

Tender no:PRSC-2023/10

# Punjab Remote Sensing Centre (PRSC)

## INVITATION OF E-TENDER

### FOR SUPPLY & INSTALLATION OF SERVER, STORAGE AND NETWORKING SYSTEMS

Document Download/Start, Bid : 28-10-2023 11.00 AM  
Submission Start Date  
Date & Time of Pre-Bid Meeting : 03-11-2023 11.00 AM  
Document Download/Sale End, Bid : 17-11-2023 11.00 AM  
Submission Last Date  
Date & Time of Opening of Technical Bid : 17-11-2023 03.00 PM  
Date & Time of Opening of Financial Bid : To be notified later to technically eligible bidder



\*\*\*\*\*

### **Punjab Remote Sensing Centre (PRSC)**

PAU Campus, Near Kitchlu Nagar Block 'F' end,

Ludhiana, Punjab (India) – 141004

Phone: 91-161-2303484

Email: [contact@prsc.gov.in](mailto:contact@prsc.gov.in)

**Punjab Remote Sensing Centre (PRSC)**, A Government of Punjab Enterprise, is the apex body in the State for all Remote Sensing (RS), Geographic Information System (GIS) and Global Positioning System (GPS) related works. It is designated as a Nodal Agency by the Govt. of Punjab for geospatial needs of the State and acts as the centralized hub for the geo-spatial data to all the user departments. It is situated in PAU Campus, towards Kitchlu Nagar, Block F End.

## TABLE OF CONTENTS

<b>Section</b>	<b>Subject</b>	<b>Pages</b>
1	Notice Inviting Tender	4
2	Key Dates	5
3	Invitation of Bids	6
4	Terms & Conditions	7-8
5	Technical Qualifications	9-11
6	Other Terms & Conditions	12-15
7	Bidder Profile Sheet (Annexure-A)	16
8	Technical specifications and requirements (Annexure B - B.1 to B.6)	17-25
9	Checklist Performa (Annexure-C)	26-27
10	Compliance Sheet (Annexure-D)	28-31

**NOTICE INVITING E-TENDER**  
**Punjab Remote Sensing Centre (PRSC)**  
**PAU Campus, Ludhiana - 141004**

**PRSC, Ludhiana** intends to invite bids through E-Tendering under Two Bid System i.e. Technical Bid and Financial Bid for supply and installation of server, storage and networking systems on e-Procurement portal of the Government of Punjab i.e. <https://eproc.punjab.gov.in>

Sr No	Particulars	Date and time of Submission of Bids	Tender Fee in Rs. (Non-Refundable)	EMD (Rs.)
1	Supply and installation of server, storage, and networking systems.	From 28-10-2023 11.00 AM to 17-11-23 till 11.00 AM	2,000	60,000

The detailed terms & conditions of the tender can be downloaded from e-Procurement portal of the Government of Punjab i.e. <https://eproc.punjab.gov.in> or PRSC website [www.prsc.gov.in](http://www.prsc.gov.in)

Note: The tenders will be accepted through e-Tendering only. Any further communications will be done through e-Tendering site in the form of addendum/ corrigendum.

-----sd-----

Director  
Punjab Remote Sensing Centre

## KEY DATES

1	Date of Publication of Notice Inviting Tender	28-10-2023
2	Document Download/Start Date	28-10-2023 11.00 AM
3	Bid Submission Start Date	28-10-2023 11.00 AM
4	Date & Time of Pre-Bid Meeting	03-11-2023 11.00 AM
5	Document Download/Sale End Date	17-11-2023 11.00 AM
6	Bid Submission End Date	17-11-2023 11.00 AM
7	Date & Time of Opening of Technical Bid	17-11-2023 03.00 PM
8	Date & Time of Opening of Financial Bid	To be notified later to technically eligible bidder
9	Bid Validity	90 Days from the last date of submission of Bids.

## INVITATION OF BIDS

From:

Director,  
Punjab Remote Sensing Centre,  
Ludhiana

To

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Dear Bidder

Director Punjab Remote Sensing Centre invites bids from Indian bidders through E-Tendering under Two Bid System i.e. Technical Bid and Financial Bid for supply and installation of server, storage and networking systems.

**1. Tender Document Contents:**

- Notice Inviting Tender
- Key Dates
- Invitation of Bids
- Terms & Conditions
- Technical Qualifications
- Other Terms & Conditions
- Bidder Profile Sheet (Annexure-A)
- Technical specifications and requirements (Annexure B- B.1 to B.6)
- Checklist Performa (Annexure-C)
- Compliance Sheet (Annexure-D)

**2. Tender Fee:** A non-refundable Tender Fee of Rs. 2000/- (Rs. Two Thousand Only) to be paid through the online payment gateway of the e-portal at the time of submission of the tender.

**3. Earnest Money Deposit:** Bidders have to pay Earnest Money as per clause(i)of the Terms &conditions.

**4. Submission of Tender:** The tender must be submitted through E-procurement portal of Government of Punjab i.e. <https://eproc.punjab.gov.in> . All the documents as required under this Tender Document along with BOQ (Financial Bid) must be uploaded at the time of submission of bid.

**5. Evaluation and Award of Tender:** The Technical bids submitted by bidders will be opened first and evaluated by committee and price bid of only technically eligible bidders shall be opened. The date and time of opening of price bid shall be intimated later to the technically eligible bidders through E-Tendering portal.

Note: Director, PRSC reserves the right to accept or reject/cancel the tender without assigning any reason.

-----sd-----

Director  
Punjab Remote Sensing Centre

## **TERMS AND CONDITIONS OF E-TENDER FOR SUPPLY AND INSTALLATION OF SERVER, STORAGE AND NETWORKING SYSTEMS.**

- a) E-Tender has to be submitted in two bid system i.e. “Technical bid and financial bid” for which every bidder will have to upload separate Technical and Financial bids. Financial bids of only those bidders shall be opened who qualify in the technical bid.
- b) A pre-bid meeting with the prospective bidders shall be held through online mode on 03-11-2023 at 11:00 AM for any queries of bidders. The prospective bidders those want to attend pre-bid meeting may send their request on PRSC email [contact@prsc.gov.in](mailto:contact@prsc.gov.in) till 03:00 PM (Sharp) on 02-11-2023 The link of web meeting shall be shared through email by 02-11-2023 at 04:00 PM.
- c) The E-Tender for supply and installation of server, storage and networking systems can be submitted from 28-10-2023 (11.00 AM) to 17-11-2023 till 11.00 AM. The Technical Bids shall be opened at 03.00 PM on 17-11-2023. In case this date happens to be a public holiday, it shall be opened on same time on next working day. The financial bids of only technically eligible bidders shall be opened on the date & time to be notified later only to technically eligible bidders through the web portal <https://eproc.punjab.gov.in>
- d) The bidder must have to fulfil the Technical Qualifications and must upload all the documents as required under this tender document at the time of submission of E-Tender.
- e) The rates quoted will be including of all taxes & other levies etc at FOR destination at PRSC Ludhiana.
- f) The Technically eligible bidder, who is found to have quoted the minimum rate shall be declared as L-1.
- g) L-1 bidder may be called for further negotiation of rates. Mere qualifying as L-1 does not entitle the bidder for award of tender.
- h) The Bidder shall have to pay non-refundable tender fees of Rs. 2000/- (Rs Two Thousand Only) through the online payment gateway of the e-portal at the time of submission of the tender.
- i) The Bidder *except Micro and Small Enterprises (MSEs) as defined in the MSE Procurement Policy issued by Department of Micro, Small and Medium Enterprises (MSME) or are registered with the Central Purchase Organization or the concerned Ministry or Department or Startups as recognized by Department of Industrial Policy & Promotion (DIPP)* shall have to pay Earnest Money Deposit of Rs. 60,000/- (Rs Sixty thousand Only) through the online payment gateway of the e-portal at the time of submission of the tender. Bidders seeking exemption from deposit of EMD shall have to upload ‘Bid Security Declaration’ accepting that if they withdrew or modify the bids during the period of validity or if they are awarded the contract and they fail to sign the contract, or to submit a performance security before the deadline in the tender document, they will be suspended for a period of 2 years for contracts with this entity. In case of other than exempted bidders, the

tenders with less EMD or Without EMD shall be summarily rejected without any further consideration.



## **TECHNICAL QUALIFICATIONS:**

- a) Bidder may be individual/sole-proprietor, partnership firm, body corporate or any other institution duly registered under appropriate law In India. Consortium may also apply; however sole responsibility lies with the lead bidder. A letter of authority to create the terms and agreement from all consortium members is must. All members of a Consortium should be registered legal entity in India.
- b) If the bidder is a group of legal entities that will form or have formed a joint venture, consortium or association at the time of the submission of the bid, they shall confirm in their bid that they have designated one party to act as a lead entity, duly vested with authority to legally bind the members of the joint venture jointly and severally, and this shall be duly evidenced by a duly notarized Agreement among the legal entities, which shall be submitted along with the bid. Bid must be presented by lead entity, but of course it shall include data of all consortium members in manner that gives evaluation committee possibility to separately identify data relevant to each member of consortium. Tax Registration/Payment Certificate, Certificate of Registration of the business, Financial Statement and Bank References of all consortium member entities are also required to be uploaded. Only lead company's, i.e submitter of bid, experience and track record is evaluated against technical proposal. The individual signing the bid or other document, in connection with the bid must certify as to whether he or she has signed as:
- A "Sole-proprietor "of the firm or constituted attorney of such sole proprietor.
  - A partner of the firm, if it be partnership, in which case he must have authority to refer to arbitration disputes concerning the business partnership either by virtue of the partnership agreement or a power of attorney. In the alternative, all the partners should sign the bid.
  - Constituted attorney of the firm if it is a company.
  - Lead partner of the consortium.
- c) Bidder must be competent to enter in to contract as per Indian Laws.
- d) In case bidder is other than Individual/sole-proprietor, it must upload its valid registration certificate.
- e) Conditional Bids shall not be considered.
- f) The bidder shall not sub-contract any part of the contract without written permission of the client.
- g) Bidders should have valid PAN Number and GST Number. Bidder must upload a copy of PAN and GST Number.
- h) The Bidder or any or its director(s)/partners/members should not have been debarred/ blacklisted by any Government/Semi-Government organization. Bidder must upload a declaration in this regard.

- i) Bidders must upload all the documents (including this tender document with all annexures) signed by duly Authorized Persons.
- j) Bidders must have to pay non refundable Tender Fee of Rs. 2000/- (Two Thousand only) through the online payment gateway of the e-portal at the time of submission of the tender.
- k) The bidders *except Micro and Small Enterprises (MSEs) as defined in the MSE Procurement Policy issued by Department of Micro, Micro, Small and Medium Enterprises (MSME) or are registered with the Central Purchase Organization or the concerned Ministry or Department or Startups as recognized by Department of Industrial Policy & Promotion (DIPP)* shall have to pay Earnest Money Deposit of Rs. 60,000/- (Rs Sixty thousand Only) through the online payment gateway of the e-portal at the time of submission of the tender. Bidders seeking exemption from deposit of EMD shall have to upload 'Bid Security Declaration' accepting that if they withdrew or modify the bids during the period of validity etc, they will be suspended for a period of 2 years. In case of other than the exempted bidders, the bidders with less EMD or Without EMD shall be summarily rejected without any further consideration.
- l) Minimum Annual turnover for OEM of Server, Storage and networking systems should be at least 10 crores during the last three financial years i.e. 2020-21, 2021-22 & 2022-23. In case the bidder is not OEM, then minimum annual turnover should be 5 crores during the last three financial years. From 2020-21 to 2022-23. Copy of Audited Balance Sheets, Profit & Loss Accounts as well as copy of ITRs of last 3 financial years also need to be uploaded. However, all startups recognized by Department of Promotion of Industry and Internal Trade subject to meeting of quality and technical specifications are relaxed from the condition of prior turnover and experience.
- m) Project Execution: The Bidder/ OEM for Server, Storage and Networking Systems must have executed at least two similar projects each having minimum value of 100 Lakhs for hardware supply (Server, Storage and Networking systems) and Maintenance support in Govt. Sector / PSUs / Banks during the last three years. Bidders have to upload proof i.e. Certificates of running / completion satisfactorily of these projects from respective clients. However, all startups recognized by Department of Promotion of Industry and Internal Trade subject to meeting of quality and technical specifications are relaxed from the condition of prior turnover and experience.
- n) The member of the consortium who is providing server, storage and networking systems should be OEM or authorized distributor / dealer / business partner of the required server/storage/networking systems. An authorized Signatory of the OEM as per its internal regulations should sign this undertaking. This authorization must be valid at least till 3 months beyond the last date of submission of bids. The OEM of Computer System can give authorization to more than one company. The Bidder should have a centralized toll-free call centre for after sales support. If toll

free number facility does not exist, the bidder will arrange the facility before supply of equipment.

- o) The brand being offered by bidder should be available in the market for at least last five years, reputed, good service record of said product.
- p) The bidder should have logistic centre for billing and spares replacement in Punjab/Tricity (Chandigarh, Mohali, Panchkula) .
- q) The Bidder should have a Service Centre in Punjab/Tricity. The bidder should give detailed address along with name, address, and phone numbers of the service centres. Necessary documents in support of point no. n to v must be uploaded at the time of submission of bids.
- r) The **bidder would indicate the make & model of the equipment** and the components in the Technical offer sheet to be uploaded (As per Annexure-B)
- s) Technical Brochures of the product quoted, and current certifications asked for in the detailed technical specifications should also be enclosed.
- t) The bidder shall have to upload duly filled profile sheet mentioned as Annexure A duly signed by authorized person.
- u) Technical Specifications are given in Annexure-B (B.01 to B.06)
- v) All the documents as per Tender Form (Checklist Annexure-C)
- w) Each and every page of tender documents duly signed by authorized bidder.

## OTHER TERMS & CONDITIONS

### 1. Clarification regarding Bid Document

A prospective Bidder requiring any clarification of the Bid Document may notify PRSC in writing at the PRSC's mailing address **contact@prsc.gov.in** till 02<sup>nd</sup> November 2023 or may raise his queries in Pre-Bid meeting.

### 2. Amendment of Bid Document.

On the basis of submissions and discussions in pre-bid meeting, the client, may, for any reason, whether at his own initiative or in response to a clarification requested by a prospective Bidder, modify the requirements/conditions as mentioned in Bid Document by issuing a corrigendum/addendum only on e-portal **<https://eproc.punjab.gov.in>** and website of PRSC **[www.prsc.gov.in](http://www.prsc.gov.in)**

### 3. Language of Bids

The Bids prepared by the Bidder and all correspondence and documents relating to the bids exchanged by the Bidder and PRSC, shall be written in the English language, provided that any printed literature furnished by the Bidder may be written in another language so long as accompanied by an English translation in which case, for purposes of interpretation of the bid, the English translation shall govern.

### 4. Documents Comprising the Bids

The Bids prepared by the Bidders shall comprise of following components:

#### **Technical Bid:**

- Performa – 1 (Profile of Bidder)
- Technical offer sheet with complete details of product/components being offered. (As per Annexure - B)
- All the required documents as per this Tender Document.

**BOQ (Financial Bid)** in downloaded excel sheet only.

Bidder quoting NIL, negative values in price bid shall not be considered.

5. **Performance Security:** After award of supply order, the successful bidder (supplier) shall have to deposit a Performance Security equal to 3% of the contract value in the shape of Bank Guarantee in favour of Director Punjab Remote Sensing Centre, Ludhiana issued through any commercial bank within 7 days of award of supply order. The validity of such Bank Guarantee shall be 60 days beyond the date of completion of all contractual obligations of the supplier including warranty obligations.

6. **Default by bidder after award of supply order:** In case the successful bidder after award of tender fails to fulfill any of the tender's terms & conditions relating to supply, installation, integration and On-site support of final product, his security including EMD shall be forfeited and the bidder may be blacklisted for a period of two years at the discretion of Director PRSC.

- 7. Delivery and Installation:** The products as per desired quantity and specifications as mentioned in Tender Document must be delivered within 4 weeks of award of supply order and further installation, integration and training must be completed within 15 days of acceptance of delivery.
- 8. Penalty:** Penalty @ 0.5% of the total value of supply order per week or part thereof shall be levied for delay in delivery up to maximum of two weeks. In case of delay in supply of goods beyond 2 weeks, the order is liable to be cancelled and entire security amount including EMD shall be forfeited. Further, the supplier may be blacklisted for a period of 2 years at the discretion of Director PRSC.
- 9. Payment Terms:** The payment shall be released after receipt of bills in two instalments in the ratio of 60:40. The 1<sup>st</sup> instalment shall be paid after receipt and verification of goods and 2<sup>nd</sup> instalment of 40% shall be paid after the complete installation, integration, and training to the satisfaction of PRSC committee. All the payments shall be made after deduction of statutory taxes, liabilities etc
- 10. Duties & Taxes:** The supplier (Successful bidder) shall be entirely responsible for all taxes, levies, cess, Octroi, Licence fees and any other expenses up to the delivery, installation, integration & training.
- 11. Standard of performance:** The successful bidder shall carry out the supply order and carry out its obligations under the contract with due diligence, efficiency, and economy in accordance with generally accepted norms techniques and practices used in the industry. The agency shall also adhere to professional implementation and on-site support services during the execution of the project. The client shall carry out benchmarking of supplied equipment to be provided by the selected supplier before and / or immediately after the delivery of equipment. It shall employ appropriate advanced technology and safe and effective equipment, machinery, material, and methods. Supplier shall always act in respect of any matter relating to this contract, as faithful advisors to the PRSC and shall, always, support and safeguard the client's legitimate interests in any dealings with the third party.
- 12. WARRANTY PERIOD: Server, Storage and Networking Systems:** The supplier will be responsible for a comprehensive on-site warranty of three years for all equipment and maintenance of all those products and smooth running of integrated systems up to warranty period. Successful bidder will not remove the equipment without the written permission of the Director, PRSC or his authorized representative. The response time for attending the faults will be three hours after they are reported to the supplier. The supplier will rectify the faults within 24 clock hours failing which the service provider will arrange temporary replacements in next 24 clock hours. The services shall be provided on 24x7 basis. Supplier must maintain the 97% or above uptime during the comprehensive on-site warranty period of 3 years.
- 13. Confidentiality:** The supplier (Successful Bidder) and their personnel shall not, either during the term or after expiration of this contract, disclose any proprietary or confidential information relating to the services, contract or the PRSC's business or

operations without the prior written consent of PRSC.

**14. Force Majeure:** Notwithstanding the provisions of the bid, the bidder shall not be liable for forfeiture of its EMD, performance security, liquidated damages, or termination for default, if and to the extent that, its delay in supply/performance or other failure to perform its obligations under the contract is the result of an event of Force Majeure.

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

If a Force Majeure situation arises, the bidder shall promptly notify to the PRSC in writing of such conditions and the cause thereof. Unless otherwise directed by the PRSC in writing, the bidder shall continue to perform its obligations under the contract as far as reasonably practical and shall seek all reasonable alternative means for performance not prevented by the Force Majeure event. The PRSC may terminate this contract, by giving a written notice of minimum 30 days to the bidder, if as a result of Force Majeure, the bidder being unable to perform a material portion of the services for a period of more than 60 days.

**15. Governing Language:** The contract shall be written in English Language. All correspondence and other documents pertaining to the contract which are exchanged by the parties shall be written in that same language.

**16. Patent Rights** The Bidder shall indemnify the Purchaser against all third-party actions/claims of infringement of patent, trademark or industrial design rights arising from the use of goods or any part thereof.

**17. Disputes/Arbitration:**

a) In the event of any dispute arising between Purchaser and the Suppliers in any matter covered by this contract or arising directly or indirectly there from or connected or concerned with the said contract in any manner of the implementation of any terms and conditions of the said contract, the matter shall be referred to 'The Director, Punjab Remote Sensing Centre, Ludhiana (India)-141004, who may himself act as sole arbitrator or may name as sole arbitrator an officer of PRSC notwithstanding the fact that such officer has been directly or indirectly associated with this contract and the provisions of the Indian Arbitration Conciliation Act, 1996 shall apply to such arbitration. The contractor expressly agrees that the arbitration proceedings shall be held in Ludhiana.

b) The proceedings of arbitration shall be in English language.

**18. Jurisdiction:** The contract shall be deemed to have been entered into at Ludhiana and all causes of action in relation to the contract will thus be deemed to have arisen only within the Jurisdiction of Ludhiana Courts to the exclusion of all other courts.

**19.** The bidder must not be disqualified in terms of **‘The Punjab Transparency in Public Procurement Act-2019’**, **‘Punjab Transparency in Public Procurement Rules, 2022’** the copy of which is available on e-procurement web portal <https://eproc.punjab.gov.in> and PRSC website [www.prsc.gov.in](http://www.prsc.gov.in). Various terms & conditions of the **‘The Punjab Transparency in Public Procurement Act-2019’** shall also be applicable.

**BIDDER PROFILE**

1	Name of the Bidder	
2	Constitution of the Bidder (Individual/Partnership Firm/Company/Consortium etc)	
3	PAN No of Bidder	
4	GST Number of the Bidder	
5	Registered Address of the Bidder	
6	Correspondence Address of the bidder	
7	Name, Email ID and Mobile Number of Contact Person	
8	Bank Account Details along with IFSC Code	
9	In case Bidder is other than Individual, its Registration Certificate Number	
10	In case bidder is other than Individual, Name of Authorized Signatory and copy of resolution/Authorization Certificate regarding participation in bidding and signing the bid documents	
11	In case of Consortium (Specify Detail of Members and their specific share)	
12	Whether Startup/MSE as per Central Govt. Norms	



**Indicative Hardware/Networking Configuration and Suggested  
Architecture**

**Ver 1.0**

**(Dated: 28-October-2023)**

**Punjab Remote Sensing Centre**

## **Important Note to Bidders regarding Technical Specifications:**

1. The Technical specifications may be fine-tuned on the basis of discussions with various Bidders during Pre-Bid meeting. The necessary corrigendum/addendum in this regard shall be published on web portal <https://eproc.punjab.gov.in>
2. The Goods supplied under this contract shall conform to the standard mentioned in the fine-tuned Technical Specifications, and when no applicable standards are mentioned, to the authoritative standards. Such Standard shall be the latest issued by the concerned institution governing that standard. (Along with technical specifications)
3. The detail of items required and complete specifications are given in following pages.
4. Complete inter-connections of this SAN based core-network will be fibre cable connected. So, hardware should be proposed in accordance to this integration and quote separately for wiring and connection cost.
5. Mention features of all hardware components in extended detail.
6. Vendor is responsible for the installation and configuration of the server, storage, networking components, operating systems, and other supporting software at the site to PRSC's satisfaction.
7. Integration of the hardware and training of staff should also be provided in support along with installation.
8. Vendor will be responsible for its implementation and configuration.
9. Vendor will keep on providing support and will assign a local account manager for the purpose of point of contact. Duration of support and warranty is 3 years.
10. Installation and Integration of all devices as mentioned in the tender should be done within one month of the dispersal of the first payment instalment to the satisfaction of PRSC.

### Summary of the Items required

<b>S.No.</b>	<b>Item</b>	<b>Quantity</b>	<b>Annexure</b>
1)	Server	1	Annexure- B-1
2)	SAN Storage	1	Annexure- B-2
3)	Server Operating system	As per core specification mentioned for server	Annexure- B-3
4)	SAN Switch	1	Annexure- B-4
5)	Ethernet Switch	1	Annexure- B-5
6)	42 U Rack along with console and accessories	1 Rack along with accessories as per requirement of quoted hardware	Annexure- B-6
7)	Note: Installations of hardware & software, training of staff, support	NA	NA

Server

- Processor Make: Intel /AMD
- Number of Cores per Processor: 16
- Processor Base Frequency (GHz): 2.5 GHz or Higher
- Cache: 22 MB L3 Cache or Higher
- Number of Sockets available on Server: 2
- Number of Sockets populated with Processors available on Server:1
- Type of RAM: DDR4 SDRAM with ECC
- DDR SDRAM Size (GB): 128 or higher and should be expandable
- Free Primary Memory Slots: Minimum 8 (After implementation of 128 GB RAM)
- HDD: 480 GB SSD or Higher with RAID 1 configuration and 1TB SAS or higher with RAID 5 (usable space after RAID configuration should be 1TB)
- SSD Type: Read Intensive
- HDD Bays: 4 or more
- RAID level: 1, 5 ,6
- No of RAID Controller Port: 8
- Speed of RAID Controller Ports (Gbps): 12
- RAID Controller Cache (GB): 4
- Number of Networking Interface Cards (LAN): 2
- PCI Slots: 3 PCI/ PCIe x8/x16 slots
- GPU Card: No
- Fibre channel adapter: 2 ports with minimum 16Gbps
- Total Number of Ethernet Ports required in Server: 4x1G, 2x10G SFP+ with SFP
- On Site Warranty (Year): 3, 24x7 support
- Server Management: Server must support clustered, highly available, high-volume configurations and support for load balancing and failover capability. Also it should support broad cross-platform support- Windows, Linux.
- Should provide advanced authentication and authorization.
- Additional Server Features
  - ✓ **Configuration & management** : Agent-free monitoring, driver updates & configuration, power monitoring & capping, - RAID management, external storage management, monitoring of FC, HBA & CNA & system health, Telemetry Streaming, Idle Server Detection, Should have a cyber resilient architecture for a hardened server design for protection, detection & recovery from cyber attacks
  - ✓ **Should provide effective protection, reliable detection & rapid recovery using:** firmware updates , Secure default passwords, Persistent event logging including user activity, Secure alerting, Automatic BIOS recovery , Rapid OS recovery

**SAN Storage**

- Type of storage: SAN with Dual controller
- Cache: The Proposed SAN Array should be configured with cache of 16GB or higher. In case of power failure, the SAN array must ensure no loss of data in cache for minimum 72 hrs.
- Disk Support: The Proposed SAN Array should be able to support minimum of 24 disks in the array supplied from Day One with addition of Disk Enclosure.
- Raid: Storage subsystem should support Raid 1, 1+0, 5 and 6
- Port: The offered storage should be provided with 8 front end FC ports at atleast 16Gbps and 2 back end SAS ports of at least 12 Gbps.
- Global Hot Spare: The storage array should support at least 2 distributed/dedicated global hot spare as per OEM best practices.
- Capacity: The Proposed SAN Array should be configured with Total 30TB usable space after RAID 5 with Min 4TB Usable in Mix Use SSD Drives and 26TB Usable in 10K RPM SAS Drives. Storage system should be scalable up to 120 TB (Scalability up to 240 No. of Disk).
- Disk Type: SAS 10K
- On Site Warranty (Year): 3, 24x7 support
- Operating System: Yes (Inbuilt management software come default with SAN so no separate OS required)
- They system should support automatic data tiering between SAS, NL-SAS and SSD.
- Storage management: Data virtualization should be supported, so that data is presented from storage devices to a host like it is locally attached. It should support spatial data formats along with conventional standard formats.

**Server Operating system (As per core specification of server)**

- OS: Latest Windows Server Operating System
- The OS should be compatible with the Hardware Server.
- Software Domain/ Type: Proprietary item
- Deployment/Installation of Operating System on: Server (Network) Operating System
- Types of License: Perpetual
- The offered product has support from OEM for: Unlimited updation for Patches and Bug fixes within support period, Unlimited up gradation of version within support period
- Number of Years upto which support is available from OEM for Updation (Patches and Bug fixes): 5
- Number of Years upto which support is available from OEM for Upgradation of version: 3
- Number of Bits supported by Offered product: 32, 64
- Software Assurance: Yes

**SAN Switch**

- Fibre Channel Generation:32 Gbps
- Fibre Channel base ports : 8
- Scalability (Ports) :24
- Fibre Channel Port Speed (Gbps): 16
- Aggregate Switch Bandwidth FC (end to end full duplex): 768 Gbps
- Form factor (U):1U
- On Site OEM Warranty (Year) :3
- Media Type Fibre Channel: SWL
- Autosensing (Gbps): 4/8/16
- Maximum Fabric Latency (nano second) / Locally switched port latency (nano second):780

**Ethernet Switch**

- Maximum Number of Access /Downlink Ports: 24
- Number of 10/100/1000 Base-T Ports: 24
- Number of 10 G SFP+ Port (Uplink):4
- RAM (MB): 2048 or higher
- Flash Memory (MB): 4096 or higher
- 9K MTU Supported (Minimum): Yes
- Console Port Yes
- Operating System: Yes
- Switching Capacity / Forwarding Bandwidth (Non-Blocking / Line Rate /Wired Speed) 2x (Numbers of access ports + Number of Uplink Ports) (Gbps): 128 or higher
- Throughput/ Forwarding Performance (MPPS): 95 or higher
- Layer 2 Protocols: 802.1QVLAN,LAG,LACP,STP,MSTP,RSTP, IEEE 802.3x, VLAN
- Number of VLAN Supported: 2000
- Number of VLAN IDs Supported: 4000
- Number of IPV4 Routes: 2000
- Number of IPV6 Routes: 1000
- Number of Mac Address Supported (k): 32
- Basic Layer-3 Protocol from day 1: Static Routing,RIPv1,RIPv2,OSPFv2,OSPFv3,PBR
- Advance Layer-3 Protocol from day 1: OSPFv2,OSPFv3,PBR,PIM-SM,PIM-DM
- Premium Layer-3 Protocol from day 1: PIM-SM, PIM-DM,VRRP
- Security Feature: RA Guard, DHCP Snooping, Dynamic ARP Inspection,ACL,802.1x,RADIUS/ TACACS, Port Security, BPDU Guard, IGMP snooping
- Management Protocol: GUI, CLI, Telnet, TFTP,, SNMPv1,SNMPv2/ V2C, SNMPv3, NTP, Openflow 1.3,RMON,SSHv2,Single IP Management,DLDP/UDLD
- QoS: 802.1p,SP,Queues per port,Sflow,SNTP,Shaping,Policing / Rate Limiting,Strict Priority Queueing or Low Latency Queueing
- Dimension / Form Factor (RU): 1
- Packet Buffer Size: 8 MB or higher
- Certification: NDPP,RoHS
- MTBF (Year): 7
- Minimum Operating Temperature (Degree C):0
- Maximum Operating Temperature (Degree C):45
- Minimum Operating Humidity (%RH) : 15
- Maximum Operating Humidity (%RH): 95
- IPv6 Ready from day 1: Yes
- On Site OEM Warranty (Year) : 3



**42U Rack along with console and accessories**

- 1) Rack and all necessary hardware for installation of the servers and storage (server rails, power chords etc.) must be supplied.
- 2) Rack mounted console with keyboard & mouse for management of servers and storage must be supplied as per proposed server, storage and networking architecture's power requirement.
- 3) On Site OEM Warranty (Year): 3 Years

## CHECK LIST

Sr No	Document	Uploaded Yes/No
1	Bidder Profile Sheet	
2	Copy of PAN Number and GST Number	
3	If other than Individual (Copy of Registration Certificate)	
4	If other than Individual (Copy of Resolution/Authorization Certificate regarding bid submission). In case of consortium, authority letter and Agreement among consortium members also to be uploaded.	
5	Whether Tender Fee and EMD deposited as per Tender Requirement	
6	If exempted from deposit of EMD whether proof of MSE/Startup uploaded	
7	Proof of Turnover as per requirement (Copy of Audited Balance sheets, P& L Accounts and copy of ITRs). In case of Consortium upload the copies of Audited Balance sheets, P&L Accounts, copy of ITRs of all consortium members	
8	Proof of Experience as per requirement. Also uploaded details of orders (products) supplied to other organizations.	
9	If Exempted from requirement of Turnover and prior experience whether proof of MSE/Startup uploaded	
10	Tender if being submitted as Consortium, the turnover and experience documents of Lead partner and other consortium partners	
11	If exempted from deposit of EMD whether Bid Security Declaration uploaded	
12	Whether Self declaration as to competency as per Indian Laws and Non-blacklisting by any Govt./Semi Govt. organization uploaded	
13	Item wise detail along with complete specifications relating to product under tender uploaded or not (Annexure-B)	
14	Manufacturer Authorization Form (s) (MAF) from OEM	
15	Duly Signed and Filled Compliance sheet representing yes/no for each specification of each product (Refer Annexure-D)	

16	Detail of Toll-free Number	
17	Detail of Service Centre with Local Manager Details and Number	
18	Signed copy of each page of tender document/corrigendum issued, if any.	
19	Any other documents related to articles to be procured through this tender or required as per above.	

## Compliance Sheet

Sr No	Items & Specifications	Compliance (Yes/No)
1	<b>Server:</b>	
	Processor Make: Intel /AMD	
	Number of Cores per Processor: 16	
	Processor Base Frequency (GHz): 2.5 GHz or Higher	
	Cache: 22 MB L3 Cache or Higher	
	Number of Sockets available on Server: 2	
	Number of Sockets populated with Processors available on Server:1	
	Type of RAM: DDR4 SDRAM with ECC	
	DDR SDRAM Size (GB): 128 or higher and should be expandable	
	Free Primary Memory Slots: Minimum 8 (After implementation of 128 GB RAM)	
	HDD: 480 GB SSD or Higher with RAID 1 configuration and 1TB SAS or higher with RAID 5 (usable space after RAID configuration should be 1TB)	
	SSD Type: Read Intensive	
	HDD Bays: 4 or more	
	RAID level: 1, 5 ,6	
	No of RAID Controller Port: 8	
	Speed of RAID Controller Ports (Gbps): 12	
	RAID Controller Cache (GB): 4	
	Number of Networking Interface Cards (LAN): 2	
	PCI Slots: 3 PCI/ PCIe x8/x16 slots	
	GPU Card: No	
	Fibre channel adapter: 2 ports with minimum 16Gbps	
	Total Number of Ethernet Ports required in Server: 4x1G, 2x10G SFP+ with SFP	
	On Site Warranty (Year): 3, 24x7 support	
	Server Management: Server must support clustered, highly available, high-volume configurations and support for load balancing and failover capability. Also it should support broad cross-platform support- Windows, Linux.	
	Should provide advanced authentication and authorization.	
	Additional Server Features	
	Configuration & management : Agent-free monitoring, driver updates & configuration, power monitoring & capping, - RAID management, external storage management, monitoring of FC, HBA & CNA & system health, Telemetry Streaming, Idle Server Detection, Should have a cyber resilient architecture for a hardened server design for protection, detection & recovery from cyber attacks	
	Should provide effective protection, reliable detection & rapid recovery using: firmware updates , Secure default passwords, Persistent event logging including user activity, Secure alerting, Automatic BIOS recovery , Rapid OS recovery	

<b>2</b>	<b>SAN Storage:</b>	
	Type of storage: SAN with Dual controller	
	Cache: The Proposed SAN Array should be configured with cache of 16GB or higher. In case of power failure, the SAN array must ensure no loss of data in cache for minimum 72 hrs.	
	Disk Support: The Proposed SAN Array should be able to support minimum of 24 disks in the array supplied from Day One with addition of Disk Enclosure.	
	Raid: Storage subsystem should support Raid 1, 1+0, 5 and 6	
	Port: The offered storage should be provided with 8 front end FC ports at atleast 16Gbps and 2 back end SAS ports of at least 12 Gbps.	
	Global Hot Spare: The storage array should support at least 2 distributed/dedicated global hot spare as per OEM best practices.	
	Capacity: The Proposed SAN Array should be configured with Total 30TB usable space after RAID 5 with Min 4TB Usable in Mix Use SSD Drives and 26TB Usable in 10K RPM SAS Drives. Storage system should be scalable up to 120 TB (Scalability up to 240 No. of Disk).	
	Disk Type: SAS 10K	
	On Site Warranty (Year): 3, 24x7 support	
	Operating System: Yes (Inbuilt management software come default with SAN so no separate OS required)	
	They system should support automatic data tiering between SAS, NL-SAS and SSD.	
	Storage management: Data virtualization should be supported, so that data is presented from storage devices to a host like it is locally attached. It should support spatial data formats along with conventional standard formats.	
<b>3</b>	<b>Server Operating System (As per core specifications of server) :</b>	
	OS: Latest Windows Server Operating System	
	The OS should be compatible with the Hardware Server.	
	Software Domain/ Type: Proprietary item	
	Deployment/Installation of Operating System on: Server (Network) Operating System	
	Types of License: Perpetual	
	The offered product has support from OEM for: Unlimited updation for Patches and Bug fixes within support period, Unlimited up gradation of version within support period	
	Number of Years upto which support is available from OEM for Updation (Patches and Bug fixes): 5	
	Number of Years upto which support is available from OEM for Up gradation of version: 3	
	Number of Bits supported by Offered product: 32, 64	
	Software Assurance: Yes	

<b>4</b>	<b>SAN Switch:</b>	
	Fibre Channel Generation:32 Gbps	
	Fibre Channel base ports : 8	
	Scalability (Ports) :24	
	Fibre Channel Port Speed (Gbps): 16	
	Aggregate Switch Bandwidth FC (end to end full duplex): 768 Gbps	
	Form factor (U):1U	
	On Site OEM Warranty (Year) :3	
	Media Type Fibre Channel: SWL	
	Autosensing (Gbps): 4/8/16	
	Maximum Fabric Latency (nano second) / Locally switched port latency (nano second):780	
<b>5</b>	<b>Ethernet Switch:</b>	
	Maximum Number of Access /Downlink Ports: 24	
	Number of 10/100/1000 Base-T Ports: 24	
	Number of 10 G SFP+ Port (Uplink):4	
	RAM (MB): 2048 or higher	
	Flash Memory (MB): 4096 or higher	
	9K MTU Supported (Minimum): Yes	
	Console Port Yes	
	Operating System: Yes	
	Switching Capacity / Forwarding Bandwidth (Non-Blocking / Line Rate /Wired Speed) 2x (Numbers of access ports + Number of Uplink Ports) (Gbps): 128 or higher	
	Throughput/ Forwarding Performance (MPPS): 95 or higher	
	Layer 2 Protocols: 802.1QVLAN,LAG,LACP,STP,MSTP,RSTP, IEEE 802.3x, VLAN	
	Number of VLAN Supported: 2000	
	Number of VLAN IDs Supported: 4000	
	Number of IPV4 Routes: 2000	
	Number of IPV6 Routes: 1000	
	Number of Mac Address Supported (k): 32	
	Basic Layer-3 Protocol from day 1: Static Routing,RIPv1,RIPv2,OSPFv2,OSPFv3,PBR	
	Advance Layer-3 Protocol from day 1: OSPFv2,OSPFv3,PBR,PIM-SM,PIM-DM	

	Premium Layer-3 Protocol from day 1: PIM-SM, PIM-DM,VRRP	
	Security Feature: RA Guard, DHCP Snooping, Dynamic ARP Inspection,ACL,802.1x,RADIUS/ TACACS, Port Security, BPDU Guard, IGMP snooping	
	Management Protocol: GUI, CLI, Telnet, TFTP,, SNMPv1,SNMPv2/ V2C, SNMPv3, NTP, Openflow 1.3,RMON,SSHv2,Single IP Management,DLDP/UDLD	
	QoS: 802.1p,SP,Queues per port,Sflow,SNTP,Shapincg,Policing / Rate Limiting,Strict Priority Queuing or Low Latency Queueing	
	Dimension / Form Factor (RU): 1	
	Packet Buffer Size: 8 MB or higher	
	Certification: NDPP,RoHS	
	MTBF (Year): 7	
	Minimum Operating Temperature (Degree C):0	
	Maximum Operating Temperature (Degree C):45	
	Minimum Operating Humidity (%RH) : 15	
	Maximum Operating Humidity (%RH): 95	
	IPv6 Ready from day 1: Yes	
	On Site OEM Warranty (Year) : 3	
<b>6</b>	<b>42U Rack along with console and accessories:</b>	
	Rack and all necessary hardware for installation of the servers and storage (server rails, power chords etc.) must be supplied.	
	Rack mounted console with keyboard & mouse for management of servers and storage must be supplied as per proposed server, storage and networking architecture's power requirement.	
	On Site OEM Warranty (Year): 3 Years	