

**REQUEST FOR QUOTATION**

FORM NO. PUR-001 REVISION 00

Telephone : 040-27182230  
 Fax No. : 040-27140010  
 E-mail : apd\_purchase@ecil.co.in

**Electronics Corporation of India Limited**  
 A Government of India Enterprise  
 Antenna Products & Satcom Division / Purchase  
 ECIL (P.O.) Hyderabad - 500 062. A.P.

ENQUIRY NO.: /APD/14-9594/P/2101  
 DATE : 28/12/2013  
 DUE DATE : 21/01/2014

M/S.

Dear Sirs,

Kindly submit your quotation in a sealed envelope superscribing enquiry No. and Due Date for the supply of the following items as per terms and conditions printed overleaf addressed to  
 ECIL, HYDERABAD. QUOTATIONS RECEIVED AFTER THE DUE DATE AND TENDERS SENT IN OPEN/UNSUPERSCRIBED ENVELOPES WILL BE REJECTED.

**IMPORTANT INSTRUCTIONS**

Parties must give the following information otherwise offer may be rejected.

- |   |                                  |
|---|----------------------------------|
| 1. Unit Rate and Terms of price             | 7. Validity of quotation         |
| 2. Quantity discount, if any                | 8. Terms of Payment              |
| 3. Rate of Excise Duty, Sales Tax if any    | 9. Sales Tax Registration Number |
| 4. Definite Delivery schedule               | 10. SSI/NSI Regn. No.            |
| 5. Mode of despatch                         | 11. Service Tax Regn. No.        |
| 6. Estimated Packing and Forwarding Charges | 12. PAN                          |

| Sl. No. | MATERIAL DESCRIPTION AND SPECIFICATION   | ESTIMATED REQUIREMENT |          |
|---------|--|-----------------------|----------|
|         |  | UNIT                  | QUANTITY |
| 01      | T149594001<br>Supply, I&C and Warranty support for Data Archive system<br>Computer Servers           | No(s).                | 5        |
| 02      | T149594002<br>Storage Expansion Units (JBODs)  | No(s).                | 4        |
| 03      | T149594003<br>Tape Libraries   | No(s).                | 2        |
| 04      | T149594004<br>SAS Disk Drives:4TB, 7200rpm, 6Gbps 3.5 inch SAS Disk Drives<br>compatible with item 2 | No(s).                | 40       |
| 05      | T149594005<br>LTO-6 Cartridges of 2.5 TB native capacity Compatible with item 3                      | No(s).                | 50       |
| 06      | T149594006<br>LTO universal cleaning cartridges compatible with item 3                               | No(s).                | 8        |
| 07      | T149594007<br>24-port Gigabit Ethernet switches  | No(s).                | 4        |
| 08      | T149594008<br>19 inch Rack   | No(s).                | 1        |
| 09      | T149594009<br>Rack Mountable KVM switch  | No(s).                | 1        |
| 10      | T149594010<br>External LTO-6 Tape Drive  | No(s).                | 3        |
| 11      | T149594011   | No(s).                | 3        |

NOTE : 1. CERTIFICATE OF COMPLIANCE/BATCH CERTIFICATE/TEST  
 CERTIFICATE SHALL BE FURNISHED, PLEASE CONFIRM.  
 2. 3 SETS OF DATA SHEETS (CATALOGUES) SHALL BE SUPPLIED  
 WITH THE QUOTATION

Yours faithfully  
 For Electronics Corporation of India Limited

**REQUEST FOR QUOTATION**

Telephone : 040-27182230  
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FORM NO. PUR-001 REVISION 001

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 A Government of India Enterprise  
 Antenna Products & Satcom Division / Purchase  
 ECIL (P.O.) Hyderabad - 500 062. A.P.

ENQUIRY NO.: /APD/14-9594/P/2101  
 DATE : 26/12/2013  
 DUE DATE : 21/01/2014

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Dear Sirs,

Kindly submit your quotation in a sealed envelope superscribing enquiry No. and Due Date for the supply of the following items as per terms and conditions printed overleaf addressed to  
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|---|----------------------------------|
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| 2. Quantity discount, if any                | 8. Terms of Payment              |
| 3. Rate of Excise Duty, Sales Tax if any    | 9. Sales Tax Registration Number |
| 4. Definite Delivery schedule               | 10. SSI/NSI Regn. No.            |
| 5. Mode of despatch                         | 11. Service Tax Regn. No.        |
| 6. Estimated Packing and Forwarding Charges | 12. PAN                          |

| Sl. No. | MATERIAL DESCRIPTION AND SPECIFICATION  | ESTIMATED REQUIREMENT |          |
|---------|---|-----------------------|----------|
|         |   | UNIT                  | QUANTITY |
| 12      | SAS HBAs identical to that described in item 1<br>T149594012  | No(s).                | 2        |
| 13      | SAS RAID subsystem identical to that described in item 1<br>T149594013  | No(s).                | 3        |
| 14      | External USB DVD writer<br>T149594014   | No(s).                | 15       |
| 15      | Ethernet network Cat 6 UTP patch cord 2m<br>T149594015  | No(s).                | 15       |
| 16      | Ethernet Network Cat 6 UTP Patch cord 5m<br>T149594016  | No(s).                | 8        |
| 17      | Single mode Fibre Patch cord 15m with LC-LC connector<br>T149594017   | No(s).                | 3        |
|         | Extra power supplies for the servers in item 1  |                       |          |
|         | Note: 1. Detailed specifications of items are as per Annexure A.<br>2. Criteria for acceptance and terms & Conditions are as per Annexure B |                       |          |

NOTE : 1. CERTIFICATE OF COMPLIANCE/BATCH CERTIFICATE/TEST CERTIFICATE SHALL BE FURNISHED, PLEASE CONFIRM.  
 2. 3 SETS OF DATA SHEETS (CATALOGUES) SHALL BE SUPPLIED WITH THE QUOTATION

Yours faithfully  
 For Electronics Corporation of India Limited

**Electronics Corporation of Indian Limited**  
**(A Government of India enterprise)**  
**Antenna Products & Satcom Division**  
**Hyderabad – 500062 {A.P.} India**  
**Telephone: 91 40 2712 0017, 2718 2230, 2714 0010**  
**Fax : 91 40 2714 0010**  
**E mail: [apd\\_purchase@ecil.co.in](mailto:apd_purchase@ecil.co.in)**

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**TENDER NO : ECIL:AP&SD:PUR:14-9594**

**Date:26-12-2013**

**TABLE OF CONTENTS OF THIS DOCUMENT**

| <b>SL.No.</b> | <b>DOCUMENT DESCRIPTION</b>       | <b>NO. OF PAGES.</b> |
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| 2             | Tender Document                   | 3 to 8 of 17         |
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|               | Total No. of Pages.               | 17                   |

**Cover page to the Tender Document**

|   |   |
|---|---|
|  | <p align="center"><b>ELECTRONICS CORPORATION OF INDIA LIMITED</b><br/> <b>(A Government of India Enterprises)</b><br/> <b>Antenna Products &amp; Satcom Division , ECIL (PO), Hyderabad – 500 062</b></p> |
|---|---|

|  |  |   |                                       |
|--|--|---|---------------------------------------|
| Name of Organization                                       |  | Electronics Corporation of India Limited, Hyderabad – 500 062 {A.P.} India  |                                       |
| Type of Organization                                       |  | Public Sector Undertaking   | Ministry: Department of Atomic Energy |
| Tender Ref. No:  |  | ECIL:AP&SD:PUR:14-9594  |                                       |
| Tender Title:  |  | Supply, Installation & Commissioning & Warranty Support for Data Archive System for MACE as per enclosed Tender Document , Annexure A & B |                                       |
| Product Category:  |  | Data Archive System (Modular Storage System)  |                                       |
| Document Cost:   |  | Rs. 1000/- (Rupees One Thousand only)   |                                       |
| Tender Value:  |  | EMD: Rs.2,00,000/-  | Security Deposit: @10% of order value |
| Tender type:   |  | Buy   |                                       |
| Location:  |  | Hyderabad {A.P.}  |                                       |
| Request for quote date:                                    |  | On or before due date   |                                       |
| Last date for submission of bid:                           |  | 21.01.2014 at 14.00 Hrs   |                                       |
| Opening date of part I                                     |  | 23.01.2014 at 14.00 Hrs   |                                       |
| Description of item:                                       | Supply, installation & commissioning and warranty support for Data Archive system for MACE |   | Quantity                              |
|  |  |   | 1 Set                                 |
| Pre-Qualification:   |  | As per specifications given in the tender   |                                       |
| Tender Document:   |  | View Tender Document *  |                                       |
| Bid Document:  |  | View Price Bid Document *   |                                       |
| Technical Document:  |  | View Technical Document*  |                                       |
| Sector:  | Electronics  |   |                                       |
| State:   | Andhra Pradesh   |   |                                       |
| For further Information contact: DGM, Purchase, AP&SD,ECIL |  |   |                                       |
| E-Mail:  | apd_purchase@ecil.co.in  |   |                                       |
| Phone:   | +94 - 40 – 2714 0010 / 2718 2230   |   |                                       |
| Fax:   | +91 -40 – 27140010   |   |                                       |

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(A Government of India enterprise)  
Antenna Products & Satcom Division  
Hyderabad – 500062 {A.P.} India  
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E mail: [apd\\_purchase@ecil.co.in](mailto:apd_purchase@ecil.co.in)

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Tender No: ECIL/AP&SD/PUR/14-9594

## **Tender Document**

### **1. Invitation to Tender:**

Electronics Corporation of India Limited, Antenna Products & Communications Division (AP&SD) invites “Two part Bid” for as per details given below.

### **2. Important Dates**

**Due date for submission of Two Part Bids : 21-01-2014 up to 14-00 Hrs.**

Techno- commercial bid (part 1) will be **opened on 23-01-2014 at 14-00Hrs.** Interested vendors may be present with prior permission.

After evaluation of the techno commercial bids, qualified list of vendors will be finalized.

Price bid (part 2) of the qualified vendors will be opened at a later date, which will be communicated to the qualified vendors.

**Pre-bid meeting will be held on 20.01.2014 at 10.00 Hrs.**

### **3. Manner and method of submission of offers:**

All pages of the tender shall be numbered and typed on the letter head of the vendor and be duly signed and stamped by company’s authorized signatory. Hand written quotation will be summarily rejected. Corrections if any shall be duly authenticated with signature and seal of the company.

The quotation in prescribed form to this invitation shall be submitted in two parts and in different sealed envelopes super scribing tender number with due date.

Part-I (Technical Bid); It shall comprise of two sections namely technical section and commercial section and both sections shall be submitted along with tender fee and EMD in a single sealed envelope. **This bid shall not contain any price details.**

Part-II (Price Bid): It shall comprise of price details and shall be summated in a sealed separate envelope.

The above two sealed envelopes of Part-I & Part II shall be put in a single sealed envelope and submitted to the attention of Deputy General Manger, AP&SD-MMD, ECIL Post, Hyderabad 500062, AP, India.

**4. Cost of Tender Documents:**

Tender fee of **Rs.1000/-** is to be remitted along with the techno commercial bid in the form of a crossed bank draft favoring Electronics Corporation of India Limited” from a nationalized bank payable at Hyderabad. The cost of tender document is non-refundable.

**5. Earnest Money Deposit (EMSD):**

**Earnest money deposit of Rs.2,00,000/-** shall be submitted along with the techno-commercial bid in the form of demand draft favoring Electronic corporation of India limited or a Bank Guarantee valid for a period of six months drawn from a nationalized bank payable at Hyderabad. The EMD deposited by the unsuccessful bidders will be appropriated towards security deposit. The bids will not be considered in the absence of payment towards the cost of tender document and EMD.

**6. Security deposit(SD):**

The successful bidder will be required to remit a security deposit equivalent to 10% of the purchase order value exclusive of taxes and duties etc. after adjusting the EMD amount already remitted. SD is to be remitted along with the order acceptance in the form of a crossed bank draft favoring Electronic corporation of India limited or a Bank Guarantee from a nationalized bank payable at Hyderabad. The security deposit will be forfeited in the event of failure to execute the purchase order. The security deposit will be refunded without interest after the purchase order is successfully executed to the satisfaction of the purchaser.

**7. Items tendered for:**

| SL. NO | Item description  |
|--------|---|
| 01     | Supply, Installation & Commissioning & Warranty Support for Data Achieve System for MACE as per enclosed Annexure A & B |

Intending bidders who have not yet registered with ECIL are also requested to download “Suppliers Registration Form” from web site [www.ecil.co.in/tenders](http://www.ecil.co.in/tenders), fill it up and sent the same along with the bids.

**TENDER SUBMISSION FORMAT (PRICE BID DOCUMENT )**

Tender No: : ECIL/AP&amp;SD/PUR/14-9594

Date: 26-12-2013

**I Vender Particulars:**

|  |  |
|--|--|
| Name and address of the bidder                         |  |
| Telephone, fax and e-mail                              |  |
| Name and designation of the office representing vendor |  |

**II Item tendered for:**

| SL NO | Item description  | Qty   | Rate | Value |
|-------|---|-------|------|-------|
| 01    | Supply, Installation & Commissioning & Warranty Support for Data Archive System for MACE as per enclosed Tender Document , Annexure A & B | 1 set |      |       |

**III Terms and Conditions.**

|     |   |  |
|-----|---|--|
| 1   | Terms of price  |  |
| 2   | Payment terms (Please refer general Terms and Conditions of this tenders)   |  |
| 3   | Rate of Excise Duty, Service, and any other Taxes and duties applicable ( in case Vendor imports any item directly Customs duty exemption will not provided by ECIL)<br>Note: Vendor shall specifically mention applicability of all taxes and duties. In the absence of specific confirmation of Taxes and duties, the quotation is liable to be rejected. |  |
| 4   | Tendered Items are required immediately. Vendors are requested to quote earliest possible delivery schedule.  |  |
| 5   | Standard warranty ( minimum 3 years from the date of Installation)  |  |
| 6   | Estimated Packing & forwarding charges.   |  |
| 7   | Validity of quotation (minimum 90 days)   |  |
| 8   | DD No. & Date for Cost of Tender Documents  |  |
| 9   | DD No. & Date for EMD   |  |
| 10  | CST Registration No.  |  |
| 11  | TIN No.   |  |
| 12  | Income Tax PAN No.  |  |
| 13. | ISO – 9000 Certificate or any other Certification   |  |
| 14. | SSI / NSI Registration No., if applicable.  |  |
| 15. | Any other relevant information  |  |

**NOTE:** The Vendor shall submit offer in the above format only. Against each instructions mentioned below the vendor shall give a comment complied (✓) or Not complied (x)

**Instructions :**

- a) No column shall be left blank in the format.
- b) Incomplete counter offer and deviation from the Terms and Conditions will be summarily rejected.
- c) Photostat copies of quote / offer will be accepted. Only originals received within the time limit will be accepted.
- d) The vendor shall submit the certificate of registration under micro, small and medium enterprises development Act, 2006, in case of applicability.
- e) The offer shall meet point wise compliance to all points of Tender document, wherever non-compliance is there, suitable explanation needs to be provided.
- f) Technical proposal need not be restricted to the user requirements as given above. Any additional features may be added in the proposal to make it a professional package.
- g) Technical proposal may be as detailed as possible with functional block diagram where ever applicable.
- h) Foreign vendors shall offer bids directly or through their Indian Partners / Representatives.

**General Criteria for acceptance of Tenders:**

- 1. **Technical Specification:** Vendor shall comply with the Technical specification given in the Technical Document. The commercial offer of the Vendor who satisfies the Technical requirement only will be opened -complied / not complied.
- 2. **Experience :** Vendor shall provide details with documentary evidence the experience in supply of similar systems - complied / not complied.
- 3. **Warranty :** 3 years Free warranty and support is to be provided against all manufacturing defects and software update – complied / not complied.
- 4. **Foreign Vendors** shall have a Branch Office in India / Indian Partners / Representatives rendering support service – complied / not complied.
- 5. **Facilities :** Details of factory assembly and Testing facility shall be furnished. A committee of ECIL may visit to verify the facilities of the vendors for execution of Order if any .
- 6. **Service Centre :** Details of Service Centre location / Engineers working.
- 7. **Acceptance of Tenders :** No Tender will be accepted after due date. ECIL will not be responsible for postal / courier delay or lost in transit if any.



**Note :** Vendor shall provide documentary proof to prove his adherence to the qualifying criteria where ever necessary. Claims without support will not be considered.

### **GENERAL TERMS AND CONDITIONS**

This Tender and any order resulting from this tender shall be governed by the following Terms and Conditions of the contract and the supplier quoting against this tender shall be deemed to have read and understood the same. In case counter terms and conditions of business have been offered by the supplier, ECIL shall not be deemed to be governed unless specific written acceptance thereof has been obtained from ECIL.

1. **Terms of Price** : Quotation shall be submitted on FOR Hyderabad or FOR destination basis including Transit insurance. In case of ex-works / Ex-godown / FOR dispatching station the approximate packing, forwarding and freight shall be indicated by the suppliers. Hyderabad suppliers shall arrange free delivery at our Stores.
2. **Validity of Quote** : The quotation shall remain valid for a minimum period of 90 days from tender opening date.
3. **Performance Bank Guarantee** : Vendor shall submit a performance bank Guarantee for 10% of Purchase order value covering standard free warranty period of 3 years from the date of acceptance of goods by ECIL.
4. **Payment** : Payments for material and services will be made within 60 days from the date of acceptance of goods and services on pro- rata basis by ECIL.
5. **Insurance** : The supplier shall ensure goods for all transit risks if the payment terms is FOR Hyderabad or FOR destination unless otherwise stated specifically by the supplier in their quotation. The supplier shall ensure goods for all risks till acceptance of goods by End User.
6. **Liquidated Damages** : Delivery date is the essence of the contract. In the event of any delay in supply beyond the agreed delivery schedule, liquidated damages will be recovered @ 0.5% for week of delay or part thereof subject to maximum of 10% of the value of the order.
7. **Force majeure** : If the execution of Purchase Order is delayed beyond the period stipulated in the Purchase Order as a result of out break of hostilities, declaration of any embargo or blockage or fire, flood, acts of nature or any other contingency beyond the suppliers control due to act of God ,then ECIL may allow such additional time by extending the delivery period as justified by the circumstances of the case and its decision in this regard shall be final. Power failure will not be considered as a force majeure condition.
8. **Risk Purchase**: In case of failure to deliver the goods within the delivery date stipulated in the purchase order unless prior extension of delivery period is obtained, ECIL will be at liberty to

obtain such items as necessary from other source and/ or cancel the order and in either case ECIL reserves the right to recover from the supplier the additional amount spent plus 10% to cover incidental expenses.

9. **Dispute resolution:** Any dispute arising out of purchase order or interpretation of any clause or terms and conditions hereof shall be settled through conciliation by both ECIL and the supplier, under the specific provision of arbitrational and conciliation act 1996. Only courts in Ranga Reddy district, state of Andhra Pradesh, India have exclusive jurisdiction over this order.
10. **Right to reject:** The purchase reserves the right to reject any or all offers wholly or in part without assigning any reason.
11. **Short closure:** ECIL has the right to short close the tender even after evaluating the quotations without assigning any reason.
12. **Bank details:** The supplier shall give along with the quotation name of their banker, account number and also income tax permanent (PAN).
13. **Juris diction:** All disputes arising in connection with executing the purchase order will be subject to jurisdiction of the courts in Hyderabad and Secunderabad only.

-oOo-

## Data Archive System

### Detailed Specifications for Modular Storage System

Annexure A

#### **A. Computer Servers with following specifications: 5 nos.**

- Processor: Dual Six Core processor (or higher) @ 2.4 GHz or higher (with turbo boost disabled) with 15 MB cache or higher, 60W or less power consumption per processor, support for quad memory channels.
- Memory: 96 GB DDR3 1600 (or higher frequency) , 1.35V ECC RDIMM using 16 GB or higher capacity memory modules only of the make/model approved for the motherboard
- RAID Subsystem : SAS RAID subsystem with the following features
- Sixteen internal 6 Gbps SAS ports to be realized using maximum two RAID controller cards (1x16 or 2x8 configurations only)
  - Four external 6 Gbps SAS ports made available through single mini-SAS SFF-8088 x4 connector to be realized using a single separate RAID controller card or on one of the above RAID controllers if possible
  - At least 512 MB flash protected Cache per RAID card
  - PCIe 2.0 (or PCIe 3.0) compliant x8 lane host bus interface
  - hardware RAID 0,1, 5, 6, 10, 50, 60
  - supporting at least 128 SAS HDDs on the external RAID
  - should be installed in PCIe 2.0 x8 or higher appropriate slot
  - should support hard disk drives of 4 TB capacity
  - should support SSD Drives
  - External & internal ports should be compatible with Linux and JBOD (item B)

|                     |  |
|---------------------|--|
| SAS HBA Card :      | <p>SAS HBA card with the following features</p> <ul style="list-style-type: none"> <li>• Eight external 6 Gbps SAS ports made available through two mini-SAS SFF-8088 x4 connectors</li> <li>• PCIe 2.0 (or higher) compliant x8 lane host bus interface</li> <li>• supporting at least 128 SAS/SATA end devices</li> <li>• should be installed in PCIe 2.0 x8 or higher slot</li> <li>• should support LTO6 tape drives</li> <li>• low profile</li> </ul> |
| Solid State Drives: | Seven 400 GB or higher 2.5" SAS / SATA III, 6 Gbps, Enterprise hot swap SSD drives. SSD Drives must incorporate wear leveling techniques and SMART monitoring.   |
| Optical drive:      | DVD-Writer (Internal)  |
| Display Adapter:    | One on-board display adapter   |
| Monitor:            | 23" LED monitor  |
| Keyboard & Mouse:   | Optical USB Mouse and Keyboard   |
| Ethernet ports:     | Four 1000BaseT Gigabit Ethernet Ports  |
| USB Ports:          | At least 4 USB ports   |
| PCI Slots:          | Suitable PCI slots for populating the RAID card(s), SAS HBA Card, NIC (if any) and additional one x8 PCI-e 2.0 (or higher) slots.  |
| Form Factor:        | 2U Rack mountable with sliding rails   |
| Chassis:            | 2U rack mountable chassis approved by the motherboard manufacturer. Should have support for upto 16 hot-swap 2.5" Hard disk drives.  |
| Power Supplies:     | 2 hot swappable redundant high efficiency power supplies sufficient for the existing H/w, fully populated disk drive bays, memory slots and additional 1 PCI cards of 30 W   |

|                          |  |
|--------------------------|--|
| Power Cords:             | IEC320 compatible Male/Female power cords  |
| Server management system | IPMI 2.0 compliant management card with dedicated port with support for KVM over LAN and Virtual Media Redirection   |
| Performance Criteria     | The compute performance of the system will be measured using HPL benchmark, the system should deliver at least 200 GFLOPS. The I/O performance of the system will be measured over a logical volume on a RAID 6 group of 8 HDDs connected through a JBOD using xdd I/O performance benchmark program. The data transfer rate measured for read operation should be higher than 400 MB/s and for write operation it should be higher than 240 MB/s. |
| Warranty:                | 3 years comprehensive warranty   |

**B. Storage Expansion Units (JBODs) with following specifications: 4 nos.**

|               |   |
|---------------|---|
| Backplane:    | SAS 6 Gbps backplane with Dual Expanders (dual path support on backplane) supporting 12 SAS 6 Gbps 3.5" hot swappable disk drives (hot-plug trays should be included) |
| Ports:        | Four SAS 4x (24 Gbps) SFF-8088 ports (Two host ports and two cascade ports with dual-path support)  |
| Cooling:      | Sufficient FANs to cool the entire subsystem with SAS HDDs populated  |
| Power Supply: | 1+1 redundant hot-swappable high efficiency power supplies for fully populated drive bays.  |
| Power Cords:  | IEC320 compatible Male/Female power cords   |
| Form Factor:  | 2U Rack mountable with sliding rails  |
| Cables:       | Two SAS 4x 2m or longer cables with SFF 8088 connectors   |

|                                    |  |
|------------------------------------|--|
| Compatibility & Interoperability : | This unit should be fully compatible and interoperable with computer server unit mentioned in A above. Performance of the item should be as described in the performance criteria of item A. |
| Warranty:                          | 3 years comprehensive warranty   |

**C. Tape Libraries with following specifications: 2 nos.**

|                                    |   |
|------------------------------------|---|
| Tape Drive Technology :            | Support for LTO-6   |
| Tape Drives:                       | Should have at least one tape drive   |
| Cartridge Slots:                   | Should have at least 24 cartridge slots   |
| Mail Slots:                        | Should have at least 1 mail slot  |
| Host interface :                   | 6 Gbps SAS  |
| Connector:                         | Mini-SAS SFF-8088   |
| Cables:                            | Necessary SAS 4x Mini-SAS cables of at least 2m length  |
| Power Cords:                       | IEC320 compatible Male/Female power cords   |
| Form Factor:                       | 2U Rack mountable with rail-kit   |
| Management features:               | Web based remote management interface   |
| File System Support :              | Should have at least drive level support for LTFS. Necessary drivers and software should be included with license.  |
| OS Support :                       | Should support Linux platform, necessary management software should be included with license  |
| Compatibility & Interoperability : | This unit should be fully compatible and interoperable with computer server unit mentioned in A above. All the necessary hardware and software must be provided with license. |

|                  |  |
|------------------|--|
| Barcode Support: | Inbuilt Barcode Reader, with 30 barcode labels for LTO-6 Cartridges. |
| Warranty:        | 3 years comprehensive warranty                                       |

**D. SAS Disk Drives: 4 TB, 7200 rpm, 6 Gbps 3.5 inch SAS Disk Drives compatible with item B :  
40 nos.**

**E. LTO-6 cartridges of 2.5 TB native capacity compatible with item C: 50 nos.**

**F. LTO universal cleaning cartridges compatible with item C: 8 nos.**

**G. 24-port Gigabit Ethernet switches with following specifications: 4 nos.**

|                      |  |
|----------------------|--|
| Ports:               | At least 24 autosensing, auto-negotiating 10/100/1000BaseT ports.<br><ul style="list-style-type: none"> <li>• 20 RJ45 ports</li> <li>• 4 RJ45/SFP combo ports</li> </ul>       |
| Switching capacity   | 48 Gbps or higher  |
| Switching features:  | <ul style="list-style-type: none"> <li>• 802.3ad link aggregation</li> <li>• 802.1p prioritization</li> <li>• Support for multiple VLANs</li> <li>• Layer 3 support</li> </ul> |
| Management features: | <ul style="list-style-type: none"> <li>• CLI</li> <li>• SNMP</li> </ul>  |
| Chassis:             | 1U Rack Mountable with mounting hardware   |
| Optical Transceiver  | One Gigabit Single mode LC SFP transceiver   |
| Power Cords:         | IEC320 compatible Male/Female power cords  |
| Warranty:            | 3 years comprehensive warranty   |

**H. 19 inch racks with following specifications: 1 nos.**

|                            |  |
|----------------------------|--|
| Dimension:                 | 600mm (Width), at least 1000 mm (Depth) and 2000 mm (approx. height)   |
| Usable rack space :        | 42U  |
| Weight capacity:           | 1000 kg static load  |
| Perforated doors:          | Rear and front perforated doors  |
| Vertical Cable Managers:   | Two vertical cable managers  |
| Horizontal Cable Managers: | Six 1U Horizontal cable managers.  |
| Blanking Panels:           | 20 numbers of 1 U blanking panels  |
| Rack Mount Accessories:    | Rack mount cage nuts and screws with plastic/nylon washers: 40 nos   |
| Switched Rack PDU:         | <p>Two nos. of 32A switched rack PDU mounted vertically (Zero U) with each PDU having</p> <ul style="list-style-type: none"> <li>• at least 20 nos. of IEC 320 C13 independently switchable outlets</li> <li>• Network connectivity, power sequencing</li> <li>• SNMP, Telnet, SSH command line interfaces</li> <li>• Email alerts</li> <li>• The Switched Rack PDU should be of the same make as that of the rack</li> </ul>                                |
| Other essential features:  | <ul style="list-style-type: none"> <li>• Adjustable Leveling feet</li> <li>• Numbered U positions on both front and rear rails</li> <li>• Holes for cabling at the top and bottom</li> <li>• Heavy duty castors</li> <li>• 4 nos. of fans mounted on top cover</li> <li>• Side Panels</li> <li>• Earthing bar with 200A ground current capacity</li> <li>• All necessary equipment for safely earthing the rack and the components mounted in it.</li> </ul> |
| Rack mounting tools:       | <p>One Battery operated cordless power tool set for Rack mounting with battery chargers</p> <p>Two Screw Driver set with bits required for rack installation</p>   |
| Warranty:                  | 3 years comprehensive warranty.  |



**I. Rack mountable KVM switch with following specifications: 01 nos.**

|              |  |
|--------------|--|
| No Of ports: | 8 ports with USB keyboard and mouse support              |
| Features:    | Integrated with 17" LCD monitor. Keyboard, and touch pad |
| Form Factor: | 1U with LCD panel folded                                 |
| Cables       | All Required cables to connect 8 servers                 |
| Power Cords: | IEC320 compatible Male/Female power cords                |
| Warranty     | 3 years.   |

**J. External LTO-6 Tape Drive: 03 nos.**

|                           |   |
|---------------------------|---|
| Drive Support:            | LTO-6                                     |
| Interface connector type: | SFF-8088                                  |
| Interface                 | SAS 6Gbps                                 |
| Data buffer               | 512 MB or higher                          |
| Mounting                  | 1U rack mounting and table top kit.       |
| OS Support:               | RedHat Enterprise Linux 6                 |
| Power Cords:              | IEC320 compatible Male/Female power cords |
| Warranty                  | 3 year                                    |

**K. SAS HBAs identical to that described in item A: 03 nos**

**L. SAS RAID subsystem identical to that described in item A: 02 nos**

**M. External USB DVD Writer: 03 nos**

**N. Ethernet Network Cat 6 UTP Patch cord 2m: 15 nos**

**O. Ethernet Network Cat 6 UTP Patch cord 5m: 15 nos**

**P. Single Mode Fibre Patch cord 15m with LC-LC connector: 8 nos.**

**Q. Extra Power supplies for the servers in Item A: 3 nos.**

**-oOo-**

#### Terms and Conditions:

1. Quote must be submitted in two separate sealed covers. One cover super-scribed as TECHNICAL (Solution description, Data sheets, Unpriced BOM, commercial terms) and second sealed cover super-scribed as PRICING (BOM with Pricing)
2. Authorization letter from OEM must be furnished.
3. Installation and commissioning is the responsibility of the vendor. Final Installation and commissioning of the system will be at site located anywhere in India.
4. Vendor must substantiate product compliance against the tender specifications by providing documentation such as brochures and data sheets to prove the compliance. Just mentioning "Complied" against each required feature will not be sufficient to consider the offer.
5. Vendor should produce letter from the original manufacturer stating commitment for support for this requirement against this tender for the entire warranty period (3 years).
6. A Demo system comprising of one Computer Server, 1 JBOD and 8 hard disks should be provided for the period of 1 week for the quoted configuration on NCNC basis. Demo system should be delivered at ECIL, Mumbai/ ECIL Hyderabad.
7. Vendor should quote unit price for each item separately.
8. Vendor should provide at least 3 full day training to the purchasers personnel at ECIL, Hyderabad, as per details given below.
  - a. Hardware replacement and repair.
  - b. Detailed training of testing and validating Processor, Memory, Hard Disk, Power supply, Network switches etc.
  - c. Rack mounting of servers, JBODs and other equipment.
  - d. Training of hardware health monitoring and IPMI features.
9. Delivery of replacement parts in lieu of faulty ones should be done at ECIL, Hyderabad.
10. Vendor should have technical team to support during warranty period.
11. Any items, cables or accessories required for completeness and full functionality of the items in the integrated form should be quoted. Systems must be supplied with Latest version of Free Linux. Device drivers must be provided for all the peripherals.
12. Any spares may be suggested. Spares should be quoted as optional.
13. Compliance statement to be provided for BOM, Specifications, Acceptance criteria and terms & Conditions.
14. Warranty: 3 years from the date of Acceptance of the system.
15. The quotation can be submitted both in Indian and foreign currency.

#### Acceptance Criteria :

1. The acceptance test will consist of functionality test, performance test and stability test.
2. System functionality and interoperability of the constituent components will be tested.
3. The compute performance of the computer server will be measured using HPL benchmark, the system should deliver at least 200 GFLOPS.
4. The I/O performance of the system will be measured over a logical volume on a RAID 6 group of 8 HDDs connected through a JBOD using xdd I/O performance benchmark program. The data transfer rate measured for read operation should be higher than 400 MB/s and for write operation it should be higher than 240 MB/s.
5. The stability of the system will be tested by running the xdd benchmark for 12 hours with a read:write ratio of 9:1 as well as by running the HPL benchmark for 24 hours. To pass the stability test the system should not fail during the test interval.