RAID group to achieve RAID 10.				
	2 x Compatible RAID/HBA 12 Gbps SAS expander kit having minimum 2 GB Cache with its associated accessories for connecting all the JBODs in HA mode.				
	1 x 4U 60 Bay Dual controllers JBOD or better with Redundant Power Supply and IPMI connectivity for management.				
	2 x 1 G Ethernet Ports				
	Compute connectivity as per Item no – 6				
	1 x IPMI 2.0 or equivalent with KVM and media over LAN features				
	Form factor - 1U or better full width server form factor with sliding rack mount kit and peripherals				
	80 Plus platinum or better redundant power supply with IEC C13 to IEC C14 cables				

5.3	Parallel File System general specifications				
	Parallel File system (PFS) should be Open Source Lustre PFS. The solution should be highly available and with no single point of failure including I/O servers, Metadata servers, Storage array, HBA Cards and power supply.				
	Storage Throughput – Minimum 4 GB/s (Giga Bytes per Second) write speed from compute nodes.				
	Open-source IOR/IO Zone benchmarks running on compute nodes with 1MB block size and file size double than total storage cache and I/O node memory. As a part of acceptance test, Benchmarks should be run and submitted with I/O measured from client (compute node) using IOR benchmark for 4 GB/s write throughput.				
	4 Nos of OSS Servers should be connected in HA for redundancy				
	2 Nos of MDS Servers should be connected in HA for redundancy				
	Wire speed IB/OPA connectivity between Storage servers to Storage enclosures with Redundant Connects & Links.				
	MDT should be mounted only with MDS server.				
	OST should be mounted only with OSS servers.				
	For MDT Failover, MDS Nodes should be configured with active/passive pair.				
	For OST Failover, OSS Nodes should be configured with active/active pair.				
	High Availability should be automated.				
	MDT storage should be populated with Enterprise 3DWPD SATA SSD drives.				
	MDT and OST must be on different JBODs. Required accessories also to be included for achieving HA.				
	Failover and MMP (Multiple Mount Protection) should be configured.				
	File system should not go down, even if one of the MDS or OSS nodes fails.				
	Mounting and unmounting of the file system should happen without error.				
	Compute connectivity as per Item no – 6				
6	Network/Interconnect & Connectivity	3			
	Rack mountable 48 Port Gigabit switches for IPMI management with required peripheral for rack mounting.	1			
	Option 1: Fully non-blocking 200 G Omnipath/Infiniband/RDMA/RoCE open Ethernet Switch with required cables and the suitable network	1			

	interface cards on the server with cables for all nodes connectivity.				
	Option 2: 48 ports Fully non-blocking 10 G Ethernet Switch with required cables and the suitable network adapter cards with cables for all nodes connectivity.	1			
	Both the compute and management networking switches should have built-in redundant Power supply units				
	Required power cables for the equipment / devices of type - IEC C13/C14 and IEC C19/C20 from OEM should be considered.				
	All Network/Interconnect cabling must be structured and adhere to ANSI/TIA – 568 Standard. Note: Cables should be lengthy to connect across racks, in case the cluster load is distributed across multiple racks.				
7	KVM Display	1			
	1U Rack mountable 17" OSD with attached Keyboard & touchpad with USB with accessories to connect with the Primary Master node.				
8	Fully Automated System Provisioning	1			
	Operating System – Latest stable version of Rocky/Debian GNU Linux				
	Clustering tool – xCAT (opensource)/Qlustar/FAI/DevOPs Tools				
	Scheduler – SLURM/Open PBS Scheduler configuration inputs has to be taken from the TIFR-H HPC Committee				
	Cluster management tools – Ganglia, PDSH, PDCP, Nagios, automated emails, automated monthly report generation, etc., TIFR-H HPC System Administrators will be providing inputs for the other required management tools and functionalities during installation.				
9	Software	1			
	Open Source Application Software list for installation : FFTW, P3DFFT, GERRIS,, LAMMPS, QUANTUM ESPRESSO, NAMD, GROMACS,CP2K, Gaussian, Amber etc., Scientific programs: Lapack, scalapack, Python, Numpy, SciPy, Setuptools, IPython, pythonde, pythonnumpy, pythonmatplotlib, pythontk, pythonlxml, PyReadline, MDAnalysis. Editors: Vim, Gvim, GNU plot, NTPD, GRACE, BC, VMD, Perl, etc., Compilers and Libraries: OpenMP, MPI, C/C++ and FORTRAN compilers, gsl libraries should be installed.				

	Note - Commercial software mentioned in the list will be provided by TIFR-H.				
10	Warranty, Support, Terms & Conditions	1			
10.1	Comprehensive onsite hardware and software warranty for 5 Years	1			
	If TIFR-H request for OS/software upgrade due to their functionality requirement, the bidder/OEM should reinstall/Upgrade the OS and clustering tools and benchmark the cluster and re-commission the HPCC at any point of time during the warranty period at no cost to purchaser.				
	Training for general system administration with documentation including tasks such as user/node management, installation/upgrade, queuing system management and file system management.				
	The OEM/Vendor should have L2/L3 level service engineers in the relevant field of quoted item. Engineer should have experience and complete knowledge of HPC hardware and software used by the users mentioned in the document and he should be able to provide support to the users (8.00 AM to 5.00 PM, 6 Days a week) remotely and Next Business Day (NBD) onsite hardware support.				
	Vendor/OEM engineer should visit TIFR-H every 120 days and carry out proper hardware & software health check of HPC cluster and submit report of the same to the IT in-charge.				
	Vendor will be responsible to protect user data during any maintenance during the warranty period.				
	The OEM/Bidder should have a ticketing system with a dedicated helpdesk email account which is regularly monitored and it should be available to TIFR-H users.				
	An escalation matrix for issues not resolved by the support personnel, with an expected time line, should be clearly mentioned.				
	The person should have enough experience to handle cluster hardware and software troubleshooting to resolve the problems faced by the users. This should include fine tuning of the scheduler's various capabilities.				
	The person should be able to produce required status report of the cluster when asked using the software installed in the cluster to manage it.				
	Faulty parts should be replaced by NBD (Next Business Day).				

10.2	Documentation				
	<ul style="list-style-type: none"> • User Creation/Deletion/Modification. • Bringing up and shutting down the cluster. • Disk status monitoring of Master/IO nodes and storage enclosure. • Basic troubleshooting for storage and job scheduler. • Step by step installation guide for node configuration from scratch. • When handing over the cluster the vendor should provide the full design of the cluster installation including the electric connections, network connections, user manual clearly explaining how to use the cluster. 				
10.3	Terms and conditions:				
	Any item not specifically mentioned in the specification but is required for successful implementation of the HPC solution (in the opinion of the vendor) must be brought to our notice and quoted accordingly.				
	The entire solution should fit in a 19" standard IT Rack.				
	At the time of installation, if it is found that some additional hardware or software items are required to meet the operational requirement of the configuration, but not included in the vendor's original list of deliverables, the vendor shall supply such items to ensure the completeness of the configuration at no extra cost.				
	The vendor immediately after the award of the work shall prepare a detailed plan of installation as proposed to be followed by placement of the equipment, etc.				
	All vendors participating in this tender must visit the TIFR-H site for a complete site survey and also meet with the TIFR-H IT team in the pre-bid meeting for detailed discussions and clarifications, if any.				
	The installation should be done by experienced and trained engineers for HPCC stack followed by comprehensive user training.				
	Installation and integration of all supplied hardware and software shall be done by the vendor. The vendor shall install and configure all required hardware and software suites, including but not limited to racking and stacking, Cluster networking, Configuring all nodes, Execution and submission of jobs, Installation of compilers (with flags for				

	optimization) and applications, Configuration of environment variables and license utility configuration.				
	Entire installation should be done at the proposed site only. Remote control of network will not be given during installation.				
	Give all model numbers of master nodes, compute nodes, hybrid nodes, storage nodes, InfiniBand chassis switch model, Accelerator card details, maximum number of port in IB/OPA switch and how many ports populated. OEM part code of all the equipment / devices proposed should be provided with the technical bid.				
	Provide case logging procedure for both hardware and software failure.				
	OEM/Bidder is responsible for all performance benchmarks and the quote should contain an undertaking certifying the same from the OEM/Bidder.				
	As a part of acceptance test, TIFR-H team will check all the software mentioned above, for at least 3 days. TIFR-H teams will cross-check benchmarking and all other tests based on our input files in the fully offered solution.				
	All LAN cabling should be done on-site as per the length required using CAT6. Do not use factory crimped standard length CAT6 cables. All cabling should be done to provide efficient air circulation and should not block any air circulation behind the servers.				
	Please specify the heat dissipation (in BTU) and max power consumption of each component when configured with the above configuration. The bidder has to visit the installation site and provide the plan, cluster rack arrangement and cooling requirements for hosting the HPCC in the given place.				
	All the required CAT6 Patch cables should be branded (ISO/IEC 11801) and it should be molded cables. It should withstand the heat produced at the back of servers.				
	Supplier should have direct system integration (SI) with the OEM whose product the vendor is quoting for. The bidder should have a back-to-back agreement with the OEM to supply and support the OEM's product and solution in India.				
	Itemized price list of each hardware item, software bundle and service and warranty to be given separately and clearly.				

	TIFR-H requires that there be a Single Point of Contact (SPoC) directly from OEM who is responsible for all issues between TIFR-H and the OEM/partner who executes this project.				
	SLA of 98% of uptime within 24 hours reporting onsite, failing which penalty will be applicable based on deviation.				
	The bidder has to ensure that the solution proposed delivers an uptime of 98% of the entire system on a yearly basis and minimum of 92% on a monthly basis. Every percentage of uptime below 98% on a yearly basis will incur 0.1% of the total cost of this tender. In the event of failure of any of the subsystems or components of the proposed solution, the bidder has to ensure that the defects are rectified within two full working days. All these conditions need to be satisfied. Any delay in servicing node(s) beyond 3 days will incur a penalty of 0.2% of the total cost of this tender per day of delay. Any delay in storage or any of its subsystems not working beyond 24 hours will incur a penalty of 0.2% of the total cost of this tender for every completed 24 hours.				
	Bidder should provide complete documentation about the Rack layout, power, cooling and electrical infrastructure required at TIFR-H along with the technical bid.				
	Delivery period will be 16 weeks from the date of purchase order. Once delivered to onsite, the installation, commissioning and acceptance testing period will be within 4 weeks from the date of delivery of equipment. Delay in delivery will have penalty. TIFR-H reserves the right to cancel the order if it is not deployed even after that.				
	Delay due to TIFR-H will not be considered for computing penalty.				

NOTE:

*** The bidder should ensure to submit the following along with Technical Bid (Part I)**

1. The bidder should attach the point-by-point technical specification provided in the tender in a tabulation format and fill the technical compliance (with additional remarks if any) along with the Technical Bid.
2. Bid Security / EMD (Earnest Money Deposit) as per tender.
3. Certificate of Local Content- Attachment of Annexure - B.
4. Audited Annual Turnover Certified by CA - Attachment of Annexure - C
5. Supplier Purchase Order details with copy document along with the bid Attachment of Annexure - D.
6. The suppliers/bidders should submit all the applicable list of documents/enclosures/annexures as mentioned in the tender along with the local content certificate filled form as per annexure – B. The supplier should provide the local content details / local value addition details with the applicable value. TIFR Hyderabad reserves the right to reject any tender (or) all tenders if not submitted along with the documents/enclosures/annexures/certificate of local content.
7. Undertaking by the bidder as per Clause 14 of tender terms and conditions in letter head duly signed and stamped.
8. Undertaking for unconditional acceptance of tenders all terms and condition in letter head duly signed and stamped.

*** Price Bid/Finance Bid (Part II) - As per Annexure – E & F.**

TATA INSTITUTE OF FUNDAMENTAL RESEARCH HYDERABAD

**Plot No.36/P, Gopanpally Village, Serilingampally Mandal, Ranga Reddy District.
Hyderabad - 500 107, Telangana, India.**

(PURCHASE SECTION)

1. **PART "A" (Technical Bid) consisting of Technical Bid with Commercial Terms and PART "B" (Financial Bid) consisting of only Price** shall be submitted in **separate** sealed envelopes duly superscribed with the tender enquiry number, and the due date in bold letters, addressed to the Administrative Officer, Tata Institute of Fundamental Research, Hyderabad, Plot No.36/P, Gopanpally Village, Serilingampally Mandal, Ranga Reddy District. Hyderabad-500 107, Telangana, India. The envelopes should be clearly marked on top as either PART "A" or PART "B".

The two sealed covers should be further put in a master cover superscribed with the Tender Enquiry No., Due Date in bold letters, addressed to the Purchase Officer, Tata Institute of Fundamental Research, Hyderabad, Plot No.36/P, Gopanpally Village, Serilingampally Mandal, Ranga Reddy District. Hyderabad-500 107, Telangana, India. The sealed master envelop has to be delivered by hand/courier at the security Gate Office of TIFR Hyderabad on or before 13.00 hrs. on the due date specified. The technical bid will be opened at 15.00 hrs. on the due date at Purchase Section, TIFR, Hyderabad. Tenders submitted after 13.00 hrs. on due date will not be considered.

2. **In case the PART "A" and Part "B" bids are not sealed in separate envelopes the tender will be rejected.**
3. The technical bid should not contain any indication of the price. The bidder should take special care not to mention anything related to pricing and costing aspect of whatsoever nature. The technical bid should include/contain only technical specifications, technical literature, drawing, quantity, manufacturing and delivery schedule, mode and terms of payment, mode of dispatch, the quantum and percentage of statutory levies payable by the purchaser as extra and all related commercial terms and conditions for the supply and for the services like erection and commissioning to be rendered by the tenderer. The details of the validity of the tender should also be indicated along with the commercial details.
4. After scrutiny of Technical Bids, Financial bids of only those bidders who are shortlisted on technical basis will be opened at on later date. The opening date, time and venue will be intimated to the technically successful bidder.
5. **All the bidders/contractors should provide Company Authorization Letter duly signed and stamped by Competent Authority to participate in the tender related meetings at TIFR Hyderabad.**

6. **Tender Fee:**

Tender fee of Rs. 00 (USD 00)

7. **Bid Security / EMD (Earnest Money Deposit):**

Earnest Money Deposit (EMD) for **Rs. 8,00,000/-** in the form of D.D. in favour of "TIFR Centre for Interdisciplinary Sciences", payable at Hyderabad to be enclosed along with the technical Bid (Part - A).

EMD shall be interest free and it will be refunded to the unsuccessful bidder without any interest. EMD will be forfeited if the bidder withdraws or amend impairs or derogates from the tender in any respect.

8. The suppliers / bidders whose firms are registered with SSI / MSME / NSIC and having a valid certificate for claiming exemption as per privilege rules of Government of India are exempted from paying Tender Fee and EMD (Earnest Money Deposit).

9. **Eligibility Criteria:**

9.1 The invitation for bids is open to Original Manufactures (OEM)/Authorized Dealers/Authorized Distributors/Subsidiary Indian Company of the OEM/Indian Agent on behalf of the Foreign Manufacturer or Principals of the tendered equipment. The bidder must be legal entity having a Permanent Account Number (PAN), Certificate of Incorporation and valid GST Registration Certificate is to be submitted.

9.2 The invitation is reserved only for Class “1” and Class “2” Local Suppliers as prescribed in “Public Procurement (Preference to Make in India) order 2017 of GOI, Dept of DIPP” (OM No. P-45021/2/2017-PP(BE-II) dated 04th June, 2020. Necessary certification for local content must be submitted by the prospective bidders strictly as per the Annexure- B attached with the tender document.

9.3 When a firm sends quotation for an item manufactured by some different company, the firm is also required to attach its quotation, the manufacturer's authorization certificate.

9.4 Indian Agent cannot represent two different foreign principles for the same item in one tender.

9.5 Equipment's must be of the most recent series/models incorporating the latest improvements in design.

9.6 That the Bidder will assume total responsibility for fault free operation of equipment, application software, if any, and maintenance during the warranty period and provide necessary maintenance services after warranty period if required.

9.7 Bidders who meet the criteria given above are subject to be disqualified, if they have made untrue or false representation in the forms, statements and attachments submitted in proof of the qualification requirements or have a record of poor performance, not properly completing the contract, inordinate delays in completion or financial failure , etc.

9.8 Any additional bid participation criteria/eligibility conditions etc. mentioned in the Technical Specifications sheet will also form part of the Qualification Requirements along with those mentioned in this.

9.9 Bidders should not be associated, or have been associated in the past, directly or indirectly, with a firm or any of its affiliates which have been engaged by the Purchaser to provide consulting services for the preparation of the design, specifications, and other documents to be used for the procurement of the goods to be purchased under this invitation of Bids.

10. Purchase Preference Policies.

10.1 The TIFR Hyderabad intends to give product reservation/purchase/price preference to local suppliers in line with current procurement policies of Govt. of India

10.2 For the above purpose, local supplier means a supplier or service provider whose product or service offered for procurement meets the minimum local content as prescribed in "Public Procurement (Preference to Make in India) order 2017 of GOI, Dept of DIPP" (OM No. P-45021/2/2017-PP(BE-II) dated 04th June,2020. Necessary certification for local content must be submitted by the prospective bidders strictly as per the Annexure - B attached with the tender document.

10.3 Local content means the amount of value added in India which shall, unless otherwise prescribed by the Nodal Ministry, be the total value of the items procured (excluding net domestic indirect taxes) minus the value of imported content in the item (including all customs duties) as a proportion of the total value, in percent.

11. Bidders who have not accepted the job/order awarded to them or withdrawn from the tender process OR whose EMD/Security deposit has been forfeited in the past, their bids will not be considered and treated as ineligible / disqualified.

12. Bidders may provide the details of registration at Government e -Marketplace (GeM) product details, confirmation on the product availability (or) non availability in GeM, registered bidder at GeM (or) not.

13. Micro and Small Enterprises (MSEs):

Micro and Small Enterprises (MSE) must, along with their offer, provide proof of their being registered as MSE (indicating the terminal validity date of their registration) for the item tendered, with any agency mentioned in the notification of the Ministry of Micro, Small and Medium Enterprises (Ministry of MSME).

The MSEs are exempted from payment of earnest money and tender fees subject to furnishing of relevant valid certificate for claiming exemption as per privilege rules of Government of India.

The bidder submits registration of Udyog Aadhar Memorandum (UAM) by Ministry of Micro Small and Medium Enterprises (MSME) vendors on Central Public Procurement Portal (CPPP). The bidders who fail to submit UAM number shall not be able to avail the benefits available to MSEs as contained in Public Procurement Policy for MSEs Order 2012 issued by MSME and further applicable Notification / Rule amended from time to time.

14. Requirement from Bidders: Any bidder from a country which shares a land border with India will be eligible to bid in any procurement whether of goods, services (including consultancy services and non-consultancy services) or works (including turnkey projects) only if the bidder is registered with the Competent Authority as per order issued by the Government of India (Order No. F.No.6/18/2019-PPD) dated 23rd July, 2020.

"Bidder" means any person or firm or company, including any member of consortium or joint venture (that is an association of several persons, or firms or companies), every artificial

juridical person not falling in any of the descriptions of bidders stated herein before, including any agency branch or office controlled by such person, participating in a procurement process.

Necessary certificate/undertaking to be submitted.

15. Quotations must be valid for a period of 180 days from the date of opening the bid prescribed by the Purchaser. A bid valid for a shorter period may be rejected by the Purchaser as non-responsive.

16. Tenders containing correction, overwriting will not be considered. Late or delayed/Unsolicited quotations/offers shall not be considered at all. These will be returned to the firms as it is. Post tender revisions/corrections shall also not be considered.

17. Tenderer should sign on all the pages of the technical bid and the price bid.

18. All future corrigendum will be published in CPPP/TIFR Hyderabad website only and no separate advertisement will be released for the same.

All prospective bidders are requested to visit our website regularly for any such updates / Corrigendum. The Purchaser reserves the right to reject the bids if the bids are submitted without taking into account these amendments/clarifications. In order to allow prospective bidders reasonable time in which to take the amendment into account in preparing their bids, the Purchaser, at its discretion, may extend the deadline for the submission of bids.

19. For Indigenous Items: Offer should be on FOR basis and mentioned separately using different table format showing all the applicable taxes/Duties like GST, Freight & Transportation charges and installation charges etc.

20. The price quoted for Import item must be on following basis:

- a. Ex-Work/factory duly packed airworthy/seaworthy and of international standard
- b. FOB/FCA
- c. CIF Hyderabad, Airport Port (all-inclusive i.e. Cost of Goods, Packing, Insurance, Inland transportation, freight etc.)

For local item /supply, offer should be on FOR basis (i.e. total landed cost for delivery at TIFR Hyderabad).

The dimension of the item (viz. H, W, L, weight etc.) shall be specifically stated and also mention whether the mode of shipping the item is Airworthiness / Seaworthiness or both. Accordingly the mode of shipment will be decided by TIFR Hyderabad.

Price must be quoted strictly in the Price Bid Format attached herewith as “Part –B” (Financial Bid).

21. Packing:

21.1 The Supplier shall provide packing of the Goods as is required to prevent their damage or deterioration during transit to their final destination as indicated in the Contract. The packing shall be sufficient to withstand, without limitation, rough handling during transit and exposure to extreme temperatures, salt and precipitation during transit and open storage. Packing case size and weights shall take into consideration, where appropriate, the remoteness of the Goods' final destination and the absence of heavy handling facilities at all points in transit.

21.2 The packing, marking and documentation within and outside the packages shall comply strictly with such special requirements as shall be provided for in the Contract including additional requirements, if any and in any subsequent instructions ordered by the Purchaser.

21.3 Packing Instructions: Each package will be marked on three sides with proper paint/indelible ink, the following:

- (i) Item Nomenclature
- (ii) Order/Contract No.
- (iii) Country of Origin of Goods
- (iv) Supplier's Name and Address
- (v) Packing list reference number

22. Insurance:

22.1 The Goods supplied under the Contract shall be fully insured against loss or damage Incidental to manufacture or acquisition, transportation, storage and delivery.

22.2 For delivery of goods at the purchaser's premises, the insurance shall be obtained by the Supplier in an amount equal to 110% of the value of the goods from "Warehouse to warehouse" (Final destinations) on " All Risks" The Insurance shall be valid for a period of not less three months after installation and commissioning. However, in case of orders placed on EX-Works/FOB/FCA basis, the purchaser shall arrange insurance.

23. Delivery and Documents:

23.1 Delivery of the Goods shall be made by the Supplier in accordance with the terms specified by the Purchaser in the order within the period. The details of shipping and/or other documents to be furnished the supplier are specified in 23.2.

23.2 Delivery period (As stated in technical specifications).

The delivery is to be strictly made as per the delivery schedule stated in the Purchase Order.

The following documents are to be forwarded earlier to TIFR Hyderabad through email to purchasegroup@tifrh.res.in prior to 48 hours before dispatch of material.

- i) Supplier Invoice showing Purchase Order Number, goods' description, quantity, unit price, Total amount.
- ii) Packing List
- iii) Airway Bill/ Acknowledgement of receipt of goods from the consignee(s) by the Transport with item wise weight, unit of measurement, No of package, package size/Dimension.

- iv) Insurance Certificate if applicable.
- v) Manufacturer's / Supplier's warranty certificate.
- vi) Inspection Certificate issued by the nominated inspection agency, if any, and Certificate of Origin.
- vii) Country of Origin Certificate. (if applicable)
- viii) Product Catalogue/Brochure.

24. The Institute shall be under no obligation to accept the lowest or any other tender received in response to this tender notice and shall be entitled to reject any tender without assigning any reason whatsoever.

25. Order Acceptance: The successful bidder should submit acceptance of Purchase Order immediately (within 15 days) from the date of issue of the Purchase Order failing which it shall be presumed that the vendor is not interested.

26. **Performance Security:** The Successful bidder should deposit @ 3% of Purchase Order value as Performance Security. The Performance Security should be in the form of Demand Draft in favour of "Tata Institute of Fundamental Research" payable at Hyderabad (or) Bank Guarantee from State Bank of India & Associates (or) any one of the Nationalized Banks. The Performance Security @ 3% should be valid for a period of 60 days beyond the date of completion of all contractual obligations of the supplier including warranty period. In case Performance Security @ 3% is not provided, then 97% payment only would be released and balance after 60 days beyond the date of completion of all contractual obligations of the supplier including warranty period. Vendor should clearly mention their acceptance to this effect in their quote.

27. **Payment Terms for Import Items:** 80% payment shall be made through irrevocable L/C on presentation and receipt of complete, clear shipping documents, against confirmation from TIFR, Hyderabad and balance 20% of the amount shall be released through irrevocable letter of credit after successful installation and acceptance of the equipment certified by purchaser and on submission of "Performance Security" for an amount equivalent to 3% of the Purchase Order Value.

28. **Payment Terms for Indigenous / Local Supply Items:** 100% payment shall be released after receipt of complete material as per purchase order in a single lot, successful installation, commissioning and acceptance of the equipment at TIFR Hyderabad and on submission of BG @ 3% of the Purchase Order Value.

29. Partial shipment for foreign bids / Partial delivery of material for full INR bids will not be accepted by TIFR Hyderabad.

30. **Pre Inspection Report:** The successful bidder should submit the Pre Inspection Report / Manufacturer's Test Certificate with data sheet to TIFR Hyderabad before dispatch of the material at no extra cost to the purchaser. (if required by TIFR Hyderabad).

31. Partial Shipments are not allowed.

32. Repair / replacement if required any during the warranty period, necessary customs

clearance charges / customs duty charges, freight charges for sending back the repair material to supplier and import freight charges of replacement should be borne by the supplier.

33. For Import cases: No Agency commission will be paid as per Govt. of India rules.

34. All bank charges outside India will be to supplier's account only.

35. Taxes: TIFR Hyderabad 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. Whenever the exemption certificate not honored by the authorities, the applicable duty will have to be paid. Hence Excise & Custom duties, if any, should be shown separately.

TIFR Hyderabad is a public funded research institute and is entitled to concessional rate of GST @ 5% for certain items supplied for research purpose vide notification no. 45/2017 (CGST) and 47/2017 (IGST) dated 14th Nov, 2017. The offer should be submitted after fully considering the above notification. No other charges except those mentioned clearly in the bid will be admissible.

GST rule will be applicable with effect from 01.07.2017. The applicable TDS /other charges if any as per GST rule will be deducted as per new GST regime.

TIFR Hyderabad GST NO: 36AAATT3951F2ZG.

Deduction of Indian Income Tax Deduction at Source: The Deduction of Indian Income Tax Deduction at source (TDS) will be deducted as per IT Act. The taxes at the time of actual utilization of service etc. will be deducted if applicable any.

Supplier shall be entirely responsible for all taxes, duties, license fees, road permits, etc., incurred until delivery of the contracted Goods to the purchaser. However, GST in respect of the transaction between the Purchaser and the Supplier shall be payable as agreed, if so stipulated in the order.

36. Conversion to Single Currency: To facilitate evaluation and comparison, the Purchaser will convert all bid prices are payable to Indian Rupees established by any bank in India as notified in the Newspapers/banks website on the date of Price/Finance Bid Opening.

37. Evaluation & Comparison of Bids:

37.1 For the bids qualifying for the technical evaluation which have been found to be responsive the evaluation & comparison shall be made as under:

(i) Indigenous Offers: The final landed cost of purchase after all discounts, freight, forwarding, insurance (warehouse to warehouse), custom clearing charges taxes etc. shall be the basis of evaluation.

(ii) Imported Offers:

The CIP/CIF price shall be the basis of evaluation (warehouse to warehouse basis)

(iii) Imported Vs. Indigenous Offers:

The final landed cost (ware house to ware house) of purchase taking into account, freight, forwarding, insurance, taxes etc. (CIF/CIP with custom duty, customs clearance charges, Bank/LC charges, transportation, delivery up to the site of installation at TIFR Hyderabad as per available records with TIFR Hyderabad for imported goods) shall be the basis of evaluation.

37.2 Conditional tenders/discounts etc. shall not be accepted. Rates quoted without attached conditions (viz. Discount shaving linkages to quantity, payment terms etc.) will only be considered for evaluation purpose. Thus conditional discounted rates linked to quantities and prompt/advance payment etc., will be ignored for determining inter-se position. The Purchaser however reserves the right to use the discounted rate/rates considered workable and appropriate for counter offer to the successful tenderers.

38. Contacting the Purchaser: Any attempt by any Bidder to influence the Purchaser in its decisions on bid evaluation, bid comparison or contract award may result in rejection of the bid.

39. Purchaser's Right to Vary Quantities at Time of Award: The Purchaser reserves the right at the time of contract award to increase or decrease the quantity of goods and services originally specified in the schedule of Requirements without any change in unit price or other terms and conditions.

Purchaser's Right to Accept Any Bid and to Reject Any or All Bids.

40.1 The Purchaser reserves the right to accept or reject any bid, and to annul the bidding process and reject all bids at any time prior to award of contract without there by incurring any liability to the affected Bidder or bidders or any obligation to inform the affected Bidder or bidders of the grounds for the Purchaser's action.

40.2 Evidence regarding credibility of stable performance and maintenance service capability must be provided. The purchaser reserves the right to make judgment on this and reject bids that, in the purchaser's view, do not carry sufficient credibility for performance and/or service.

41. Training:

41.1 The Supplier is required to train designated Purchaser's technical and end user personnel to enable them to effectively operate the total equipment.

41.2 The training shall be initially carried out during installation & commissioning for operating and maintaining the system. The specific training on application shall also to be imparted by the supplier. The duration of such training need to be finalized with the end user of the equipment. The supplier has to provide complete training at site for operation (including trouble shooting) of the instrument.

41.3 In case any supplier is not willing to impart such training, the bid shall be treated as non-responsive.

42. Bidders, please provide the PAN No., Bank Details, email ID, Contact person details, GST No etc.

43. The Supplier shall arrange to ship the ordered materials within the mutually agreed delivery period mentioned in the order unless extended with/without penalty. Please mention the Delivery Period Clearly in the Bid, however effort to be taken to deliver the materials at the earliest.

In case of delay in supply on part of the supplier, a penalty @0.5% per week of order value will be charged for delayed period subject to a maximum of 10% order value.

If the delay in the shipment of the ordered materials attributable to the supplier exceeds agreed time period from the date of original agreed upon date of shipment and extended with/without penalty, the TIFR Hyderabad shall have the right to cancel the contract / purchase order and recover the liquidated damages from other dues of the party or by legal means. It will also affect the other/future business dealings with such suppliers.

The same rate of penalty shall be applicable for late installation of the equipment /instrument also.

44. Warranty :

The supplier warrants that the Goods supplied under this contract are new, unused, of the most recent or current models and those they incorporate all recent improvements in design and materials, unless provided otherwise in the contract. The supplier further warrants that all Goods supplied under this contract shall have no defect arising from manufacturing, design, materials or workmanship (except when the design and /or materials is required by the Purchaser's Specification) or from any act or omission of the supplier, that may develop under normal use of the supplied Goods in the conditions prevailing in the country of final destination.

This warranty shall remain valid (As stated in technical specifications) after the Goods or any portion thereof as the case maybe, have been delivered, installed & commissioned and accepted at the final destination indicated in the contract.

Warranty period shall be (As stated in technical specifications) from date of successful installation of equipment. The Supplier shall, in addition, comply with the performance and/or consumption guarantees specified under the contract. If for reasons attributable to the Supplier, these guarantees are not attained in whole or in part, the Supplier's discretion shall apply making such changes, modifications, and/or additions to the Goods or any part thereof as may be necessary in order to attain the contractual guarantees specified in the contract at supplier own cost and expense and to carry out further performance tests.

If during the period of warranty any component or spare part is needed to be imported, all associated cost for replacement shall be borne by the supplier including the cost of customs duty, customs clearance charges etc.

45. COMMENCEMENT OF WARRANTY PERIOD: The warranty period of an item shall commence from the date of receipt of the item in good working condition and satisfactory installation /demonstration at the project site.

46. Specifications are basic essence of the product. It must be ensured that the offers must be strictly as per our specifications. At the same time it must be kept in mind that merely copying our specifications in the quotation shall not make the parties eligible for consideration of the quotation. A quotation has to be supported with the printed technical leaflet / literature of the quoted model of the item by the quoting party/manufacturer.

47. Supplier Integrity: The Supplier is responsible for and obliged to conduct all contracted activities in accordance with the Contract using state of the art methods and economic principles and exercising all means available to achieve the performance specified in the contract.

48. Force Majeure :

The Supplier shall not be liable for forfeiture of its performance security, liquidated damages or termination for default, if and to the extent that, it's delay in performance or other failure to perform its obligations under the Contract is the result of an event of Force Majeure.

For purposes of this Clause, "Force Majeure" means an event beyond the control of Supplier and not involving the Supplier's fault or negligence and not foreseeable. Such events may include, but are not limited to, acts of the Purchaser either in its sovereign or contractual capacity, wars or revolutions, fires, floods, epidemics, quarantine restrictions, act of God and freight embargoes.

49. Termination for Default

49.1 The Purchaser may, without prejudice to any other remedy for breach of contract, by written notice of default sent to the Supplier, terminate the Contract in whole or part:

- (i) If the Supplier fails to deliver any or all of the Goods within the period(s) specified in the order, or within any extension thereof granted by the Purchaser.
- (ii) If the Supplier fails to perform any other obligation(s) under the Contract.
- (iii) If the Supplier, in the judgment of the Purchaser has engaged in corrupt or fraudulent practices in competing for or in executing the Contract.

49.2 For the purpose of this Clause:

- (i) "Corrupt practice" means the offering, giving, receiving or soliciting of gratification to influence the action of a public official(s) in the procurement process or in contract execution.
- (ii) "Fraudulent practice" means a misrepresentation of facts in order to influence a procurement process or the execution of a contract to the detriment of the purchaser, and includes collusive practice among Bidders (prior to or after bid submission) designed to establish bid prices at artificial non-competitive levels and to deprive the purchaser of the benefits of free and open competition;”

50. Resolution of Disputes:

The Purchaser and the supplier shall make every effort to resolve amicably by direct informal negotiation any disagreement or dispute arising between them under or in connection with the contract.

If, after thirty (30) days from commencement of such informal negotiations, the Purchaser and the Supplier have been unable to resolve amicably a contractual dispute, either party may require that the dispute be referred for resolution to the formal mechanisms. These mechanisms may include, but are not limited to, conciliation mediated by a third party, adjudication in an agreed national (or) international forum, and national or international arbitration.

In case of Dispute or difference arising between the Purchaser and domestic supplier relating to any matter arising out of or connected with this agreement, such disputes or difference shall be settled in accordance with the Indian Arbitration & Conciliation Act, 1996, the rules there under and any statutory modifications or re-enactments thereof shall apply to the arbitration proceedings. The dispute shall be referred to the Director TIFR Hyderabad and if he is unable or unwilling to act, to the sole arbitration of some other person appointed by him willing to act as such Arbitrator. The award of arbitrator so appointed shall be final, conclusive and binding on all parties to this order.

In the case of dispute between the purchaser and Foreign Supplier, the dispute shall be settled by arbitration in accordance with provision of sub clause above. But if this is not acceptable to the supplier then the dispute shall be settled in accordance with provisions of UNCITRAL (United Nations Commission on International Trade Law) Arbitration Rules.

51. TIFR Hyderabad reserves the right to ask for or to provide any clarification, changes after the release of this tender. Any changes or clarifications provided by TIFR, Hyderabad may be checked at TIFR Hyderabad website: <https://www.tifrh.res.in/index.php/commercial-tenders>

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

Annexure - B
Certificate for Local Content

*We [name of manufacturer] hereby confirm in respect of quoted item(s) that Local Content is equal to or more than 50% and come under 'Class-I Local Supplier' Category. As being 'Class-I Local Supplier', we are eligible for Purchase Preference under 'Make in India' Policy vide Gol Order No.P-45021/2/2017-PP (B.E.-II) dated 15.06.2017 (subsequently revised vide orders dated 28.05.2018, 29.05.2019 and 04.06.2020)

OR

*We [name of manufacturer] hereby confirm in respect of quoted items(s) that Local Content is more than 20% but less than 50% and come under 'Class-II Local Supplier' Category.

The details of the location (s) at which the local value addition made is /are as under:

1.....

2.....

3.....

*Strike out whichever is not applicable

Date:

Seal & Signature of the Bidder

NOTE:

- Self-certification that the item offered meets the minimum local content (as above) giving details of the location(s) at which the local value addition is made in case the bidder wishes to avail the benefits under the make in India policy, if applicable.
- In cases of procurement for a value in excess of Rs. 10 crores, the local supplier shall be required to provide a certificate from the statutory auditor or cost auditor of the company (in the case of companies) or from a practicing cost accountant or practicing chartered accountant (in respect of suppliers other than companies) giving the percentage of local content to avail the benefits under the make in India policy, if applicable.

Annexure – C
Audited Annual Turnover

S.No.	Financial/ Accounting Year	Profit (Rs.)	Loss (Rs.)	Annual Turnover (in INR)
1.				
2.				
3.				

Authorized Signatory with Seal

Note:

This Audited Annual Turnover (Annexure – C) for the last 3 years should be certified by Chartered Accountant (CA) as per the format given above duly signed and stamped by the CA on their letterhead.

Annexure – D

Supply Order details of High-Performance Computing (HPC) Cluster.

S.No.	Name of the company with full address	Name of the Project	Purchase Order No. & Date	Brief Item Description with Model No.	Item Value in Currency
Signature					
Name					
Designation					
Name of the Company					
Date					
Seal of the Company					

NOTE: Please attach the copy documents / purchase order copy for the above mentioned details.

Financial Bid for Supply, Installation and Commissioning of a High-Performance Computing (HPC) Cluster for TIFR Hyderabad (Part – B)

Annexure E

TIFR Hyderabad Enquiry No & Date: _____

Due date: _____

Bidder's Quotation Ref No. & Date: _____

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

Mandatory Items

S.No	Item Description as per tender	Qty	Make & Model/Type	Rate per unit (Currency)	Total Cost (Currency)
1	Login Node	1			
2	Master Node	1			
3	Compute Nodes	35 Nos. (Minimum 96 cores per node) or As per core density per node quoted by bidders for a total of 3360 Cores			
4	Dual controller ZFS compute Storage				
	ZFS Controller Servers	2			
	2 x 4U 90 bay JBOD with 120 x 8 TB 7.2K NL-SAS Hard drives with required accessories	1			
5	Open Lustre based Parallel File System (Optional, Quote Compulsory)				
	Object Storage Servers	4			
	Meta Data Servers	2			
	Metadata Target with required accessories	1			
	Object Storage Target with required accessories	1			
6	Network/Interconnect & Connectivity				
6.1	Rack mountable 48 Port Gigabit switches for IPMI management with required peripheral for rack mounting.	1			
6.2	Option 1: (Optional, Quote Compulsory) Fully non-blocking 200 G Omnipath/Infiniband/RDMA/RoCE open Ethernet rack mount Switch with required cables and network adapter cards for compute nodes connectivity.	1			

6.3	Option 2: 48 Ports Fully non-blocking 10 G Ethernet rack mount Switch with required cables and network adapter cards for compute nodes connectivity.	1			
7	KVM Display	1			
8	Fully Automated System Provisioning	1			
9 A	Ex-Works cost (Duly packed Airworthy/Seaworthy of international standard)				
9 B	FOB /FCA Cost (Name of Airport_____)				
9 C	CIP/CIF Cost (Upto 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. The other charges, taxes, duties etc. to be shown separately.
3. Any accessories, optional items should be shown separately using above format.
4. Use separate sheet for detail description, specification of the item, Price breakup for the item(s) mentioned in technical specification but prices should be quoted in the same format.
5. Prices quoted in Indian Currency should be on F.O.R. basis and mention separately using different table format showing all the applicable taxes/Duties like GST, Freight & Transportation charges and installation charges etc.
Use separate sheet for detail description, specification of the item, Price breakup for the item(s) mentioned in technical specification but prices should be quoted in the same format.
6. TIFR Hyderabad being educational & research institute, discounted price shall be offered.
7. The suppliers/bidders should submit all the applicable list of documents/enclosures/annexures as mentioned in the tender along with the local content certificate filled form as per annexure – C. The supplier should provide the local content details / local value addition details with the applicable value. TIFR Hyderabad reserves the right to reject any tender (or) all tenders if not submitted along with the documents/enclosures/annexures/certificate of local content.

Signature of the Bidder

Name, Address contact no _____

& email id of the bidder/ _____

Company with company's Stamp or Seal _____ **Date:** _____

Annexure – F

Financial Bid for additional warranty for a High-Performance Computing (HPC) Cluster for TIFR Hyderabad

TIFR Hyderabad Enquiry No & Date: _____

Due date: _____

Bidder's Quotation Ref No. & Date: _____

Financial Bid (Bidders must quote their rates using this Format)

Note: The bidder must mention in the quotation, the rate/amount of Additional warranty charges. Optional items but Quote compulsory.

S.No	Item Description	Unit Cost	Taxes	Total Cost
1	6 th year warranty for the Master Node			
2	7 th year warranty for the Master Node			

S.No	Item Description	Unit Cost	Taxes	Total Cost
1	6 th year warranty for the Login Node			
2	7 th year warranty for the Login Node			

S.No	Item Description	Unit Cost	Taxes	Total Cost
1	6 th year warranty for the Dual controller ZFS compute Storage			
2	7 th year warranty for the Dual controller ZFS compute Storage			

S.No	Item Description	Unit Cost	Taxes	Total Cost
1	6 th year warranty for the Open Lustre based Parallel File System			
2	7 th year warranty for the Open Lustre based Parallel File System			

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. Prices should be quoted in same format.
4. TIFR Hyderabad being educational & research institute, discounted price shall be offered.
5. Additional warranty cost will not be considered to determine the lowest bidder.

Signature of the Bidder

Name, Address contact no _____

& email id of the bidder/ _____

Company with company's Stamp or Seal _____ **Date:** _____

Annexure - G

PERFORMANCE BANK GUARANTEE FORMAT

In consideration of the TATA INSTITUTE OF FUNDAMNETAL RESEARCH HYDERABAD (hereinafter called "THE TIFR") having agreed under the terms and conditions of Purchase Order No.....

dated.....made between. TIFR...and M/s (hereinafter called "the said Contractor{s}"). For the Purchase Order..... (hereinafter called "the said Purchase Order") having agreed to production of an irrevocable bank Guarantee for Rs. From the contractor(S) for compliance of his obligations in accordance with the terms and conditions in the said Purchase Order , we (indicate the name o f the Bank) (hereinafter referred to as "the Bank") hereby undertake to pay to the TIFR an amount not exceeding Rs.(Rs..... only) on demand by the TIFR.

2. *We..... (indicate the name of the Bank) do hereby undertake to pay the amounts due and payable under this guarantee without any demur, merely on a demand from the TIFR stating that the amount claimed is required to meet the recoveries due or likely to be due from the said Contractor(s). Any such demand made on the bank shall be However, our liability under this guarantee shall be restricted to an amount not exceeding Rs (Rupees..... only).*

3. *We, the said bank, further undertake to pay to the TIFR any money so demanded notwithstanding any dispute or disputes raised by the Contractor(s) in any suit ot proceeding pending before any Court or Tribunal relating thereto, our liability under this present being absolute and unequivocal. The payment so made by us under this bond shall be a valid discharge of our liability for payment there under and the Contractor(s) shall have no claim against us for making such payment.*

4. *We... (indicate the name of Bank) further agree that the guarantee herein contained shall remain in full force and effect during period that would taken for the performance of the said Purchase Order and that it shall continue to be enforced till all the dues of the TIFR under or by virtue of the Purchase Order have been fully paid and its claims satisfied or discharged or Purchase Officer ion behalf of the TIFR certified that the terms and conditions of the said Purchase Order have been fully and properly carried out by the said Contractor(s) and accordingly discharges this guarantee.*

5. We... (indicate the name of Bank) further agree with the TIFR that the TIFR shall have fullest liberty without our consent and without affecting in any manner our obligations hereunder to vary any of the terms and conditions of the said Purchase Order or to extend time of performance by the said Contractor(s) from time to time or to postpone for any time to time any of the powers exercisable by the TIFR against the said Contractor(s) and to forbear or enforce any of the terms and condition s relating to the said Purchase Order and we shall not be relieved from or liability by reason of any such variation, or extension being granted to the said Contractor(s) or for any forbearance , act of mission on the part of the TIFR or any indulgence by the TIFR to the said Contractor(s) or by any such matter or thing whatsoever which under the law relating to sureties would, but for this provision, have effect of so relieving us.

6 .This guarantee will not be discharged due to the change in the constitution of the Bank or the Contractor(s).

7. We, (Indicate the name of Bank) lastly undertake not to revoke this guarantee except with the previous consent to the TIFR in writing.

8. This guarantee shall be valid up to unless extended on demand by TIFR. Notwithstanding anything mentioned above, our liability against this guarantee is restricted to Rs. (Rupees..... only) and unless a claim in writing is lodged with us within six months of the date of expiry of this guarantee, all our liabilities under this guarantee shall stand discharged.

Signed and sealed

Dated the day of for.....(indicate the name of Bank)