



INDIAN STATISTICAL INSTITUTE CHENNAI CENTRE.

Tender ID No: ISICC/D20/17-18/OT/18

Date: 03/05/2017

Updated on: 17/05/2017

Sealed Tenders are invited for LAN Cabling.

Tenders are invited from interested suppliers for procurement of the following:

Sl.No.	Item	Quantity	Unit
1	Switch with 3 years support pack.	1	No's
2	Cat 6A UTP Cable(305 mtrs/box)	3	Box
3	Cat 6A patch cords 2mtrs	40	No's
4	Cat 6A Information outlet	20	No's
5	Single port face plate with back box	16	No's
6	Dual port face plate with back box	2	No's
7	Cat 6A 24 port jack panel loaded	1	No's
8	2' PVC Conduits / channels	100	Mtrs
9	1.5' PVC Conduits / channels	50	Mtrs
10	1' PVC Conduits / channels	50	Mtrs
11	Race ways	10	Mtrs
Services			
1	Laying of ISI standard PVC conduit pipe with proper clamping through surface/ Wall.	200	Mtrs
2	Laying of Cat 6A cable through PVC Pipe.	3	Box
3	Termination of Information Outlet	20	No's
4	Fixing port face plate with back box	18	No's
5	Installation of 24 port jack panel loaded	1	No's

Consortium:

If the Bidder is not a manufacturer he should provide documentary evidence (e.g. Manufacturers' Authorization Form) for having tied up with all the participating manufacturing agencies.

ESTIMATED TENDER VALUE: 1.4 L

Last date of submission of bid : 24/05/2017 [5.00 PM]

Delivery (including completion of installation, if any) : Within 10 days of date on Purchase Order

Technical Specification

Technical Specification of Switch
Network Switch
General Features
The switch should have minimum 24 x 10/100/1000 Base-T Ports & 4 x 1000 Base-X SFP slots.
Future support for Redundant Power supply
Should have fan for proper cooling.
Performance
At least 200 Gbps switching bandwidth
Forwarding rate – At least 70 Mbps.
Configurable at least 16000 MAC addresses
The switch should support stacking with 80 Gbps Stacking bandwidth to stack upto 8 switches into a single virtual switch. Stacking is not required from day 1, but stacking should be supported on the proposed switch model.
DRAM 512 MB and 128 MB Flash
Layer-2 Features
IEEE 802.1Q VLAN encapsulation. At least 1000 VLANs should be supported. Support for 4000 VLAN IDs.
Support for Automatic Negotiation of Trunking Protocol, to help minimize the configuration & errors.
Centralized VLAN Management. VLANs created on the Core Switches should be propagated automatically.
Spanning-tree Enhancements for fast convergence
IEEE 802.1d, 802.1s, 802.1w, 802.3ad,
Spanning-tree root guard feature to prevent other edge switches becoming the root bridge.
IGMPv3. Support for at least 1000 IGMP Groups. IGMP filtering.
Link Aggregation Protocol (LACP)
Support for UDLD (in case of fiber cut) and to disable them to avoid problems such as spanning-tree loops.
The Switch should be able to discover the neighboring device of the same vendor giving the details about the platform, IP Address, Link connected through etc, thus helping in troubleshooting connectivity problems.
Per-port broadcast, multicast, and storm control to prevent faulty end stations from degrading overall systems performance.
Local Proxy Address Resolution Protocol (ARP) to work in conjunction with Private VLAN Edge to minimize broadcasts and maximize available bandwidth.
Multicast VLAN registration (MVR) to continuously send multicast streams in a multicast VLAN while isolating the streams from subscriber VLANs for bandwidth and security reasons.
Network Security Features

Support for mechanisms to improve the network's ability to automatically identify, prevent, and respond to security threats and also to enable the switches to collaborate with third-party solutions for security-policy compliance and enforcement before a host is permitted to access the network. Thus preventing the spread of Viruses & worms.

IEEE 802.1x to allow dynamic, port-based security, providing user authentication.

Port-based ACLs for Layer 2 interfaces to allow application of security policies on individual switch ports.

SSHv2 and SNMPv3 to provide network security by encrypting administrator traffic during Telnet and SNMP sessions.

Bidirectional data support on the Mirrored port to allow the intrusion detection system (IDS) to take action when an intruder is detected.

RADIUS authentication to enable centralized control of the switch and restrict unauthorized users from altering the configuration.

MAC address notification to allow administrators to be notified of users added to or removed from the network.

DHCP snooping to allow administrators to ensure consistent mapping of IP to MAC addresses. This can be used to prevent attacks that attempt to poison the DHCP binding database, and to rate-limit the amount of DHCP traffic that enters a switch port.

Port security to secure the access to an access or trunk port based on MAC address.

Multilevel security on console access to prevent unauthorized users from altering the switch configuration using local database or through an external AAA Server.

BPDUGuard to shut down Spanning Tree Protocol PortFast-enabled interfaces when BPDU's are received to avoid accidental topology loops.

Should support 500 ACL entries

Quality of Service (QoS) & Multicast

Standard 802.1p CoS and DSCP

Control- and Data-plane QoS ACLs, Cross-stack QoS

Up to eight egress queues per port

Strict priority queuing mechanisms

There should not be any performance penalty for highly granular QoS functions.

Committed information rate (CIR) function to provide bandwidth in increments of 8 Kbps

Rate limiting should be provided based on source and destination IP address, source and destination MAC address, Layer 4 TCP and UDP information, or any combination of these fields, using QoS ACLs (IP ACLs or MAC ACLs), class maps, and policy maps.

Flow-based rate limiting and up to 256 aggregate or individual policers per port

Shaped Round Robin (SRR) scheduling and Weighted Tail Drop (WTD) congestion avoidance.

2000 IPv4 & IPv6 Unicast Direct Routes

1000 Multicast Groups

Management

Superior manageability Features

Command Line Interface (CLI) support for configuration & troubleshooting purposes.

For enhanced traffic management, monitoring, and analysis, upto four RMON groups (history, statistics, alarms, and events) must be supported.

Layer 2 trace route to ease troubleshooting by identifying the physical path that a packet takes from source to destination.

Domain Name System (DNS) support to provide IP address resolution with user-defined device names.

FTP/ Trivial File Transfer Protocol (TFTP) to reduce the cost of administering software upgrades by downloading from a centralized location.

Network Timing Protocol (NTP) based on RFC 1305 to provide an accurate and consistent timestamp to all intranet switches.

SNMP v1, v2c, and v3 and Telnet interface support delivers comprehensive in-band management, and a CLI-based management console provides detailed out-of-band management.

RMON I and II standards

Certification:

The switch should be Common Criteria EAL4 or NDPP certified and IPv6 Ready Logo certified (The supporting URL and certification link need to be attached with the Bid)

Switch OEM should be in the Gartner's Leaders & Challengers quadrant for Wired and Wireless LAN Access Infrastructure

Technical Specification for Passive Material

Channel Performance

The Category 6A/ Class EA UTP SCS shall comply with the following standards

- a) ISO/IEC 11801:2010
- b) EN 50173 Part 1 through Part 5:2010 and 2011
- c) ANSI/TIA-568-C
- d) IEC 60603-7-4
- e) Local/National Codes and Regulations

The Category 6A/ Class EA UTP system should support the following IEEE Ethernet applications

- a) 802.3e - 1BASE5
- b) 802.3i - 10BASE-T
- c) 802.3u - 100BASE-TX, 100BASE-T4
- d) 802.3y - 100BASE-T2
- e) 802.3z - 1000BASE-X
- f) 802.3ab - 1000BASE-T
- g) 802.3af - Power Over Ethernet (15.4W)
- h) 802.3at - Power Over Ethernet Enhancements (25.5W)
- i) 802.3az - Energy Efficient Ethernet

Additionally the Category 6A/ Class EA UTP SCS shall be capable of supporting the following Fibre Channel Applications Standards, per Technical Committee 11 of INCITS:

- a) 1GFC-BASE-T
- b) 2GFC-BASE-T
- c) 4GFC-BASE-T

It is critical that guaranteed worst-case values are provided to ensure the SCS can support 1G transmission without risk. "Average value" or "Typical Value" is not acceptable as they do not account for lower performance channels. The proposed Category 6A UTP SCS, when configured as a worst-case 100 metre channel shall provide performance headroom over limits specified by Cat6A

NEXT - Minimum 3 db above the standards;

Should support a minimum of 4 connector Channel with a minimum 3 db guaranteed NEXT

Insertion Loss - 3%

Return Loss - 1.0 db

The SCS must consist of individual components provided by the same manufacturer. "Mix and Match" products are not allowed as there is no guarantee that the overall channel will meet Category 6A Channel requirements if constructed with components from different vendors.

The Category 6A cable and Category 6A channel components shall be manufactured by a single manufacturer. The manufacturer shall warrant the Category 6A channel cable, components, and applications for a period of 20 years.

The 20 year warranty shall be a transferable warranty and has component replacement policy in case of manufacturing defect.

The SCS must be tested by an ISP 17025 accredited 3rd Party test facility to EIA/TIA 568C, ISO/IEC 11801 Amendment 1 and for the channel testing must be provided as part of the bid response.

The Category 6A system should support channels that are shorter than 15 meters for 2,3,4 connector channels without any minimum length requirements.

Horizontal Cable

The Cable should meet ANSI/TIA 568C.2 Category 6A Specifications

Cables should have TRACKING Number to check the genuinity / details of the test reports

The cable should consist of Eight 23 AWG copper conductors. Copper Clad Aluminum or any other combinations are not allowed

The Cable should be round in shape

The weight of the cable box of 1000 Feet should not be less than 34.7 lb /15.74 lg.

The nominal Jacket thickness should be 0.05 inches/0.127 cm

The nominal Outside diameter should not be more than 0.285 inches

The cable should support the installation temperature : 0 to 60 ° C
It should support Operating temperature of -20 to 60 ° C

The cable and cordage shall be "True UTP" components that do not include internal or external shields, screened components or drain wires. No Special Grounding requirements.

The horizontal cable shall have a unique print string on the cable jacket. This unique identifier shall also be used for on-line reference to a full set of factory tests that were performed on a sample from the same mater reel. The test parameters shall include NEXT, PSNEXT, Return Loss, Attenuation, ELFEXT and PSELFEXT. The on-line reference must be available on the SCS vendor public website, such that it can be accessed at any time.

Category 6A - 10Gigabit outlets

The 8-pin modular (RJ-45) jacks shall comply with IEC 60603-7-4

The Category 6A outlets shall be backward compatible with Category 6 and 5E cords and cables.

The Category 6A outlets shall be of a universal design supporting T568 A & B wiring.

The information outlet shall have a Current Rating of 1.5 A at 20°C

The information outlet must support 90 degree cable termination.

3rd Party Verification test certificates shall be provided to show compliance to ISO/IEC 11801 Amendment 2 testing for Cat 6A components.

The 8-pin modular (RJ-45) jacks shall comply with IEC 60603-7-4.

The information outlet will have insertion life of 750 cycles minimum.

Modular RJ45 Patch Cords

SCS must support patch cord lengths of 1 meter minimum and equipment cords of 2 meter minimum and The Patch cords shall be available in Stranded and solid core construction

Cords shall be equipped with 8-pin modular plugs on each end.

All cords shall be round, and consist of copper conductors, tightly twisted into individual pairs.

Nominal cordage diameter shall not exceed 7.24 mm.

Plugs shall be designed with an anti-snap latch to facilitate easy removal during move, add and change processes.

3rd Party verification of the Fire Safety/ Environmental tests listed above must be provided as part of the bid response.

The cordage shall be UTP components that do not include internal or external shields, screened components or drain wires.

The patch cords will have insertion life of 750 cycles minimum.

Patch Panel

The ganged adapter style patch panel will utilize increments of six RJ-45 style jacks in a common moulded component.

The ganged adapters shall have RJ45 jack in the front and Insulation Displacement Connector (IDC) at the rear of the module.

Termination managers must be provided with the panel. These termination managers provide proper pair positioning, control, and strain relief features to the rear termination area of the panel.

3rd Party Verification test certificates shall be provided to show compliance to ISO/IEC 11801 Amendment 2 testing for Cat 6A components.

When configured in worst-case 100 meter channels with full cross-connects and consolidation points with the other products proposed in this tender, the panel shall be capable of delivering the minimum guaranteed channel performance

The panel shall have horizontal cord organizers available as to improve patch cord management

The patch panel type shall be a 1U panel capable of supporting 24 unshielded modular 8-pin connectors compliant with IEC 60603-7-4 while meeting the Channel Performance as specified in Amendment 1 to ISO/IEC 11801:2002

The panel shall be available in 24-port and 48-port configurations with universal A/B labeling and 110 connector terminations on rear of panel allowing for quick and easy installation of 22 to 24 AWG cable

The panel shall be equipped with a removable rear mounted cable management bar and front and rear labels

The panel shall be UL and cUL Listed

Operating Temperature Range = 14°F to 140°F (-10°C to 60°C)

Storage Temperature Range = -40°F to 158°F (-40°C to 70°C)

Humidity = 95% (non condensing)

Nominal Solid Conductor Diameter = 0.025 to 0.020 in (0.64 to 0.51 mm) (22 to 24 AWG)

Nominal Stranded Conductor Diameter:=0.025 to 0.020 in (0.64 to 0.51 mm) (22 to 24 AWG)

Insulation Types = All plastic insulates (including PVC, irradiated PVC, Polyethylene, Polypropylene, PTF Polyurethane, Nylon, and FEP)

Insertion Life = 750 minimum insertions of an FCC 8-Position Telecommunications Plug

FACE PLATE Flush-mounted modular faceplates

Faceplates shall be available in single, duplex & Quad arrangement in a single gang configuration.

Faceplate outlet openings shall be numbered on both sides for installation and maintenance identification.

Faceplates shall be High-impact, flame retardant, UL-rated 94V-0 thermoplastic.

Your Quotation shall comprise of two parts: (a) **Technical Bid** (b) **Price Bid**

Both the parts must be submitted separately in two envelopes labeled clearly as "Technical Bid" and "Price Bid" respectively, and these shall be put in a third envelope. All three envelopes shall be super scribed with the following:

Tender Enquiry No. _____ Dated: _____ Due on: _____

Quotation must be sent in sealed cover either by Registered Post or by hand delivery to the following address by the deadline mentioned above:

Administrative Officer,
Indian Statistical Institute
SETS, MGR Knowledge City, CIT Campus,
Taramani – 600113,
Chennai.

The quotation will be considered as cancelled if the documents required for the two bids are not submitted in the correct envelopes.

In case the bidder is not a registered supplier of ISI, copies of the following documents must be attached with the Technical bid:

1. VAT / GST Registration certificate.
2. Trade License.
3. Sales Tax Certificate (for the last 3 years)
4. Audited Balance Sheet (for the last 3 years)
5. PAN Card copy
6. Documents for execution of similar work to Central / State Governments.

Financial bid of vendors declared technically eligible by Chairman, Computer and Website Committee will be opened by the Purchase Committee Indian Statistical Institute, Chennai Centre, at a date and time to be notified on the ISI Chennai website (<http://www.isichennai.res.in/tenders>).

General Terms and Conditions as well as formats for submission of bids are mentioned in the attached document.

Time Schedule for Tender	
Date of uploading of NIT and other Documents (online publishing date)	03/05/2017
Pre bid Meeting [Venue : ISI Chennai, NM Road, Aminjikarai]	17/05/2017 [11.30 AM]
Last date of submitting the Bids [Venue : ISI Chennai, SETS Campus, Taramani]	24/05/2017 [5 PM]
Time and Date of Opening of Technical Bid (Bid will be opened by the Authorized Officer)	26/05/2017
Date of opening of Financial Proposal.	29/05/2017

An UNDERTAKING about the unconditional acceptance by the bidder of Terms and Conditions as stipulated in the attached document is to be submitted along with the technical bid, in the specified format.

Bids not submitted in the specified format or not accompanied by the requisite undertaking are liable to be rejected.



Signature of the Centre Head
Indian Statistical Institute
Chennai Centre,
Chennai – 600 113

Prof. S. PONNUSAMY, F.N.A.Sc.,
Head
Indian Statistical Institute, Chennai Centre
SETS Building, MGR Knowledge City
C.I.T. Campus, Taramani, Chennai-600 113.

GENERAL TERMS AND CONDITIONS RELATED TO SUBMISSION OF BIDS

1. Penalty for suppression/ distortion of facts

Submission of false document(s) by vendor is strictly prohibited and may be liable for civil and criminal action.

2. Validity of the tender

Offer must remain valid for 30 days from the date of opening of the price bid.

3. Payment terms

All rates should be quoted in INR only. Offer in any other currency will be rejected. Bids containing clauses like "Rates are subject to exchange rate fluctuations" will be rejected.

Payment will be made after satisfactory receipt of goods and installation, commissioning, testing and completion of all contractual obligations. Partial payment against partial supply within scheduled delivery period will not be admissible.

4. Pre-Bid meeting

- i. There may be a Pre-Bid meeting between the indenting unit/ section/Centre and the Bidders, if the former considers it necessary.
- ii. Tender documents must be downloaded before Pre-Bid conference.
- iii. The Bidders' designated representatives (at most two), duly authorized, may attend the Pre-Bid conference, before submission of their Bid, at their own cost, which will be held at a venue and time announced in advance.
- iv. The purpose of the meetings is to clarify issues and to answer questions on any matter that may be raised at that stage. The vendors are requested to submit any questions for clarifying issues and clearing doubts, if any, about the terms & conditions, specifications and other allied technical details of the items under indent.
- v. They may send their queries in writing and email, both to reach ISI not later than three (03) working days before the Pre-Bid Conference.
- vi. Computer Committee will take appropriate decision regarding making necessary amendment(s)/ addendum to the Tender Document as an outcome of the deliberations in the Pre-Bid meeting.
- vii. It may not be possible to answer queries that are received late at the Pre-Bid Conference.
- viii. Once the pre-bid meeting is over and issues are clarified, no query or objection or complain shall be entertained in connection with the tender. Absence of any vendors in pre-bid conference shall not be considered as justification for making query or objection thereto. Also, non-attendance in the pre-bid meeting is not a disqualification for participating in the tender process.

1. Tender Submission

Suitable arrangements for receipt of the sealed tenders during the submission period through conspicuously located tender boxes in the procuring unit/section should be ensured. In case of bulky tender documents, there should be provision in NIT for submission of bids to designated officials by hand.

2. Opening and Evaluation of Tender

Technical Bid

- i. Technical bid will be opened by the designated tender opener (generally, the head or his/her representative) of the procuring unit or section. The procuring unit/section must ensure that all bidders are informed in advance of the date and time of the opening of the technical bids. At most two representatives of each interested bidder may remain present during tender opening if they so desire.
- ii. Cutting/overwriting/insertions must be accounted for by marking and putting initials on each page.
- iii. The tender opener and the representatives of the bidder, if present, are to sign the envelope containing the price bid.
- iv. The evaluation of technical bids will be summarized in the specified format at the procuring unit/section and duly signed by the head. This summary, all technical bids and price bids (in sealed envelopes) are to be put in a bigger envelope, sealed, signed by the tender opener and placed in the tender box of the Computer Purchase Committee (CPC) or sent to the CPC office during its designated office hours through Peon Book, for further processing.

NB: During technical evaluation, the tender opener, on behalf of the procuring unit or section may summon bidders and seek clarification/ information or additional documents or original hard copy of any of the documents already submitted. If these are not produced within the stipulated time frame, the bid may be liable for rejection.

Financial Bid

Financial bid of vendors declared technically eligible will be opened by the Computer Purchase Committee on the prescribed date and time, to be announced on the CPC website in advance. At most two duly-authorized representatives of each interested bidder may remain present during the opening of the price bid.

Cutting/overwriting/insertions must be accounted for by marking and putting initials on each page.

For CVC rules regarding negotiation with L1, please referred to circular number 4/3/07 (OM No. 005/CRD/012) Dated the 3rd March, 2007.

1. Way Bill/ Road Permit

In case of requirement of Way Bill at the time of delivery, the institute will arrange for obtaining the necessary Way Bill/ Road Permit in the name of the vendor awarded this tender. However, the prescribed entry tax shall be borne by the vendor.

It is to be noted that the Indian Statistical Institute has Customs Duty Exemption Certificate and the Vendor should make appropriate use of it.

2. Liquidated Damage Clause

The schedules of delivery and installation, commissioning and testing as per Purchase Order are to be strictly adhered to. In case there is delay either in the delivery or successful completion, the vendor shall be liable to pay liquidated damages @ 0.5% of the total value of the purchase order per week or part of a week

during which the delivery of such goods is delayed. Where delivery thereof is accepted after expiry of the period mentioned in purchase order the total damages so claimed shall not exceed 5% of the total contract price. Any variation in statutory levies and taxes within the contractual delivery period shall be borne by the Indian Statistical Institute. Beyond the delivery period, the upward variation of levies and taxes shall be borne by the vendor.

3. Arbitration Clause

In the event of any dispute or difference arising out of or in connection with the tender, the same shall be settled amicably by mutual consultation. If such resolution is not possible then the unresolved disputes or differences shall be referred to Arbitration as per the Indian *Arbitration and Conciliation Act*, 1996. It shall be subject to Chennai (Madras) Jurisdiction only.

1. The Purchase Committee, Indian Statistical Institute, Chennai, reserves the right to cancel the tender at any time without assigning any reasons whatsoever thereof. While rejecting/recalling tenders, the authority must record clear, logical reasons for any such action on the file.



Signature of the Centre Head

Name of the Unit/Section/Centre :- Computer Centre
Telephone: +91 44 66632541
Email ID: siva@isichennai.res.in

Prof. S. PONNUSAMY, F.N.A.Sc.,
Head
Indian Statistical Institute, Chennai Centre
SETS Building, MGR Knowledge City
C.I.T. Campus, Taramani, Chennai-600 113.

For wide circulation

1. Notice Board.
2. Institute Website.
3. Leading Newspaper.

FORMAT OF BIDS

A. TECHNICAL BID

Tender Enquiry No. _____		Date of Tender Notice: _____
Sl. No.	Item Description	Quantity
01	ITEM NAME Complete Specifications Warranty terms	
02	ITEM NAME Complete Specifications Warranty terms	
:	:	:
:	:	:
:	:	:

B. PRICE BID

1. The rate is to be quoted both in figures and words on a per-unit basis.
2. The quoted rate in figures and words should not be different. If there is any difference between the two, the quoted rate in words only will be deemed correct.
3. Any overwriting will make the quotation liable to be rejected.
4. At least one of the following must be mentioned wherever applicable, **with supporting documents**.
 - a. **Maximum Retail Price (MRP)**
 - b. **Original Equipment Manufacturer (OEM) price**
 - c. **DGS&D rate contract price**
5. The bidder shall submit rate in the following format:

Tender Enquiry No. _____				Date of Tender Notice: _____			
Sl. No.	Item Description	Quantity	Basic Rate per unit (Rs.)	Excise Duty (if any)	VAT/ GST	Total Price (all-inclusive) per unit (Rs.)	MRP/ OEM price/ DGS&D rate as applicable
01	ITEM NAME Complete Specification Warranty terms		In figures: In words:			In figures: In words:	
02	ITEM NAME Complete Specification Warranty terms		In figures: In words:			In figures: In words:	
:	:	:	:	:	:	:	:
:	:	:	:	:	:	:	:
:	:	:	:	:	:	:	:

**UNDERTAKING BY THE TENDERER
FOR
ACCEPTANCE OF TERMS AND CONDITIONS OF TENDER**

(On the letterhead of the Bidder)

Ref: Tender ID No: _____, **dated** _____

Date: _____

I/We undertake that I/we have carefully gone through the Notice Inviting Tender, other tender documents mentioned therein, and I/we will abide by them. We also agree to accept corrigendum/corrigenda that may be published in future. My/our tender is offered taking due consideration of all factors, and if the same is accepted, I/we promise to abide by the stipulation of the tender documents, and complete the work to the total satisfaction of the _____ <Name of the Indenting Unit/Section>, Indian Statistical Institute, Chennai Centre.

My/our offer will remain valid for 30 days from the date of opening of tender.

I/we further undertake that the information submitted in this tender is true and correct in all respects and I/we hold my/our responsibility for the same.

I/We also certify that the price being quoted is lower than Maximum Retail Price (MRP) / Original Equipment Manufacturer (OEM) Price, whichever is applicable.

I/we shall be responsible for rejection and/or cancellation of contract if the goods supplied are not up to the mark. I/we shall be liable for legal proceedings if the material supplied is found sub-standard or not in accordance with the specification published in the tender.

Signature of the Tenderer with seal & date

Name of the Tenderer:

Postal Address:

Mobile Number:

Landline Number:

Email ID: