

TECHNICAL BID (PART - I)

**AMENDED**  
**निविदा दस्तावेज**  
**TENDER DOCUMENT**

के लिये  
FOR

**HIGH PERFORMANCE COMPUTING (HPC) CLUSTER  
WITH CLOUD INFRASTRUCTURE UNDER  
COMPUTATIONAL PLATFORM AND ACCESSORIES**

TENDER # PUR/APF/2019-20/IND13335










**सी डी एफ डी**  
**CDFD**

डी एन ए फिंगरप्रिंटिंग एवं निदान केंद्र  
Centre for DNA Fingerprinting and Diagnostics  
इनर रिंग रोड, उप्पल, हैदराबाद - 500039  
Inner Ring Road, Uppal, HYDERABAD - 500039  
(तेलंगाना राज्य) भारत  
(Telangana State) India

**ATTENDANCE SHEET for CDFD/PUR/APF/2019-20/IND13335  
HPC CUSTER  
PRE- Bid Meeting**

S.No.	Name of the Quoted Firm	Name of the Firm Employee	Signature
1	BOSTON	JAGADISH, SREENI	K Jagdish
2	SB Secure Data Centers India Pte. Ltd	VENCE GOPAL	Vence
3	Lenovo India Pvt Ltd	Asit + Amit.K	Ajit
4	Syncoo Systems Pvt Ltd	TANMAY SHETE	Tanmay
5	PRODEVAN S TECHNOLOGIES	SRINIVAS RAYARAO HARPREET SINGH	Srinivas
6.	DATA DIRECT NETWORKS	RAMACHANDRA HALLENKA	Ramachandra
7.	DATA DIRECT NETWORKS	BHASKARASU BANWNA	Bhaskar
8	Nvidia.	Prakash. G.	Prakash
9.	Mantra soft.	Renu Kone	Renu
10	<del>Gowin Shanker</del> , Vama Indus	Gowin Shanker, Sarvesh	Gowin Shanker
11.	M.V. Naidu NIMISH SYSTEM SOLUTIONS PVT LTD		M.V. Naidu
12	Alekha Enterprises India Pvt Ltd	Sandeep	Alekha

15	Concept Information Technologies	Rahul Chaudhary	
16	Locuz Enterprises	Chanda Sekhar BS.	
17	" "	Kridyesh Kumar	
18	Satyannarayana P	HPE	
19	Anita Tiwari	HPE	
20	Rohit	Cray	
21	Pradeep	Cray	

**CENTRE FOR DNA FINGERPRINTING AND DIAGNOSTICS, HYDERABAD**

**PRE-BID MEETING FOR TENDER HIGH PERFORMANCE COMPUTING (HPC) CLUSTER WITH CLOUD INFRASTRUCTURE  
UNDER COMPUTATIONAL PLATFORM AND ACCESSORIES**

**Tender No. PUR/APF/2019-20/IND13335 Dt. 05.02.2020**

**PRE-BID MEETING Dt. 20.02.2020 QUERIES AND AMENDMENTS/RESPONSES**

S. No.	Tender Page No	CDFD Tender Description	Pre- bid Queries	CDFD Amendments/Responses
1	Page 2 & 3 Points 8,9,11,12	Due Date for Receipt of Tenders: 12.03.2020 @ 2.30pm. Opening of Technical Bids: 12.03.2020 @ 3.00pm at CDFD, Inner Ring Road, Uppal, Hyderabad-500039.		<b>Amendment :</b> Due Date for Receipt of Tenders: 23.03.2020 @ 2.30pm. Opening of Technical Bids: 23.03.2020 @ 3.00pm at CDFD, Inner Ring Road, Uppal, Hyderabad-500039.  <b>Due to Lockdown the due date is extended as 18.05.2020 @ 2.30pm</b>
2	Page 4, Point No. 2 of Qualification Criteria & 14, 2. Annexure - A(1)	The OEM should have a minimum of 10 entries in the worldwide Top 500 Supercomputer list ( <a href="https://www.top500.org/">https://www.top500.org/</a> ) consistently in each list published in the last three years.	We request you to kindly remove this eligibility requirement.(Netweb)	<b>Amendment:</b> The OEM should have a minimum of 10 entries in the worldwide Top 500 Supercomputer list ( <a href="https://www.top500.org/">https://www.top500.org/</a> ) consistently in each list published in the last three years from June 2017 onwards <b>or</b> should have a minimum of 5 entries in India Top Supercomputer list ( <a href="http://topsc.cdacb.in">http://topsc.cdacb.in</a> ) consistently in each list published in the last three years from July 2017 onwards. (Please provide documentary evidence)

3	Page 4 and 15, point no.10 of Clause 6. Qualification Criteria	The OEM/Vendor should have at least one Service Centre in Hyderabad. The OEM/Vendor should have service engineers in the relevant field of quoted item. At Hyderabad, they should have a minimum of 1 HPC engineer residing/stationed in Hyderabad, who should have carried out at minimum three 5 TF HPC installations and software and hardware maintenance of HPC Clusters, who should be able to provide (24x7x365) hardware and software support for the cluster, Resume/CV of the engineer along with minimum two recommendation letters from the HPC facility manager, where the bidder and their Engineers carried out their previous installations.	OEM is having engineer trained in HPC Implementation and Support currently at different location and can flow to Hyderabad depending on the circumstances. Also initial support will be first extended by Bidder. Please consider changes mentioned in the queries. (AKSHARA)	<b>No change</b>
4	Page 4 & 15, point no.12	Product offered should not have end-of-life (for Sales) for next three years from the date of quote submission	Product offered should not have end-of-support for next five years date of implementation.(HPE)	<b>Amendment:</b> Product offered should not have end-of-life (w.r.t OEM Support) for next six years from the date of quote submission
5	Page no.8, Point No.39.	PERFORMANCE SECURITY: Within 7 days of receipt of the Purchase Order, the Supplier shall furnish Performance Security for 10% of the Order value in the form of Demand Draft / Bank Guarantee to be valid for 60 days after the warrantee / extended warrantee period. The proceeds of the performance security shall be payable to the Purchaser as compensation for any loss resulting from the Supplier's failure to complete its obligations under the Contract.	While the Performance Guarantee for most of the Government organization is being reduced to 5%. Request Please consider reducing to 5%. Also submission of PBG within 7 days time is very short. Request you to modify the same to 15 days. (AKSHARA)	<b>No change</b>
6	Page No.12, Point No.21.	Delivery Schedule: Within 2 months from the date of receipt of order. However, kindly indicate the delivery schedule in the quotation.	As the items proposed needs to be imported which will take sufficient time. Please Modify Delivery schedule to 3 Months. (AKSHARA)	<b>No change</b>

7	Page No.12, Point No.26.	PENALTY CLAUSE: Subject to clause on Force Majeure, if the Supplier fails to deliver any or all of the Goods or to perform the Services within the period(s) specified in the Purchase order, the Purchaser shall, without prejudice to its other remedies under the Contract, deduct from the Contract Price, as penalty, a sum equivalent to 0.5 percent of the order value for each week or part thereof of delay until actual delivery or performance, up to a maximum deduction of 10 Percent. Once the maximum is reached, the Purchaser may consider termination of the Contract for Default.	Though we shall take steps to delivery the goods ordered in time as mentioned in the Delivery Schedule. Request you to please reduce to the Penalty to a maximum of 5%. (AKSHARA)	<b>No change</b>
8	4, (6 Qualification Criteria 1), 14, 1. Annexure - A(1)	The Bidder should be in the similar business for the last 5 years and have successfully supplied and executed at least One similar equipment to any of the Department of State / Central / PSU/ University / R & D Institutes / Pharmaceutical Laboratories / Public limited Companies during the last 5 years. Similar Equipment means Supply and Installation of High Performance Computing (HPC) Cluster with Cloud Infrastructure. Proof to be enclosed with the quote.	please clarify whether two separate projects HPC and cloud are acceptable, if yes please ammend to HPC and cloud instead of HPC with cloud. (VAMA)	<b>Amendment:</b> The Bidder should be in the similar business for the last 5 years and have successfully supplied and executed at least One similar equipment to any of the Department of State / Central / PSU/ University / R & D Institutes / Pharmaceutical Laboratories / Public limited Companies during the last 5 years. Similar Equipment means Supply and Installation of High Performance Computing (HPC) Cluster and Cloud Infrastructure. Proof to be enclosed with the quote.

9	Page No. 4 & 15, 10. Annexure - A(1)	The OEM/Vendor should have at least one Service Centre in Hyderabad. The OEM/Vendor should have service engineers in the relevant field of quoted item. At Hyderabad, they should have a minimum of 1 HPC engineer residing/stationed in Hyderabad, who should have carried out at minimum three 5 TF HPC installations and software and hardware maintenance of HPC Clusters, who should be able to provide (24x7x365) hardware and software support for the cluster, Resume/CV of the engineer along with minimum two recommendation letters from the HPC facility manager, where the bidder and their Engineers carried out their previous installations.	Instead of recommendation letters we will provide project completion documents. (VAMA)	<b>No change</b>
10	Page No. 4 & 15, 11. Annexure - A(1)	All the components proposed in quotation must have all encompassing warranty of 5-year duration which includes hardware, software updates and vendors & OEM should provide on call support throughout the lifetime of the all quoted items beyond the warranty period.	please clarify Life time means how many years. (VAMA)	<b>Amendment:</b> All the components proposed in quotation must have all encompassing warranty of 5-year duration which includes hardware, software updates and vendors & OEM should provide on call support throughout the life of all the quoted items beyond the warranty period.
11	Page No. 16, Master Node	Intel C622 Dual socket Chipset with 2U rack- mountable chassis with sliding rails inclusive of all peripherals.	Request to amend Chipset to C621 since most of the OEMs have C621 chipset for rack servers. (Frontier)  Request you to amend to "Master Node - Intel C622 /6221 Dual socket Chipset with 2U rack-mountable with sliding rails inclusive of all peripherals". With the requested configuration - the Master Nodes can only be offered in 2U Rack form factor. And is common across all OEM's. (HPE)	<b>Amendment:</b> Intel Dual socket C621/C622 or better Chipset with 2U rack - mountable chassis with sliding rails inclusive of all peripherals.

12	Pg.No.16, Specifications of High Performance Computing (HPC) Cluster with Cloud Infrastructure -4	The Master, compute and storage nodes should be of dense rack form factor designed for cluster solution and should be in the lowest foot print and the lowest power consumption.	With the requested configuration - the Master Nodes can only be offered in 2U Rack form factor. And is common across all OEM's. (HPE)	<b>Amendment:</b> The Master, compute and storage nodes should be of dense rack form factor designed for cluster solution and should be in the lowest foot print and the lowest power consumption. (In HA with Shared Storage on PFS)
13	Page No 17, Annexure - A (2) Master Node	Minimum 2 x 1 Gbps Ethernet ports & 2x10G LAN with support for link aggregation. Required accessories also to be quoted for connecting to the switch.	2 x 10Gb LAN, is it RJ45 or SFP+? (AKSHARA) / Taashee	<b>Amendment:</b> Minimum 2 x 1 Gbps Ethernet ports & 2x10G LAN with support for link aggregation. Required accessories also to be quoted for connecting to the switch as per the proposed solution.
14	Page No 17, Annexure - A (2) Compute Node Servers	Intel Dual socket C621 Chipset with 1U or less rack - mountable chassis with sliding rails inclusive of all peripherals. In case of multi node sharing architecture shared chassis/cabinete is permitted but with hot swap nodes which are independently serviceable, with rack -mountable chassis with sliding rails inclusive of all peripherals	In Master node, requirement is of C622 and expect same or better should go in compute node. (AKSHARA) / Taashee Request to amend Chipset to C621 since most of the OEMs have C621 chipset for rack servers. (Frontier)/HPE	<b>Amendment:</b> Intel Dual socket C621/C622 or better Chipset with 1U or less rack - mountable chassis with sliding rails inclusive of all peripherals. In case of multi node sharing architecture shared chassis/cabinete is permitted but with hot swap nodes which are independently serviceable, with rack -mountable chassis with sliding rails inclusive of all peripherals
			If we configured Raid 6 with 4 x 4 TB with hotspare we will get up 4 TB Usable space. We recommended to go with Raid 5. please clarify why this disk space is required. (VAMA)	<b>Response:</b> Total 5 disks are required



15	17, 1. Annexure A(2) Master Node	4 X 4 TB 2.5/3.5" 7.2 K RPM 6 Gbps NL-SAS preferably hot pluggable hard disks configured with RAID 6 with hotspare. (Only certified compatible SAS/SATA HBAs should be used) (Preferred Makes - HGST Ultrastar, WD, Seagate, or equivalent)	For RAID 6 configuration 2 Data disks and 2 parity disks will be configured. Please confirm if total 5 disks are required including additional hotspare disk. (Frontier)	including Hotspare
			If the two master nodes are required for HA, then a shared storage with required capacity and connectivity to be specified in RFP. Request to please specify. (Frontier)	<b>Response:</b> Two mater nodes are required for HA. The shared storage may be mapped to PFS or with the bidder offered shared storage solution.
16	17, 2. Annexure A(2) Compute Node	Minimum 1 X 480 GB 6 Gbps MLC Enterprise SATA SSD hard disks or higher for the Operating System. (Only certified compatible SAS/SATA HBAs should be used) SSD should be at least 3DWPD. Preferred makes : Intel or equivalent	we recommend 2 x 480 GB for redunancy. (VAMA)	<b>No change</b>
17	Page No 18, Annexure - A (2) SI No 3	Hardware RAID 6 (8+2) based PFS Storage system with a minimum usable capacity of 2 PiB and 40GB/s write performance	Now a days every storage PFS vendor has declustered RAID (Software RAID) example Cray Clusterstor, DDN with SFA18K, IBM GSS storage. Also request to reduce the speed from 40GBps to 20 GBps as requirement of 20 compute nodes. Hardware / Software RAID 6 (8+2) based PFS Storage system with a minimum usable capacity of 2 PB and 20GB/s write performance. (AKSHARA) / Taashee	<b>Amendment: RAID 6 (8+2) based PFS Storage system with a minimum usable capacity of 2 PiB and 40GB/s write performance</b>

			<p>Hardware or Software RAID 6 (8+2) based PFS Storage system with a minimum usable capacity of 2 PiB and 40GB/s write performance. Software RAID provides more flexibility &amp; lesser cost as storage volume increases. S/W RAID does not require additional cost as there is no hardware RAID card required that is more prone to failure. Whether software or hardware, the desired RAID level or performance for the end user is same. (HPE)</p>	
18	Page No 18, Annexure - A (2) SI No 3	Storage solution must have a minimum of two active controllers, battery backed & mirrored cache, redundant power supplies and fans	<p>GPFS technology is based on software RAID in which Storage IO nodes have all the functionality of storage controller and meet CDFD requirement (AKSHARA)/Taashee</p> <p>Storage solution must have a minimum of two active controllers, battery backed &amp; mirrored cache, redundant power supplies and fans. It is requested to remove the "battery backed &amp; mirrored cache" from the specs. (HPE)</p> <p>We recommend not to change the cache protection with mirrored and battery protected, because there is an alternate solution to protect cache for more details please refer the next page for detailed cache protection comparison. (DDN)</p>	<p><b>Amendment:</b> Storage solution must have a minimum of two active controllers, battery backed (or equivalent Technology) &amp; mirrored cache, redundant power supplies and fans or storage IO nodes in redundancy (no single point of failure)</p>
			RAID rebuild time should be less than 24hrs while system is live (AKSHARA)/Taashee	

19	Page No 18, Annexure - A (2) SI No 3	RAID rebuild time should be less than 6hrs while system is live	RAID rebuild time should be less than 6hrs while system is live, bidder should provide a drive rebuild report with the proposed solution. Asking a report will ensure the proposed storage shall configure to achieve 6 Hrs rebuild time (DDN)	<b>No change</b>
20	Page No 18, Annexure - A (2) SI No 3	Only OEM commercially supported Luster File System or GPFS is acceptable	We request you to all allow BeeGFS file system supported by OEM. In RFP OEM supported PFS is requested hence (AKSHARA)/Taashee	<b>No change</b>
21	Page No 18, Annexure - A (2) SI No 3	1% of the total capacity should be quoted as Meta data on SSD's only	<p>2% of the total capacity with scalability to meet 4PiB should be quoted as Metadata on SSD only or distributed metadata. Increase to 2% metadata will ensure availability of Inode against each file for future scalability./Vendor Suggetion GPFS uses distributed metadata. Major advanatge as the storage grows, metadata also grows. Hence please allow for Distributed Metadata (AKSHARA)/Taashee</p> <p>The given specs are specific to a particular vendor/OEM. The required performance can be achieved without SSD's . It is requested to make SSD &amp; SAS optional. (HPE)</p>	<b>Amendment:</b> 1% of the total usable capacity should be quoted as Meta data on SSD (with minimum 1DWPD)/SAS configured with RAID 1 or better

			1% of the total usable capacity should be quoted as Meta data on SSD's only with minimum 1DWPD configured with RAID 1 or better. Metadata is key for Data access performance and reliability of whole 2 PiB Data, so we request Metadata should be protected with RAID 1 or better on SSDs for better application I/o access performance with reliability. (DDN)	
22	Page No 18, Annexure - A (2) SI No 3	2% of disk drives for PFS and should be configured as hot online spare drives	2% of disk drives / storage capacity for PFS and should be configured as hot online spare drives AKSHARA / Taashee	<b>No change</b>
23	Page No 18, Annexure - A (2) SI No 3	Complete Storage Solution should fit in 24U of rack space	<p>The defined requirement is suiting only one vendor (DDN), request to remove it. (AKSHARA)/Taashee</p> <p>Complete Storage Solution should fit in 28U of rack space. (HPE)</p> <p>Complete Storage Solution that includes NAS appliance interface, etc.. also should fit in 24U of rack space. This helps make sure bidder gives whole storage solution as per CDFD provided the RACK space (DDN)</p>	<b>Amendment:</b> Complete Storage Solution should fit in 24 to 28U of rack space
	Page No 18, Annexure - A (2) SI No 3	Same enclosure should support NL-SAS/SAS/SSD types of drives.	Storage Solution should support NL-SAS/SAS/SSD types of drives. (AKSHARA) / Taashee	

24			<p>The given specs are specific to a particular vendor/OEM. Our solution can also meet the requirement but no in a single enclosure . Hence it is requested to change the word "enclosure" to " proposed solution" (HPE)</p>	<p><b>Amendment:</b> Same enclosure / Proposed Storage Solution should support NL-SAS/SAS/SSD types of drives.</p>
	<p>Page No 19, Annexure - A (2) SI No 3</p>	<p>Bidder should submit the IOR benchmark for 40 GB/s write performance with the same building blocks as running on compute nodes with 1 MB transfer size and file size double than total storage cache and I/O node memory. Benchmarks must be run on minimum 8 and 16 compute nodes where each node is writing to same shared file as well as each node is writing to separate unique file. Storage solution must deliver parallel filesystem metadata performance of minimum 60,000 files creates/sec. Bidders to submit output of IOR and MDTEST along with the technical offer.</p>	<p>Bidder should submit the IOR benchmark for 40 GB/s write performance with the same building blocks as running on compute nodes with 1 MB transfer size and file size double than total storage cache and I/O node memory. Benchmarks must be run on minimum 16 compute nodes where each node is writing to separate unique file. Storage solution must deliver parallel filesystem metadata performance of minimum 60,000 files creates/sec. Bidders to submit output of IOR and MDTEST along with the technical offer. (AKSHARA) / Taashee</p>	<p><b>Amendment:</b> Bidder should submit the IOR benchmark for 40 GB/s write performance with the same building blocks as running on compute nodes with 1 MB transfer size and file size double than total storage cache and I/O node memory. Benchmarks must be run on minimum 16 compute nodes where each node is writing to separate unique file. Storage solution must deliver parallel filesystem metadata performance of minimum 60,000 files creates/sec. Bidders to submit output of IOR and MDTEST along with the technical offer.</p>

25			<p>Requested to allow writing to separate shared files . The PFS typically writes in parallel and writing to separate shared files is typical in PFS as compared to same file (HPE)</p>	
			<p>Please relax on no.of clients to used especially for Same shared file test. Since CDFD has 20 compute nodes          With IOR benchmark tool          Demonstrating 40GB/s read &amp; write in same shared file mode needed at least 32 compute Nodes          With sperate unique file process can demonstrate 40 GB/s Read &amp; write with 16 and above Nodes (DDN)</p>	
26	<p>Page No 19, Annexure - A (2) SI No 3</p>	<p>Should additionally have NAS appliance interface for direct data transfer from other part (sequencing lab) of CDFD network</p>	<p>We request you to Amend as Should additionally have NAS appliance interface for direct data transfer from other part (sequencing lab) of CDFD network with no single point of failure (AKSHARA)/Taashee</p> <p>Should additionally have NAS appliance interface for direct data transfer from other part (sequencing lab) of CDFD network or equivalent mechanism to ensure the data transfer. The given specs are specific to a particular vendor/OEM. We can meet the requirement through another without affecting the performance. (HPE)</p>	<p><b>Amendment:</b> Should additionally have NAS appliance interface with NFS, SMB and cloud S3 protocol access for direct data transfer from other part (sequencing lab) of CDFD network in High availability or preferably with no single point of failure</p>

			Can please clarify is CDFD looking for High Availability on NAS Appliance interface. (DDN)	
27	Page No. 21, 8.1 Cloud Controller Nodes	Minimum 1X 2TB NVMe SSD PCIe3x4 M.2 or higher SSD should be at least 0.5DWPD. Preferred makes: Intel or equivalent	Request to amend to "Min 1x 1.6TB NVMe SSD PCIe 3 or Higher SSD. should be at least 0.5DWPD. Preferred makes: Intel or equivalent" (Frontier)	<b>No change</b>
28	21, 7 Secondary Switch	<p>Required number of 1Gbps Interconnect switches to connect all types of supplied nodes and storage to be configured with managed switches to connect both cluster management/provisioning and IPMI management. Additional 20% of total ports including cables should remain unutilized as spare for future requirement.</p> <p>For Cloud solution, connected with 10G uplink. Controller and the 4 compute node proposed in the cloud will be directly connected to 10G ports.</p> <p>Separate managed 10G Switch with redundant power supply to be provided with sufficient ports. Additional 20% of total 10G ports including cables should be provided as spare for future requirement.</p>	Please confirm if two separate 1G switches with required ports for HPC cluster and two separate 10G switches with required ports for Cloud solution to be provided which will be total 4 switches whereas the quantity mentioned is 2 nos only. please confirm. (Frontier)	<b>Response:</b> The total quantity of secondary switches is 2.
29	23, 8.1. Annexure -A(2) The breif scope of work	Supply, installation and configuration of the required Hardware and Software for implementation of OpenStack Private Cloud integrated with High Performance Computing System at CDFD, Hyderabad.	<p>please clarify Which level of integration required.</p> <p>Please provide inputs on the integration. (VAMA)</p>	<b>Response:</b> The tender is self explanatory.
30	26, 9.1 System Software	OpenSource Enterprise Linux (Vendor Certified)	Please clarify the requirement of "Vendor Certified". We recommend that any Linux Certification (for any commercial distribution of Linux) is should be demanded to understand compatibility with Linux (Netweb)	<b>Response:</b> Vendor certification is to the extent that the Enterprise Linux provided by the bidder is tested on the proposed HPC solution.

31	27, 9.1. Annexure -A(2) System Software	Should have all academic Intel compilers and Math Kernel Libraries and Intel MPI and other libraries (including TBB) installed for development and usage	<p>please clarify whether bidder has to quote academic license and how many user licenses. (VAMA)</p> <p>Please guide with No. of User Licenses required (Netweb)</p>	<b>Amendment:</b> Should have all academic Intel compilers and Math Kernel Libraries and Intel MPI and other libraries (including TBB) installed for development and usage in HPC Cluster
32	28, 9.3. Annexure -A(2) Cluster management tool (Open source)	Web-based application for supercomputer access. Platform independent interface (Windows/Unix/Mac). GUI monitor should support all browsers.	For open source Xcat web-based GUI is not available. Please clarify whether license product is acceptable. (VAMA)	<b>Response:</b> Please note that license product is acceptable provided the license is for perpetuity.
33	29, 9.4	The cluster should be installed with following software, which will be benchmarked and evaluated as a part of acceptance test. HPL, OpenMPI, Open access Software pipelines for next generation sequencing (List to be provided). Molecular Dynamics Simulation using Gromacs, NAMD and open access Parallel BLAST, Python (With support Libraries) FFTW, P3DFT, LAMMPS, Bioinformatics tools, Virtual screening and other AI and ML	We request you to add minimum 4 nodes of compute nodes (each node with 4 x V100 GPUs, where all the GPUs are interconnected with high speed NVLink interconnect) for your Gromacs, NAMD LAMMPS BLAST and AI and ML Applications. (Nvidia/Locuz)	<b>No change</b>
34	Page No. 34	Licensed Software (if available)	Since these are commercial licenses, please clarify if the same will be provided by CDFD and installed by us or we will have to purchase and install the same. (Netweb)	<b>Amendment:</b> Licensed Software (if available with CDFD)



35	35, 9.5. Annexure -A(2) Warranty and support (NOT OPTIONAL)	The OEM/Vendor should have L2/L3 level service engineers in the relevant field of quoted item. At the Hyderabad Center, they should have a minimum of 1 certified HPC engineer residing in Hyderabad, who should have carried out at minimum three 5 TF or above HPC installations and should have experience and complete knowledge of HPC hardware and software used by the users mentioned in the below document and he should be able to provide support to the users 24x7x365 remotely and Next Business Day (NBD) onsite support. Details of the HPC engineers assigned to the projects and their Resume/CV, satisfactory performance letter/ certificate from their Clients, where they have installed HPCs and provide hardware and software support having similar configurations should be enclosed (Mandatory, not optional)	Redhat HPC certification is deprecated from Redhat. kindly amend with Engineers experience. (VAMA)	<b>Amendment:</b> The OEM/Vendor should have L2/L3 level service engineers in the relevant field of quoted item. At the Hyderabad Center, they should have a minimum of 1 HPC Project customer certified HPC engineer residing in Hyderabad, who should have carried out at minimum three 5 TF or above HPC installations and should have experience and complete knowledge of HPC hardware and software used by the users mentioned in the below document and he should be able to provide support to the users 24x7x365 remotely and Next Business Day (NBD) onsite support. Details of the HPC engineers assigned to the projects and their Resume/CV, satisfactory performance letter/ certificate from their Clients, where they have installed HPCs and provide hardware and software support having similar configurations should be enclosed (Mandatory, not optional)
36	36, SI no 9.5 – Warranty and Support (NOT OPTIONAL)	CDFD has some existing infrastructure Servers, switches that the Vendor has to integrate the same with this new infrastructure	Please clarify the scope of work for the required integration. (NetWeb)	<b>Response:</b> During the pre-bid meeting, bidders were encouraged to visit the site to understand the scope of work.
37	37, 9.7. Annexure -A(2) Terms and conditions. (MANDATORY, NOT OPTIONAL)	The HPC cluster, Storage and Cloud infrastructure should be completely assembled, tested with all application benchmarks mentioned in the tender at the OEM site before shipping and the results should be submitted to CDFD-NGC IT team in a CD/DVD, hard copies are not allowed. During the acceptance test, the vendor/ OEM should regenerate the	please specify which benchmark reports has to be submitted. Benchmark report can be shown on the quoted processor and quoted network but not on setup based. (VAMA)	<b>Amendment:</b> The HPC cluster, Storage and Cloud infrastructure should be completely assembled, tested with all application benchmarks mentioned in the tender (Refer 9.4) at the OEM/Bidder site before shipping and the

		<p>same benchmark results, maximum allowable deviation for the benchmark results is only 1%.</p>	<p>Request you amend to "1. HPL of min. 65 % (sustained) as part of the Onsite ATP for the HPC Cluster. 2. No Benchmark for Cloud Setup. 3. Integration of Compute and Storage at CDFD Site". Requested changes are common across all OEM's. As the Compute, Storage, Network components will be different OEM's integration at factory cannot be offered. (HPE)</p> <p>Since the tender document is silent on the benchmarking is to be done for which applications / codes / benchmark types for which benchmark scores are to be submitted and also clarify the no. of nodes on which benchmarks are to be run. (Netweb)</p>	<p>results should be submitted to CDFD-NGC IT team in a CD/DVD, hard copies are not allowed. During the acceptance test, the vendor/ OEM should regenerate the same benchmark results, maximum allowable deviation for the benchmark results is only 1%.</p>
38	<p>37, 9.7. Annuexure -A(2) Terms and conditions. (NOT OPTIONAL)</p>	<p>The installation should be done by certified and trained engineers for High Performance Computing (HPC) Cluster and Cloud Infrastructure followed by comprehensive user training.</p>	<p>Redhat HPC cetification is deprected from Redhat. kindly ammend with Enngineers experience. (VAMA)</p>	<p><b>Amendment:</b> The installation should be done by HPC project customer certified and trained engineers for High Performance Computing (HPC) Cluster and Cloud Infrastructure followed by comprehensive user training.</p>

39	Page No 40, Annexure - A (2) SI No 10	<p>HPC Client Stations:  Latest generation 8th or better Intel i7 PC with on board graphics card, USB Keyboard, Mouse and DVD R/W  16 GB DDR4 RAM  2x1 TB HDD  24-inch IPS monitor  OS: Ubuntu/CentOS  Preferred brands: HP or Dell ; 3 years onsite warranty</p>	<p>We Request you to add Lenovo also as preferred Brand apart from HP / Dell (AKSHARA) / Taashee</p>	<p><b>Amendment:</b> HPC Client Stations:  Latest generation 8th or better Intel i7 PC with on board graphics card, USB Keyboard, Mouse and DVD R/W  16 GB DDR4 RAM  2x1 TB HDD  24-inch IPS monitor  OS: Ubuntu/CentOS  Preferred brands: HP or Dell or Lenovo ; 3 years onsite warranty</p>
40	46, Annexure-F	Performance Certificate	<p>Please help to understand the purpose and requirement of the Certificate (Netweb)</p>	<p><b>Response:</b> PERFORMANCE CERTIFICATE – Annexure-F is Self-explanatory to ensure quality performance of the bidder certified by the past HPC project customer.</p>

**TECHNICAL BID (PART - I)****डी एन ए फिंगरप्रिंटिंग एवं निदान केंद्र**

(बायोटेक्नोलॉजी विज्ञान और प्रौद्योगिकी मंत्रालय एक स्वायत्त संस्थान। भारत सरकार)

**CENTRE FOR DNA FINGERPRINTING AND DIAGNOSTICS**

(An Autonomous Institute of Department of Biotechnology, Ministry of Science and Technology, Govt. of India)

इनर रिंग रोड Inner Ring Road, उप्पल Uppal, हैदराबाद HYDERABAD - 500039 (तेलंगाना राज्य (Telangana State) भारत India)

Ph. No. 040-27216026/20, Fax: 040-27216019 Email: purchase@cdfd.org.in

**निविदा आमंत्रित सूचना  
NOTICE INVITING TENDER****Tender No. PUR/APF/2019-20/IND13335****Date: 05.02.2020**Sealed tenders in **TWO BID SYSTEM** are invited on behalf of and by the Director, CDFD for Supply, Installation and Commissioning of "High Performance Computing (HPC) Cluster with Cloud Infrastructure under Computational Platform and Accessories"**काम की गुंजाइश Scope of work:** Supply, Installation and Commissioning of "High Performance Computing (HPC) Cluster with Cloud Infrastructure under Computational Platform and Accessories"

1. **इच्छुक योग्य बोलीदाता हमारी वेबसाइट से पूर्ण बोली-प्रक्रिया दस्तावेज मुफ्त में डाउनलोड कर सकते हैं।** Interested eligible bidders may download the complete bidding documents from our Website (<http://www.cdfd.org.in>) as well as from **Central Public Procurement Portal: [www.eprocure.gov.in](http://www.eprocure.gov.in)**.
2. **Details of Tender: Cost of the Tender Documents: Rs.2500/- (Rupees Two Thousand Five Hundred Only) through DD in favour of The Director, CDFD, Hyderabad.**
3. Interested eligible bidders may download the complete bidding documents from our Website (<http://www.cdfd.org.in>) from **09.02.2020 onwards** (back to back printing). All such downloaded tender documents should be accompanied by a **non-refundable** DD for Rs.2500/- (Rupees Two Thousand Five hundred only) towards the cost of Tender document. The cost of Tender documents should be paid by DD in favour of The Director, CDFD, Hyderabad and no other mode of payment will be accepted.
4. The Tender document fee of Rs. 2500/- to be provided is a separate Demand Draft in favour of The Director, CDFD, Hyderabad.
5. The Tender document fee should not be clubbed with EMD amount for technical reasons.
6. No Exemption is allowed for payment of Tender document fees irrespective of Registration with DGS & D, MSME, NSIC etc.
7. **कम से कम धन जमा / बोली सुरक्षा Earnest Money Deposit/Bid Security:** E.M.D. amounting to Rs. 10,00,000/- (Rupees Ten lakhs only) by way of Demand Draft / Bank Guarantee of a commercial bank in favour of "Director, CDFD and payable at Hyderabad obtained from any Commercial Bank, should be enclosed along with the Bid.
  - a. The BG should be valid for 6 months.
  - b. This amount is interest free and will be returned to the unsuccessful bidder after finalization of the Contract within 30 days.
  - c. The firms registered with NSIC and MSE if any, are exempted from payment of Earnest Money Deposit (EMD) and enclose the valid proof along with Quotation.
8. **Tenders shall be submitted in 2-PARTS:** 1) PART – I : Technical Bid 2) PART – II : Price Bid
  - Technical Bid (PART – I) of the Tender must contain the documents as indicated at **Clause No. 11 of Instructions to Bidder.**
  - **Price Bid (PART – II) of the Tender shall contain only the Price Schedule as per the Price Schedule Format (both in words and figures).** The Bidder should ensure that the Prices are mentioned only in the Price Bid and nowhere in the Technical Bids.
  - **Due Date for Receipt of Tenders: 18.05.2020 @ 2.30pm. Opening of Technical Bids: 18.05.2020 @ 3.00pm at CDFD, Inner Ring Road, Uppal, Hyderabad-500039.**
  - If the above stated opening or closing date(s) happens to be Govt. holiday(s)/BANDH, the submission/opening of the tender will be on the next working day as per the time scheduled.
9. Bidder shall seal the Technical Bids and Price Bids in two separate envelopes duly marked / super-scribed as "Technical Bid (Part-I)" and "Price Bid (Part-II)" – Tender No: **CDFD/PUR/APF/2019-20/IND13335 due on 18.05.2020 at 2.30pm.**
  - The above two separate sealed covers, one containing the Part-I Technical Bid along with the EMD and the other containing, the Price Bid (Part-II) shall be kept together in another Cover which should also be sealed and super-scribed as above and addressed to the I/c – Stores & Purchase, Centre for DNA Fingerprinting and Diagnostics, Inner Ring Road, Uppal, Hyderabad – 39.

**Contd....**

## **TECHNICAL BID (PART - I)**

- The sealed cover duly super-scribed with Tender No. CDFD/PUR/APF/2019-20/IND13335 due on 18.05.2020 @ 2.30pm containing Technical bid (Part-I) and Price Bid (Part-II) along with the relevant documents should be dropped in the **Sealed Tender Box kept at the Purchase Section, Inner Ring Road, Uppal, Hyderabad-39 on or Before 2.30 PM of 18.05.2020.** The Tender document at any cost should not be handed over to any persons.
10. The firms registered with MSME/MSEs should indicate the Udyog Aadhar Memorandum (UAM) Identification Number in their quotation failing which the exemption of EMD and other benefits as available will not be applicable.
  11. निविदाएं दो बोली में जमा की जाएंगी | Tenders shall be submitted in Two bid  
 Due Date for Receipt of Tenders: 18.05.2020 @ 2.30pm  
 Opening of Technical Bids: 18.05.2020 @ 3.00pm at Committee Room, CDFD, Inner Ring Road, Uppal, Hyderabad. Interested bidders may witness the tender opening on the above mentioned date and time.  
 If the above stated opening or closing date(s) happens to be Govt. holiday(s)/BANDH, the submission/opening of the tender will be on the next working day as per the time scheduled.
  12. The sealed cover duly super-scribed with Tender No. CDFD/PUR/APF/2019-20/IND13335 Due on 18.05.2020 @ 2.30pm containing bid along with the relevant documents should be dropped in the Sealed Tender Box kept at the Purchase Section, CDFD, Inner Ring Road, Uppal, Hyderabad on or Before 2.30 PM of 18.05.2020. The Tender document at any cost should not be handed over to any persons.
  13. प्री - बिड बैठक PRE-BID MEETING: 20.02.2020 @ 11.00am at Committee Room, Purchase Section, CDFD, Hyderabad. The minutes of the Pre-Bid meeting displayed on CDFD website. No individual correspondence will be sent.
  14. प्री - बिड प्रश्न PRE-BID QUERIES: All the vendors / OEMs would like seek clarifications on the bidding documents may forward to a email to [purchase@cdfd.org.in](mailto:purchase@cdfd.org.in) on or before 14.02.2020
  15. The proceedings of the Pre bid meeting will displayed on CDFD website for the information of the Bidder as no further communication will be sent.
  16. CDFD does not bind itself to accept the lowest or any other tender and reserves the authority to reject any or all tenders without assigning any reason. All the tenders, in which any of the prescribed conditions are not fulfilled or incomplete, in any respect, are also liable to be rejected.
  17. Bidders sending their quotations through courier / postal services should ensure to send the same well in advance as CDFD does not take any responsibility for late receipt of quotes due to postal / courier delays.
  18. Tenders submitted without EMD will be rejected. Tenders received after due date and time will not be entertained. Institute is not responsible for any postal delay. CDFD does not take any responsibility for loss of Tender in transit sent by courier or any postal delays, Tenders received after the due date and time will be summarily rejected. Incomplete or conditional tenders are liable for rejection.
  19. All the tenders, in which any of the prescribed conditions are not fulfilled or incomplete in any respect are liable to be rejected.

हस्ताक्षर  
 प्रभारी-भण्डारण एवं क्रय  
 Sd/-  
 I/C-Stores & Purchase

### **अध्याय CHAPTER 1**

## **बोली लगाने के लिए निर्देश INSTRUCTIONS TO BIDDER**

1. **योग्य बोलीदाता ELIGIBLE BIDDERS:** This Invitation for Bids is open to all Original Manufacturers/ their Authorized Dealers/ vendors / suppliers to quote on their behalf for this tender as per Manufacturer's Authorization Form and Indian Agents of Foreign Principals, if any who possess the qualifying requirements as specified in the Tender.
2. 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.
3. **बोलीदाता की क्षमता CAPACITY OF BIDDER:** any person signing a Tender shall submit documentary evidence that his signature on the Tender, submitted by him, is legally binding upon himself, his firm. If it is detected that the person so signing the Tender has no authority to do so, the Director, CDFD may, without prejudice to other civil and criminal remedies, not consider the Tender and hold the signatory liable for all costs and damages. The bidder shall produce a certificate from the Manufacturer of the offered product that they are the authorized dealer in India.

**बोलीदाता का हस्ताक्षर**  
 Sign. of Bidder

## TECHNICAL BID (PART - I)

4. The Bidder should be a manufacturer or their dealer specifically authorized by the manufacturer to quote on their behalf of this tender as per manufacturer authorization form and Indian agents of foreign principals, if any who must have designed, manufactured, tested and supplied the equipment(s) similar to the type specified in the "Technical Specification". Such equipments must be of the most recent series/models incorporating the latest improvements in design. The models quoted should be in successful operation for at least one year as on date of Bid Opening in India and is engaged in the day to day usage.
5. The Indian Agents of foreign manufacturers / suppliers quoting directly on behalf of their principals for items appearing in the restricted list of the current Foreign Trade Policy must be registered with DGS&D. One Indian Agent cannot represent two different foreign principals for the same item in one tender.

6. **योग्यता मापदंड QUALIFICATION CRITERIA:**

1. The Bidder should be in the similar business for the last 5 years and have successfully supplied and executed at least One similar equipment to any of the Department of State / Central / PSU / University / R&D Institutes / Pharmaceutical Laboratories / Public Limited Companies during the last 5 years. Similar Equipment means Supply and Installation of **High Performance Computing (HPC) Cluster with Cloud Infrastructure**. Proof to be enclosed with the quote.
2. **The OEM should have a minimum of 10 entries in the worldwide Top 500 Supercomputer list (<https://www.top500.org/>) or a minimum of 5 entries in top Supercomputers-India list (<http://topsc.cdac.in/>) consistently in each list published in the last three years.**
3. The bidder / OEM should have executed at least three projects in Indian institutions using the architecture and technologies similar to those being proposed in their quotation against this tender. In addition, the following condition should also be satisfied.
  - A. At least one orders of Rs. 4 Crores value or
  - B. At least two orders of Rs. 3 Crores value or
  - C. At least three orders of Rs. 2 Crores value

Purchase order copies of the same must be submitted with the technical bid. Bidders should submit the satisfactory performance letter / certificate from their Clients, where they have installed HPCs having similar configurations as per Annexure.

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. CDFD requires that there be a Single Point Of Contact (SPOC) from OEM/Vendor who is responsible for all issues between CDFD and the OEM.
  5. The bidder should have average annual sales turnover of Rs. 20 Crores or more during the last three financial years ending 31st March, 2019. Attach firm's last 3 years audited profit and loss balance sheet duly audited by C.A.
  6. Bidder should be either an Original Equipment Manufacturer (OEM) or should be an Authorized System Integrator Partner having Support Authorization to support the quoted products.
  7. Hardware and software warranty to be covered directly by OEM/Vendor. Vendor is required to stock a set of spares of all critical components related to the HPC onsite at CDFD Hyderabad's premises
  8. All warranty and support must be serviced directly by the OEM/Vendor. They should have a registered local office in Hyderabad, India. OEM/Vendor acceptance letter to be enclosed.
  9. The OEM/Vendor must have a local logistics support by maintaining a local spares depot in India. This is to ensure immediate delivery of spares parts from OEM/Vendor of equipment.
  10. The OEM/Vendor should have at least one Service Centre in Hyderabad. The OEM/Vendor should have service engineers in the relevant field of quoted item. At Hyderabad, they should have a minimum of 1 HPC engineer residing/stationed in Hyderabad, who should have carried out at minimum three 5 TF HPC installations and software and hardware maintenance of HPC Clusters, who should be able to provide (24x7x365) hardware and software support for the cluster, Resume/CV of the engineer along with minimum two recommendation letters from the HPC facility manager, where the bidder and their Engineers carried out their previous installations.
  11. All the components proposed in quotation must have all encompassing warranty of 5-year duration which includes hardware, software updates and vendors & OEM should provide on call support throughout the lifetime of the all quoted items beyond the warranty period.
  12. Product offered should not have end-of-life (for Sales) for next three years from the date of quote submission.
  13. All quotations submitted must follow the prescribed format for technical compliance as in document below. Failure to do will result in the quotation being summarily rejected. Soft copy of the document in excel format should also be submitted.
  14. One bidder can propose only one solution and the price bid for the same should be submitted. Quoting of multiple solutions with multiple price bids will result in the quotation being summarily rejected.
  15. That the Bidder will assume total responsibility for the fault-free operation of equipment, application software, if any, and maintenance during the warranty period and provide necessary maintenance services after end of warranty period if required.
  16. The bidder should be free from all encumbrances and possess adequate resources for executing the contract in the case it is awarded.
7. **बोली दस्तावेजों की सामग्री CONTENT OF BIDDING DOCUMENTS:** The goods required, bidding procedures and contract terms are prescribed in the bidding documents. The bidding documents, apart from the invitation for bids have been divided into 6 chapters as under:
1. Chapter 1 :Instructions to Bidder
  2. Chapter 2: Detailed Terms & Conditions
  3. Chapter 3 :Specifications and Allied Technical Details of the Goods and Services
  4. Chapter 4 :Price Schedule Format
  5. Chapter 5 :Other Formats

**बोलीदाता का हस्ताक्षर**  
Sign. of Bidder

## **TECHNICAL BID (PART - I)**

The Bidder is expected to examine all instructions, forms, terms & conditions and specifications in the bidding documents. Failure to furnish all information required by the bidding documents or submission of a bid not substantially responsive to the bidding documents will be at the Bidder's risk and may result in rejection of its bid.

8. **बोली दस्तावेजों का स्पष्टीकरण CLARIFICATION OF BIDDING DOCUMENTS :** A prospective Bidder requiring any clarification of the Tender Document shall contact the Purchaser in writing. The Purchaser will respond in writing to any request for clarification, provided that such request is received not later than 7 days prior to the deadline for submission of bids.
9. **बोली दस्तावेजों का संशोधन AMENDMENT OF BIDDING DOCUMENTS :** At any time prior to the deadline for submission of bids, the Purchaser may, for any reason, whether at its own initiative or in response to a clarification requested by a prospective bidder, modify the bidding documents by amendment. In order to allow prospective bidder's 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 and host the changes on the website of the purchaser.
10. **बोली की भाषा LANGUAGE OF BID:** The bid prepared by the bidder, as well as all correspondence and documents relating to the bid exchanged by the bidder and the purchaser, shall be written in Hindi/English language only.
11. **बोली के साथ संलग्न दस्तावेज DOCUMENTS TO BE ENCLOSED WITH TECHNICAL BID (PART-I):** The bid prepared by the bidder, as well as all correspondence and documents relating to the bid exchanged by the bidder and the purchaser shall be written in Hindi/English language only.
  - i. Tender Cost @ Rs. 2,500/- in form of DD.
  - ii. Bid Form as per format given at ANNEXURE-A.
  - iii. Detailed quotation along with Terms and Conditions except for Price Bid details.
  - iv. Manufacturer's Authorization Form as per format given at ANNEXURE-B.
  - v. Bid Security / EMD as per format given at ANNEXURE-C.
  - vi. Photocopies of three purchase orders of the quoted model / Installation Reports.
  - vii. Copies of Firm or VAT or TOT / Registration etc.
  - viii. GST Registration
  - ix. Non-Blacklisting Certificate
  - x. Acceptance Letter for executing Integrating Pact
  - xi. Performance Certificates from the Clients as per Annexure-F
  - xii. Compliance statement indicating yes/No as per CDFD specifications
  - xiii. All necessary catalogues/technical literature, data as are considered essential for full and correct evaluation of offers.
  - xiv. Availability of number of trained support personnel, both application & service support.
  - xv. CDFD Tender document duly signed by the bidder on all the pages.
  - xvi. Check List as ANNEXURE-G.

**Tender Cost should be submitted separately without mixing with EMD Amount**

**Note: Your Bid will be rejected if all the above enclosures are not attached with the Technical Bid without seeking any further clarifications from you.**

12. **PURCHASE PREFERENCE:** Public Procurement order (preference to Make in India, 2017) issued by Department of Industrial Policy and Promotion, Ministry of Commerce & Industry, Govt. of India vide order No. P-45021/2/2017-PP (BE II) dated 15.06.2017, 28/05/2018 and 29/05/2019 and orders issued vide F. No. 33(1)/2017-IPHW of Government of India, Ministry of Electronics and Information Technology dated 14.09.2017 shall be taken into consideration in procurement of these goods.  
 The eligible suppliers as per the above orders shall produce self-certificate of local content of 50% as per above order guidelines to be considered as Local Supplier. The detailed directives on these guidelines may be referred at [https://npcil.etenders.in/tender\\_document/tender\\_36727/tender\\_doc/MEITY\\_Electronics\\_Product\\_Notification.pdf](https://npcil.etenders.in/tender_document/tender_36727/tender_doc/MEITY_Electronics_Product_Notification.pdf) and [https://dipp.gov.in/sites/default/files/PPP-MII%20Order%20dt%2029th%20May%2019\\_0.pdf](https://dipp.gov.in/sites/default/files/PPP-MII%20Order%20dt%2029th%20May%2019_0.pdf)  
 In addition to the above, the purchasing authority shall also consider the latest guidelines issued by CVC, GFR 2017 and Manual for Procurement of Goods and Services 2017 in procurement of these goods.
13. **Adoption of Integrity Pact in major Government Procurement Activities:** As per directives of CVC all organizations have to adopt an integrity pact (IP) with the Bidder/Vendor where ordered equipment value exceeds a threshold value to ensure transparency, equity and competitiveness in major Public procurement activities.  
 The integrity pact envisages an agreement between the prospective bidders/vendors with the buyer committing the persons/officials of both the parties with the aim not to exercise any corrupt influence on any aspect of the contract.  
 The bidder should submit the acceptance to execute the INTEGRITY PACT on firm's letter head duly signed by the authorized signatory affixing the firm seal and submit along with the Technical Bid ( Part I ) failing which the bid will be disqualified.
14. **Non-Blacklisting Certificate:** The bidding firm has to give a self-certificate on their letter head to the effect that it has not been blacklisted / debarred / suspended by any department of State / Central / PSU / University / R & D Institutes etc., If it is subsequently established or found that the bidding firm has given any false information or facts or has suppressed facts or manipulated the documents etc, the earnest money deposit or the performance security as the case may be, will be forfeited without any further communication in this regard.

**बोलीदाता का हस्ताक्षर**  
**Sign. of Bidder**

## **TECHNICAL BID (PART - I)**

### 15. बोली जमा करने के लिए प्रणाली और विधि MANNER AND METHOD FOR SUBMISSION OF BID :

- a. The bidder is advised to paginate complete bidding documents excluding the CDFD Tender Documents in blue/black pen.
- b. The bidder is advised to attach the bid documents as under
  - i. Bid Covering Letter
  - ii. Detailed Technical Bid ( Part I ) of the bidder with Terms & Conditions without Price Bid details
  - iii. EMD
  - iv. Firm or VAT or TOT Registration Certificate
  - v. GST
  - vi. Three copies of Purchase Orders / Installation Reports as per eligibility
  - vii. Performance Certificate as per Annexure- F (1 Page)
  - viii. Other documents as indicated above
  - ix. CDFD Tender Document duly signed and affixing company seal
  - x. Check List

**Please don't enclose the balance sheet copies, Audited Reports, IT Rtns etc. and only submit the one page Financial Status duly filled in with Turnover details.**

**The Page No and enclosures details should be indicated in the Checklist without fail.**

### 16. बोली फार्म BID FORM : The bidder shall use the format as per Annexure-A.

### 17. बोली कीमतें BID PRICES: The Bidder shall indicate the unit prices, discounts and total bid prices of the goods it proposes to supply. Prices indicated shall be entered separately in the following manner (For indigenous Items): The Price of the goods, quoted (ex-works, ex-factory, ex-showroom, ex-warehouse, or off-the shelf, as applicable), including all duties and sales and other taxes already paid or payable.

**करों / कर्तव्य TAXES / DUTIES:** We are exempted from payment of Excise Duty vide Notification Number 10/97 dated 01.03.1997 and Customs Duty under notification No.51/96 dated 23.07.1996. Hence Excise duty and Customs Duty, if any, should be shown separately. Please mention the applicable taxes (VAT/CST/Service) clearly. Form 'C' or 'D' cannot be issued by the Purchaser. However, being R&D Institute on Concessional Customs Duty Forms can be issued. No other charges except those mentioned clearly in the quotation will be paid.

Rates should be quoted 'FOR' CDFD, Hyderabad inclusive of packing, forwarding, Customs clearance, installation and commission charges etc. If ex-works prices are quoted then packing, forwarding, documentation, freight and insurance charges must be clearly mentioned separately. Vague terms like "packing, forwarding, transportation, taxes etc. extra" without mentioning the specific amount/percentage of these charges will NOT be accepted.

Prices quoted by the bidder shall remain fixed during the entire period of contract and shall not be subject to variation on any account. A bid submitted with an adjustable price quotation will be treated as non-responsive and may be liable for rejection.

Instrument quoted should be complete in all respects; any additional accessories required for instrument to operate should also be quoted as part of the instrument and should be supplied along with instrument.

**Bidders are requested to quote the revised rates of GST as applicable to the Public Funded Research Institutions under the Notification No. 47/2017 Integrated Tax (Rate) and Notification No. 45/2017 Central Tax (Rate) dt. 14.11.2017 issued by Department of Revenue, Ministry of Finance, Government of India.**

**NO BIDDER SHOULD QUOTE THE PRICES HIGHER THAN THE MAXIMUM RETAIL PRICES (MRP) INCLUDING ALL CHARGES UP TO CDFD STORES.**

### 18. बोली प्रक्रियाएं BID CURRENCIES: Prices shall be quoted in Indian Rupees or in freely convertible foreign currency preferably in USD (\$), Euro (€), Yen (¥), GBP (£), Singapore Dollar (S\$), Australian Dollar (AUD\$), Canadian Dollar (CAD\$) wherever possible for correct evaluation during comparison.

### 19. बोली सुरक्षा / अर्नेस्ट पैसा जमा (ई एम डी) BID SECURITY / EARNEST MONEY DEPOSIT (EMD): The Bidder shall furnish, as part of its bid, a bid security (BS)/ Earnest Money Deposit (EMD) for an amount of Rs. 10,00,000/- (Rupees Ten lakhs only) as specified in the Invitation for Bids. The BS shall be submitted either by the principal or by the Indian agent and in the case of indigenous bidders, the BS shall be submitted by the manufacturer or their authorized dealer. The Bid Security is required to protect the Purchaser against the risk of Bidder's conduct, which would warrant the security's forfeiture. The Bid Security shall be in Indian Rupees for offers received for supply within India or freely convertible currency in the case of offers received for supplies from foreign countries. The bid security shall be in one of the following forms at the bidders' option:

**बोलीदाता का हस्ताक्षर  
Sign. of Bidder**



## **TECHNICAL BID (PART - I)**

- a. A bank guarantee issued by a Nationalized/Scheduled bank/Foreign Bank as per the format provided at Annexure-C in the bidding documents and valid for 6 months; or
- b. A Banker's cheque or demand draft in favour of Director, CDFD, payable at Hyderabad.

The Bid Security should be submitted in its original format. Copies shall not be accepted.

The Bid Security of unsuccessful bidder will be discharged /returned as promptly as possible as but not later than 15 days after the expiration of the period of bid validity or placement of order whichever is later.

The successful Bidder's Bid Security will be discharged upon the Bidder furnishing the performance security.

20. The firms registered with DGS&D, NSIC and Micro and Small Enterprises (MSE) if any, are exempted from payment of BS provided such registration includes the item they are offering and submit the valid registration copy with the quotation.
21. **The firms registered with MSME/MSEs should indicate the Udyog Aadhar Memorandum (UAM) Identification Number in their quotation failing which the exemption of EMD and other benefits as available will not be applicable.**
22. **बोली सुरक्षा जब्त की जा सकती है The bid security may be forfeited :**
  - a. If a Bidder withdraws or amends or impairs or derogates its bid during the period of bid validity specified by the Bidder; or
  - b. In case of a successful Bidder, if the Bidder fails to furnish order acceptance within 7 days of the order and/or fails to furnish Performance Security within 7 days from the date of contract / order.
23. **बोलियों की वैधता का अवधि PERIOD OF VALIDITY OF BIDS:** Bids shall remain valid for 90 days after the date of bid opening prescribed by the Purchaser. In exceptional circumstances, the Purchaser may solicit the Bidder's consent to an extension of the period of validity. The request and the responses thereto shall be made in writing. The bid security provided shall also be suitably extended. A Bidder may refuse the request without forfeiting its Bid Security. A Bidder granting the request will not be required nor permitted to modify its bid. Bid evaluation will be based on the bid prices without taking into consideration the above corrections.
24. Bidders intends to send their bids through courier / postal services should ensure to send the quote well in advance as CDFD never takes any responsibility for the delay in receipt of the bids.
25. The Bidder is required to go through all the Terms & Conditions of the Tender document and sign all the pages as token of acceptance of having read the Terms and Conditions and accepted the same.
26. **बोलियों के प्रस्तुत करने के लिए अंतिम तिथि DEADLINE FOR SUBMISSION OF BIDS:** Bids must be received by the Purchaser at the address mentioned above not later than the time and date specified therein. In the event of the specified date for the submission of Bids being declared a holiday for the Purchaser, the Bids will be received up to the appointed time on the next working day. The Purchaser may, at its discretion, extend the deadline for submission of bids by amending the bid documents in accordance with Clause relating to Amendment of Bidding Documents in which case all rights and obligations of the Purchaser and Bidders previously subject to the deadline will thereafter be subject to the deadline as extended.
27. **देर से की गई बोली LATE BIDS:** Any bid received by the Purchaser after the deadline for submission of bids prescribed by the Purchaser will be rejected. Such tenders shall be marked as late and not considered for further evaluation. It will be returned to the bidders in their original envelope without opening.
28. **बोलियों में बदलावर, प्रतिस्थापन एवं वापसी WITHDRAWAL, SUBSTITUTION AND MODIFICATION OF BIDS:** A Bidder may withdraw, substitute, or modify its Bid after it has been submitted by sending a written notice and is received by the Purchaser prior to the deadline for submission of bids. No Bid may be withdrawn in the interval between dead-line for submission tender document. Withdrawal bids will be returned to the bidder without opening of the same during the opening of bids. However, no withdrawals of Bids are permitted after the Deadline for submission.
29. **गोपनीयता CONFIDENTIALITY:** Information relating to the examination, evaluation, comparison and recommendation of contract award, shall not be disclosed to bidders or any other persons not officially concerned with such process until placement of the Order.
30. **बोलियों की घोषणा CLARIFICATION OF BIDS:** To assist in the examination, evaluation, comparison and post qualification of the bids, the Purchaser may, at its discretion, ask the Bidder for a clarification of its bid. The request for clarification and the response shall be in writing and no change in prices or substance of the bid shall be sought, offered or permitted. Any clarification submitted by a bidder in respect to its bid which is not in response to a request by the purchaser shall not be considered.
31. **प्रारंभिक परीक्षा PRELIMINARY EXAMINATION:** The Purchaser shall examine the bids to confirm that all documents and technical documentation requested in have been provided, required sureties have been furnished, and to determine the completeness of each document submitted. The Purchaser will examine the bids to determine whether they are complete, whether the documents have been properly signed, and whether the bids are generally in order.

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Sign. of Bidder

## **TECHNICAL BID (PART - I)**

32. If the Bidders have put in Specific conditions not enclosed, all the documents / data requested in the tender and not submitted the Tender in the manner as indicated may be liable for rejection, without seeking further clarifications.
33. **मूल्यांकन और बोली की तुलना EVALUATION & COMPARISON OF BIDS:** Bidders who have quoted as per the tender specifications will only be considered for comparison and other bids will be summarily rejected. The evaluation & comparison shall be made as under:  
The final landing cost of purchase after all discounts, freight, forwarding, insurance warehouse to warehouse, custom clearing charges, Bank Charges and all duties, taxes etc. shall be the basis of evaluation.
- आयातित बनाम स्वदेशी प्रस्ताव Imported Vs. Indigenous Offers:** The final landing cost (ware house to ware house) of purchase taking into account, freight, forwarding, insurance, taxes etc. CIF/CIP with customs clearance charges, Bank/LC charges, transportation up to CDFD, Hyderabad shall be the basis of evaluation.
- Conditional tenders/discounts etc. shall not be accepted. Rates quoted without attached conditions (viz. Discounts having 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.
- Arithmetical errors in the financial bids will be rectified on the following basis:
- If there is a discrepancy between the unit price and the total price that is obtained by multiplying the unit price and quantity, the unit price shall prevail and the total price shall be corrected.
  - If the supplier does not accept the correction of errors, its bid will be rejected.
  - If there is a discrepancy between the price quoted in words and figures, the **rate quoted in words will be taken as final** and shall be binding on the Bidder.
34. Bidders who have not agreed to CDFD payment terms, Delivery Schedules and not enclosed the relevant documents as per this tender Term will be treated as Unresponsive Bidders and may be rejected.
35. **सी डी एफ डी द्वारा वर्गीकरण CLARIFICATIONS BY CDFD:** The Tender Evaluation Committee may seek clarifications on the technical as well as commercial terms if deemed fit and the bidder to provide such clarifications in a reasonable time immediately within a day or two.
36. **उद्धृत आइटम का प्रदर्शन DEMONSTRATION OF QUOTED ITEM:** The Tender Evaluation Committee may evaluate your tender based on the documents submitted. However, in case of any technical clarifications, the Committee may request the bidder to make a detailed presentation of the quoted model including product demonstration at Hyderabad. The bidder is advised to arrange such presentation/ demonstration at their cost at CDFD.
37. **एकल मुद्रा में कनवर्टन CONVERSION TO SINGLE CURRENCY :** To facilitate evaluation and comparison, the Purchaser will convert all 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 Newspaper / Bank Website on the date of Price Bid opening.
38. **समझौता वार्ता NEGOTIATIONS:** There shall not be any negotiation normally. Negotiations, if at all, shall be an exception and only in the case of items with limited source of supply. Negotiations shall be held with the lowest evaluated responsive bidder. Counter offers tantamount to negotiations and shall be treated at par with negotiations .
39. **पुरस्कार का मापदंड AWARD CRITERIA:** The Purchaser will place the order on the overall lowest evaluated Bidder and not on itemwise. In exceptional cases, the Director, CDFD reserve the right to award the order on any other Bidder based on the recommendations of Expert Committee Constituted for the Evaluation of this Tender.
40. Due to the procurement process, the Purchaser may finalize the contract at the end of the bid validity period and the details will be uploaded on the website. Therefore, the bidders may visit Institute website for award details after the bid validity period.
41. **किसी भी बोली को स्वीकार करने और किसी भी या सभी बोलियों को अस्वीकार करने के लिए क्रेता का अधिकार PURCHASER'S RIGHT TO ACCEPT ANY BID AND TO REJECT ANY OR ALL BIDS :** 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 thereby incurring any liability to the affected Bidder or Bidders.
42. **निष्पादन सुरक्षा PERFORMANCE SECURITY:** Within 7 days of receipt of the Purchase Order, the Supplier shall furnish Performance Security for 10% of the Order value in the form of Demand Draft / Bank Guarantee to be valid for 60 days after the warrantee / extended warrantee period. The proceeds of the performance security shall be payable to the Purchaser as compensation for any loss resulting from the Supplier's failure to complete its obligations under the Contract.
- The Performance Security shall be denominated in Indian Rupees for the offers received for supplies within India and denominated in the currency of the contract in the case of offers received for supply from foreign countries. In the case of imports, the PS may be submitted either by the principal or by the Indian agent and, in the case of purchases from indigenous sources, the PS may be submitted by either the manufacturer or their dealer/bidder.

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## **TECHNICAL BID (PART - I)**

The Letter of Credit will be opened after receipt of 10% of the Performance Guarantee valid for 60 days beyond the Warrantee period.

The Performance security shall be in one of the following forms:

- I) A Bank guarantee issued by a Nationalized/Scheduled bank located in India or a bank located abroad.
- II) The Performance security may also be in the form of Banker's cheque or Account payee demand draft in favour of Director, CDFD, Hyderabad

The performance security will be discharged by the Purchaser and returned to the Supplier not later than 60 days following the date of completion of the Supplier's performance obligations, including any warranty obligations.

43. **पुरस्कार के समय खरीदार के अधिकारों के लिए खरीदार का अधिकार PURCHASER'S RIGHT TO VARY QUANTITIES AT THE TIME OF AWARD:** The Purchaser reserves the right at the time of award of Contract to increase or decrease the quantity of goods and services originally specified in the Tender documents without any change in unit price or other terms and conditions.
44. **असीमित पोस्ट बोली संशोधित करें UNSOLICITED POST BID MODIFICATION:** No suo-moto reduction in prices quoted by bidder shall be permitted after tender submission due date & time / extended due date & time. If any bidder unilaterally reduces the prices quoted by him in his bid after opening of bids, the bid(s) of such bidder(s) will be liable to be rejected. Such reduction shall not be considered for comparison of prices but shall be binding on the bidder in case he happens to be a successful bidder for placement of Order.
45. **ऑर्डर स्वीकृति ORDER ACCEPTANCE:** The successful bidder should submit acceptance of the Purchase Order immediately but not later than 7 days in any case from the date of issue of the Purchase Order failing which it shall be presumed that the supplier is not interested and his bid security is liable to be forfeited.
46. **संयुक्त उद्यम, कंसोर्टियम या एसोसिएशन JOINT VENTURE, CONSORTIUM OR ASSOCIATION:** If the Supplier is a joint venture, consortium, or association, all of the parties shall be jointly and severally liable to the Purchaser for the fulfillment of the provisions of the Contract and shall designate one party to act as a leader with authority to bind the joint venture, consortium, or association. The composition or the constitution of the joint venture, consortium, or association shall not be altered without the prior consent of the Purchaser.
47. **मानक STANDARDS:** The Goods supplied and services rendered under this Contract shall conform to the standards mentioned in the Technical Specifications, and, when no applicable standard is mentioned, to the authoritative standard appropriate to the Goods' country of origin and such standards shall be the latest issued by the concerned institution.
48. **टेंडर की अक्षमता DISQUALIFICATION OF TENDERS:**
  - Tenders are liable for rejection if they are not in line with the terms and conditions of this tender notice.
  - Conditional quotations will be liable for rejection or may not be considered.
  - Fax or e-mail tender documents /bids will be rejected.
  - Submission of Single Bid as against Two Bid System or Quotes submitted in Email/fax will be rejected.
49. **धोखा और भ्रष्टाचार FRAUD AND CORRUPTION:** The purchaser requires that the *bidder's* suppliers and contractors observe the highest standard of ethics during the procurement and execution of such contracts. In pursuit of this policy, the following are defined:  
 "Corrupt practice" means the offering, giving, receiving, or soliciting, directly or indirectly, of anything of value to influence the action of a public official in the procurement process or in contract execution; "Fraudulent practice" means a misrepresentation or omission of facts in order to influence a procurement process or the execution of a contract; "Collusive practice" means a scheme or arrangement between two or more bidders, with or without the knowledge of the purchaser, designed to establish bid prices at artificial, noncompetitive levels; and "Coercive practice" means harming or threatening to harm, directly or indirectly, persons or their property to influence their participation in the procurement process or affect the execution of a contract.  
 The purchaser will reject a proposal for award if it determines that the Bidder recommended for award has, directly or through an agent, engaged in corrupt, fraudulent, collusive or coercive practices in competing for the Contract in question.

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**TECHNICAL BID (PART - I)****अध्याय CHAPTER 2****विस्तृत नियम और शर्तें DETAILED TERMS AND CONDITIONS**

1. **परिभाषाएं DEFINITIONS** : In this Contract, the following terms shall be interpreted as indicated: The following words and expressions shall have the meanings hereby assigned to them:
  - a. "Contract Price" means the price payable to the Supplier as specified in the Purchase Order, subject to such additions and Adjustments thereto or deductions there from, as may be made pursuant to the Contract.
  - b. "Day" means calendar day.
  - c. "Completion" means the fulfillment of the Related Services by the Supplier in accordance with the terms and conditions set forth in the Purchase Order.
  - d. "Goods" means all of the commodities, raw material, machinery and equipment, and/or other materials that the Supplier is required to supply to the Purchaser as per the Purchase Order.
  - e. "Related Services" means the services incidental to the supply of the goods, such as transportation, insurance, installation, commissioning, training and initial maintenance and other such obligations of the Supplier as per the Purchase Order.
  - f. "Supplier" means the natural person, private or government entity, or a combination of the above, whose bid to perform the Contract has been accepted by the Purchaser and is named as such in the Purchase Order.
  - g. "The final destination," where applicable, means the place of delivery as indicated in the Purchase Order.
2. **सप्लायर का उत्तरदायित्व SUPPLIER'S RESPONSIBILITIES**: The Supplier shall supply all the Goods and Related Services included in the Scope of Supply and the Delivery and Completion Schedule, as per Purchase Order Terms.
3. The Supplier shall take full responsibility of prompt service and support to ensure the instrument is replaced during the warranty period within a reasonable time.
4. **उप-अनुबंधों SUB-CONTRACTS**: The Supplier shall notify the Purchaser in writing of all subcontracts awarded under this Contract if not already specified in the bid. Such notification, in his original bid or later, shall not relieve the Supplier from any liability or obligation under the Contract. Sub-contract shall be only for bought-out items and sub-assemblies.
5. **अनुबंध की कीमत CONTRACT PRICE**: Prices charged by the Supplier for the Goods supplied and the Related Services performed under the Purchase Order shall not vary from the prices quoted by the Supplier in its bid.
6. **कॉपीराइट COPY RIGHT**: The copyright in all drawings, documents, and other materials containing data and information furnished to the Purchaser by the Supplier herein shall remain vested in the Supplier, or, if they are furnished to the Purchaser directly or through the Supplier by any third party, including suppliers of materials, the copyright in such materials shall remain vested in such third party.
7. **पेटेंट अधिकार PATENT RIGHTS**: The Supplier shall indemnify the Purchaser against all third-party claims of infringement of patent, trademark or industrial design rights, copy rights arising from use of the Goods or any part thereof in India.
8. **निरीक्षण और परीक्षण INSPECTIONS AND TESTING**: The Supplier shall at its own expense and at no cost to the Purchaser carry out all such tests and/or inspections of the Goods and Related Services. or as discussed during the course of finalizing the contract. The Purchaser or its representative shall have the right to inspect and/or to test the Goods to confirm their conformity to the Contract specifications at no extra cost to the Purchaser. The Purchaser shall notify the Supplier in writing in a timely manner of the identity of any representatives retained for these purposes. The inspections and tests may be conducted on the premises of the Supplier or its subcontractor(s), at the point of delivery and/or at the Goods final destination. If conducted on the premises of the Supplier or its subcontractor(s), all reasonable facilities and assistance, including access to drawings and production data -shall be furnished to the inspectors at no charge to the Purchaser.
9. **पैकिंग PACKING**: The Supplier shall provide such packing of the Goods as is required to prevent their damage or deterioration during transit to their final destination. 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. In order to maintain safety of the equipment, we prefer to have wooden crating with adequate cushion inside for transportation of any goods. The Material to be dispatched with International standard packing to withstand Rigors, and to avoid any transit damages.

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10. **पैकिंग निर्देश PACKING INSTRUCTIONS:** Each package will be marked on three sides with proper paint/indelible ink, the following:
- i. Purchaser Name & Address
  - ii. Item Nomenclature
  - iii. Order/Contract No.
  - iv. Country of Origin of Goods
  - v. Packing list reference number
11. **वितरण और दस्तावेज DELIVERY AND DOCUMENTS:** Delivery of the Goods and completion and related services shall be made by the Supplier in accordance with the terms specified by the Purchaser in the Purchase Order.
12. The supplier shall fax or email the details of the shipment to the purchaser with a copy to the Clearing Agent. The following scanned documents are to be emailed at: [spo@cdfd.org.in](mailto:spo@cdfd.org.in) and [purchase@cdfd.org.in](mailto:purchase@cdfd.org.in) as well as faxed on fax No. 091-40- 27216019 and confirm its receipt by the purchaser.
- i. Airway Bill / Bill of Lading;
  - ii. Invoice
  - iii. Packing list
- The above documents should be received by the Purchaser before arrival of the Goods (except where the Goods have been delivered directly to the Consignee with all documents) and, if not received, the Supplier will be responsible for any consequent expenses.
13. Please note that as per the revised guidelines issued by Customs Notification No.26/2017, the free time allowed is 48 hours and penalty will be imposed for late clearance.
14. If there is a delay in forwarding the Airway Bill, Invoice, packing list and Cargo Arival Notice (CAN) before 72 hours prior to arrival of the cargo, the penalty charged by the Customs Department will be recovered from your bill and the balance will be payable.
- Please inform your freight forwarder to issue the Delivery Order and complete all the formalities with Customs and handover the Delivery Order with a day to avoid penalty.
15. Please make appropriate commitments in writing that the instrument model being offered is current and is not likely to be obsolete within the next couple of years and that spare parts will be available for it for at least seven years after the installation. The Installation of the equipment is deemed complete only after all the sub-units of the main equipment such as the computers/printers/UPS/Software etc., is installed and tested as per the specifications in the offer/ broucher / purchase order and demonstrated to the satisfaction of the end user.
16. **बीमा INSURANCE:** The Goods supplied under the Contract shall be fully insured in Indian Rupees against loss or damage incidental to manufacture or acquisition, transportation, storage and delivery.
- 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" basis including war Risks and Strikes.
17. **परिवहन TRANSPORTATION:** Where the Supplier is required under the Contract to deliver the Goods on FOB, transport of the Goods, up to and including the point of putting the Goods on board the vessel at the specified port of loading, shall be arranged and paid for by the Supplier.. Where the Supplier is required under the Contract to deliver the Goods FCA, transport of the Goods and delivery into the custody of the carrier at the place named by the Purchaser or other agreed point shall be arranged and paid for by the Supplier, and the cost thereof may be included in the Price Schedules.
- Where the Supplier is required under the Contract to deliver the Goods CIF or CIP, transport of the Goods to the port of destination or such other named place of destination in the Purchaser's country, as shall be specified in the Contract, shall be arranged and paid for by the Supplier, and the cost thereof maybe included in the Price Schedules.
- In the case of supplies from within India, where the Supplier is required under the Contract to transport the Goods to a specified destination in India, defined as the Final Destination, transport to such destination, including insurance and storage, shall be arranged by the Supplier, and the related costs may be included in the Contract Price.
- The supplier should provide the required labour to unload the materials at CDFD stores as CDFD cannot arrange any facilities or labour in this regard.
18. **आकस्मिक सेवाएं INCIDENTAL SERVICES:** The supplier may be required to provide any or all of the services, as discussed during the course of finalizing the contract. User and detailed Service Manual to be supplied along with the equipment.
- a) **स्पेयर पार्ट्स SPARE PARTS:** The Supplier shall be required to provide the spare part details/materials, notifications, and information pertaining to its manufacture or distribution: Such spare parts as the Purchaser may elect to purchase from the Supplier, providing that this election shall not relieve the Supplier of any warranty obligations under the Contract; and

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- b) In the event of termination of production of the spare parts:
- i) Advance notification to the Purchaser of the pending termination, in sufficient time to permit the Purchaser to procure needed Requirements if any; and
  - ii) Following such termination, furnishing at no cost to the Purchaser, the blueprints, drawings and specifications of the spare parts, if requested.

19. **वारंटी WARRANTY:** The Supplier warrants that all the Goods are new, unused, and of the most recent or current models, and that they incorporate all recent improvements in design and materials, unless provided otherwise in the Contract. The Warrantee should be comprehensive and on site for 5 years.

- The Supplier further warrants that the Goods shall be free from defects arising from any act or omission of the Supplier or arising from design, materials, and workmanship, under normal use in the conditions prevailing in India.
- The warranty shall remain valid for Sixty (60) months from the date of installation of the equipment. **The warrantee Certificate should be handed over to CDFD after the installation is completed.**
- The Purchaser shall give notice to the Supplier stating the nature of any such defects together with all available evidence thereof, promptly following the discovery thereof. The Purchaser shall afford all reasonable opportunity for the Supplier to inspect such defects.
- Upon receipt of such notice, the Supplier shall, within a reasonable period of time expeditiously repair or replace the defective Goods or parts thereof, at no cost to the Purchaser.
- **During the period of warranty any component or spare part is to be brought from abroad, all associated costs shall be borne by the supplier including the customs duty charges.**
- The defective material / goods originally imported will not be handed over to the supplier and the same will be re-exported to the place of manufacturer at the cost of the supplier. In case, the manufacturer has the office in India the same may be handed over to them with an undertaking that they will re-export to their manufacturing facility within a reasonable time and submit the proof to that extent.
- If having been notified, the Supplier fails to remedy the defect within a reasonable period of time; the Purchaser may proceed to take within a reasonable period such remedial action as may be necessary, at the Supplier's risk and expense and without prejudice to any other rights which the Purchaser may have against the Supplier under the Contract.
- **If the defective material / goods originally supplied indigenously, the same will be handed over to the supplier after replacement of the material under warrantee period and not before the replacement.**

20. **भुगतान की शर्तें TERMS OF PAYMENT:** Our rules do not permit any advance payment either direct or through a bank. However, payment of your bill will be made within 30 days after receipt of the materials in good condition by way of Foreign Demand Draft (FDD) or Wire Transfer or on Sight Draft basis. Alternatively, 100% Order value will be opened by way of Confirmed Irrevocable Letter of Credit. **90% of the L/C value will be released against receipt of complete shipping documents and the balance 10% value will be released after successful installation acceptable to CDFD within 3 months.**

**The foreign supplier should accept CDFD standard Letter of Credit terms which will be forwarded for confirmation before establishing the LC.**

21. **वितरण कार्यक्रम Delivery Schedule:** Within 2 months from the date of receipt of order. However, kindly indicate the delivery schedule in the quotation.

22. **All banking charges outside India will be borne by the supplier and inside India charges will be borne by the purchaser.**

23. **संशोधन AMENDMENTS:** The Purchaser may at any time, by written order given to the Supplier make changes within the general scope of the Contract as mutually agreed terms.

24. **सौंपा गया काम ASSIGNMENT:** The Supplier shall not assign, in whole or in part, its obligations to perform under the Contract, except with the Purchaser's prior written consent.

25. **समय का विस्तार EXTENSION OF TIME :** Delivery of the Goods and performance of the Services shall be made by the Supplier in accordance with the time schedule specified in the contract. If at any time during performance of the Contract, the Supplier or its sub-contractor(s) should encounter conditions impeding timely delivery of the Goods and performance of Services, the Supplier shall promptly notify the Purchaser in writing of the fact of the delay, its likely duration and its cause(s). As soon as practicable after receipt of the Supplier's notice, the Purchaser shall evaluate the situation and may, at its discretion, extend the Supplier's time for performance with or without penalty, in which case the extension shall be ratified by the parties by amendment of the Contract.

Except as provided under the Force Majeure clause, a delay by the Supplier in the performance of its delivery obligations shall render the Supplier liable to the imposition of penalty pursuant to Penalty Clause unless an extension of time is agreed upon pursuant to above clause without the application of penalty clause.

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Sign. of Bidder

## **TECHNICAL BID (PART - I)**

26. **जुर्माना खंड PENALTY CLAUSE:** Subject to clause on Force Majeure, if the Supplier fails to deliver any or all of the Goods or to perform the Services within the period(s) specified in the Purchase order, the Purchaser shall, without prejudice to its other remedies under the Contract, deduct from the Contract Price, as penalty, a sum equivalent to 0.5 percent of the order value for each week or part thereof of delay until actual delivery or performance, up to a maximum deduction of 10 Percent. Once the maximum is reached, the Purchaser may consider termination of the Contract for Default.
27. **डिफॉल्ट के लिए समाप्ति TERMINATION FOR DEFAULT:** 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
- If the Supplier fails to deliver any or all of the Goods within the period(s) specified in the contract, or within any extension thereof granted by the Purchaser
  - If the Supplier fails to perform any other obligation(s) under the Contract.
  - If the Supplier, in the judgment of the Purchaser has engaged in corrupt or fraudulent or collusive or coercive practices.
- In the event the purchaser terminates the contract in whole or in part, he may take recourse to any one or more of the following action:
- The Performance Security is to be forfeited;
  - The purchaser may procure, upon such terms and in such manner as it deems appropriate, stores similar to those undelivered, and the supplier shall be liable for all available actions against it in terms of the contract.
28. **अनिवार्यता के लिए समाप्ति TERMINATION FOR INSOLVENCY:** The Purchaser may at any time terminate the Contract by giving written notice to the Supplier, if the Supplier becomes bankrupt or otherwise insolvent. In this event, termination will be without compensation to the Supplier, provided that such termination will not prejudice or affect any right of action or remedy, which has accrued or will accrue thereafter to the Purchaser.
29. **विवादों का निपटारा SETTLEMENT 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.
30. **लागू कानून APPLICABLE LAW:** The Contract shall be interpreted in accordance with the laws of the Union of India and all disputes shall be subject to place of jurisdiction.
31. **नोटिस NOTICES:** Any notice given by one party to the other pursuant to this contract/order shall be sent to the other party in writing and confirmed to the other party's address specified in the Purchase Order.
32. **साइट तैयारी और स्थापना SITE PREPARATION AND INSTALLATION:** The Purchaser is solely responsible for the construction of the equipment sites in compliance with the technical and environmental specifications. The Purchaser will designate the installation sites before the scheduled installation date to allow the Supplier to perform a site inspection to verify the appropriateness of the sites before the installation of the Equipment, if required. The supplier shall inform the purchaser about the site preparation, if applicable, needed for installation, of the goods at the purchaser's site immediately after placement of Purchase Order.
33. **कर और शुल्क TAXES AND DUTIES:** Suppliers shall be entirely responsible for all taxes, duties, license fees, octroi, road permits, etc., incurred until delivery of the ordered Goods to the Purchaser at the final destination.
34. Commercial Invoice produced by Reprographic system or automated computerized system marked as original not acceptable.
35. Please re-check the prices, terms and conditions and other important terms of your offer before submission as you are bound to accept the same in case your offer is evaluated as Lowest Bid.
36. CDFD will not entertain any typographical errors / mistakes made by the bidder in their quote as the evaluation of the bids is done based on the bid submitted as on the due date and no change of prices or any terms and conditions will be considered under any circumstances.

### **धोषणा DECLARATION**

I/We \_\_\_\_\_ have read the entire terms and conditions of this Tender document and are agreeable to the terms and conditions mentioned herein.

Sign. of Bidder

Name:

Company Seal:

Mobile Number:

**TECHNICAL BID (PART - I)****अध्याय CHAPTER 3****SPECIFICATIONS FOR HIGH PERFORMANCE COMPUTING (HPC) CLUSTER WITH CLOUD INFRASTRUCTURE****विशेष विवरण Specifications:****Annexure - A (1)****Supply, installation and commissioning of High Performance Computing (HPC) Cluster with Cloud Infrastructure****Pre-qualification for bidders**

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

<b>S. No</b>	<b>Pre-Qualification Criteria</b>	<b>Compliance Yes/No</b>	<b>Remarks</b>
1.	The Bidder should be in the similar business for the last 5 years and have successfully supplied and executed at least One similar equipment to any of the Department of State / Central / PSU/ University / R & D Institutes / Pharmaceutical Laboratories / Public limited Companies during the last 5 years. Similar Equipment means Supply and Installation of High Performance Computing (HPC) Cluster with Cloud Infrastructure. Proof to be enclosed with the quote.		
2.	The OEM should have a minimum of 10 entries in the worldwide Top 500 Supercomputer list ( <a href="https://www.top500.org/">https://www.top500.org/</a> ) consistently in each list published in the last three years.		
3.	The bidder / OEM should have executed at least three projects in Indian institutions using the architecture and technologies similar to those being proposed in their quotation against this tender. In addition, the following condition should also be satisfied. A. At least one order of Rs. 4 Crores value or B. At least two orders of Rs. 3 Crores value or C. At least three orders of Rs. 2 Crores value Purchase order copies of the same must be submitted with the technical bid. Bidders should submit the satisfactory performance letter/ certificate from their Clients, where they have installed HPCs having similar configurations.		
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. CDFD requires that there be a Single Point Of Contact (SPOC) from OEM/Vendor who is responsible for all issues between CDFD and the OEM.		
5.	The bidder should have average annual sales turnover of Rs. 20 Crores or more during the last three financial years ending 31st March, 2019. Attach firm's last 3 years audited profit and loss balance sheet duly audited by C.A.		



6.	Bidder should be either an Original Equipment Manufacturer (OEM) or should be an Authorized System Integrator Partner having Support Authorization to support the quoted products.		
7.	Hardware and software warranty to be covered directly by OEM/Vendor. Vendor is required to stock a set of spares of all critical components related to the HPC onsite at CDFD Hyderabad's premises		
8.	All warranty and support must be serviced directly by the OEM/Vendor. They should have a registered local office in Hyderabad, India. OEM/Vendor acceptance letter to be enclosed.		
9.	The OEM/Vendor must have a local logistics support by maintaining a local spares depot in India. This is to ensure immediate delivery of spares parts from OEM/Vendor of equipment.		
10.	The OEM/Vendor should have at least one Service Centre in Hyderabad. The OEM/Vendor should have service engineers in the relevant field of quoted item. At Hyderabad, they should have a minimum of 1 HPC engineer residing/stationed in Hyderabad, who should have carried out at minimum three 5 TF HPC installations and software and hardware maintenance of HPC Clusters, who should be able to provide (24x7x365) hardware and software support for the cluster, Resume/CV of the engineer along with minimum two recommendation letters from the HPC facility manager, where the bidder and their Engineers carried out their previous installations.		
11.	All the components proposed in quotation must have all encompassing warranty of 5-year duration which includes hardware, software updates and vendors & OEM should provide on call support throughout the lifetime of the all quoted items beyond the warranty period.		
12.	Product offered should not have end-of-life (for Sales) for next three years from the date of quote submission.		
13.	All quotations submitted must follow the prescribed format for technical compliance as in document below. Failure to do will result in the quotation being summarily rejected. Soft copy of the document in excel format should also be submitted.		
14.	One bidder can propose only one solution and the price bid for the same should be submitted. Quoting of multiple solutions with multiple price bids will result in the quotation being summarily rejected.		

**TECHNICAL BID (PART - I)****Annexure - A (2)****Scope of Work & Technical Specifications**

<b>Specifications of High Performance Computing (HPC) Cluster with Cloud Infrastructure</b>					
<p>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. CDFD requires that there be a Single Point of Contact (SPOC) from OEM/Vendor who is responsible for all issues between CDFD and the OEM.</p> <p>2. All the server components should be verified and recommended by the mother board manufacturer.</p> <p>3. All the software deployment will be in vendor's scope of work and vendors are requested to include any software deployment charges in their proposal.</p> <p>4. The Master, compute and storage nodes should be of dense rack form factor designed for cluster solution and should be in the lowest foot print and the lowest power consumption.</p>					
<b>Mandatory items</b>					
<b>Computer Hardware</b>				<b>Make, Model, Compliance, Remark to be filled by the Vendor</b>	
<b>S.No</b>	<b>Description</b>	<b>Qty</b>	<b>Make &amp; Model</b>	<b>Compliance Yes/No</b>	<b>Remarks</b>
1	<b>Master Node</b>	<b>2</b>			
	2 x 2.5GHz Intel Xeon Gold 6248 with 20 Cores or better				
	Intel C622 Dual socket Chipset with 2U rack-mountable chassis with sliding rails inclusive of all peripherals.				
	Minimum 384 GB ECC DDR4-2933 MHz or better RAM in balanced configuration for optimizing the memory bandwidth.				
	Minimum 2 X 480 GB 6 Gbps MLC Enterprise SATA SSD hard disks or higher configured with RAID 1 for the Operating System. (Only certified compatible SAS/SATA HBAs should be used) SSD should be at least 3DWPD. Preferred makes : Intel or equivalent				

	4 X 4 TB 2.5/3.5" 7.2 K RPM 6 Gbps NL-SAS preferably hot pluggable hard disks configured with RAID 6 with hot spare. (Only certified compatible SAS/SATA HBAs should be used) (Preferred Makes - HGST Ultrastar, WD, Seagate, or equivalent)				
	8 port RAID Controller supporting RAID 0,1,5,6 with minimum <b>2 GB</b> RAM, battery backed				
	Minimum 2 x 1 Gbps Ethernet ports & 2x10G LAN with support for link aggregation. Required accessories also to be quoted for connecting to the switch.				
	IPMI 2.0 or equivalent Support with KVM and Media over LAN features. Must include any licenses, if required for using these features. Must have support for Redfish API/iLO API or equivalent for server management. It should be able to automate management task and auto mated firmware update.				
	80 Plus Platinum or better certified Redundant Power Supply				
	Computing connectivity as mentioned in Sl. no 6 of technical specifications in Annexure -A (2)				
<b>2</b>	<b>Compute Nodes Servers</b>	<b>20</b>			
	2 x 2.5 GHz Xeon Gold (Cascade lake) 6248 with 20 Cores or better				
	Intel Dual socket C621 Chipset with 1U or less rack-mountable chassis with sliding rails inclusive of all peripherals. In case of multi node sharing architecture shared chassis/cabinate is permitted but with hot swap nodes which are independently serviceable, with rack-mountable chassis with sliding rails inclusive of all peripherals				
	Minimum 384 GB ECC DDR4-2933 MHz or better RAM in balanced configuration for optimizing the memory bandwidth.				
	Minimum 1 X 480 GB 6 Gbps MLC Enterprise SATA SSD hard disks or higher for the Operating System. (Only certified compatible SAS/SATA HBAs should be used) SSD should be at least 3DWPD. Preferred makes : Intel or equivalent				

	Minimum 2 x 1 Gbps Ethernet ports with support for link aggregation. Required accessories also to be quoted for connecting to the switch.				
	IPMI 2.0 or equivalent Support with KVM and Media over LAN features. Must include any licenses, if required for using these features Must have support for Redfish API/iLO API or equivalent for server management. It should be able to automate management task and auto mated firmware update.				
	80 Plus Platinum or better certified Redundant Power Supply				
	Computing connectivity as mentioned in SI. no 6 of technical specifications in Annexure -A (2)				
<b>3</b>	<b>High density and low latency 2 PiB Parallel File System (PFS) Storage appliance with 40 GBps Read and write performance</b>	<b>1</b>			
	RAID 6 (8+2) based PFS Storage system with a minimum usable capacity of 2 PiB and 40GB/s write performance				
	Storage should give consistent 40 GB/s throughput for files up to size of 2TB				
	Storage system should be scalable 4PiB the capacity in future without adding controllers and licenses				
	Storage solution must have a minimum of two active controllers, battery backed & mirrored cache, redundant power supplies and fans.				
	RAID rebuild time should be less than 6hrs while system is live				
	Only OEM commercially supported Luster File System or GPFS is acceptable				
	1% of the total capacity should be quoted as Meta data on SSD's only				
	Same enclosure should support NL-SAS/SAS/SSD types of drives.				
	2% of disk drives for PFS and should be configured as hot online spare drives.				
	Computing connectivity as mentioned in SI. no6 of technical specifications in Annexure–A(2)				
	Complete Storage Solution should fit in 24U of rack space				

	Bidder must provide peak power in KW, heat in BTU/Hr, weight in Kg and air flow in CFM for cooling of the storage solution.				
	The external storage server or I/O servers (if required in the solution), should be with latest Intel processor and with sufficient memory to get the asked performance. Should have sufficient EDR/OPA ports to connect to the HPC System.				
	Balanced Architecture: There must be minimum one pair of Highly available I/O servers (if required in the solution) for every storage array with active-active RAID controllers. Each I/O server should have same number of RAID 6 LUNS.				
	Any Software License if required must be perpetual and should support unlimited of Client/Compute nodes/management nodes for accessing natively PFS system.				
	Necessary cable and connectors as per solution requirement should be provided.				
	Bidder should submit the IOR benchmark for 40 GB/s write performance with the same building blocks as running on compute nodes with 1 MB transfer size and file size double than total storage cache and I/O node memory. Benchmarks must be run on minimum 8 and 16 compute nodes where each node is writing to same shared file as well as each node is writing to separate unique file. Storage solution must deliver parallel filesystem metadata performance of minimum 60,000 files creates/sec. Bidders to submit output of IOR and MDTEST along with the technical offer.				
	Should additionally have NAS appliance interface for direct data transfer from other part (sequencing lab) of CDFD network				
<b>4.</b>	<b>1U KVM module with IP over KVM switch 1</b>	<b>1</b>			
	1U Rack mount KVM Console 17" TFT Monitor with built in keyboard and touch pad				
	IP Module for KVM				
	Built-in Rail Self-locking device support combo (PS/2 & USB) interface for connecting computer ports conveniently				

	KVM over IP switch with virtual media support 1-Local/2-Remote Access Console Ports: 2x USB Female, 1x DVI-D Female 1x VGA HDB-15, 1x RJ-45 Female				
	USB Port: Minimum 3x USB female				
	Multi-browser support: IE, Chrome, Firefox, safari, Opera, Mozilla, Netscape multiplatform client support (Windows, Mac OS X, Linux, Sun)				
	KVM ports: Minimum 32 RJ-45 Female (Cat 5 support), Virtual media (1920x1200)				
	Dual Power Supply				
	Two 10/100/1000 Mbps NICs for redundant LAN or two IP operation USB VGA Virtual media KVM adapter				
	Connectors: Link: 1x RJ-45 Female Computer: 1x USB Type A male, 1x HDB-15 male QTY of adapters may be increased/decreased based on actual requirement	<b>As required</b>			
<b>5</b>	<b>Primary Interconnect</b>	<b>1</b>			
	Required number of ports of 100Gbps or better HPC Interconnect switch to connect all types of supplied nodes including cloud controller and cloud compute nodes and storage in fully non-blocking topology.				
	Compatible with NIC quoted for whole solution				
	Rack mounting kit if required				
	Required number of Copper Cables of appropriate length to connect the solution				
	Redundant power supply				
	The switch should be scalable up to 80 ports without any additional Hardware.				
<b>6</b>	<b>NIC (for Primary Interconnect)</b>	<b>As required</b>			

	Aggregate Link speed $\geq$ 100Gbps Unidirectional bandwidth at MPI level $\geq$ 11GB/sec Low Latency $<$ 1.5 microseconds at MPI level for 0/8-byte messages Minimum 32 processes should be able to access the NIC simultaneously in low latency mode Open source ecosystem support for MPI, PGAS, etc. Low profile/Full Height/mezzanine PCIe3.xcard with 16 lanes				
<b>7</b>	<b>Secondary Switch</b>	<b>2</b>			
	Required number of 1Gbps Interconnect switches to connect all types of supplied nodes and storage to be configured with managed switches to connect both cluster management/ provisioning and IPMI management. Additional 20% of total ports including cables should remain unutilized as spare for future requirement.				
	For Cloud solution, connected with 10G uplink. Controller and the 4 compute node proposed in the cloud will be directly connected to 10G ports. Separate managed 10G Switch with redundant power supply to be provided with sufficient ports. Additional 20% of total 10G ports including cables should be provided as spare for future requirement.				
<b>8</b>	<b>Cloud Infrastructure with 10GigE(RJ45) or better interconnect (Infrastructure Nodes:1Controller Node+ 4 Compute Nodes)</b>				
<b>8.1</b>	<b>Cloud Controller Nodes</b>	<b>1</b>			
	2 x 2.5 GHz Xeon Gold (Cascadelake) 6248 with 20 Cores or better				
	Intel Chipset with 2U or lesser, with sliding rails inclusive of all peripherals.				
	4 X 4 TB 2.5/3.5" 7.2 K RPM 6 Gbps SATA hot pluggable hard disks. (Only certified compatible SAS/SATA HBAs should be used) (Preferred Makes HGST Ultrastar, WD, Seagate or equivalent)				
	Minimum 1X 2TB NVMe SSD PCIe3x4 M.2 or higher SSD should be at least 0.5DWPD. Preferred makes: Intel or equivalent				

Minimum 384 GB ECC DDR4-2933 MHz or better RAM in balanced configuration for optimizing the memory bandwidth.				
Minimum 2 x 1 Gbps Ethernet ports with support for link aggregation. Required accessories also to be quoted for connecting to the switch.				
IPMI 2.0 or equivalent Support with KVM and Media over LAN features. Must include any licenses, if required for using these features. Must have support for Redfish API/iLO API or equivalent for server management. It should be able to automate management tasks and automated firmware update.				
80 Plus Platinum or better certified Redundant Power Supply				
Computing connectivity as mentioned in Sl. no 6 of technical specifications in Annexure -A (2)				
<b>Cloud Compute Nodes</b>	<b>4</b>			
2 x 2.5 GHz Xeon Gold (Cascadelake) 6248 with 20 Cores or better				
Intel Chipset with 2U or lesser with sliding rails inclusive of all peripherals. In case of multi node sharing architecture shared chassis/cabinete is permitted but with hot swap nodes which are independently serviceable, with rack-mountable chassis with sliding rails inclusive of all peripherals				
4 X 2 TB 2.5/3.5" 7.2 K RPM 6 Gbps SATA hot pluggable hard disks. 2 X 1 TB 2.5/3.5" 7.2 K RPM 6 Gbps SATA hot pluggable hard disks (Only certified compatible SAS/SATA HBAs should be used) (Preferred Makes HGST Ultrastar, WD, Seagate or equivalent)				
Minimum 1X 2TB NVMe SSD PCIe3x4 M.2 or higher SSD should be at least 0.5DWPD. Preferred makes: Intel or equivalent				
Minimum 384 GB ECC DDR4-2933 MHz or better RAM in balanced configuration for optimizing the memory bandwidth.				



	Minimum 2 x 1 Gbps Ethernet ports with support for link aggregation. Required accessories also to be quoted for connecting to the switch.				
	IPMI 2.0 or equivalent Support with KVM and Media over LAN features. Must include any licenses, if required for using these features. Must have support for Redfish API or equivalent for server management. It should be able to automate management tasks and automated firmware update.				
	80 Plus Platinum or better certified Redundant Power Supply				
	Computing connectivity as mentioned in Sl. no 6 of technical specifications in Annexure -A (2)				
	Private cloud implementation using OpenStack				
	<p><b>The brief scope of work:</b> Supply, installation and configuration of the required Hardware and Software for implementation of OpenStack Private Cloud integrated with High Performance Computing System at CDFD, Hyderabad.</p> <p>This is an end to end project for implementation of Private cloud. CDFD has taken all efforts to mention all the required components in the detailed scope of work. If any of the item is not mentioned explicitly, the bidder has to consider the same, so as to ensure that the setup is fully functional as per the requirement.</p>				
	<p><b>Detailed scope of work</b></p> <ul style="list-style-type: none"> <li>□ Supply, installation and configuration of the required Hardware and Software for implementation of Private Cloud integrated with High Performance Computing System at CDFD, Hyderabad.</li> <li>□ The bidder needs to supply, install and configure Servers, switch, as per BOM.</li> <li>□ Detailed user level or user group level auditing, monitoring, metering, accounting and quota is essential for the platform.</li> <li>□ To avoid cluttered keyboard, video, mouse cabling and allow remote systems management to all nodes,</li> </ul>				

<p>an isolated system management network(IPMI) should be connected.</p> <ul style="list-style-type: none"> <li>□ CDFD proposes to have 4 physical nodes and 1 controller node specifications as mentioned above integrated with HPC which has been desired in above line items. The bidder should arrange for installing the bare metal Open Source OpenStack on these.</li> <li>□ The Cloud solution proposed should be focused primarily on OPENSTACK Cloud Solution version: Queens/Rocky or later.</li> <li>□ For ease of OpenStack version upgrades, OpenStack should be deployed as under-cloud over-cloud architecture.</li> <li>□ For linear scale-out of storage, Ceph distributed storage cluster need to be setup using the HDD deployed in 4 physical cloud node. Block, object, file storage should be carved from it. This should allow easy VM migration.</li> <li>□ Object and File storage services should be provisioned as elastic services on VMs.</li> <li>□ The Ceph version should be Luminous or later.</li> <li>□ For best utilization of hardware, OpenStack control nodes, monitor nodes for Ceph monitor nodes should be deployed as VMs / Containers as per virtual control Plane(VCP)model.</li> <li>□ Should allow KVM, Container compute instances.</li> <li>□ For linear scale-out of networking, distributed software defined networking (SDN) should be done with VLAN/VXLAN/GRE network topology. This should also support with VM migration and isolation.</li> <li>□The distributed SDN should have firewall to protect.</li> <li>□ The solution should have a dashboard for monitoring the utilization of various resources for administration and user's self-service.</li> </ul>				
<p><b>Mandatory services to be implemented:</b></p> <ul style="list-style-type: none"> <li>□ Nova, Container (OpenStack Compute Services for VM,Container)</li> <li>□ Keystone (Open Stack Identity Service)</li> <li>□ Swift, Cinder, Ceph (OpenStack Storage services for object, block, file on Ceph)</li> <li>□ Glance (OpenStack Image Service)</li> </ul>				

<ul style="list-style-type: none"> <li><input type="checkbox"/> Neutron (OpenStack Networking Service)</li> <li><input type="checkbox"/> Heat (OpenStack Orchestration Service)</li> <li><input type="checkbox"/> Ceilometer (OpenStack monitoring Service)</li> <li><input type="checkbox"/> Horizon (OpenStack Dashboard)</li> <li><input type="checkbox"/> Neutron (Load Balancer Service)</li> </ul>				
<p><b>Deployment Model:</b>          All OpenStack Services should be Deployed in Full HA mode. Any Service should not be failed with Physical Node Failure.          Deployment/Controller node Should be in HA. Cloud Controller Services must be deployed with HA in the single zones with below requirements as shown the following Reference Architecture.</p>				
<p><b>Key Requirements:</b></p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Cloud should have capability for deployment with configuration tools like chef, Ansible, Puppet etc.</li> <li><input type="checkbox"/> Sizing/Scaling with optimal performance of cloud</li> <li><input type="checkbox"/> Should create a document with Implementation approach</li> <li><input type="checkbox"/> Should create a document with deployment diagram.</li> </ul> <p>The document need to be maintained throughout the tenure of support whenever there are changes in deployment</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Document with implementation timeline.</li> </ul>				
<p><b>Components of Solution:</b>          OpenStack cloud environment on NEW Hardware as per below mentioned features:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Consolidated and fully integrated hardware resources with balanced workloads for compute network and storage.</li> <li><input type="checkbox"/> An aggregation of compute and storage hardware, which delivers a single, virtualized resource pool customizable to different compute and storage ratios to meet the requirements of various solutions.</li> <li><input type="checkbox"/> Ease of scaling (vertical and horizontal) based on business requirements. Compute and storage resources can be extended at runtime.</li> <li><input type="checkbox"/> Elimination of single points of failure in every layer by delivering continuous access to virtual machines(VMs).</li> <li><input type="checkbox"/> Hardware redundancy and full utilization.</li> </ul>				

	<ul style="list-style-type: none"> <li><input type="checkbox"/> Rapid OpenStack cloud deployment, including updates, patches, security, and usability enhancements.</li> <li><input type="checkbox"/> Unified management and monitoring for VMs</li> </ul>				
	<p>This platform should offer the innovation of the OpenStack community project and provides the security, stability, on Open Source Linux. OpenStack Platform should support the configuration of data centre physical hardware into private, public, or hybrid cloud platform and has the following benefits:</p> <ul style="list-style-type: none"> <li><input type="checkbox"/> Fully distributed storage</li> <li><input type="checkbox"/> Persistent block-level storage</li> <li><input type="checkbox"/> VM provisioning engine and image storage</li> <li><input type="checkbox"/> Authentication and authorization mechanisms</li> <li><input type="checkbox"/> Integrated networking</li> <li><input type="checkbox"/> A web-based GUI for users and administration</li> </ul>				
	<p>Should have Core Components</p> <p>Component service- Nova</p> <p>Block storage service- Cinder</p> <p>Networking service-Neutron</p> <p>Image service-Glance</p> <p>Object storage service-Swift</p> <p>Identity service-Keystone</p> <p>Telemetry service-Ceilometer</p>				
	<p>Should implement OpenStack Tenancy Concepts</p> <ul style="list-style-type: none"> <li>• Tenant</li> <li>• Availability Zone</li> <li>• Host Aggregate</li> <li>• Region</li> </ul>				
	<p><b>Should provide CentOS and Ubuntu based template VMs for Web services, Database service (mysql and php installed).</b></p>				
<b>9</b>	<b>Hardware &amp; Software installation, warranty &amp; support</b>				
<b>9.1</b>	<b>System software</b>				
	<p>Operating System - Latest stable version of CentOS Linux</p> <p>OpenSource Enterprise Linux (Vendor certified)</p>				

	The HPC servers should be clustered together through open source clustering tools. Preferred clustering tool –xCAT ( <a href="https://xcat.org/">https://xcat.org/</a> ), openHPC,				
	Open source scheduler - Preferred SLURM or PBS Pro (Open source) ( <a href="http://www.pbsworks.com/opensource">http://www.pbsworks.com/opensource</a> )				
	Modules support for maintaining multiple versions of software. All software should be configured with module environment. ( <a href="http://modules.sourceforge.net/">http://modules.sourceforge.net/</a> ).				
	All specified solutions and required software products must be clearly listed with mode of licensing used and number of licenses required including the period of validity and any maintenance or upgrade applicable.				
	Should have all academic Intel compiles and Math Kernel Libraries and Intel MPI and other libraries (including TBB) installed for development and usage				
	Restrictions on software usage, if any, should also be indicated.				
	PERPETUAL LICENSE is required for all this software.				
	All hardware should be installed with recent stable version of firmware.				
<b>9.2</b>	<b>Job/Work load management</b>				
	Jobs can be submitted from master node only.				
	CPU enabled scheduling with checkpoint and restart.				
	Job scheduler configuration including new/delete/disable queues.				
	Dynamic Resource Management and Resource balancing.				
	Policy based resource allocation.				
	Configure job scheduler for script less (short command line) submission of jobs on master node.				
	Job status monitoring, Job history				

	Usage accounting & reporting with total utilization of resource.				28
	Check runaway process before entering new jobs.				
<b>9.3</b>	<b>Cluster management tool (Open source)</b>				
	Web-based application for supercomputer access. Platform independent interface (Windows/Unix/Mac). GUI monitor should support all browsers.				
	User account management from master node.				
	Monitoring tool like Nagios or better, integrated with Environment values, Load, Resource status, system environment status, Hard Disk usage status and hardware configuration.				
	PDSH, Generating Host Keys for users and PDCP should be configured.				
	User's home directory should be in file system with quota enabled.				
	Reimaging new nodes (CPU) from master nodes.				
	Integration of all software components so as to make the complete HPC cluster system fully functional and usable (e.g., integration of the scheduler with MPI, any license managers, etc.).				
	Detailed reports about cluster usage statistics. Reports of every user and jobs including their monthly usage, node usage, percentage of utilization, History tracking, number of completed, failed, queued and running jobs; estimated delay and average job duration.				
	Automated health check of nodes and Urgent alert messages about critical errors via SMS/E-mail.				
	IPMI and Ganglia should be installed and configured for GUI based monitoring for cluster management.				
	Licences of cluster management should be in the name of customer				
<b>9.4</b>	<b>Application Software</b>				

<p>The cluster should be installed with the following software, which will be benchmarked and evaluated as a part of acceptance test  HPL, OpenMPI, Open access software pipelines for Next Generation Sequencing (List to be provided).  Molecular Dynamics Simulation using Gromacs, NAMD and open access Parallel BLAST, python (with support libraries), FFTW, P3DFT, LAMMPS, Bioinformatics tools, Virtual Screening, and other AI and ML</p> <p><b>List of Softwares to be installed</b></p> <p>Open source /free/academic software</p> <pre> abyss 1.9.0 allpaths_lg 52488 anaconda 2.4.1 angsd 0.614 anyenv 1 armadillo 5.600.2 arpack 96 atlas 3.10.2 autoconf 2.69 autodock 4.2.6 automake 1.14.1 bcftools 1.2 bcftools 1.3 bedtools2.2.31 bedtools2.25.0 blas 2.20.1 blas 3.6.0 blast 3.5.0 blast 2.2.29 boost 1.57.0 boost (MPI) 1.57.0 boost (serial) 1.57.0 bzip2 1.0.6 cblas 3.5.0 cdo 1.6.9 cdo 1.7.2 cegma 2.5 cfitsio 3.37 cfitsio 3.38 clapack 3.2.1 cmake 3.1.0-rc3 cmake 3.4.2 </pre>				
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cp2k 2.6.0				
cp2k (MPI) 2.6.0				
cp2k (serial) 2.6.0				
cpmd 3.17.1				
cufflinks 2.2.1				
discover52488				
discoverdenovo 52488				
eigen 3.2.8				
eigensoft 6.0.1				
expat 2.1.0				
fds 5.5.3 / 6.1.2				
ferret 6.96				
fftw2 2.1.5				
fftw2 (mpi; double precision) 2.1.5				
fftw2 (mpi; single precision) 2.1.5				
fftw2 (serial; double precision) 2.1.5				
fftw2 (serial; single precision) 2.1.5				
fftw3 3.3.4				
fftw3 (mpi; double precision) 3.3.4				
fftw3 (mpi; single precision) 3.3.4				
fftw3 (serial; double precision) 3.3.4				
fftw3 (serial; single precision) 3.3.4				
fuse 2.9.3				
gapcloser 1.12r6				
genblasta 1.0.4				
geneid 1.4.4				
genometools 1.5.4				
glib 2.44.0				
gmp 6.0.0				
gnuplot 5.0.0				
gotoblas2 1.13				
greasy 2.1				
gromacs 5.0.4 with plumed 2.1.1				
gromacs 4.5.5 with plumed 1.3_dafed0.8				
gromacs 5.0.4 + cuda 7.0 (Single Precision)				
gromacs 5.0.4 Double/Single precision with plumed 2.1.1 + QMMM (gaussian)				
gsl 1.16				
gsl 2.1				
hdf5 1.8.13				
hdf5 (mpi) 1.8.16				
hdf5 (serial) 1.8.16				
help2man 1.47.2 / 1.47.3				
help2man 1.47.3				
hmmmer 3.1b1				
hmmmer 3.1b2				
jags 3.4.0				
jdk 1.8.0_31 / 1.7.0_75				
jdk 1.8.0_31				



jellyfish 2.2.3				
jellyfish 1.1.11				
jemalloc4.0.3				
jemalloc4.1.0				
julia 0.3.7				
kat 2.03 / 2.06				
kat 2.0.8				
kmergenie 1.6982				
kmergenie 1.7016				
lammmps 2014.02				
lammmps (MPI) 2014.02				
lammmps (serial) 2014.02				
lapack 3.5.0				
lapack 3.6.0				
libffi 3.2.1				
libgd 2.1.0				
libgd 2.1.1				
libgdGD 2.0.33				
libpng 1.6.24				
libtool 2.4.6				
libxml2 2.9.2				
m4 1.4.7				
makedepend 1.0.5				
makedepf90 2.8.8				
MGiza++ 2015.01				
morfessor 2.0.1				
morfessor 2.0.1 (Under Anaconda p27-NLP)				
Moses toolkit 3				
mpiblacs 3				
msmc 30092014				
multeval0.5.1				
musket 1.1				
mvapich2 2.1a				
mvapich2 2.2b				
mysql 5.6.24				
namd 2.1				
ncl 4.4.8				
ncl 6.3.0				
nco 5.9				
nco 4.5.2				
ncurses 4.3.3-rc2				
ncurses 5.9				
netcdf (mpi) 4.4.0				
netcdf (serial) 4.4.0				
netcdf-c 4.4.1				
netcdf-fortran 1.0.0				
netcdf-fortran (mpi) 4.4.2				
netcdf-fortran (serial) 4.4.2				
ngsTools 1.0.0				

oasis	3				
openblas	0.2.13				
openmm	6.0 + CUDA 7.0				
openmpi	1.8.3 & 1.6.5				
openmpi	1.10.2				
openssl	1.0.1i				
openssl	1.0.1q				
orca	2.9.1				
papi	5.4.1				
parallel	20150822				
parallel	20160222				
parpack	96				
pcre	8.37				
perl	5.20.1				
perl	5.22.1				
pgplot	5.2				
platanus	1.2.4				
pnetcdf	1.0.2				
pnetcdf	1.7.0				
presto	2015.02				
psrchive	6				
pyferret	1.2.0				
python	2.7.9				
python	2.7.11				
python	3.5.1				
quake	0.3.5				
quast	3.1				
R	3.1.2				
ranklib	2.1				
bam-readcount	0.01				
readline	6.3				
RELION	3.0				
ROOT	6.02.08				
root	6.06.02				
Ruby	2.2.2				
ruby	2.3.0				
samtools	1.3				
sbml	1.8				
scalapack	2.0.2				
screen	4.0.3				
screen	4.3.1				
soapdenovo2	r240				
sofia_ml	2015.01				
spades	3.6.0				
spades	3.7.1				
sparsehash	2.0.2				
sqlite	3.1				
sqlite	3.11.0				
SRILM toolkit	1.6.0				

svm-rank 1 svmtool 1.3.1 szip 2.1 tangram 0.3.1 tcltk 8.5.17 tedna 1.2.2 tempo 2015.02 texinfo 6 toolshed 2.1 Trimmomatic 0.32 vcftools 0.1.12b velvet 1.2.10 velvet-127 1.2.10 velvet-k127 1.2.10 xppaut 7 xz 5.2.1 zlib 1.2.8 AnnoVar Bamtools cn.MOPs CNVnator Chimerascan DeSeq EdgeR Fusioncatcher GATk 3.5. version Perl 5.24.0 R - Bioconductor packages 3.9 & latest RSEM Salmon STAR aligner STRELKA2 SnpEff and SnpSift SigFit bcl2fastq Fastqc_0.11.8 bedtools-2.27.0 bowtie2-2.2.3 bwa-0.7.17 cufflinks-2.2.1 fastqc-0.11.8 gatk-4.0.11.0 gatk-4.1.2.0 hisat2-2.1.0 htseq-0.11.0 htslib-1.9 minimap2 muTect-1.1.4 ncbi-blast				
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<p> picard-2.18.2  pindel  plink  qualimap-2.2.1  samtools-1.9  shapeit-2.12  SRA TOOLKIT  tophat-2.1.1  ssaha2-2.5.2  varscan-2.3.9  Relion 3  Motioncorr  MotionCor2  Gctf v1.06  CTFFind4.1.10  ResMap v1.1.4  CUDA Toolkit v9.2  MPICH v3.2.1  Chimera v1.13  Evince  FFTW3  IMOD v4.9.9  Gnuplot  Summovie v1.0.2  Unblur v1.0.2  EMAN v2.21  etc... </p> <p> Licenced software (if available)  -----  admirable 2015.01  allinea 5  amber  amber (MPI)  amber (serial)  castep 16.1  charm 6.7.0  comsol 4.4  crystal14 v1.0.1  cuda 7  Desmond_Maestro 2014.02  gaussian 09.D.01  gaussview 5.0.9  mathematica 9.0.1  mathematica 10.3.0  matlab R2014b, R2015a  matlab R2015b  METEOR 1.5  nbo 6 </p>				
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	soapdenovo2_prepare 2 stata 14 wien2k 13 etc...				
<b>9.5</b>	<b>Warranty and Support (NOT OPTIONAL)</b>	5 Yrs			
	Comprehensive Hardware and software warranty				
	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. At the Hyderabad Center, they should have a minimum of 1 certified HPC engineer residing in Hyderabad, who should have carried out at minimum three 5 TF or above HPC installations and should have experience and complete knowledge of HPC hardware and software used by the users mentioned in the below document and he should be able to provide support to the users 24x7x365 remotely and Next Business Day (NBD) onsite support. Details of the HPC engineers assigned to the projects and their Resume/CV, satisfactory performance letter/certificate from their Clients, where they have installed HPCs and provide hardware and software support having similar configurations should be enclosed (Mandatory, not optional)				
	One L2/L3 level trained personnel should be available to help at any time either remotely or in person for technical support for administration/maintenance/backup (both software and hardware levels) of HPC.				
	OEM/Vendor should not change the support engineers assigned to this project without CDFD-NGC IT in-charge knowledge.				
	Vendor/OEM engineer should visit CDFD every 90 days and carry out proper hardware & software health check of HPC cluster and submit report of the same to the CDFD-NGC IT in-charge.				

	Vendor will be responsible for taking measures (such as backup) to protect data during any upgrades of firmware/OS.				
	A helpdesk email account which is regularly monitored should be available to the 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 & cloud 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.				
	All critical components (at least one number each) should be stocked at the deployment site for immediate replacement.				
	Faulty parts should be replaced within 48 hours of logging a call.				
	CDFD has some existing infrastructure Servers, switches that the vendor has to integrate the same with this new infrastructure.				
<b>9.6</b>	<b>Documentation (NOT OPTIONAL)</b>				
	<ul style="list-style-type: none"> <li>• User Creation/Deletion/Modification.</li> <li>• Bringing up and shutting down the cluster.</li> <li>• Disk status monitoring of Master/IO nodes and storage enclosure.</li> <li>• Basic troubleshooting for storage and job scheduler.</li> <li>• Step by step installation guide for node configuration from scratch.</li> <li>• 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.</li> </ul>				

9.7	<b>Terms and conditions: (Mandatory, Not Optional)</b>				
	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.				
	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.				
	Delivery period will be 8 to 12 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.				
	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.				
	The HPC cluster, Storage and Cloud infrastructure should be completely assembled, tested with all application benchmarks mentioned in the tender at the OEM site before shipping and the results should be submitted to CDFD-NGC IT team in a CD/DVD, hard copies are not allowed. During the acceptance test, the vendor/ OEM should regenerate the same benchmark results, maximum allowable deviation for the benchmark results is only 1%.				
	All vendors participating in this tender must visit the CDFD site for a complete site survey and also meet with the CDFD-NGC IT team in the pre-bid conference for detailed discussions and clarifications, if any.				
	The installation should be done by certified and trained engineers for High Performance Computing (HPC) Cluster and Cloud Infrastructure followed by comprehensive user training.				
	Installation and integration of all supplied hardware and software shall be done by the vendor. The				

<p>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.</p>				
<p>Entire installation should be done at the proposed site only. Remote control of network will not be given during installation.</p>				
<p>Give all model numbers of master nodes, compute nodes, PFS storage, Infiniband switch model, cloud infrastructure.</p>				
<p>Provide case logging procedure for both hardware and software failure.</p>				
<p>OEM/bidder is responsible for all performance benchmarks and the quote should contain an undertaking certifying the same from the OEM/bidder.</p>				
<p>As a part of acceptance test, CDFD team will check all the software mentioned above, for at least 3 days. CDFD team will cross-check benchmarking and all other tests based on our input files in the fully offered solution.</p>				
<p>All LAN cabling should be done on-site as per the length required using CAT6. Use factory crimped CAT6A cables. All cabling should be done to provide efficient air circulation and should not block any air circulation behind the servers.</p>				
<p>Please specify the heat dissipation (in BTU) and max power consumption of each component when configures with the above configuration.</p>				
<p>All the required CAT6A 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.</p>				
<p>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.</p>				



	Itemized price list of each hardware item, software bundle and service and warranty to be given separately and clearly.				
	CDFD requires that there be a Single Point of Contact (SPOC) directly from OEM who is responsible for all issues between CDFD 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 sub-systems 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 CDFD along with the bid.				
	Entire solution to be implemented in 12-16 week timeline. Delay in delivery will have penalty. CDFD reserves the right to cancel the order if it is not deployed even after that.				
	Delay due to CDFD will not be considered in computing time				

10	<b>HPC Client Stations:</b> Latest generation 8 <sup>th</sup> or better Intel i7 PC with on board graphics card, USB Keyboard, Mouse and DVD R/W 16 GB DDR4 RAM 2x1 TB HDD 24-inch IPS monitor OS: Ubuntu/CentOS Preferred brands: HP or Dell ; 3 years onsite warranty	10			
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बोलीदाता का हस्ताक्षर  
 Sign. of Bidder

**TECHNICAL BID (PART - I)****अध्याय CHAPTER 5****अन्य प्रारूप OTHER FORMATS**

- a. Bid Form (Bid Covering Letter) - (Annexure-A)
- b. Manufacturers' Authorization Form - (Annexure-B)
- c. Bid Security Form / Earnest Money Deposit Form - (Annexure-C)
- d. List of Orders Executes - (Annexure-D)
- e. Undertaking for Reasonable Price – (Annexure-E)
- f. Performance Certificate – (Annexure-F)
- g. Check List - (Annexure-G)

**बोली फार्म (बोली आवरण पत्र)****BID FORM (BID COVERING LETTER) - Annexure-A**

*[The Bidder shall type this Form on their Letter Head and enclose this along with Bid.]*

To:

**The I/c – Stores & Purchase  
Centre for DNA Fingerprinting & Diagnostics,  
Inner Ring Road, HYDERABAD – 500039.**

We, the undersigned, declare that:

- (a) We have examined and have no reservations to the Bidding Documents, including Addenda (if any)
- (b) We offer to supply in conformity with the Bidding Documents and in accordance with the Delivery Schedules specified in the Tender Document
- (c) Our bid shall be valid for from the date fixed for the bid submission deadline, and it shall remain binding upon us and may be accepted at any time before the expiration of that period;
- (d) If our bid is accepted, we commit to obtain a performance security for due performance of the Contract;
- (e) We understand that this bid, together with your written acceptance thereof included in your notification of award/placement of Order, shall constitute a binding contract between us.
- (f) We understand that you are not bound to accept the lowest evaluated bid or any other bid that you may receive.

Signed:

Name:

Duly authorized to sign the bid for and on behalf of:

Dated on \_\_\_\_\_ day of \_\_\_\_\_, \_\_\_\_\_

**TECHNICAL BID (PART - I)****निर्माता 'प्राधिकरण फार्म****MANUFACTURERS' AUTHORIZATION FORM - Annexure-B**

No:  
 The I/c – Stores & Purchase,  
 Centre for DNA Fingerprinting & Diagnostics,  
 Inner Ring Road, HYDERABAD – 500039.

Dated: \_\_\_\_\_

Dear Sir:

We \_\_\_\_\_ who are established and reputed manufacturers of the equipment having factories at \_\_\_\_\_ (address of factory) do hereby authorize M/s. (Name and address of Agent) to submit a bid, negotiate and receive the order from you against your Tender No. \_\_\_\_\_ dt. \_\_\_\_\_.

No company or firm or individual other than M/s. \_\_\_\_\_ is authorized to bid, and conclude the contract in regard to this business.

We hereby extend our full guarantee and warranty as per the Terms and Conditions of the above Tender for the goods and services offered by the above firm.

Yours faithfully,

(Name)  
 (Name of manufacturers)

**Note:** This letter of authority should be on the **letterhead of the manufacturer** and should be signed by a person competent and having the power of attorney to bind the manufacturer. It should be enclosed by the Bidder in its bid.

**TECHNICAL BID (PART - I)**

**बोली सुरक्षा / अर्नेस्ट पैसा जमा फार्म**  
**BID SECURITY / EARNEST MONEY DEPOSIT FORM – Annexure-C**

Whereas \_\_\_\_\_ (hereinafter called the tenderer) has submitted their offer dated \_\_\_\_\_

for the supply of \_\_\_\_\_ (hereinafter called the tender) Against the purchaser's tender enquiry No. \_\_\_\_\_

KNOW ALL MEN by these presents that WE \_\_\_\_\_ of \_\_\_\_\_ having our registered office at \_\_\_\_\_ are bound unto \_\_\_\_\_ (hereinafter called the "Purchaser") In the sum of \_\_\_\_\_

For which payment will and truly to be made to the said Purchaser, the Bank binds itself, its successors and assigns by these presents.

Sealed with the Common Seal of the said Bank this \_\_\_\_\_ day of \_\_\_\_\_ 20 \_\_\_\_\_.

THE CONDITIONS OF THIS OBLIGATION ARE:

- (1) If the tenderer withdraws or amends, impairs or derogates from the Tender in any respect within the period of validity of this tender.
- (2) If the tenderer having been notified of the acceptance of his tender by the Purchaser during the period of its validity:
  - a) If the tenderer fails to furnish the Performance Security for the due Performance of the contract.
  - b) Fails or refuses to accept/execute the contract.

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

This guarantee will remain in force up to and including 45 days after the period of tender validity and any demand in respect thereof should reach the Bank not later than the above date.

(Signature of the authorized officer of the Bank)

Name and designation of the officer

Seal, name & address of the Bank and address of the Branch

**TECHNICAL BID (PART - I)**

**निष्पादित आदेशों की सूची**  
**LIST OF ORDERS EXECUTED – ANNEXURE – D**

Sl. No.	CLIENT – 1	CLIENT – 2	CLIENT – 3
1.	Name & Address of the Purchaser	Name & Address of the Purchaser	Name & Address of the Purchaser
2.	Purchase Order No. and Date	Purchase Order No. and Date	Purchase Order No. and Date
3.	Description of material:	Description of material:	Description of material:
	Make/Model:	Make/Model:	Make/Model:
	Qty:	Qty:	Qty:
4.	Date of Installation	Date of Installation	Date of Installation
5.	Contact Details	Contact Details	Contact Details
	Name: _____	Name: _____	Name: _____
	Email: _____	Email: _____	Email: _____
	Tel. No.: _____	Tel. No.: _____	Tel. No.: _____

Please note that priority of selection of your bid will be based on the above credentials. Therefore please submit at least 3 order details successfully executed during the past 3 years.

**बोलीदाता का हस्ताक्षर**  
Sign. of Bidder

**TECHNICAL BID (PART - I)****उचित मूल्य के लिए उपक्रम****UNDERTAKING FOR REASONABLE PRICE – ANNEXURE - E**

This is to Certify that we have offered the possible reasonable prices vide our quote No. \_\_\_\_\_  
and we further undertake that we will not offer less than the offered rates during the validity period to any other State /  
Central / PSU / Autonomous Bodies / Universities / R&D Institutes / Pharmaceutical Laboratories / Public Limited Companies.

**Place:**

**Date:**

**सील के साथ बोलीदाता का हस्ताक्षर**  
**Sign. of Bidder with Seal**

**TECHNICAL BID (PART - I)****प्रदर्शन प्रमाण  
PERFORMANCE CERTIFICATE – Annexure-F****Date:** \_\_\_\_\_**TO WHOMSOEVER IT MAY CONCERN**

This is to certify that \_\_\_\_\_ (Name of the Bidder) had supplied \_\_\_\_\_ (Equipment Name) and provided the necessary support during the period from \_\_\_\_\_ to \_\_\_\_\_ and their performance is \_\_\_\_\_.

This certificate is issued at their request.

**(Authorized Signatory)****Name:****Seal:**



**TECHNICAL BID (PART - I)**

**जाँच सूची**  
**CHECK LIST - Annexure-G**

<b>S. No.</b>	<b>Particulars</b>	<b>Indicate Yes/No</b>	<b>Enclosure No.</b>
1	Tender Document Fee DD		
2	Bid Form ( Bid Covering Letter ) attached		
3	Detailed Quotation along with Terms & Conditions		
4	Copy of Firm Registration / VAT / TOT attached		
5	Copy of GST attached		
6	Authorization Certificates from OEM attached		
7	Earnest Money Deposit/BG attached		
8	Exemption claimed for EMD / BG and proof attached		
9	Photocopies of Purchase Orders / Installation Reports as per eligibility Criteria attached		
10	UAM Copy enclosed or not		
11	Bidder Performance Statement		
12	Undertaking for Reasonable Price offer		
13	Performance Certificate		
14	CDFD Tender Document duly signed and stamped attached		

SIGNATURE OF BIDDER WITH SEAL:

Email ID:

Contact Number:

Name:

निविदा दस्तावेज  
TENDER DOCUMENT

के लिये  
FOR

HIGH PERFORMANCE COMPUTING (HPC) CLUSTER  
WITH CLOUD INFRASTRUCTURE UNDER  
COMPUTATIONAL PLATFORM AND ACCESSORIES

TENDER # PUR/APF/2019-20/IND13335



सी डी एफ डी  
CDFD

डी एन ए फिंगरप्रिंटिंग एवं निदान केंद्र  
Centre for DNA Fingerprinting and Diagnostics  
इनर रिंग रोड, उप्पल, हैदराबाद - 500039  
Inner Ring Road, Uppal, HYDERABAD - 500039  
(तेलंगाना राज्य) भारत  
(Telangana State) India

**PRICE BID (PART - II)****अध्याय CHAPTER 4****मूल्य सूची PRICE SCHEDULE (To be quoted in Foreign Currency)**

Sl. No	Description	Qty	Unit/Price	Discount	Taxes (if any)	Total Amount
1	Master Node	2 Nos.				
2	Compute Nodes Servers	20 Nos.				
3	High density and low latency 2 PiB Parallel File System (PFS) Storage appliance with 40 GBps Read and write performance	1 No.				
4	1U KVM module with IP over KVM switch	1 No.				
5	Primary Interconnect	1 No.				
6	NIC (for Primary Interconnect)	As Required				
7	Secondary Switch	2 Nos				
8	Cloud Infrastructure with 10GigE(RJ45) or better interconnect (Infrastructure Nodes: 1 controller Node + 4 Compute Nodes)					
	(a) Cloud Controller Nodes	1 No.				
	(b) Cloud Compute Nodes	4 Nos.				
9	Hardware & Software installation, warranty & support					
10	HPC Client Stations	10 Nos				
11	Payment Terms					
12	Delivery Schedule					
13	Validity					
14	Warranty					

GRAND TOTAL: In Figures \_\_\_\_\_

In Words: (\_\_\_\_\_)

**Note: The Bidder may please fill in this form or the same may be typewritten on the Letter Head of the Bidder exactly as per the above format and submit the same as per the instructions given in the tender document.**

**बोलीदाता का हस्ताक्षर**  
Sign. of Bidder

**PRICE BID (PART - II)****Other Items If any Please list out**

<b>S.No</b>	<b>Item Description</b>	<b>Qty</b>	<b>Unit price</b>	<b>Taxes As applicable</b>	<b>Total Amount</b>
1					
2					
3					
4					
5					
6					

बोलीदाता का हस्ताक्षर  
Sign. of Bidder