

**GOVERNMENT OF INDIA  
DEPARTMENT OF SPACE  
ISRO TELEMETRY TRACKING & COMMAND NETWORK (ISTRAC)  
BANGALORE**

**Tender for NAS storage system**

**Bids to be submitted online**

**Tender No.: ISTRAC/ISTRAC PURCHASE/TR202100002601 dated 16-07-2021**

## A. Tender Details

Tender No : **ISTRAC/ISTRAC PURCHASE/TR202100002601**

Tender Date : **16-07-2021**

Tender Classification: **GOODS**

Purchase Entity : **ISTRAC PURCHASE**

Centre : **ISRO TELEMETRY TRACKING & COMMAND NETWORK (ISTRAC)**

### Supply, Installation and Commissioning of NAS storage system

NOTE: 1) This is a Dual Part Tender. Please submit your Offers separately for Technical and Price Bid under relevant Template. Please upload Price Bid under Price Bid only and nowhere else. If price is mentioned anywhere other than Price Bid, your offer will not be considered. 2) Please provide your compliance separately for (a) Performance Bank Guarantee clause (b) Liquidated Damages clause (c) Security Deposit clause and (d) Submission of Certificate of Undertaking. 3) The Technical Bid and Price Bid opening date and time is tentative only. Actual bid opening date and time will be intimated separately.

#### A.1 Tender Schedule

Bid Submission Start Date : **16-07-2021 18:00**

Bid Clarification Due Date : **20-08-2021 17:00**

Bid Submission Due Date : **31-08-2021 17:00**

Bid Opening Date : **01-09-2021 09:00**

Price Bid Opening Date : **06-09-2021 09:00**

## **B. Tender Attachments**

NA

### **Instructions To Vendors**

#### **1. INSTRUCTIONS TO TENDERERS FOR ONLINE SUBMISSION OF TENDERS THROUGH E-PROCUREMENT SYSTEM**

1. Conditions for online submission of tenders:

- a) It is mandatory for interested parties to register as vendors in our e-procurement portal <https://eproc.vssc.gov.in/home.html> for participating in online eProcurement process of ISRO. Only registered vendors can submit their offers online in our eProcurement portal.
- b) Vendors who are already registered in the existing EGPS software of ISRO, please register by clicking the link in the email you would have already received from 'eproc@vssc.gov.in'. After registration, do the profile update by login to this portal.
- c) For new vendors, who are not registered in the existing EGPS software, vendor registration will be released along with the portal release. To register as vendors please refer to the help demos listed on the home page of the e-procurement link mentioned above. They may approach help desk (contact details provided on the home page) for any technical help for registration and subsequent process.

2. a) Bidders shall arrange themselves all resources, including Digital signature certificates and Internet Connections at their own cost, for participating in online tendering.

b) Vendors can download the tender details and submit their offers online using their vendor accounts (obtained during registration) in our portal. Help demos for tender download and bidding processes are given on home page.

c) The tender should be submitted online in the ISTRAC link before the due date and time as specified in the tender schedule in the portal.

d) Vendors shall also take note of other Instructions to tenderers indicated in the tender documents.

3. Procedure for seeking clarifications/help for the tender:

a) All enquiries regarding the tenders and submission of offers shall be online and only through our eProcurement portal.

b) Vendors may approach help desk e-mail id and phone number given on the home page for any technical help (e-mail: [eproc@vssc.gov.in](mailto:eproc@vssc.gov.in) and Phone: +91471 2565454/4574/2527/3753/3289).

4. ISTRAC shall not be responsible for failure of vendors in submitting bids online caused due to technical reasons at vendor end such as network or power failures, computer failure, internet-browser, mistakes / errors in filling the bids on line by vendor etc.

5. Queries by vendors on technical problems on the last day of tender will not be binding on ISTRAC/ISRO for resolving/addressing. ISTRAC will not be responsible for non-submission of bids for those cases.

## **2. PROFORMA FOR INSTRUCTIONS TO TENDERERS AND TERMS & CONDITIONS OF TENDER**

1. PRICES: Tender offering firm prices will be preferred. Where a price variation clause is insisted upon by a tenderer, quotation with a reasonable ceiling should be submitted. Such offers should invariably be supported by the base price taken into account at the time of tendering and also the formula for any such variation/s.

2. a) Your offer should be valid for 120 days from the date of opening of the tender. b) Prices are required to be quoted according to the units indicated in the annexed tender form. When quotations are given in terms of units other than those specified in the tender form, relationship between the two sets of units must be furnished.

3. The term Purchase Order shall mean the communication signed on behalf of the Purchaser by an Officer duly authorised intimating the acceptance on behalf of the Purchaser on the terms and conditions mentioned or referred to in the said communication accepting the tender or offer of the Contractor for supply of stores or plant, machinery or equipment or part thereof.

4. Please provide your compliance for Security Deposit, Performance Bank Guarantee and Liquidated Damages Clause.

5. CUSTOMS DUTY : This office is eligible for Concessional Customs Duty @ 5.5% against Ministry of Finance, Department of Revenue, Government of India, vide Customs Notification No.51/96-Cus Dated 23-07-1996 (Sl.No.1) and amended under Notification No.93/96 dated 11th December 1996 and 24/2002 dated 01-03-2002

6. GST : This office is eligible for Concessional GST @ 5% against Ministry of Finance, Department of Revenue Notification No. 45/2017, Central Tax (Rate) and No. 47/2017, Integrated Tax (Rate) dated 14-11-2017.

7. It is to be noted that either Customs Duty or GST is applicable ( any one)

8. If the IGST is applicable, the same will be reimbursed if it is reflected in Bill Of Entry. Proof shall be provided while claiming payment.

9. SECURITY DEPOSIT: Wherever, the Purchase Order value is Rs. 5.00 Lakhs or more, on acceptance of the tender, the Contractor shall, at the option of the Purchaser and within the period specified by him, deposit with him, in cash or in any other form as the Purchaser may determine,

security deposit not exceeding ten percent of the value of the Contract as the Purchaser shall specify. If the Contractor is called upon by the Purchaser to deposit, 'Security' and the Contractor fails to provide the security within the period specified, such failure shall constitute a breach of the Contract, and the Purchaser shall be entitled to make other arrangements for the re-purchase of the stores Contracted at the risk of the Contractor in terms of Sub-Clause (ii) and (iii) of clause regarding Delivery. (b) hereof and/or to recover from the Contractor, damages arising from such cancellation.

10. Sales Tax and/or other duties/levies legally leviable and intended to be claimed should be mentioned in the price bid template. If nothing is mentioned, then it will be presumed that the rate quoted is inclusive of all taxes/duties.

## 11. TERMS & CONDITIONS OF TENDER

12. TEST CERTIFICATE: Wherever required, test certificates should be sent along with the despatch documents.

13. The Purchaser reserves the right to place order on the successful tenderer for additional quantity up to 25% of the quantity offered by them at the rates quoted.

14. The authority of the person signing the tender, if called for, should be produced.

15. The purchaser shall be under no obligation to accept the lowest or any tender and reserves the right of acceptance of the whole or any part of the tender or portions of the quantity offered and the tenderers shall supply the same at the rates quoted.

16. a) All available technical literature, catalogues and other data in support of the specifications and details of the items should be furnished along with the offer.

(b) Samples, if called for, should be submitted free of all charges by the tenderer and the Purchaser shall not be responsible for any loss or damage thereof due to any reason whatsoever. In the event of nonacceptance of tender, the tenderer will have to remove the samples at his own expense.

(c) Approximate net and gross weight of the items offered shall be indicated in your offer. If dimensional details are available the same should also be indicated in your offer.

(d) Specifications: Stores offered should strictly confirm to our specifications. Deviations, if any, should be clearly indicated by the tenderer in his quotation. The tenderer should also indicate the Make/Type number of the stores offered and provide catalogues, technical literature and samples, wherever necessary, along with the quotations. Test Certificates, wherever necessary, should be forwarded along with supplies. Wherever options have been called for in our specifications, the tenderer should address all such options. Wherever specifically mentioned by us, the tenderer could suggest changes to specifications with appropriate response for the same.

17. The tenderer should supply along with his tender, the name of his bankers as well as the latest

Income-Tax clearance certificate duly countersigned by the Income-Tax Officer of the Circle concerned under the seal of his office, if required by the Purchaser.

18. The term Contractor shall mean, the person, firm or company with whom or with which the order for the supply of Stores is placed and shall be deemed to include the Contractor's successors, representative, heirs, executors and administrators unless excluded by the Contract.

19. The term Purchaser shall mean the President of India or his successors or assigns.

20. The term "Stores" shall mean what the Contractor agrees to supply under the Contract as specified in the Purchase Order including erection of plants & machinery and subsequent testing, should such a condition is included in the Purchase Order.

21. ACCEPTANCE OF STORES: (a) The stores shall be tendered by the Contractor for inspection at such places as may be specified by the purchaser at the Contractor's own risk, expense and cost. (b) It is expressly agreed that the acceptance of the stores Contracted for, is subject to final approval by the purchaser, whose decision shall be final. (c) If, in the opinion of the purchaser, all or any of the stores do not meet the performance or quality requirements specified in the Purchase Order, they may be either rejected or accepted at a price to be fixed by the purchaser and his decision as to rejection and the prices to be fixed shall be final and binding on the Contractor. (d) If the whole or any part of the stores supplied are rejected in accordance with Clause No. (c) above, the purchaser shall be at liberty, with or without notice to the Contractor, to purchase in the open market at the expense of the Contractor stores meeting the necessary performance and quality Contracted for in place of those rejected, provided that either the purchase, or the agreement to purchase, from another supplier is made within six months from the date of rejection of the stores as aforesaid.

22. REJECTED STORES: Rejected stores will remain at destination at the Contractor's risk and responsibility. If instructions for their disposal are not received from the Contractor within a period of 14 days from the date of receipt of the advice of rejection, the purchaser or his representative has, at his discretion, the right to scrap or sell or consign the rejected stores to Contractor's address at the Contractor's entire risk and expense, freight being payable by the Contractor at actuals.

23. As a Government of India Department, this office is exempted from payment of Octroi and similar local levies. Tenderers shall ensure that necessary Exemption Certificates are obtained by them from the Purchase Officer concerned to avoid any payment of such levies.

24. DESPATCH: The Contractor is responsible for obtaining a clear receipt from the Transport Authorities specifying the goods despatched. The consignment should be despatched with clear Railway Receipt/Lorry Receipt. If sent in any other mode, it shall be at the risk of the Contractor. Purchaser will take no responsibility for short deliveries or wrong supply of goods when the same are booked on 'said to contain' basis. Purchaser shall pay for only such stores as are actually received by

them in accordance with the Contract.

**25. PACKING FORWARDING & INSURANCE:** The Contractor will be held responsible for the stores being sufficiently and properly packed for transport by rail, road, sea or air to withstand transit hazards and ensure safe arrival at the destination. The packing and marking of packages shall be done by and at the expense of the Contractor. The purchaser will not pay separately for transit insurance, all risks in transit being exclusively of the Contractor and the Purchaser shall pay only for such stores as are actually received in good condition in accordance with the Contract.

**26. GUARANTEE & REPLACEMENT:** (a) The Contractor shall guarantee that the stores supplied shall comply fully with the specifications laid down, for material, workmanship and performance. (b) Warranty shall be for the period mentioned in the tender document. After the acceptance of the stores, if any defects are discovered therein or any defects therein found to have developed under proper use, arising from faulty stores design or workmanship, the Contractor shall remedy such defects at his own cost provided he is called upon to do so within the warranty period, by the purchaser who shall state in writing in what respect the stores or any part thereof are faulty. (c) If, in the opinion of the purchaser, it becomes necessary to replace or renew any defective stores such replacement or renewal shall be made by the Contractor free of all costs to the purchaser, provided the notice informing the Contractor of the defect is given by the purchaser in this regard within the said period of warranty from the date of acceptance thereof. (d) Should the Contractor fail to rectify the defects, the purchaser shall have the right to reject or repair or replace at the cost of the Contractor the whole or any portion of the defective stores. (e) The decision of the Purchaser notwithstanding any prior approval or acceptance or inspection thereof on behalf of the Purchaser, as to whether or not the Stores supplied by the Contractor are defective or any defect has developed within the said period of warranty or any other period or as to whether the nature of defects requires renewal or replacement, shall be final, conclusive and binding on the Contractor. (f) To fulfill guarantee conditions outlined in (a) to (e) above, the Contractor shall, at the option of the Purchaser, furnish a Bank Guarantee (as prescribed by the Purchaser)

**27. SETTLEMENT OF DISPUTES :** Except as otherwise specifically provided in the contract, all disputes concerning question of fact arising under the Contract shall be decided by the Purchaser subject to a written appeal by the Contractor to the Purchaser whose decision shall be final to the parties hereto. Any disputes or differences including those considered as such by only one of the parties arising out of or in connection with the Contract shall be, to the extent possible, settled amicably between the parties. If amicable settlement cannot be reached, then all disputes shall be settled by arbitration.

**28. ARBITRATION :** All disputes, differences, claims and demands arising under or pursuant to or touching this agreement shall be referred to Arbitration of a sole Arbitrator to be appointed by the Director, ISTRAC, whose decision/award will be final and binding on both the parties. Such arbitration shall be held in Bangalore and shall be subject to and governed by the provisions of the Arbitration and

Conciliation Act of 1996 or any statutory modification or re-enactment thereof. The language to be used in Arbitration is English only.

29. JURISDICTION : The contract/ purchase order shall be governed by an interpreted and construed in accordance with the laws of India. The courts situated at Bangalore only shall have jurisdiction to deal with and decide any legal matter or dispute arising out of contract/ purchase order.

### **3. CERTIFICATE OF UNDERTAKING**

1. GOVERNMENT OF INDIA  
DEPARTMENT OF SPACE  
ISTRAC, BENGALURU: 560 058.

2. Subject: Restrictions under Rule 144 (xi) of the General Financial Rules (GFRs) 2017 - reg.

#### **3. REQUIREMENT OF REGISTRATION:**

4. Any bidder from a country which shares a land border with India will be eligible to bid in this tender only if the bidder is registered with the Competent Authority. (Competent authority is : DEPARTMENT FOR PROMOTION OF INDUSTRY AND INTERNAL TRADE (DPIIT)).

5. BIDDER (including the term tenderer, consultant or service provider in certain contexts) means any person or firm or company, including any member of a consortium or joint venture (that is an association of several persons, or firms or companies), every artificial juridical person not falling in any of the descriptions of bidders stated hereinbefore, including any agency branch or office controlled by such person, participating in a procurement process.

6. Bidder from a country which shares a land border with India for the purpose means:

- (a) An entity incorporated, established or registered in such a country; or
- (b) A subsidiary of an entity incorporated, established or registered in such a country; or
- (c) An entity substantially controlled through entities incorporated, established or registered in a such a country; or
- (d) An entity whose beneficial owner is situated in such a country; or
- (e) An Indian (or other) agent of such an entity; or
- (f) A natural person who is a citizen of such a country; or
- (g) A consortium or joint venture where any member of the consortium or joint venture falls under any of the above.

7. The beneficial owner for the purpose of (6) above will be as under:



8. i) In case of a company or Limited Liability Partnership, the beneficial owner is a natural person(s), who, whether acting alone or together, or through one or more juridical person, has a controlling ownership interest or who exercises control through other means.

9. Explanation:

(a) Controlling Ownership interest means ownership of or entitlement to more than twenty-five per cent of shares or capital or profits of the company;

10. (b) Control shall include the right to appoint majority of the directors or to control the management or policy decisions including by virtue of their shareholding or management rights or shareholders agreements or voting agreements.

11. ii) In case of a partnership firm, the beneficial owner is the natural person(s) who, whether acting alone or together, or through one or more juridical person, has ownership of entitlement to more than fifteen percent of capital or profits of the partnership.

12. iii) In case of an unincorporated association or body of individuals, the beneficial owner is the natural person(s), who, whether acting alone or together, or through one or more juridical person, has ownership of or entitlement to more than fifteen percent of the property or capital or profits of such association or body of individuals.

13. iv) Where no natural person is identified under (i) or (ii) or (iii) above, the beneficial owner is the relevant natural person who holds the position of senior managing official.

14. v) In case of a trust, the identification of beneficial owner(s) shall include identification of the author of the trust, the trustee, the beneficiaries with fifteen percent or more interest in the trust and any other natural person exercising ultimate effective control over the trust through a chain of control or ownership.

15. An AGENT is a person employed to do any act for another, or to represent another in dealings with third person.

16. A certificate from the bidder shall be enclosed along with their quotation (Technical bid) as per the format enclosed.

17. (TO BE PRINTED ON THE LETTER HEAD OF THE VENDOR)

18. CERTIFICATE

19. Ref:Tender No \_\_\_\_\_ date \_\_\_\_\_

Our Quotation No. \_\_\_\_\_ date \_\_\_\_\_

20. (i).I/WE \_\_\_\_\_ read the clause regarding restrictions on procurement from a bidder of a country which shares a land border with India. I / We \_\_\_\_\_ Certify that this bidder is not from such a country.

21. OR\*

I/We \_\_\_\_\_ read the clause regarding restrictions on procurement from a bidder of a country which shares a land border with India.

22. I / We \_\_\_\_\_ Certify that this bidder is from such a country and registered with the Competent Authority (i.e. Registration Committee constituted by the Department for Promotion of Industry and Internal Trade (DPIIT). Copy of Registration Certificate is enclosed.

23. (ii).I/We hereby confirm that the country of origin of goods is \_\_\_\_\_

24. (iii).I/We \_\_\_\_\_ hereby undertake that if the Certificate is found to be false at any given time ISRO/ISTRAC may treat this as a ground for immediate termination and further legal action in accordance with law can be initiated.

25. SIGNATURE:

26. NAME:

27. DESIGNATION:

28.

COMPANY NAME AND SEAL:

29. ( \* Strike out whichever is not applicable).

## C. Bid Templates

### C.1 Technical Bid - NAS storage system

#### 1. DISK BASED DATA STORAGE SYSTEMS (NAS, SAN, DAS, RAID, JBOD ETC.)

#### Item specifications for DISK BASED DATA STORAGE SYSTEMS (NAS, SAN, DAS, RAID, JBOD ETC.)

SI No	Specification	Value	Compliance	Offered Specification	Remark
1	Usable Capacity of Storage System in TB using NL-SAS or better	The storage should be provided Minimum 200 TB usable capacity shall be excluding RAID, hot spare, disk formatting overheads. The storage must be configured with maximum of 8TB disk size. If higher capacity drives are offered, the calculation for usable storage must be based on 8 TB drives only.	Yes / No / Explain		
2	Type of Drive	NL-SAS or better	Yes / No / Explain		
3	RAID Configuration	The storage should be provided with 200TB usable space. The storage must be configured with 8TB disk size with RAID 10 configuration.	Yes / No / Explain		
4	Global hot spare disks ratio for NL-SAS or better disk of same capacity and speed.	20:1 (For Twenty disks one spare should be provided) or better	Yes / No / Explain		
5	Number of controllers in the storage system allowing modular scalability by adding disks and enclosures as and when required.	Minimum of two or higher with No-Single Point of failure	Yes / No / Explain		

6	Total cache (Total Cache means sum of cache memory configured across all the storage controllers in the system.)	256 Giga Bytes (GB) or higher.	Yes / No / Explain		
7	operating system	Storage system should be based on Appliance with specialized Storage OS and should not be based on general purpose Operating System like Windows and Linux. Storage controller sizing and numbers is to be kept into consideration with reference to usable capacity and cache as mentioned above.	Yes / No / Explain		
8	Minimum number of Front-end Ports of 10Gbps or higher	Total 4 * FC16 and 4 * 10G ports per controller.	Yes / No / Explain		
9	Enabling of Storage Allocation Quotas	For directories and users	Yes / No / Explain		
10	The Storage system should have unified capability, i.e., should support file, block, object (S3) access with host connectivity (Protocol support)	The storage system must support FCP, ISCSI, NFS, CIFS Protocols-NFSv3, NFSv4.1 (with parallel NFS support), for NAS, Object (S3) connectivity. The Storage should support user and group quotas on NFS v4 and CIFS file systems.	Yes / No / Explain		

11	Storage support	Proposed Storage should support simultaneous access to same file data from Linux/Unix and Windows users. It should also support File Locking feature for Data protection from corruption while sharing files between UNIX and Windows users. It should be possible to define Windows Permissions (ACL) and Unix permissions on the same file.	Yes / No / Explain		
12	The System must be dedicated appliance.	Specifically optimized OS to provide Unified system functionalities. The Architecture shall allow modular upgrades of both hardware and software. Storage must be configured with sufficient number of Multicore 64 bit processors, so as to give the required throughput performance and redundancy.	Yes / No / Explain		
13	Enterprise Class disk arrays should be used by the Vendor for meeting the Capacity and Performance requirements.	The disk arrays should be of same make as that of storage controllers and the Vendor should ensure interoperability for data exchange and storage array replication with bandwidth optimization and encryption. All the disk arrays should be manageable.	Yes / No / Explain		
14	The Storage System should support non-disruptive component repair and hot replacement of Interfaces	The storage system should support non-disruptive addition and replacement of storage systems and components, scaling should occur non-disruptively	Yes / No / Explain		

15	Storage array expansions	Upto 512 Tera Bytes (TB) usable capacity in single namespace	Yes / No / Explain		
16	Architecture	Storage solution should have Truly distributed clustered architecture. The storage should provide 99.99% availability architecture or better.	Yes / No / Explain		
17	The Storage System should have pro-active maintenance	Like self-monitoring, self-diagnosing and wherever possible, self-repairing features	Yes / No / Explain		
18	Suitable rack enclosures	The vendor shall quote for rack mountable storage.	Yes / No / Explain		
19	With multiple files of sizes each 5GB in a single name space placed in storage area, a demonstrable minimum sustainable read throughput with 32KB block size at 50% storage fill during ATP or Better performance	2.5 GB/sec or higher with multiple clients simultaneous access. This performance should be demonstrated for NFS and CIFS access using standard tool like IOR/IOZone	Yes / No / Explain		
20	With multiple files of sizes each 5GB in a single name space placed in storage area, a demonstrable minimum sustainable write throughput with 32KB block size at 50% storage fill during ATP or Better	2.5 GB/sec or higher with multiple clients simultaneous access. This performance should be demonstrated for NFS and CIFS access using standard tool like IOR/IOZone.	Yes / No / Explain		
21	The management software should be able to collect and show data for performance analysis	Single management, easy to use GUI based and web enabled administration interface for configuration, storage management and performance analysis tools for both block and file.	Yes / No / Explain		

22	For a required solution multiple clients will be accessing storage space simultaneously , accordingly, if required necessary license have to be included in the quotation by the vendor	In-compliance with the specifications	Yes / No / Explain		
23	Operating system Support	Proposed Storage should support simultaneous access to same file data from Linux/Unix and Windows users. It should also support File Locking feature for Data protection from corruption while sharing files between UNIX and Windows users. It should be possible to define Windows Permissions (ACL) and Unix permissions on the same file	Yes / No / Explain		
24	<ul style="list-style-type: none"> <li>Storage array should have the ability to expand or shrink the Volumes online and instantly on the storage.</li> <li>File access must be possible to set quotas at User, Group.</li> </ul>	In-compliance with the specifications	Yes / No / Explain		
25	<ul style="list-style-type: none"> <li>Storage array Volume should have provision for read and write permission based on User/Group. Many users can read and few can write to a volume.</li> </ul>	In-compliance with the specifications	Yes / No / Explain		

26	<ul style="list-style-type: none"> <li>• Single management, easy to use Graphical User Interface (GUI) based and/or web enabled administration interface for configuration, storage management and performance analysis tools for both block and file levels.</li> </ul>	In-compliance with the specifications	Yes / No / Explain		
27	<ul style="list-style-type: none"> <li>• there should be a Command Line Interface (CLI) as well for cluster management.</li> </ul>	In-compliance with the specifications	Yes / No / Explain		
28	<ul style="list-style-type: none"> <li>• In the event of power failure, data in the cache should be safely written to the disks/flash and the System should perform a graceful shutdown. Alternatively, the cache should also have battery backup or equivalent mechanism needs to be provided.</li> </ul>	In-compliance with the specifications	Yes / No / Explain		
29	Cache should be protected for Writes either through a battery backup or by destaging to flash/disk.	In-compliance with the specifications	Yes / No / Explain		
30	<ul style="list-style-type: none"> <li>• The Vendor should quote all the required set of licenses, set of interconnects/cables etc. for the offered configuration. License if any for full capacity in blocks may be provided.</li> </ul>	In-compliance with the specifications	Yes / No / Explain		
31	<ul style="list-style-type: none"> <li>• Necessary hardware and software should be offered for user management for storage system.</li> </ul>	In-compliance with the specifications	Yes / No / Explain		



32	<ul style="list-style-type: none"> <li>• Connectivity between disk shelves and Storage controllers should have redundant access path.</li> </ul>	In-compliance with the specifications	Yes / No / Explain		
33	<ul style="list-style-type: none"> <li>• Should support snapshot, replication etc.</li> </ul>	In-compliance with the specifications	Yes / No / Explain		
34	Redundancy	No single point of failure for power supply, fan, controller etc.	Yes / No / Explain		
35	Warranty	5 Years, NBD support for Hardware & software directly from the OEM	Yes / No / Explain		
36	Installation & Commissioning	<ul style="list-style-type: none"> <li>• Vendor should install &amp; commission the systems as per the configuration at ISTRAC Bangalore.</li> <li>• System installation, commissioning is the sole responsibility of the vendor. It includes the installation of all hardware, software, all necessary device drivers and system libraries in all the work stations.</li> </ul>	Yes / No / Explain		

37	Notes to the Vendor	<ul style="list-style-type: none"> <li>• For all items in the list of deliverables offered by the vendor, the manufacturer's part number should be clearly indicated.</li> <li>• Offer of items without clear specification of part number is not acceptable.</li> <li>• Vendor should indicate the part nos. of the deliverable items clearly. The part numbers &amp; description of the items in the offer should match the part numbers &amp; description of the items mentioned in the manufacturer's spec sheets.</li> <li>• The part numbers &amp; description of the goods delivered should match the part numbers &amp; description in the offer.</li> <li>• Vendor should provide technical brochure from manufacturer for all subsystems to verify the current status</li> <li>• Vendor should not quote products from boarder sharing countries with India</li> </ul>	Yes / No / Explain		
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**Document : Specification**

**Common Specifications (Applicable for all items)**

SI No	Specification	Value	Compliance	Offered Specification	Remark
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1	Usable Capacity of Storage System in TB using NL-SAS or better	The storage should be provided Minimum 200 TB usable capacity shall be excluding RAID, hot spare, disk formatting overheads. The storage must be configured with maximum of 8TB disk size. If higher capacity drives are offered, the calculation for usable storage must be based on 8 TB drives only.	Yes / No / Explain		
2	Type of Drive	NL-SAS or better	Yes / No / Explain		
3	RAID Configuration	The storage should be provided with 200TB usable space. The storage must be configured with 8TB disk size with RAID 10 configuration.	Yes / No / Explain		
4	Global hot spare disks ratio for NL-SAS or better disk of same capacity and speed.	20:1 (For Twenty disks one spare should be provided) or better	Yes / No / Explain		
5	Number of controllers in the storage system allowing modular scalability by adding disks and enclosures as and when required.	Minimum of two or higher with No-Single Point of failure	Yes / No / Explain		
6	Total cache (Total Cache means sum of cache memory configured across all the storage controllers in the system.)	256 Giga Bytes (GB) or higher.	Yes / No / Explain		

7	operating system	Storage system should be based on Appliance with specialized Storage OS and should not be based on general purpose Operating System like Windows and Linux. Storage controller sizing and numbers is to be kept into consideration with reference to usable capacity and cache as mentioned above.	Yes / No / Explain		
8	Minimum number of Front-end Ports of 10Gbps or higher	Total 4 * FC16 and 4 * 10G ports per controller.	Yes / No / Explain		
9	Enabling of Storage Allocation Quotas	For directories and users	Yes / No / Explain		
10	The Storage system should have unified capability, i.e., should support file, block, object (S3) access with host connectivity (Protocol support)	The storage system must support FCP, ISCSI, NFS, CIFS Protocols-NFSv3, NFSv4.1 (with parallel NFS support), for NAS, Object (S3) connectivity. The Storage should support user and group quotas on NFS v4 and CIFS file systems.	Yes / No / Explain		
11	Storage support	Proposed Storage should support simultaneous access to same file data from Linux/Unix and Windows users. It should also support File Locking feature for Data protection from corruption while sharing files between UNIX and Windows users. It should be possible to define Windows Permissions (ACL) and Unix permissions on the same file.	Yes / No / Explain		

12	The System must be dedicated appliance.	Specifically optimized OS to provide Unified system functionalities. The Architecture shall allow modular upgrades of both hardware and software. Storage must be configured with sufficient number of Multicore 64 bit processors, so as to give the required throughput performance and redundancy.	Yes / No / Explain		
13	Enterprise Class disk arrays should be used by the Vendor for meeting the Capacity and Performance requirements.	The disk arrays should be of same make as that of storage controllers and the Vendor should ensure interoperability for data exchange and storage array replication with bandwidth optimization and encryption. All the disk arrays should be manageable.	Yes / No / Explain		
14	The Storage System should support non-disruptive component repair and hot replacement of Interfaces	The storage system should support non-disruptive addition and replacement of storage systems and components, scaling should occur non-disruptively	Yes / No / Explain		
15	Storage array expansions	Upto 512 Tera Bytes (TB) usable capacity in single namespace	Yes / No / Explain		
16	Architecture	Storage solution should have Truly distributed clustered architecture. The storage should provide 99.99% availability architecture or better.	Yes / No / Explain		
17	The Storage System should have pro-active maintenance	Like self-monitoring, self-diagnosing and wherever possible, self-repairing features	Yes / No / Explain		
18	Suitable rack enclosures	The vendor shall quote for rack mountable storage.	Yes / No / Explain		

19	With multiple files of sizes each 5GB in a single name space placed in storage area, a demonstrable minimum sustainable read throughput with 32KB block size at 50% storage fill during ATP or Better performance	2.5 GB/sec or higher with multiple clients simultaneous access. This performance should be demonstrated for NFS and CIFS access using standard tool like IOR/IOZone	Yes / No / Explain		
20	With multiple files of sizes each 5GB in a single name space placed in storage area, a demonstrable minimum sustainable write throughput with 32KB block size at 50% storage fill during ATP or Better	2.5 GB/sec or higher with multiple clients simultaneous access. This performance should be demonstrated for NFS and CIFS access using standard tool like IOR/IOZone.	Yes / No / Explain		
21	The management software should be able to collect and show data for performance analysis	Single management, easy to use GUI based and web enabled administration interface for configuration, storage management and performance analysis tools for both block and file.	Yes / No / Explain		
22	For a required solution multiple clients will be accessing storage space simultaneously, accordingly, if required necessary license have to be included in the quotation by the vendor	In-compliance with the specifications	Yes / No / Explain		

23	Operating system Support	Proposed Storage should support simultaneous access to same file data from Linux/Unix and Windows users. It should also support File Locking feature for Data protection from corruption while sharing files between UNIX and Windows users. It should be possible to define Windows Permissions (ACL) and Unix permissions on the same file	Yes / No / Explain		
24	<ul style="list-style-type: none"> <li>Storage array should have the ability to expand or shrink the Volumes online and instantly on the storage.</li> <li>File access must be possible to set quotas at User, Group.</li> </ul>	In-compliance with the specifications	Yes / No / Explain		
25	<ul style="list-style-type: none"> <li>Storage array Volume should have provision for read and write permission based on User/Group. Many users can read and few can write to a volume.</li> </ul>	In-compliance with the specifications	Yes / No / Explain		

26	<ul style="list-style-type: none"> <li>• Single management, easy to use Graphical User Interface (GUI) based and/or web enabled administration interface for configuration, storage management and performance analysis tools for both block and file levels.</li> </ul>	In-compliance with the specifications	Yes / No / Explain		
27	<ul style="list-style-type: none"> <li>• there should be a Command Line Interface (CLI) as well for cluster management.</li> </ul>	In-compliance with the specifications	Yes / No / Explain		
28	<ul style="list-style-type: none"> <li>• In the event of power failure, data in the cache should be safely written to the disks/flash and the System should perform a graceful shutdown. Alternatively, the cache should also have battery backup or equivalent mechanism needs to be provided.</li> </ul>	In-compliance with the specifications	Yes / No / Explain		
29	Cache should be protected for Writes either through a battery backup or by destaging to flash/disk.	In-compliance with the specifications	Yes / No / Explain		



30	<ul style="list-style-type: none"> <li>The Vendor should quote all the required set of licenses, set of interconnects/ cables etc. for the offered configuration. License if any for full capacity in blocks may be provided.</li> </ul>	In-compliance with the specifications	Yes / No / Explain		
31	<ul style="list-style-type: none"> <li>Necessary hardware and software should be offered for user management for storage system.</li> </ul>	In-compliance with the specifications	Yes / No / Explain		
32	<ul style="list-style-type: none"> <li>Connectivity between disk shelves and Storage controllers should have redundant access path.</li> </ul>	In-compliance with the specifications	Yes / No / Explain		
33	<ul style="list-style-type: none"> <li>Should support snapshot, replication etc.</li> </ul>	In-compliance with the specifications	Yes / No / Explain		
34	Redundancy	No single point of failure for power supply, fan, controller etc.	Yes / No / Explain		
35	Warranty	5 Years, NBD support for Hardware & software directly from the OEM	Yes / No / Explain		
36	Installation & Commissioning	<ul style="list-style-type: none"> <li>Vendor should install &amp; commission the systems as per the configuration at ISTRAC Bangalore.</li> <li>System installation, commissioning is the sole responsibility of the vendor. It includes the installation of all hardware, software, all necessary device drivers and system libraries in all the work stations.</li> </ul>	Yes / No / Explain		

37	Notes to the Vendor	<ul style="list-style-type: none"> <li>• For all items in the list of deliverables offered by the vendor, the manufacturer's part number should be clearly indicated.</li> <li>• Offer of items without clear specification of part number is not acceptable.</li> <li>• Vendor should indicate the part nos. of the deliverable items clearly. The part numbers &amp; description of the items in the offer should match the part numbers &amp; description of the items mentioned in the manufacturer's spec sheets.</li> <li>• The part numbers &amp; description of the goods delivered should match the part numbers &amp; description in the offer.</li> <li>• Vendor should provide technical brochure from manufacturer for all subsystems to verify the current status</li> <li>• Vendor should not quote products from boarder sharing countries with India</li> </ul>	Yes / No / Explain		
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### Supporting Documents required from Vendor

5 additional documents can be uploaded by the vendor

## C.2 Commercial Terms / Bid

Sl. No.	Description	Compliance	Vendor Terms
1	Payment Term	Yes / No / Explain	
2	Taxes and other costs, if any	Yes / No / Explain	
3	Delivery Period	Yes / No / Explain	
4	Delivery Term	Yes / No / Explain	
5	Security Deposit: FD or BG for 3 % of PO value to be submitted after receipt of PO and valid till supply & acceptance.	Yes / No / Explain	
6	Performance Bank guarantee : BG for 3 % of PO value to be submitted while claiming payment valid till end of warranty period with a claim period of 60 days.	Yes / No / Explain	
7	(OR) SD-cum-Warranty (PBG) (in lieu of SD & PBG as a single instrument): BG for 3 % of PO value to be submitted after receipt of PO valid till end of warranty period with a claim period of 60 days.	Yes / No / Explain	
8	Delay in completion/Liquidated Damages: A sum of 0.5% undelivered portion of PO for each week of delay or part thereof. Total LD shall not exceed 10% PO value.	Yes / No / Explain	
9	Warranty	Yes / No / Explain	
10	Validity	Yes / No / Explain	
11	Name and Address of the company on whom purchase order to be placed.	Yes / No / Explain	
12	Certificate of Undertaking: Any bidder from a country which shares a land border with India will be eligible to bid in any procurement whether of goods or services (including consultancy services and non consultancy services) or works (including turn-key projects) only if the bidder is registered with the Competent authority (i.e. DPIIT). Hence, it is mandatory to furnish Certificate of Undertaking as indicated in the tender document.	Yes / No / Explain	

13	Any other terms	Yes / No / Explain	
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### C.3 Price Bid

Sl. No.	Item	Quantity	Unit Price	Currency	Total Price	Remark
1	DISK BASED DATA STORAGE SYSTEMS (NAS, SAN, DAS, RAID, JBOD ETC.)	1.00 Nos.		-		

### Common charges (Applicable for all items)

<b>P&amp;F Charges</b>	
<b>Freight Charges</b>	
<b>Installation Charges</b>	
<b>Documentation &amp; Handling Charges</b>	
<b>Other Charges (If any)</b>	