Ref. No.: IIIT-A/ENQ/FIP/468 / 2018
Date: February 01, 2018

Tender Notice

Sealed tenders are invited under Two Bid System for the establishment of Central Computing Facility at Indian Institute of Information Technology, Allahabad. The detailed specifications and terms and conditions are given in two parts as mentioned below. Tender document may be downloaded from the Institute website http://www.iiita.ac.in.

1	**Item**	Central Computing Facility: Servers and Infrastructure
2	**Tender Issue Date**	Feb 1, 2018
3	**Date and Time of Mandatory Pre-bid meeting (for Technical discussion only)**	Feb 10, 2018 at 12:30 PM Board Room of IIIT-Allahabad
4	**Notification of Corrigendum/Availability of compliance forms for Technical & Financial Bids on the IIIT-A website begins from**	Feb 12, 2018
5	**Last date of submission of bids**	12:00 noon of Feb 21, 2018
6	**Opening of Technical Bids**	3:00PM on Feb 21, 2018

Sealed tenders are invited for supply and installation of Central Computing Facility: Servers and Infrastructure on turnkey basis in the IIIT Allahabad. The tender document consists of the following two parts.

Part-1: "TERMS & CONDITIONS" & "TECHNICAL BID" of the tender.
Part-2: "FINANCIAL BID" of the tender.

You are requested to submit the quotation by courier/speed post with complete details of specifications, terms & conditions, warranty/guarantee etc. Quotation should be in two separate sealed envelopes "Technical bid" and "Financial Bid" and placed in a single envelope with name of the tender, ref. number and closing date subscribed on the top of the envelope addressed to the Faculty In-charge (Purchase), IIIT-Allahabad upto 21/2/2018 at 12:00 noon. Quotations duly sealed may also be dropped in the tender box placed in the office of the Faculty In-charge (Purchase), IIIT-Allahabad. Basic rate, taxes and freight charges etc. **must** be quoted separately, F.O.R. destination at IIIT-A, Jhalwa, Allahabad.

The Technical Bid received in prescribed proforma will be opened in the presence of the tenderers, or authorized representatives interested to be present, on 21/2/2018 at 3:00 P.M. The Financial Bids of only technically qualified tenderers will be opened after evaluation by the Technical Committee.

Faculty In-charge, Purchase

Copy to:
Hon'ble Director for kind information.

1-2-2018

S. Jaiswal 1.2.18 Amit Ku. Dhar

Part-1

TERMS & CONDITIONS AND TECHNICAL BID FOR SUPPLY AND INSTALLATION OF

Central Computing Facility: Servers and Infrastructure for Indian Institute of Information Technology, Allahabad

Director, Indian Institute of Information Technology, Allahabad (IIIT-A) invites sealed tenders for Central Computing Facility: Servers and Infrastructure from the Server OEM or their authorised reseller only.

The Part-1 consists of the following components of the tender:

- **Part-1.1:** Proforma for Application
- **Part-1.2:** Technical Specifications and Compliance
- **Part-1.3:** Technical Terms and Conditions
- **Part-1.4:** General Terms and Conditions

The details of the above components are in the following pages.

1-2-2018

1.2.18

Part-1.1
PROFORMA FOR APPLICATION

1	Name of the firm	
2	Address of the firm	
3	Phone no. (with code)	
4	Proprietor's name	
5	Address of proprietor	
6	Proprietor's phone no.	
7	Email id	
8	Details of the Firm a. Date from which the firm is operating: b. Turnover of the firm during (attach the documentary evidence): i. FY 2014-15 ii. FY 2015-16 iii. FY 2016-17 c. GST No.: d. PAN No.:	
9	The tenders should be accompanied in a form of a **Demand Draft/FDR** or **Bank Guarantee** in favour of **Indian Institute of Information Technology, Allahabad** payable at **Allahabad** (Any bid without EMD will not be considered). EMD should be enclosed with the Technical Bid document in a separate envelop. The EMD will be returned to the unsuccessful Bidders within 15 days and to **the successful Bidders have to submit bank guarantee of 10% of total value, valid beyond 2 months of warranty period.** **Amount of EMD as below:**	

Sl.	Description	EMD Amount (INR)	DD No./FDR Date
1	Central Computing Facility: Servers and Infrastructure	25,00,000/-	

1.2.2018

7.12.18

Part-1.2
TECHNICAL SPECIFICATIONS AND COMPLIANCE

The following are the technical specifications of CCF Servers and Infrastructure to be delivered as per the tender. The form and format to respond to demonstrate compliance with these requirements, however, shall be available only online on the date listed in tender.

1. Overview

1.1. The proposed facility has various components including High Performance Computing (HPC) facility, Big Data facility and Cloud Computing facility. The specifications of these components, along with additional infrastructure required (such as network, storage, cooling and power backup) are given below.

1.2. Vendors should design and provide the complete infrastructure on **turnkey basis** meeting the requirements as detailed below after visiting the proposed site at IIITA. A few details related to civil work will be provided during Pre-bid meeting with all the interested bidders. The date for this meeting shall be specified separately and it would be mandatory for the interested bidders to attend the same.

1.3. Three separate communication networks need to be created as follows:

1.3.1. A primary network (100Gbps fabric for HPC and Big Data and 10Gbps network for Cloud)

1.3.2. A management network, and

1.3.3. IPMI network(s) for management and monitoring for HPC, Big Data, Cloud and Storage facilities.

1.4. Processor to be used as specified below for HPC, Big Data and Cloud facilities is Intel® Xeon® Gold 6148 Processor with 20 cores, 27.5M cache and 2.40 GHz base frequency. For brevity, the number of cores, cache and base frequency are not repeated elsewhere in the tender.

1.5. Storage has two requirements. The first is to cater to both HPC and Big Data facilities and the second to Cloud Computing facility.

1.6. The design should accommodate the necessary IT equipment (servers, switches and storage units) among a maximum of 4 racks, with each rack having its own KVM unit (including console). These KVMs can be used as described further in the specifications.

1.7. Redundancy for license servers should be provided so that there is no single point of failure.

1.8. The HPC should be designed for a CPU-only theoretical maximum performance of at least 78 Tera Flops using all four types of compute nodes (CPU, GPU-Types 1, 2 and 3). This performance, obviously, does not include the GPU contribution. At least 65% of the theoretical peak performance should be demonstrated by the bidder.

1.9. The CCF facility should be connected to 10 Gbps IIIT-A campus with failover support.

1.10. The 24x7 high density precision cooling should be provided for the entire infrastructure as mentioned above, including the additional IIIT-A servers that would be placed in the CCF Server Room.

1.11. Maximum power requirement of the CCF Server Room infrastructure being designed should be within 90KW. This also includes the power load of IT infrastructure asked in this tender that should be at most 40KW.

1.12. IIIT-A will provide maximum raw power required to deliver 100KVA electric power for CCF Server Room (inclusive of. The actual number required will determined based on inputs from the Bidder regarding the UPS specifications being proposed.

1.13. UPS and DG sets are to be supplied by the bidder with DG being an Optional Item.

1.14. Power Usage Effectiveness (PUE) of the CCF working at peak capacity should be within 1.5. Cooling Solution is included for calculating PUE and DG set is not included. Only the (entire) power delivered to CCF Server Room (through UPS) will be considered as IT Equipment component.

1.15. Modifications to the civil structure(s) must be done only after obtaining consent from IIIT-A. Any alternation required, including change of false ceiling, or other civil work should be carried out by the bidder and the cost must be included in the bid.

1.16. An undertaking (affidavit) should be given by the bidder so that 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 deliverable, the vendor shall supply such items to ensure the completeness of the configuration at no extra cost. Specifications of the HPC, Big Data and Cloud facilities are given below.

1.17. For various servers the following considerations may be applied.

1.17.1. All types of servers should have RAID 1 for mirroring the OS disks which must be running on hot-pluggable SSDs with 1 hot spare.

1.17.2. The rest of the disks must use RAID 6 or better.

1.17.3. The above conditions override any conflicting configuration shown elsewhere in the tender.

2. High Performance Computing (HPC) Facility

Sl	System Attribute		Specification
1	Service Nodes (Master, login, I/O, *etc.*)	Processor	2xIntel® Xeon® 6148 Gold
		Memory	384GB DDR4-2666 with ECC or higher in balanced configuration populating all memory channels. Must have free memory slots to upgrade to 512GB by adding memory modules
		RAID	Support for Hardware RAID6, with 2GB flash backed cache
		Disks	3 x 480GB MLC SATA SSDs as RAID1 (including 1 hot spare), 7200RPM SATA HDDs as RAID6. All disks must be hot-pluggable and enterprise/data centre grade and connected to RAID controller
		Optical Disk	DVD-ROM drive (internal only)
		NIC	2x10 Gigabit (RJ45), 1000Base-T backward compatible
		Interconnect	1 x 100Gbps (or higher) low-latency interconnect (Mellanox EDR InfiniBand or Intel Omni-Path) connected to PCIe 3.0 x16
		Management	Dedicated management port with KVM over LAN support enabled
		Expansion	2 x free PCIe x16 expansion slots
		Ports	1 Serial, 2 USB, 1 VGA
		Form Factor	Rack-mountable with rail-kit. 2U or lower
		Power Supplies	Hot-pluggable and N+N redundant, 80PLUS Titanium or better.
		Quantity	2 (in high-availability configuration)
2	CPU Compute Nodes	Processor	2xIntel® Xeon® 6148 Gold
		Memory	384GB DDR4-2666 with ECC or higher in balanced configuration populating all memory channels. Must have free memory slots to upgrade to 512GB by adding memory modules
		Disks	1 x 240GB MLC SATA SSD. All disks must be hot-pluggable and enterprise/data centre grade
		Interconnect	1 x 100Gbps (or higher) low-latency interconnect (Mellanox EDR InfiniBand or Intel Omni-Path) connected to PCIe 3.0 x16
		Management	Dedicated management port with KVM over LAN support enabled
		Expansion	1 x free PCIe x16 expansion slot Ports 2 USB, 1 VGA
		Form Factor	Rack-mountable with rail-kit. Dense multi-node systems with either 2 nodes in 1U or 4 nodes in 2U
		Power Supplies	Hot-pluggable and N+N redundant, 80PLUS Titanium or better. Each set of 'N' Power supplies should be rated for supplying at least 500W to each individual System in the chassis
		Quantity	At least 16

3	GPU Compute Nodes (Type 1)	Processor	2xIntel® Xeon® 6148 Gold
		GPU	2 x Nvidia Tesla P100 16GB with NVLink . Must support upgrade to at-least 3 GPUs (addition of one more similar GPU)
		Memory	384GB DDR4-2666 with ECC or higher in balanced configuration populating all memory channels.
		Disks	1 x 480GB MLC SATA SSD. All disks must be hot-pluggable and enterprise/data centre grade.
		Interconnect	1 x 100Gbps (or higher) low-latency interconnect (Mellanox EDR InfiniBand or Intel Omni-Path) connected to PCIe 3.0 x16
		Management	Dedicated management port with KVM over LAN support enabled
		Form Factor	Rack-mountable with rail-kit. 2U or lower
		Power Supplies	Hot-pluggable and N+N redundant, 80PLUS Titanium or better.
		Quantity	4
4	GPU Compute Nodes (Type 2)	Processor	2xIntel® Xeon® 6148 Gold
		GPU	1 x Nvidia Tesla V100 with 16GB Must support upgrade to at-least 3 GPUs (addition of one more similar GPU)
		Memory	384GB DDR4-2666 with ECC or higher in balanced configuration populating all memory channels.
		Disks	1 x 480GB MLC SATA SSD. All disks must be hot-pluggable and enterprise/data centre grade.
		Interconnect	1 x 100Gbps (or higher) low-latency interconnect (Mellanox EDR InfiniBand or Intel Omni-Path) connected to PCIe 3.0 x16
		Management	Dedicated management port with KVM over LAN support enabled
		Form Factor	Rack-mountable with rail-kit. 2U or lower
		Power Supplies	Hot-pluggable and N+N redundant, 80PLUS Titanium or better.
		Quantity	2
5	GPU Compute Nodes (Type 3)	Nodes without GPUs otherwise identical to GPU Type 1/2 nodes. Should be convertible to Type 1 or Type 2 in future just with addition of specific GPUs	1.2.2018
		Quantity	4
6	Parallel File System		a. Parallel File System (PFS) based on Lustre with 450TB usable space. b. Throughput should be at least 15GB/s for read as well as write operations. c. The solution must comprise of at-least 4 I/O servers (2 Meta Data Servers and 2 Object Storage Servers). MDS and OSS should run on SSDs on RAID 1 with hot spare. d. 1 or more MDT and OST nodes each e. At least 9TB of usable MDT f. RAID 6 or better should be available for OST and MDT

Amit Kr. Dhar

			g. Minimum memory of MDS and OSS should be at least 384GB. h. MDS and OSS should be connected to the 100Gbps InfiniBand network. i. Should be able to protect data against simultaneous double disk failure in the same RAID group. j. System should not have any single point of failure (SPOF). All storage server / controller for Lustre (PFS) must be highly available with support for automated fail over in case of failure of one. k. The solution must be connected to the HPC and Big Data setup outlined in this tender using 100Gbps (or higher), low-latency interconnect (Mellanox EDR InfiniBand or Intel® Omni-Path). l. At least 5% hot spare availability for storage. m. Management Interface: Should be browser based management GUI. n. Management tool should monitor status of the storage system like performance, throughput, Network Connection, Controller health *etc.*
7	Communication Network	Primary Communication Network (1 set)	72-port, 100Gbps, 100% Non-blocking, Switching Fabric (Mellanox EDR InfiniBand or Intel® Omni-Path) with embedded Subnet Manager for 72 devices or more and with redundant power supply/supplies. All cables required for connecting the devices quoted in this tender should be included/bundled. At least 16 ports should be available for future expansion of the CCF.
8	KVM Switch/ Console		a. 1 x KVM console with a 17" LED-backlit LCD monitor in a sliding housing, 1U rack-mountable b. 4 x 16-port KVM Switches with required cables, 1U rack-mountable
9	Software and Installation	OS	64-bit Linux (CentOS/RHEL)
		Job Scheduler	OEM supported Job Scheduler with following features: a. Job monitoring and management b. Workload cum resource manager with policy-aware, resource-aware and topology-aware scheduling c. Advance reservation support d. Heterogeneous cluster support e. Multi-cluster support f. Pre-emptive and backfill scheduling support g. Application integration support h. Live reconfiguration capability i. GPU aware scheduling j. Support interactive jobs, including those of MATLAB and R enabling the software to exploit performance of hardware as available (GPUs, etc). k. Support to utilize NVidia dockers for various computations, especially Deep Learning NGC Dockers (to perform TensorRT based computations, etc.) on GPU compute nodes. l. Policy based resource allocation m. Modules support for maintaining multiple version of softwareUsage accounting & reporting with total utilization of resource. n. Restrict user login to compute nodes

1-2-2018

Amit Kr. Dhar

			o. Unless in failover mode, the two nodes should work separately for: i. Utility (Login, FTP, etc.) ii. Management (scheduler and OS provisioning, *etc*)
		HPC Management	Cluster Management software with following features: a. Cluster manager with provisioning, monitoring and reporting capabilities b. Support Package and Image based provisioning c. Support Disk and diskless cluster deployment d. Intuitive web interface to manage and customize the cluster e. Customizing networks and compute node profiles f. Customizing compute nodes to max, up to changing kernel parameter g. Able to Push configuration changes and updates to the compute nodes without reinstalling and rebooting
		Libraries	OpenMPI, MVAPICH, Intel MPI, Blas 1,2,3, Lapack, Scalapac, Intel MKL, Intel DAAL
		Software and Compilers	Latest version of AMBER (IIIT-A shall provide request for Academic License as required.) Intel Parallel Studio XE with 5 user floating license (3 years of support). GNU Compilers also must be provided.
		Installation	The vendor has to rack-mount all equipment with proper cabling and configure the system as a high-performance compute cluster. The vendor is required to run HPL and submit results as part of acceptance. The vendor will also be required to submit documentation with details about the installation and provide training on day to day operations and administration of HPC.
10	Performance Metrics and Other Requirements for HPC and PFS		a. For HPC: i) Bidders have to offer total CPU only theoretical peak performance of at least 78 Tera Flops using all the three types of compute nodes (CPU, GPU-Type 1 and GPU-Type 2) as specified above. ii) At least 65% of the theoretical peak performance should be achievable. iii) Execution times reported should be based on actual runs on the system. iv) Details of the benchmarks along with various configurations used (eg., with turbo mode on/off) should be submitted. b. For PFS: i) PFS must have a performance of 15GB/s or higher for both read and write (with linear upgrade in performance with future expansion). The performance needs to be demonstrated using IOR with 1MB block size. ii) Should not take more than 16 hours to rebuild failed task. This needs to be demonstrated at the time of technical acceptance. Preference will be given to the system that has special features to reduce rebuild time.

2-2018

Amit Kr. Dhar

			iii) Vendor must specify the maximum number of simultaneous rebuild tasks the storage system supports and it should not be less than 2 simultaneous tasks.

3. Big Data Computing Facility

Sl	System Attribute		Specification
1	Name Nodes	Processor	2xIntel® Xeon® 6148 Gold
		Memory	384GB DDR4-2666 with ECC or higher in balanced configuration populating all memory channels.
		RAID	7 x 900GB, 10K RPM SAS 12Gbps HDDs as RAID6 + hot-spare. All disks must be hot-pluggable and enterprise/data centre grade and connected to RAID controller
		Optical Disk	DVD-ROM drive (internal only)
		NIC	2x10 Gigabit (RJ45), 1000Base-T backward compatible
		Interconnect	1 x 100Gbps (or higher) low-latency interconnect (Mellanox EDR InfiniBand or Intel Omni-Path) connected to PCIe 3.0 x16
		Management	Dedicated management port with KVM over LAN support enabled
		Ports	2 USB, 1 VGA
		Form Factor	Rack-mountable with rail-kit. 1U or lower
		Power Supplies	Hot-pluggable and N+N redundant.
		Quantity	2 (in high-availability configuration)
2	Data Nodes	Processor	2xIntel® Xeon® 6148 Gold
		Memory	384GB DDR4-2666 with ECC or higher in balanced configuration populating all memory channels. Must have free memory slots to upgrade to 512GB by adding memory modules.
		Disks	a. 1 x 240GB MLC SATA SSD for OS b. All disks must be hot-pluggable and enterprise/ datacenter grade c. Hadoop data to be stored on and accessed from Lustre based PFS from HPC facility
		Interconnect	1 x 100Gbps (or higher) low-latency interconnect (Mellanox EDR InfiniBand or Intel Omni-Path) connected to PCIe 3.0 x16
		Management	Dedicated management port with KVM over LAN support enabled
		Ports	2 USB, 1 VGA
		Form Factor	Rack-mountable with rail-kit. Dense multi-node systems with either 2 nodes in 1U or 4 nodes in 2U.
		Power Supplies	Hot-pluggable and N+N redundant, 80PLUS Titanium or better. Each set of 'N' Power supplies should be rated for supplying at least 500W to each individual system in the chassis.
		Quantity	20
3	Communication Network	Primary Network	To share with 100Gbps Interconnect with the HPC
4	KVM Switch/ Console		To share KVM Switch with the HPC if desirable

1-2-2018

Amit kr. Dhar

5	Software/ Installation	OS	64-bit Linux (CentOS/RHEL)
		Installation	The vendor has to rack-mount all equipment with proper cabling and configure the system as a Big Data cluster using Hadoop 2.7x and Spark Resilient Distributed Dataset 2.1x. The solution must have GUI based monitoring and configuring tools. The vendor will also be required to submit documentation with details about the installation and provide training on day to day operations and administration of Big Data Cluster. As mentioned elsewhere, updates (including migration from Hadoop 2.x to 3.y, *etc.*) should be made available during the warranty period with no additional cost. Users should be able to use all components of Hadoop Ecosystem and Apache Spark from day 1. IIIT-A reserves right to choose to go either with Hadoop version 2.7x or 3.x before handover of the facility. The choice will be communicated within 30 days of PO placement upon the request of the Bidder.

4. Cloud Computing Facility

Sl	System Attribute		Specification
1	Cloud Controller	Processor	2xIntel® Xeon® 6148 Gold
		Memory	96GB DDR4-2400 with ECC or higher in balanced configuration populating all memory channels. Must have free memory slots to upgrade to 128GB by adding memory modules
		RAID	Support for Hardware RAID6, with 2GB flash backed cache
		Disks	3x480GB MLC SATA SSDs as RAID1 (including 1 hot spare). All disks must be hot-pluggable and enterprise/data centre grade and connected to RAID controller
		Optical Disk	DVD-ROM drive (internal only)
		NIC	2x10 Gigabit (RJ45), 1000Base-T backward compatible
		Management	Dedicated management port with KVM over LAN support enabled
		Expansion	2 x free PCIe x16 expansion slots
		Ports	1 Serial, 2 USB, 1 VGA
		Form Factor	Rack-mountable with rail-kit. 2U or lower
		Power Supplies	Hot-pluggable and N+N redundant, 80PLUS Titanium or better.
		Quantity	1
2	Converged Cloud Nodes (Compute + Storage)	Processor	2xIntel® Xeon® 6148 Gold
		Memory	384GB DDR4-2666 with ECC or higher in balanced configuration populating all memory channels. Must have free memory slots to upgrade to 512GB by adding memory modules
		RAID	Support for Hardware RAID6, with 2GB flash backed cache
		NVMe	1 x 1.6TB NVMe Flash Drive (endurance 3DWPD or higher)

		Disks	a. 2 x 960GB MLC SATA SSDs as RAID1 (endurance 3DWPD or higher) b. 10 x 8TB, 7200RPM SATA HDDs, free bays for expansion to 24 HDDs in the same system or through JBOD. c. All disks must be hot-pluggable and enterprise/data centre grade and connected to RAID controller
		NIC	2x10 Gigabit (RJ45), 1000Base-T backward compatible
		Management	Dedicated management port with KVM over LAN support enabled
		Expansion	2 x free PCIe x16 expansion slots
		Ports	2 USB, 1 VGA
		Form Factor	Rack-mountable with rail-kit. 4U or lower
		Power Supplies	Hot-pluggable and N+N redundant, 80PLUS Titanium or better.
		Other	The solution can be divided over two enclosures subject to the link between two enclosures being SAS 12Gbps
		Quantity	6
3	Cloud Backup	Processor	2xIntel® Xeon® 6148 Gold
		Memory	64GB DDR4-2400 with ECC
		RAID	Support for Hardware RAID6, with 2GB flash backed cache
		Disks	a. 3 x 240GB MLC SATA SSDs as RAID1 (including 1 hot spare) b. 21 x 8TB, 7200RPM SATA HDDs as RAID6 with hot-spare c. All disks must be hot-pluggable and enterprise/data centre grade and connected to RAID controller
		NIC	2x10 Gigabit (RJ45), 1000Base-T backward compatible
		Management	Dedicated management port with KVM over LAN support enabled
		Expansion	2 x free PCIe x16 expansion slots
		Ports	2 USB, 1 VGA
		Form Factor	Rack-mountable with rail-kit. 4U or lower
		Power Supplies	Hot-pluggable and N+N redundant, 80PLUS Titanium or better.
		Other	The solution can be divided over two enclosures subject to the link between two enclosures must being SAS 12Gbps
		Quantity	1
4	Communication Network	10G Ethernet Network (Quantity: 2 sets)	Layer 3 Switch, 48-port (or higher) 10 Gigabit (RJ45) 10G Base-T Ports based Ethernet Switch with out of band management, VLAN Support, rack-mounting kit. Switching Capacity-1200 Gbps or higher. At least 2 additional 1 Gigabit (or higher) Ports also to be available. All cables required for connecting the devices quoted in this tender should be included/bundled.
		1G Ethernet Network (Quantity: 1 set)	24-port, Gigabit Ethernet Switch with rack-mounting kit All cables required for connecting the devices quoted in this tender should be included/bundled.
5	KVM Switch/ Console		KVM switch should be shared with HPC

6	Software/ Installation		The tenderer has to implement/install/configure complete turnkey private cloud solution (on-premises) with 150TB usable and resilient storage (expandable to 360TB) for 30 concurrent users (expandable to 60) with Licensed S/W Platform for Counting / Cloud Controller, Converged Cloud Nodes, and Cloud Back Up Nodes. (License in the name of IIIT Allahabad) with the following features: a. Support for multi-tenancy b. Self-service provisioning c. Templates that can be readily deployed d. Ability to assign control and empower different users with access rights and control of their allocated assets e. Infrastructure as a Service f. Ability to deploy docker/container type apps g. Storage as a Service

5. Cooling Solution

5.1. The CCF Server Room to be equipped with the appropriate Precision Air Conditioning cooling system. The High Density cooling system should be able to remove high level of waste heat from server enclosures and to provide uniform, effective & affordable cooling for servers and similar IT equipment (switches etc.) installed within cold aisle containment(s) or the arrangement as offered by bidder, it should be provided with appropriate refrigerant. The High Density AC cooling system must be able to cool the equipment uniformly.

5.2. High Density and energy efficient precision cooling units with N+1 redundancy at the physical unit level to take care of minimum 70KW operating power load at any time (this includes the power load of IT infrastructure asked in this tender). Cooling provided by the redundant /standby unit not to be the part of estimated capacity of cooling solution.

5.3. Humidity control should be within 10% and temperature control within 10% of the desired operating conditions. Parameters shall be 40% for humidity and 24°C for temperature to qualify acceptance test.

5.4. Indoor and Outdoor units shall be connected with copper piping work.

5.5. Outdoor Cooling Units (if any) have to be positioned on top of the building. Bidders may visit the facility for better understanding before bidding.

5.6. Raw Power required to be fed to the cooling units will be provided by IIIT Allahabad.

5.7. The High Density cooling system to be supplied should cater to 70KW of IT load at the present from the day 1. However, it should be linearly scalable to add additional units to cater an additional load of 50KW of IT load in future.

5.8. Power supplied to the cooling system shall be within peak load PUE limit of 1.5 and not more than 45KW of raw power will be provided on day 1. However, more raw power may be provided to address future expansion.

5.9. The additional power requirements required for UPS operation so as to be able to draw the desired power requirements for CCF Server Room should be stated explicitly by the Bidder. The total raw power supplied to enable proper functioning of UPS shall be factored into PUE calculation with only CCF Server Room power usage being considered as IT Equipment usage.

6. Power Backup Solution

6.1. 100 KVA standalone, online double conversion, 3 phase UPS with full (N+N) redundancy, and 30 minutes of Run-Time (power backup) on each UPS under full load.

6.2. Should have industrial grade battery bank that is sealed and maintenance free.

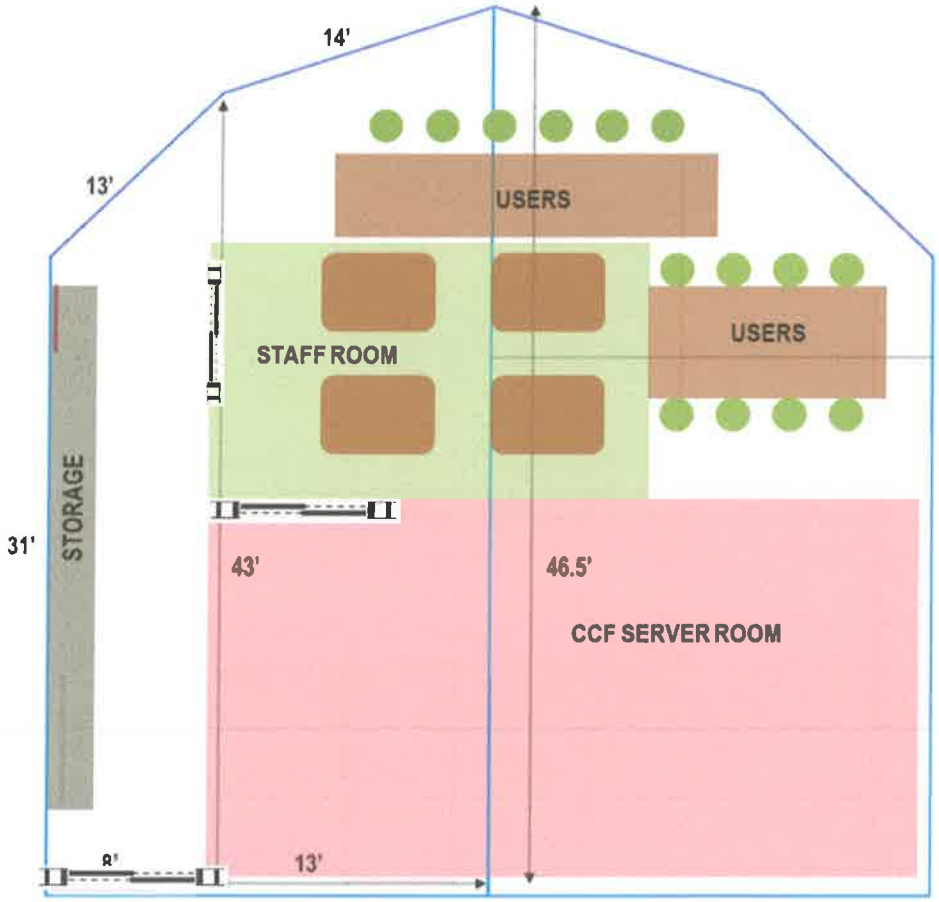
6.3. SNMP control, high power factor (0.9 or more), high efficiency (0.92 or more), sine wave output.

6.4. Only from globally reputed brands (such as APC, Emerson and Eaton) with ISO 9001, 14001 certifications. CE compliant. OEM must have supplied UPS solution for Data Centres in India at least at 3 Government Organisations. Required documentary evidence must be submitted.

6.5. Electrical system with essential high quality MCB and cables for UPS and Rack (input supply to cooling units) should be set up by the bidder.
6.6. Should support capacity addition by 50KVA (*ie*, upto 150KVA) in future.
6.7. The Silent DG set that shall cater to power requirements as stated in the tender, including those covered under future expansion, must be specified under Optional Items.

7. CCF Server Room

7.1. The proposed layout of the CCF Server Room is shown below. The final layout will be made available during Pre-bid meeting.



1-2-2018

7.2. The CCF Server Room (ie, the enclosed area where server racks and IT equipment being supplied by the Bidder are placed) should be ergonomic and soundproof. The glass enclosure should be constructed by the Bidder within the space provided by IIIT-A.
7.3. The IT equipment (servers, switches, storage units, etc.) being supplied by the bidder (excluding possible optional items) must be distributed among 4 racks maximum.
7.4. The power requirement for CCF Server Room are as follows:
7.4.1. Maximum power requirement of the CCF Server Room infrastructure being designed should be within 90KW. This limit includes the various components as listed below.
7.4.2. The power load of IT infrastructure to be provided as per this tender should be at most 40KW under maximum load.
7.4.3. Approximate 20KW power would be required to cater current IIIT-A servers separately to be placed in two (additional) racks to be provided by the bidder. These servers will be provided by IIIT Allahabad only and each rack should be able to take 12KW of load. The necessary electrical equipment should be available within the racks so that the servers can simply be plugged into the racks and could be used.

Amit Kr. Dhar

7.4.4. Additional 20KW would be for critical CCF infrastructure such as workstations, desktops, emergency lamps, etc., placed outside the CCF Server Room.

7.4.5. The rest (upto 10KW) being provisioned for future use and standby required for operating emergency services in CCF. The emergency services (such as fire suppression, lamps, etc. should be able use raw power directly being made available by IIIT-A if necessary).

7.5. Various sensors for monitoring the CCF Server Room (temperature, humidity, etc.) must be installed and demonstrated by the bidder.

7.6. Fire alarms and smoke sensors should also be installed by the Bidder.

7.7. The bidder should deploy measures for rodent control and for fire detection and suppression to current and prevalent standards. The standards proposed to be implemented must be mentioned in the Technical Bid.

8. Optional Items

8.1. Option must be presented for IIIT-A to purchase the following items. The Service Level Agreement, Warranty and AMC terms shall remain the same if purchased through the listed options. An undertaking should be given that the offer and the terms of AMC shall be valid till the expiry of warranty period.

8.2. Prices must be listed for IT items for the following:

8.2.1. Additional racks to be placed in the CCF Server Room for IIIT-A servers with necessary electrical equipment to support upto 12KW of server load along with KVM switch and console.

8.2.2. HPC compute nodes of type CPU, GPU Types 1-3.

8.2.3. Data nodes of Big Data facility

8.2.4. Converged nodes of Cloud Computing facility

8.2.5. GPU compatible data node for Big Data facility with the rest of data node configuration remaining similar in lieu of the requested node. The price should include YARN configurability to support exclusive and non-exclusive GPU node partitioning to schedule GPU aware jobs. CUDA computation should be supported.

8.2.6. GPU compatible converged cloud nodes for Cloud Computing Facility with the rest of data node configuration remaining similar in lieu of the requested node. The price should also include setting up automatic GPU provisioning as per request of the users of the facility for CUDA based computation.

8.2.7. Price of obtaining maximum memory as specified for each of the above nodes.

8.2.8. Price of 80TB, 120TB and 160TB additional usable storage for PFS.

8.2.9. Price of 60TB, 120TB and 180TB additional usable storage for cloud system.

8.2.10. RJ45 compatible Layer 2, 16-Port of all 10GBase-T type stackable managed switch with at least two 2 ports of SFP/SFP+. Rated latency should not exceed 4µs. 10-Gigabit speeds should be supported up to 45m.

8.2.11. RJ45 compatible Layer 2, 24-Port of all 10GBase-T type stackable managed switch with at least two 2 ports of SFP/SFP+. Rated latency should not exceed 4µs. 10-Gigabit speeds should be supported up to 45m.

8.2.12. RJ45 compatible Layer 2 48-Port of all 10GBase-T type stackable managed switch with at least two 2 ports of SFP/SFP+ to connect the CCF 10GbE systems to connect to CCF facilities directly without having to depend on IIIT-A LAN. Rated latency should not exceed 4µs. 10-Gigabit speeds should be supported up to 45m.

8.2.13. Silent DG set that can cater to the requirements as listed in this tender document including future requirements. It should conform to ISO 8528 specifications and the engine to BS 5514/ISO 3046. The OEM for DG set should have multinational (MNC) IT and ITeS clients in India. Documentary evidence for the same should be submitted.

8.2.14. AMC option must be provided for the immediate three years post-warranty. The AMC should be a drop-in replacement for onsite comprehensive warranty it is replacing.

Part-1.3
TECHNICAL TERMS AND CONDITIONS

1. Authorization and prequalification criteria

1.1. Criteria for the bidder:

1.1.1. The bidder must be registered under the Companies Act, 1956 or a registered firm with a registered office in India.

1.1.2. Should be Server OEM or Server OEM authorized bidder.

1.1.3. Should be in a position to deliver turnkey solution.

1.1.4. Should have implemented a 500 TFLOPS or higher capacity HPC system at least at one customer site. If the bidder happens to be a system integrator either the bidder or one of the OEMs should meet the above condition; the bid should include the authorization letters from the OEMs. The technical bid should clearly demarcate the responsibilities between the bidder and the OEMs. Complete details of the same have to be submitted with the bid.

1.1.5. Should have a proven record of maintaining and managing at least one system having 250 TFLOPS or higher for a period of 1 (one) year. Appropriate documentary evidence with a letter from the customer reporting the details of the maintenance/management responsibilities and the performance of the bidder should also be included in the technical bid of the proposal.

1.1.6. The bidder (along with their OEM) should have proven record of having demonstrated their competence and capability, as a team, to deliver all the services expected during the contract period.

1.1.7. Bidder must have prior experience in installing HPC Clusters across Government Education & Research Organisations in India. As a proof details of previously installed at least two clusters at Government Organisations should be provided.

1.1.8. Is required to be a company with an annual turn-over of Rs. 25 crores in each of the last 3 financial years.

1.1.9. Valid and duly authorized Manufacturer Authorization Certificate from the respective OEMs in the name of Participating System Integrator/Bidder must be submitted at the time of submission of Bids. These include documents from Server, Storage, Cooling, UPS and Switch OEMs.

1.1.10. An undertaking (self certificate) is to be submitted by bidder that the organization has not been blacklisted by any Central/State Government Department/Organization and educational institutes.

1-2-2018

1.1.11. Canvassing in any form would disqualify the OEM/SI from further participation after opening of tenders. The communication shall only be through official channel and on record.

1.1.12. In a tender, either the Indian agent on behalf of the Principal / OEM or Principal / OEM itself can bid but both cannot bid simultaneously for the same item/product in the same tender.

1.1.13. If an agent submits bid on behalf of the Principal/OEM, the same agent shall not submit a bid on behalf of another Principal/OEM in the same tender for the same item/product.

1.2. Criteria for the Server OEM:

1.2.1. Server Original Equipment Manufacturer (OEM) brand must be listed in latest Top 500.org lists consistently during last 2 years with each list having at least one entry. Proof must be attached.

1.2.2. Server OEM must have installed at least 5 HPC Clusters enabled with Infiniband fabric in India of similar size during last 5 years. Each cluster of 25TF or more (CPU-CPU performance).

1.3. Criteria for the Storage OEM:

1.3.1. Storage OEM must have installed at least 3 PFS based storage systems of 40TB in size as part of HPC in India at Government Education & Research Organisations. Documentary proof (PO and installation reports must be submitted with bids) during last 5 years.

1.4. Criteria for the Cooling OEM:

Amit Kr. Dhar

1.4.1. Cooling Solution OEM must have prior installation base (still active sites) in Northern part of India. Necessary installation reports and customer details to be provided.

1.4.2. OEM must have at least 10 years of working experience in India and in house manufacturing facility. Documentary proof to be duly submitted in regard the same.

1.4.3. Solution only from reputed brands with ISO 9001, 14001 certifications and have supplied cooling solution for at least 2 Server Data centres (with minimum 40 Server Nodes) in last 5 years at Government Research organisations. Required documentary evidence must be provided.

1.5. Criteria for the Power Backup OEMs:

1.5.1. The OEM for UPS must be only from globally reputed brands (APC, Emerson, and Eaton) with ISO 9001, 14001 certifications. Must be CE compliant. OEM must have supplied UPS solution for Data Centres in India at least at 3 Government Organisations. Required documentary evidence must be submitted.

1.6. Other criteria:

1.6.1. 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.

1.6.2. The work for CCF Server Room shall be carried as per prevailing and applicable industry standards. The details of proposed standards should be submitted.

1.7. IIIT-A reserves all the rights to accept or reject any applications/suggestions without assigning any reasons whatsoever.

2. Acceptance Criteria

2.1. Performance metrics, where listed, must be met. To reiterate/extend the requirements, the following are to be demonstrated for acceptance:

2.1.1. HPC should be designed for a CPU-only theoretical maximum performance of at least 78 Tera Flops using all types of compute nodes (CPU, GPU-Type 1-3) with turbo frequency and hyper-threading feature disabled. This performance shall exclude any GPU contribution. At least 65% of the theoretical peak performance under such conditions should be demonstrated by the bidder.

2.1.2. The bidder should demonstrate successful testing of Big Data facility. Latest version of BigDataBench benchmark suite tests should run successfully and results should be shared.

1-2-2018

2.1.3. All the deliverables of Cloud facility asked should be demonstrated. These include deploying Docker containers, Docker in swarm mode, SaaS, measuring Cloud facility usage for billing of resources, etc. The bidder should provide benchmarks for each category listed under Latest version of PerfKitBenchmarker.

2.1.4. Demonstrate 10Gbps with failover connectivity to IIIT-A LAN so that the facilities available in CCF Server Room are accessible. A similar and separate 10Gbps with failover connectivity to systems within CCF also should be provided and demonstrated. Cloud facility will connect to Internet as well through IIIT-A LAN.

2.1.5. Working under peak load for Power Backup solution should be demonstrated. Automatic starting of the DG set (required only if and when DG set is opted) and automatic and safe shutdown of facilities as available power drops below critical threshold should also be demonstrated.

2.1.6. Cooling capacity under peak load condition has to be designed for local climate that could see temperatures as high as 48°C on some days in summer.

2.1.7. The solution must be demonstrated over a continuous stretch of 24 hours. During this period CPU and GPU temperatures should kept within limits prescribed by OEM.

2.1.8. Power Usage Effectiveness (PUE) of the CCF working at peak capacity should be demonstrated to be within limit asked (ie, 1.5). In absence of any other load from IIIT-A (such as during handover), a maximum of 10KW may be added as a token representative component to IT Equipment component.

2.2. The bidder is required to run the parallel benchmark(s) on compute nodes on HPC server.

Amit Kr. Dhar

2.3. HPC should demonstrate acceptable scaling with applications such as FFT, NAMD, VASP and AMBER , Quantum ESPRESSO, Tensorflow and Caffe. (Licensed verion of VASP shall be provided by IIIT-A.)
2.4. Power consumption under full load should be within limit as asked.
2.5. Installation should be done by OEM brand trained engineers.
2.6. Full capabilities of the system that are listed in the proposal by the OEM brand engineers must be demonstrated.
2.7. OS, job scheduler as well as end-user (IIIT-A) applications should be installed and tested by the OEM brand trained engineers.
2.8. The proposed solution should be validated and certified by server OEM.
2.9. Storage throughput has to be tested to the satisfaction of IIIT-A on IOR/IOZone benchmark with 1MB block size on files that are greater than at least twice the total cache provided in the storage system. The performance requirements should be met.
2.10. Detailed documentation about the installation should be submitted.
2.11. Two onsite qualified engineers should be provided during the warranty/AMC period by the bidder or the server OEM to help maintain the CCF facility and its operation. The qualifications required for the engineers are listed elsewhere in the tender.
2.12. Training should be provided for day to day operations and administration of HPC, Big Data, PFS and Cloud Computing facilities at no additional cost.
2.13. At least 24 hour RAM specific burn test should be performed and faulty RAM modules should be replaced with new modules passing the requirement. At least, the RAM testing should include:
2.13.1. Sequential read and write operations,
2.13.2. Random read and write operations, and
2.13.3. Matrix transpose operations.

3. Service Level Agreement, Warranty and AMC

3.1. A comprehensive onsite warranty of 5 years on all components (hardware/ software/ firmware) being supplied as part of the tender is required. Where OEM warranty is absent, the bidder must undertake the responsibility for the same.
3.2. The warranty period shall commence from the day the facility is handed over to IIIT-A after meeting the Acceptance Criteria.
3.3. A letter of commitment for five years with respect to Hardware support from the OEM and Software support (for licensed software) from the OEM(s) should be enclosed in the cover for Technical bid. Offers will be rejected if they are not accompanied by the letter(s) from the OEM(s). In case the license period does not cover the entire warranty/AMC period then maximum available period may be specified along with documentary evidence to support the claim.
3.4. The Supplier warrants that all the goods are new, unused, and of the most recent or current models, and that they incorporate all improvements in design and materials, unless stated otherwise in the contract.
3.5. During the warranty period, vendor will have to undertake comprehensive maintenance of the entire hardware, hardware components, equipment, software support and accessories supplied by the vendor at the place of installation of the system.
3.6. The defects, if any, during the guarantee/warranty period are to be rectified free of charge by arranging free replacement wherever and whenever necessary. Technical support should be provided for administration/maintenance (both software and hardware levels) of the facilities. Vendor will be responsible for protecting data during any upgrades of firmware/OS.
3.7. Two onsite qualified engineers should be provided during the warranty/AMC period by the bidder or the server OEM to help maintain the CCF facility. At least one of the two should have B.Tech. qualification in CS/IT with at least 1.5 years of experience and trained to handle issues related to the entire facility. The other engineer could be a diploma holder. These engineers should be associated only with CCF work of IIIT-A and not to be attached with any other party/entity.
3.8. 24x7x365 online technical assistance, software updates and maintenance releases should be available and covered under OEM support for HPC, Big Data, Storage and Cloud facilities.

3.9. Onsite spares for motherboards, hard disks, various power supplies including those of compute nodes and switches, UPS batteries and memory amounting to at least 2% of installed capacity need to be provided.

3.10. The following are the clauses related to penalty:

3.10.1. The bidder has to ensure that the solution proposed delivers an uptime guarantee of 96% of the entire system on a yearly basis and minimum of 92% on a monthly basis. Every percentage of uptime below 96% on a yearly basis will incur 0.1% of the total cost of this tender.

3.10.2. IIIT-A reserves right to impose penalties for delays in rectifying failures/downtime to users of various components as follows:

Sl	Component	Delay	Penalty in terms of total cost of this tender
1	Scheduler	Beyond 24 hours	0.05% for every additional 24 hours.
2	Storage Solution or any of its subsystems	Beyond 24 hours	0.05% for every additional 24 hours.
3	Power Backup Solution	Beyond 24 hours	0.01% for every additional 24 hours.
4	Cooling Solution	Beyond 24 hours	0.05% for every additional 24 hours.
5	Nodes	Beyond 72 hours	0.05% for every additional 24 hours.
6	Other components	Beyond 2 working days	Will be counted in penalty days for uptime
7	Delay in installing of the entire facility	Beyond 60 days from the issue of Purchase Order	0.05% of Purchase Order value per week of delay
8	Delay in handover of the entire facility	Beyond 60 days from the issue of Purchase Order	0.05% of Purchase Order value per week of delay

1-2-2.12

3.10.3. The maximum penalty for non-performance will be 10% of the total cost. On reaching this limit in any year, the bidder will be considered in breach of the contract. The penalty will not apply if the delay is caused by IIIT Allahabad. Bank guarantee of 10% of total cost should be given.

3.11. The days and hours specified in the tender in context of penalties and warranty, unless stated explicitly to be otherwise, are calendar days and standard wall time respectively.

3.12. The Bidder shall assure the supply of spare parts after warranty is over for maintenance of the equipment supplied if and when required for a period of 10 years from the date of supply of equipment on payment on approved price list basis.

3.13. The equipment must be supported by a Service Centre manned by the principal vendor's technical support engineers. The support through this Centre must be available on 24x7x365 basis. Also it should be possible to contract the Principal's vendor support Centre on a toll free number/web/mail.

3.14. The vendor will have to arrange for all the testing equipment and tools required for installation, testing and maintenance, etc.

4. Compliance Statement

4.1. The list of all the necessary responses that need to be given shall be provided on the website of IIIT-A as mentioned elsewhere in the tender. A duly signed response should be given in the same sequence for each item listed therein as requested along with any necessary documents as asked.

Amit Kr. Dhar

Part-1.4
GENERAL TERMS AND CONDITIONS

1. Submission of quotations

1.1. Kindly mention enquiry number, subject, due date, contact address etc., on your quotation as specified in the tender. Incomplete quotation will not be accepted.

2. Meaning of "Supply"

"Supply, installation, commissioning and satisfactory demonstration of the servers and infrastructure on turnkey basis".

If any charges extra are payable for installation and commissioning, the same should be specified in the Financial Bid.

3. Two Bid system

3.1. The two bid system should be followed for this tender. In this system the Bidder must submit his offer in two separate sealed envelopes as Technical Bid and Financial Bid. Both envelopes should be securely sealed and stamped separately for each quoted equipment and clearly marked as "Envelope No.1 – Technical Bid" and "Envelope No.2 – Financial Bid" respectively. Both the sealed envelopes should be placed in a third larger envelope. The main envelope which will contain both the bids should be super scribed with our tender enquiry Number, due date and to be submitted to the address given below so as to reach on or before due date as mentioned earlier in above. Separate envelope should be used for each item super scribing name of the indent.

Faculty In-charge (Purchase)
IIIT-Allahabad, Deoghat
Jhalwa, Campus
Phone: +91 0532-2922051.
E-mail: info.purchase@iiita.ac.in

1-2-2018

3.2. Information to be super-scribed on the envelopes information

3.2.1. Tender Reference Number

3.2.2. Due Date

3.2.3. Name of the Vendor

3.2.4. **Technical Bid (Envelope #1)** shall contain all technical details along with commercial terms and conditions. These include **"Acceptance of Terms & Conditions"** and **Earnest Money Deposit (EMD)**.

3.2.5. **Financial Bid (Envelope #2) shall only contain item-wise price for the items mentioned in the Technical Bid.** The guidelines given to infer costs involved should be followed.

3.2.6. The Technical Bid should not contain any price information.

3.2.7. The Technical Bid must be submitted in an organized and structured manner as specified. No brochures/leaflets etc. should be submitted in loose form. If the quotation is containing 25 Pages, please indicate page numbers as 1/25, 2/25, 3/25, etc..

3.2.8. Printed conditions of the vendor submitted with the tender will not be binding on IIIT-A.

4. Two bid response

4.1. The Bidder should provide the bid in two parts:

4.1.1. Technical Bid (Part I)

4.1.2. Financial Bid (Part II)

5. Important notes about Technical Bid

5.1. Tenders, which are submitted without following the Two Bid system, will summarily be rejected.

Amit Kr. Dhar

5.2. The Technical Bid should be complete to indicate that all products and services asked for are quoted. Each page of the bid and cutting/corrections shall be duly signed and stamped by the Bidder. Unsigned bids will also be rejected. Failure to comply with this requirement may result in the bid being rejected.

5.3. The purpose of certain specific conditions is to get or procure best product/service etc. for IIIT-A. The opinion of competent Committee(s) shall be the guiding factor for technical short listing.

5.4. EMD as indicated against the item should be enclosed along with the Terms and Conditions and Technical Bid duly signed and stamped in the form of Account Payee Bank Draft payable on any branch of Nationalised "Indian Institute of Information Technology, Allahabad payable at Allahabad", in a separate sealed envelope. All tenders submitted without requisite amount of earnest money shall be rejected and their Technical and Financial Bids shall not be opened. No interest is payable on EMD. The EMD will be returned to the Bidders(s)/Agents whose offer is not accepted by IIIT-A within one month from the date of the placing of the final order(s) on the selected Bidder(s). In case of the Bidder(s) whose offer is accepted the EMD will be returned on submission of Performance Bank Guarantee (if applicable). However, if the return of EMD is delayed for any reason, no interest/ penalty shall be payable to the Bidders.

5.5. EMD shall be forfeited if the Bidder withdraws the bid during the period of bid validity specified in the tender or in case a successful Bidder fails to furnish the Performance Bank Guarantee (if applicable).

5.6. Undertaking that the successful Bidder agrees to give a Performance Bank Guaranty of 10% of the purchase order value in favour of "Indian Institute of Information Technology, Allahabad payable at Allahabad" valid beyond 2 months of warranty period.

5.7. Duly filled in Technical Bid with proper seal and signature of authorized person on each page of the bid should be submitted and the same should accompany with complete specifications and drawings, Manufacturer's name, address and relevant Technical Literature/Brochures with warranty Terms and EMD.

5.8. If the bid is for branded makes, authorization letter from principals clearly indicating that the vendor is the competent authority to sell and provide services towards the items mentioned in the scope of supply given in this tender document.

5.9. Copy of PAN No. and GST No. allotted by the concerned authorities.

5.10. List of deliverables/ Bill of materials and services.

5.11. Compliance sheet with any deviation with reference to the terms and specifications.

1-2-2018

5.12. Indicate the names of the Indian reputed Organizations where you have supplied similar equipment and may attach the satisfactory performance report of the equipment from user Organization.

5.13. The item should be supplied with manuals and the manuals including technical drawings should be complete in all respects to operate the system without any problem.

5.14. Bid documents should mandatorily must be submitted as in the format as specified in the Compliance Sheet available on the website. A soft copy of the same also should be provided on CD/DVD. Each page of the bid should be signed & stamped in original. Unsigned bids will not be considered for evaluation.

6. List of documents to be presented in Technical Bid

6.1. The list and formats of documents to be specified can be found in the Compliance Sheet on the tender website.

6.2. The following items, however, would be necessary:

6.2.1. Bill of materials without price,

6.2.2. Undertaking of Terms and Conditions and various documents as asked in the tender, and

Amit Kr. Dhar

6.2.3. Details of various types of components (hardware/software/firmware/documentary evidence/undertaking) as specified in the Tender form exactly in the same sequential order along with the source file in the same format as provided on the website.

7. List of documents to be presented in Financial Bid

7.1. Parties who qualify by having possessing qualifying criteria will only be considered for technical evaluation.

7.2. Bill of materials with price in the format specified.

7.3. The list and formats of documents to be specified can be found in the Compliance Sheet on the tender website.

8. Opening of Financial Bids

8.1. IIIT-Allahabad will open Financial Bids of only the short listed Bidders, in the presence of the Bidders or their authorized representatives who choose to attend the Financial Bid opening. The date and time of opening the Financial Bid will be intimated only to pre-qualified and technically acceptable Bidders for the item at a later date.

8.2. The representatives of short listed firms only will be allowed for Financial Bid opening.

8.3. Only TECHNICALLY ACCEPTED competitive bids will be considered for placing Purchase Order. The Financial Bids of the vendors whose Technical Bids are found to be technically deficient or do not meet the qualification criteria as specified in this tender will be returned to them without opening.

8.4. The bid can be submitted in person or through post/courier (IIIT-A will not be responsible for delayed/late quotations submitted/sent by Post/Courier etc. resulting in disqualification/ rejection of any bid) so as to reach IIIT-A on or before the due date and time. Fax/E-mail/Telegraphic/Telex tenders will not be considered unless it is asked for. A single Bidder's authorized representative can attend the bid opening by producing proper proof of authentication.

9. Acceptance of offer

9.1. The Director IIIT-Allahabad reserves the right to accept the offer in full or in parts or reject summarily or partly.

1.2.2.12

10. Delivery period/ timeliness

10.1. The delivery of the servers and infrastructure as sought through this tender must be done within 60 days after PO release. Handover of the facility built on turnkey basis after meeting acceptance criteria to IIIT-A should be done within 15 days after the delivery as described above.

10.2. Penalties for delay in establishing the entire facility and handover are as listed in the **Service Level Agreement, Warranty and AMC.**

10.3. The number of days and hours as mentioned in the tender involving penalty are calendar days and wall time. They should not be confused with working days or even working hours.

11. Locations for the supply/ services

11.1. The facility and infrastructure covered by this document is required to be supplied and installed at IIIT-Allahabad.

12. Order placement and release of payment

12.1. Payment for the items to be supplied by the vendor against the purchase order shall be made by IIIT-A as follows:

a. 80% payment will be made after 100% delivery of the material on submission of original invoice and original delivery challans duly signed and stamped by the authorised representative of IIIT-A along with performance Bank Guarantee.

b. Balance 20% payment will be released on submission of installation and warranty certificate duly signed and stamped by the authorized representative of the user department along with submission of performance Bank Guarantee.

Amit Kr. Dhar

c. In case of imports 100% payment will be made through Letter of Credit. 80% will be paid after submission of original shipping documents and balance 20% will be released after satisfactory installation and commissioning along with submission of performance Bank Guarantee.

13. Agency Commission

13.1. Agency Commission to be paid to India Agent should be specified separately and same will be paid in INR.

14. Agreeability to the terms and conditions of the tender

14.1. The tenderers who are not in agreeable to above payment terms and conditions are requested not to submit their tender; otherwise their EMD will be forfeited.

15. Travel/accommodation for personnel working for Bidder

15.1. IIIT-Allahabad will not provide any accommodation/transportation for the engineers/ representatives for attending installation, commissioning and demonstration work. It is the absolute responsibility of the Principal Suppliers/Indian Agents to make their own arrangements.

16. Acceptance of Award of Contract

16.1. The successful Bidder, on award of contract / order, must send the contract / order acceptance in writing, within 7 days of award of contract/order failing which the EMD will be forfeited.

17. Period of validity of bids

17.1. Bids shall be valid for a period of 90 days from the date of opening the Technical Bid. IIIT-A may ask for the Bidder's consent to extend the period of validity. Such request and the response shall be made in writing only. The Bidder is free not to accept such request without forfeiting the EMD. A Bidder agreeing to the request for extension will not be permitted to modify his bid.

17.2. Bid evaluation will be based on the bid prices without taking into consideration the above corrections.

18. Award of Contract

18.1. IIIT-Allahabad shall award the contract to the eligible Bidder whose bid has been determined as the lowest evaluated Financial Bid. If more than one Bidder happens to quote the same lowest price, IIIT-A reserves the right to award the contract to more than one Bidder or any Bidder.

18.2. **Purchaser's Right to vary Quantities at the time of Award**

18.2.1. IIIT-A reserves the right to Reduce (or) Increase the number of various nodes alone on pro-rata basis up to a band of ±20%. But the price bid comparison will be done based on complete infrastructure asked, excluding anything that is listed under Optional Items.

18.2.2. Lowest Bidder will be determined based on the rates quoted for the complete Central Computing Facility excluding price of anything listed under Optional Items.

18.2.3. To facilitate evaluation and comparison, the Purchaser will convert a bid prices expressed in the amounts in various currencies in which the bid prices are payable to Indian Rupees at the selling exchange rate established by any bank in India as notified in the Newspapers/banks' website on the date of Financial Bid opening.

18.2.4. Optional items may or may not be purchased at the price quoted. The quantity may depend on various relevant factors as decided by IIIT-A such as requirement and budgetary constraints.

19. Corrupt or fraudulent practices

19.1. IIIT-A requires that the Bidders who wish to bid for this project have highest standards of ethics. IIIT-A will reject a bid if it determines that the Bidder recommended for award has engaged in corrupt or fraudulent practices while competing for this contract. IIIT-A may declare a vendor ineligible, either indefinitely or for a stated duration, to be awarded a contract if it at any time determines that the vendor has engaged in corrupt and fraudulent practices during the execution of contract.

19.2. Interpretation of the clauses in the Tender Document/Contract Document

19.2.1. In case of any ambiguity/dispute in the interpretation of any of the clauses in this Tender Document, Director, IIIT-A interpretation of the clauses shall be final and binding on all parties.

20. Price

20.1. The price quoted shall be considered firm and no price escalation will be permitted at any time. The quotation should be in Indian Rupees (INR) or any known foreign currency. Packing, forwarding, freight, insurance, Agency commission and commissioning charges, if any extra may be quoted separately in Financial Bid with base and applicable taxes shown separately.

20.2. For INR bids the price criteria should be on F.O.R., IIIT-Allahabad. Basic rate, taxes and freight charges etc. must be quoted separately.

20.3. For Foreign Currency bids, Price criteria should be FOB nearest airport detail break up of Price, FCA cost, Agency Commission, Insurance, Freight up to New Delhi Airport is required.

21. Pre-installation

21.1. Pre-installation facilities required for installation may please be intimated in the Technical Bid. Subsequently, before the consignment lands in IIIT-A, Allahabad the Bidder shall confirm that the pre-installation requirements are sufficient for installation of the equipments. In other words the Bidder should continuously monitor the pre-installation requirements and see that everything is ready before the consignment is taken to the site for installation.

22. Indemnity

22.1. The vendor shall indemnify, protect and save IIIT-A against all claims, losses, costs, damages, expenses, action suits and other proceeding, resulting from infringement of any law pertaining to patent, trademarks, copyrights etc. or such other statutory infringements in respect of all the equipment's supplied by him.

1-2-2018

22.2. The successful Bidder will be fully responsible for payment of wages and other dues as prescribed and compliance of various Labour Laws.

22.3. The successful tender should give an undertaking that the staff deployed at the centre in terms of this contract at all time will be employees of the agency exclusively and they shall not be entitled to any claim of employment or permanency of job with IIIT-A.

22.4. IIIT-A reserves the right to forfeit whole or part of the security money towards any damage/lose caused due to the negligence on the part of the agency engaged.

23. Insurance

23.1. The equipment(s) to be supplied will be insured by the vendor against all risks of loss or damage from the date of shipment till such time it is delivered at IIIT-A site in case of INR/Foreign currency transaction.

24. Custom duty exemption certificate

24.1. As Custom duty exemption is given to IIIT-A hence exempted Custom Duty @5.15% will be paid if applicable.

25. Arbitrator

25.1. Director, Indian Institute of Information Technology, Allahabad will be the sole arbitrator of all the dispute and his decision will be binding on both the parties.

26. Jurisdiction

26.1. All disputes are subject to Jurisdiction of Allahabad.

27. Contact for information and queries

27.1. Only E-mail enquiries will be entertained upto and only upto Pre-bid meeting. IIIT-A reserves right not to respond to any queries sent later

27.2. For Technical Information of the tender

S. Mukherjee Amit Kr. Dhar

Faculty In-charge (Purchase)
Indian Institute of Information Technology, Allahabad
E-Mail: info.purchase@iiita.ac.in, fip@iiita.ac.in

28. Correction of Arithmetical Errors

28.1. Provided that the Bid is substantially responsive, the Purchaser shall correct arithmetical errors on the following basis:

28.1.1. If there is a discrepancy between the unit price and the line item total that is obtained by multiplying the unit price by the quantity, the unit price shall prevail and the line item total shall be corrected, unless in the opinion of the Purchaser there is an obvious misplacement of the decimal point in the unit price, in which case the line item total as quoted shall govern and the unit price shall be corrected;

28.1.2. If there is an error in a total corresponding to the addition or subtraction of subtotals, the subtotals shall prevail and the total shall be corrected; and

28.1.3. If there is a discrepancy between words and figures, the amount in words shall prevail, unless the amount expressed in words is related to an arithmetic error, in which case the amount in figures shall prevail subject to two conditions stated as above.

1-2-2018

Faculty In-charge, Purchase

Amit Kr. Dhar

Declaration by the Vendor

It is hereby declared that I/We the undersigned, have read and examined all the terms and conditions etc. of the tender document for which I/We have signed and submitted the tender under proper lawful Power of Attorney. It is also certified that all the terms and conditions of the tender document are fully acceptable to me/us and I/We will abide by the stated conditions and requirements of the tender (including those from Corrigendum, if any) and we have not given any printed conditions beyond the scope of this tender. This is also certified that I/We/our principal manufacturing firm have no objection in signing the purchase contract if the opportunity for the supply of the items against this tender is given to me/us.

Date:

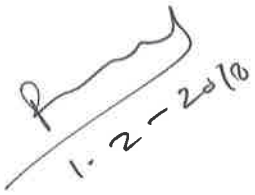
Address:

Signature:

Name:

Designaton:

On behalf of:



(Company Seal)

Part-2
FINANCIAL BID
FOR SUPPLY AND INSTALLATION OF

Central Computing Facility: Servers and Infrastructure
for
Indian Institute of Information Technology, Allahabad

Sl	Systems	Approximate Qty.	Unit Price FOB in Foreign currency	Unit Price including all taxes, freight, Insurance, entry tax (delivered at IIIT-A, Allahabad) service charges, installation and warranty charges in INR
(1)	(2)	(3)	(4)	(5)
1	Central Computing Facility: Servers and Infrastructure for IIIT Allahabad	(Detailed specification as per our Technical Bid)	1 Unit	
2	Above item should carry five years onsite comprehensive warranty. In case the tendered provide warranty less than 5 years then he has to give justification for lesser period of warranty. Without justification his tender is liable to be rejected.			
3	Agency Commission to be paid to Indian Agent (will be paid in INR only after successful installation	Included/Excluded _____._____% of basic price		
4	CIP Delhi Charge	Amount in INR		
5	Excise Duty Included/Excluded in the quoted price	____.___% of basic price (Excise duty exemption certificate will be issued)		
6	Custom Duty Included/Excluded in quoted price	____.___% of basic price (Custom Duty exemption certificate will be issued)		
7	Any other charges Included/Excluded in the quoted price: a. Trade tax/Sales tax (Institute will not issue any Sales Tax concession form) b. Any other levies	a. ____.___% of (basic price + excise duty) b. ____.___%		
8	AMC Charges after expiry of warranty for the subsequent 3 years	Amount in INR		

ALL ABOVE ITEMS ON 5 YEARS ONSITE FULL COMPREHENSIVE FREE WARRANTY.

Date: **Signature:**

Address: **Name:**
Designaton:

(Company Seal) **On behalf of:**

(Please take the printout on your letter head along with all details)

To,
Faculty In-charge (Purchase)
IIIT-A,
Jhalwa,
Allahabad - 211015
Odisha, INDIA

Ref: Tender Ref. No.: _____ Dated._____

Sub: Refund of EMD

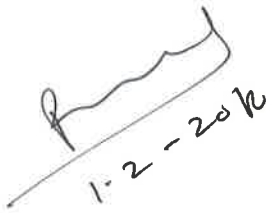
Dear Sir,
We have deposited EMD of INR _____/- vide D/D No. _____ dated. _____ of _____ (Name of Bank) against above mentioned tender. Since our tender has not being qualified, we request to release our EMD.

Yours faithfully,

Signature of the Authorised Signatory

(with company seal)

Our addressed is verified as below:
M/s. _____
_____
_____
_____
Pin Code _____
Phone No. _____



S. [illegible] Amit Kr. Dhar