Indian Institute of Science (IISc)
Bangalore - 560012
Supercomputer Education and Research Centre (SERC)
IISc

Enquiry and Request for Quotes under
Two-Cover Bid System

for

Supply and Installation of Storage Servers in Supercomputer Education and Research Centre (SERC) Indian Institute of Science, Bangalore

Enquiry or Tender No: SERC/Purchase/2021/3
Date: September 6, 2021

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1. Preamble

SERC Network Accessible Storage
The Supercomputer Education and Research Centre (SERC) is planning to upgrade its storage subsystems that support its computational user home areas. The subsystems are mainly to accommodate storage, retrieval and backup of user home area data that is made available to the distributed systems using NFS. Majority of accesses to these filesystems are user specific and are mostly serial and not shared. Since the availability of the user home areas is critical to the login and job submission activity of the user, these filesystems additionally have a requirement of high availability.

We invite your quotation for storage solution with **two identical servers** running in high-availability mode (active-active load balancing) and data synced across both servers. **Each file server will have its own independent storage server and usable storage space of 64 TB (for a total storage of 128 TB)**, hardware RAID6 configured storage**.**

1. We require the bidders to provide a complete self-contained solution, including the necessary switches, connections, and other accessories, software for syncing and backup etc.
2. **File server requirement:** Two file servers as shown in Figure 1.
3. **Storage space requirement**: 2 x 64 TB usable space (should be under hardware RAID 6 configuration). One 64TB storage will be connected to File Server 1 and other 64TB storage will be corrected to File Server 2 as shown in the Figure 1.
4. **High availability (active-active load balancing)**: Both servers will be running in high availability mode with active-active load balancing as shown in the Figure 1 below and data from Storages Server 1 will be synced with Storages Server 2. If one file server fails, then other file server will take over with synced data and all the file systems will be available without any data loss.
5. Bidders proposing multiple options must quote for each of the configurations separately.
6. Should not quote for OS license and High Availability (HA) and Data Synchronization product Licenses for Cluster (Opensource OS and HA and data synchronization products should be used).
7. Must include warranty for three years.

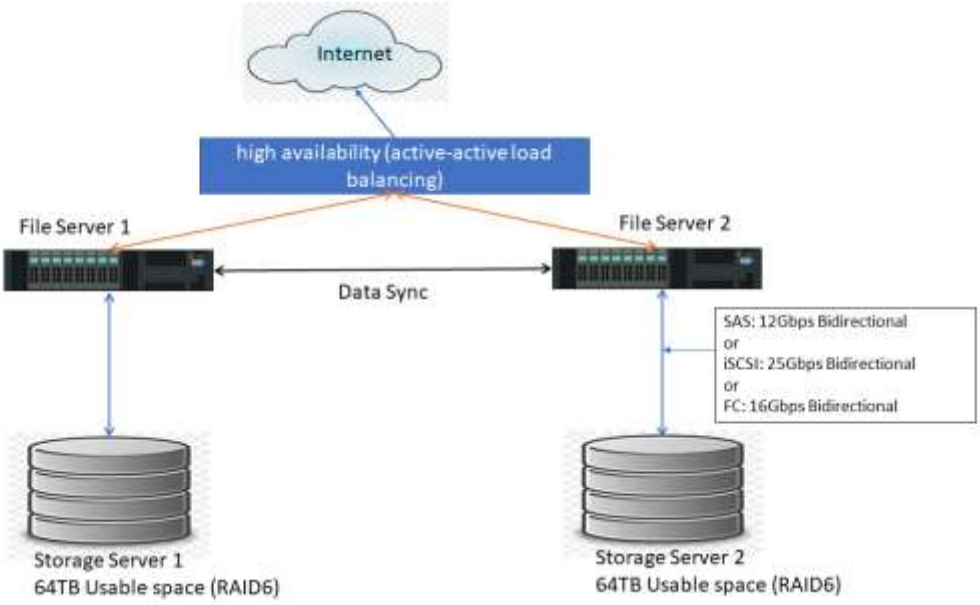

Figure 1: storage Solution architecture diagrams

2. Technical Details

2.1 File server and Storage

File Server Specifications: 02 Nos.

Following is the specification for **each** of the two file servers.

- Server should be rack mountable in a rack of dimension, 42 U, 600 X 1000 mm. [Note: Rack is not required as part of the enquiry].
- Processor:
  o Two socket system.
  o Both the sockets must be populated with Intel® Xeon® Silver series 2.1GHz and above, with minimum 8 cores per socket, i.e., minimum of 2x8 cores in the processor.
- 128/256 GB Memory (Provide 256 GB as an optional item).
- 4 No. Gigabit Ethernet ports (Should support trunking ability).
- 2 No. 10-Gigabit Ethernet ports (Should support trunking ability).
- At least 4 USB ports.
- Onboard graphics.
- Redundant power supply.
- Keyboard, mouse and display.
- 2 X 4TB hard disk space (for Operating System) RAID 1 configured.
- Linux compatible with features to support multipath access to storage, file systems using NFS v3/v4, high-availability (active-active load balancing mode) in case of redundant file servers.

Storage specifications: 02 Nos

Following is the specification for **each** of the two storage servers.

- Storage connection to the file server in Direct-Attached Storage (DAS) mode. HBA connection to the DAS should be one of the following
    - SAS minimum 12Gbps Bidirectional (or)
    - iSCSI minimum 25Gbps Bidirectional (or)
    - FC minimum 16Gbps Bidirectional.
- Each of the storage controllers should also have dual port connections for independent connection to each of the fileservers.
- Hardware RAID6 support
- Battery Backup for Cache (controller)
- Redundant power supply
- 64TB usable space (should be under hardware RAID 6 configuration)
- Provision for hot spare disks
- Rack mountable in a rack of dimension, 42 U, 600 X 1000 mm

The following information must be provided

- Maximum throughput of each controller
- Size of controller cache
- RAID rebuild time
- Data sheet for the product/model proposed

The following documents must be provided

- Procedures for creation of storage group, physical volume, virtual volume, logical volume and restoration of all these in case of failure
- Storage high availability creation procedures and restoration in case of failure
- Failover procedures for recovery of file systems from backup file system

2.2 Warranty

Warranty services for the system should be valid for a period of 3 years from the date of installation of the equipment. The warranty on all components should be included in the quoted costs. The quotes prices must be inclusive of the warranty costs. During the warranty period, the bidder shall attend to all the hardware problems on site and shall replace the defective parts at no extra cost to the purchaser. During the warranty period, the bidder shall attend to all failures relating to software installation, configuration, management and performance. Periodic maintenance wrt software upgrades, updates and patches, as well as preventive maintenance, are the responsibilities of the bidder.

3. Bidder's Eligibility Criteria

1. Should have supplied and installed similar (at least one) to any govt. institution/organization in India in the last one year
2. The bidder must have a proven record of maintaining and managing the similar system.
3. Bidders should include necessary document for establishing this with necessary proof in terms POS and customer contact details
4. Should produce authorization from the OEM

4. Acceptance Criteria

1. On delivery complete inventory checks mandates confirmation of systems to have been delivered with the ordered configuration.
2. The system should then be installed with CentOS OR any other opensource Linux that is provided, and subjected to 48 hours of burn-in test. The burn-in test includes running of hardware diagnostics on all components continuously for a period of 48 hours to eliminate possibility of any hardware failures. The successful completion of the acceptance test results in payment.
3. The winning bidder should provide the following procedures.
   a. Procedures for creation of storage group, physical volume, virtual volume, logical volume and restoration of all these in case of failure.
   b. Storage high availability creation procedures and restoration in case of failure
   c. Failover procedures for recovery of file systems from backup file system
4. It is to be noted that maximum of one week will be available (after Installation & Commissioning) to the bidder to conform to this acceptance test criterion set out.
5. Any delay in commissioning or conformance to the acceptance beyond the stipulated time will result in extending the warranty: Each day of delay would result in 3 additional days of warranty.

5. General Terms and Conditions

1. Offer must be submitted under TWO-BID system i.e. "Technical bid" and "Price (Financial) bid" both by email to office.serc@iisc.ac.in and by hard copy to the indicated mailing address within the stipulated period.
2. No price information must be mentioned in the technical bid. Vendors who include price information in the technical bids will be automatically disqualified.
3. A copy of the masked Commercial bid has to be given in the technical offer (unpriced Bill of Material (BoM) and add one column to indicate the specification given in Section 2.1)
4. Delayed and/or incomplete tenders are liable to rejection.
5. The Technical Bid and the Commercial Bid should be duly signed by the authorized representative of the bidder.
6. Technical bids will be opened first. IISc may seek clarifications after opening of technical bids.
7. The bidders are requested to go through the Terms and Conditions detailed in this document, before filling out the tender. Agreeing to the terms and conditions of the tender document (by signing all pages of the copy of a tender document) is a mandatory requirement.
8. A tender, not complying with any of the above conditions is liable to rejection.
9. Incomplete proposals are liable to be rejected.
10. IISc reserves the right to cancel the tender at any time without assigning any reason whatsoever.

6. Commercial Bid – Terms and Conditions

1. Price bids of only technically qualified vendors will be considered. Commercial bid shall be opened for the technically qualified bidders after the technical evaluation.
2. The hardcopy commercial bid of the successful bidder, after the commercial bid opening stage, should contain among other things, unit prices, payment terms, warranty, installation, commissioning etc. as per requirements of IISc mentioned in the tender document. All such conditions must be in line with the tender. In case of any deviation or conditional offer, the bid may be treated as non-responsive and not be considered for evaluation. The Commercial bid should contain details of the prices for each one of the subsystems of the total offer giving clearly the rate and the quantity. Bundling of the prices is not acceptable.
3. Bidders proposing multiple options must quote for each of the configurations separately
4. Quote should come only from Indian Original Equipment Manufacturer (OEM) or their Indian authorized distributor. Prices should be quoted only in INR and will be with GST only. The order must be on FOR basis. No Custom Duty Exemption Certificate will be provided.
5. The component of tax, and any other statutory levies should be shown separately and not included in the total amount, to enable IISc to avail any exemption.
6. Proposals should contain the name and contact details, viz., phone, fax and email of the designated person to whom all future communication will be addressed. The contact details should also be mentioned on the overall envelope.
7. Prices should be quoted in detail, for all the subsystems given in the Technical Specifications part of the tender. Further, bid and price validity should be for three months from the date of opening of the technical bids.
8. IISc will place the purchase order only on the successful bidder as per the decision of IISc. In this regard, decision of IISc will be final and binding.

7. Payment Terms

1. The total project cost will consist of Equipment supply and installation and comprehensive warranty for three years from the acceptance and successful installation as decided by IISc.
2. 100% payment shall be released by IISc against delivery, inspection, successful installation, commissioning and acceptance of the equipment at IISc Bangalore in good and functional condition and to the entire satisfaction of the Purchaser (IISc).
3. Payment will be subject to deduction of TDS as per rules / laws and any other deduction as per PO terms.
4. The total solution as per the agreed bill of materials must be supplied within 4 weeks after receiving a firm PO from IISc. The installation and acceptance must be completed within a week after supply of the equipment.

8. Important Dates

1. Release of tender: September 6, 2021.
2. Last date for sending queries: September 15, 2021, 5 PM IST. Queries may be sent to office.serc@iisc.ac.in
3. Last date for submission of the bid: September 27, 5PM IST.

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