

INDIAN ASSOCIATION FOR THE CULTIVATION OF SCIENCE
2A & 2B, Raja S.C. Mullick Road, Jadavpur, Kolkata-700032

NIT No.: IACS/CC/TSD/2018-19/1

Date: 09/04/2018

Sealed tender in two bids system (technical bid and price bid) is invited from bonafide, resourceful and eligible manufacturer/exclusive distributor/vendors for '**Supply, installation, testing and commissioning of 3 Nos. of L2 managed Network Switches and passive materials including OF connectivity for Subarnarekha Hostel at IACS.**'

Part-I (Technical Bid) of the tender should contain technical specifications in detail as well as commercial terms and conditions. Part-II (Price Bid) should clearly indicate group-wise price, if needed, as mentioned in the technical bid. The Technical Bid and Price Bid are to be submitted in separately sealed envelopes, distinctly marked accordingly and both to be put inside another envelop, that should be sealed and superscribed with tender notice no. and due date. The bidders may submit bids duly signed in their own letterheads.

Completed tender bids should reach the office of the **Registrar, Indian Association for the Cultivation of Science (IACS), 2A & 2B Raja S. C. Mullick Road, Jadavpur, Kolkata-700032** on or before the scheduled date and time specified below:

Tender Notice No.	NIT No. IACS/CC/TSD/2018-19/1 Date : 09-04-2018
Last date and time of submitting tender	30th April, 2018 at 2.00 P.M. at Dispatch Section
Pre-bid meeting (date, time & place) to discuss technical specification	23rd April, 2018 at 2.00 P.M. at Computer Centre
Date and time of opening tender	30th April, 2018 at 2.30 P.M.
Place of opening tender	Computer Centre
Date and time of opening of Price Bid	The Price Bids of the bidders qualifying the technical bid will only be opened, the date of which will be intimated to the short-listed bidders at their email addresses. The rest of the bids will be rejected.
Contact	Email: ccsd@iacs.res.in Tel.+91 33 2473 4971 [Ext. 1210]

The technical bids will be opened first to judge/evaluate the technical specifications of the said switches and thereafter the price bids of only technically qualified bidders will be opened.

Technical Bid Evaluation: The Technical Bids will be evaluated in the presence of the representatives of intending bidders who will be able to clarify technical aspects of their bids, if any, required by the Technical Evaluation Team.

Opening of price-bid: The Price Bids of the bidders qualifying the technical bid will only be opened, the date of which will be intimated to the short-listed bidders at their email addresses. The rest of the bids will be rejected.

Please note that IACS will not provide any accommodation or reimburse any expenses to any of the bidders for attending opening of technical bid.

Quotations received incomplete or beyond the stipulated time will be summarily rejected.

Bidders should submit their past experience for supplying and successful installation of similar switches to other research Institutes/Universities/other organizations in India. Please provide documentary proofs of such successful installation and supportive documents that the switches are running successfully. L2 switch and transceiver should be from the same **OEM**

1. TECHNICAL BID

The technical bid should contain technical specifications and should be kept in a separate sealed envelope duly superscribed as 'TECHNICAL BID' on the outer cover of the envelop as already detailed above. **It should be clearly mentioned on the envelope as "Technical Specification for Active and Passive Materials for Subarnarekha Hostel".**

2. Bill of materials for LAN connection in Subarnarekha Hostel of IACS

Active Material :

Description	Quantity No
Layer 2 Switch Managed 24 port 10/100/1000 Mbps with 4 X 1G SFP Port (PoE)	3 Nos.
1000BASE-SX SFP MMF transceiver module	4 Nos.

Passive Material:

● Supply	
Description	Quantity / Unit
12 Core multi mode armoured optical fiber cable	250 Mtr
Fiber Shelf for Multi Mode Fiber with adapter and pigtails	2 Nos.
SC-LC MM duplex patch cord	4 Nos.
24 Port loaded patch panel	3 Nos.
Cat-6 UTP 1 mtr patch cord	75 Nos.
HDPE pipe	150 Mtr
● Service	
Optic fiber cable laying charges	250 Mtr
OFC splicing charges	12 Nos.
Soft soil digging charges	60 Mtr
Hard soil digging charges	75 Mtr
Patch panel termination charges	3 Nos.
Switch installation charges	3 Nos.

2.1 Technical specification for Active Network Material:**● Layer 2 Switch Managed 24 port 10/100/1000 Mbps with 4 X 1G SFP Port (PoE)**

General Features
The switch should have minimum 24 x 10/100/1000 Base-T POE/POE+ 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 Mpps.

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.
At least 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.
Centralized VLAN Management. VLANs created on the Core Switches should be propagated automatically.
Spanning-tree root guard feature to prevent other edge switches becoming the root bridge.
Link Aggregation Protocol (LACP)
Network Security Features
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.
RADIUS authentication to enable centralized control of the switch and restrict unauthorized users from altering the configuration.
Multilevel security on console access to prevent unauthorized users from altering the switch configuration using local database or through an external AAA Server.
Should support minimum 400 ACL entries
Quality of Service (QoS) & Multicast
Shaped Round Robin (SRR) scheduling and Weighted Tail Drop (WTD) congestion avoidance.
2000 IPv4 & IPv6 Unicast Direct Routes

1000 Multicast Groups
Management
Command Line Interface (CLI) support for configuration & troubleshooting purposes.
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.

- **1000BASE-SX SFP MMF transceiver module:**

1. Supports digital optical monitoring (DOM) capability.
2. Must support the operation in 850nm wavelength and support a minimum distance of 250m.

2.2 Technical Specification for Passive Networking:

- **12 Core multi mode armoured optic fiber cable**

1. The fiber cable shall be fully capable of handling existing and legacy multimode applications which traditionally operate in the 850nm and 1300nm regions.
2. The fiber cable shall be constructed with industry standard buffer tubes, stranded around a central strength member.
3. The buffer tubes shall be compatible with standard hardware, cable routing and fan-out kits.

- **Fiber Shelf for Multi Mode Fiber:**

1. Shelf shall be used for a combination of splicing and termination of fiber-optic building cable or outside plant (OSP) cables.
2. The shelf shall be available in a 1U & 2 U height fully enclosed shelf, with integrated front cable management through included.
3. 19" rack or cabinet mountable
4. It shall have slide-out tray for easy access
5. There should be adaptor panel of 24port LC
6. LC Adaptors should be considered
7. There should be 3 feet Multi Mode LC Pigtail.

- **SC-LC MM duplex patch cord**

1. The Fiber patch cord should be SC-LC Multimode type.
2. The fiber patch cord should be minimum 1 meter of length.
3. The fiber patch cord should be of Low Smoke Zero Halogen (LSZH).

- **24 Port loaded 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.
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 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
Insulation Types = All plastic insulates (including PVC, irradiated PVC, Polyethylene, Polypropylene, PTF Polyurethane, Nylon, and FEP)

- **Cat-6 UTP 1 mtr patch cord**

SCS must support patch cord lengths of 1 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-snag latch to facilitate easy removal during move, add and change processes.

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.

3. PRICE BID

The financial bid indicating (item-wise) price for the item(s) mentioned in the technical bid should be kept in a separate sealed envelope duly super scribed as 'PRICE BID' on the outer cover of the envelop as already detailed above. Price bids of only technically qualified bidders will be opened and they will be intimated the date and time of the opening of price bid at their e-mail ids. Rest of the bidders will stand rejected.

A compliance table (see below) must be prepared and submitted along with price bid.

3.1 Active materials

Sr. No		Tender specification	Your offered instrument specification	Extent of compliance
1	L2 Switch			
2	Transceiver			

Sr. No	Item	Quantity	Make/model	Base price	Total Price(Without GST)	GST @	GST Value	Total price with GST
1	L2 Switch	3 Nos.						
2	Transceiver	4 Nos.						
Total GST Amount:					Total Price:			

3.2 Passive materials

Supply							
Item	Quantity / Unit	Make/model	Base price	Total Price(Without GST)	GST @	GST Value	Total price with GST
12 Core multi mode armoured optical fiber cable	250 Mtr						

Fiber Shelf for Multi Mode Fiber with adapter and pigtails	2 Nos.						
SC-LC MM duplex patch cord	4 Nos.						
24 Port loaded patch panel	3 Nos.						
Cat-6 UTP 1 mtr patch cord	75 Nos.						
HDPE pipe	150 Mtr						
Total GST Amount:				Total Price:			

Service						
Item	Quantity / Unit	Base price	Total Price(Without GST)	GST @	GST Value	Total price with GST
Optic fiber cable laying charges	250 Mtr.					
OFC splicing charges	12 Nos.					
Soft soil digging charges	60 Mtr.					
Hard soil digging charges	75 Mtr.					
Patch panel	3 Nos.					

termination charges						
Switch installation charges	3 Nos.					
Total GST Amount:		Total Price:				

4. SCOPE OF WORK:

Armoured Optical Fibre cable will be passed through a HDPE pipe. HDPE pipe will be laid 3 ft. below the ground level. The path of cable laying may include digging of soft soil, concrete and wall. After laying of FO cable, appropriate repairing and cementing marker should be done. Petty civil works like drilling, holing in walls, plastering, work inside false ceiling, conduit, casing inside/outside room etc. should be included without any extra charges. No equipment and other amenities necessary for completion of this project will be provided by IACS. Only electricity required for the project will be provided by IACS.

5. WARRANTY:

- i. The Comprehensive Warranty of **Active component** shall be for a period of 5 years from the date of satisfactory installation, testing. During the Warranty period the replacement of any part(s) of the equipment or rectification of defect of product will be free of cost.
- ii. If, the tenderer is required to replace the rejected equipment and/ or other articles, he will replace them forthwith, but not later than a period of 14 (fourteen) days from the date of rejection. The tenderer shall bear all cost of such replacement, including freight, if any, of such replacement or repaired equipment and/ or other articles but without being entailed to any extra payment on that or any other account.

Servicing facility within India is a must while service engineer stationed at Kolkata will be preferred.

6. BID SECURITY:

- a) An Account payee Demand Draft/Pay Order of Nationalized Bank for Rs. 12, 000/- (Rupees Twelve thousand only) drawn in favour of "Indian Association for the Cultivation of Science (State Bank of India, Jadavpur University Branch, A/C No. 11079699211, IFSC: SBIN000093, MICR Code: 700002048)" is to be furnished by the bidders as Bid Security money.

- b) The Demand Draft for the Bid-Security should have at least 90 (ninety) days validity period of opening of the bids.
- c) In case of non-award of the work the Bid Security money would be returned to the unsuccessful Bidders.

7. PERFORMANCE SECURITY:

An Account Payee Demand Draft on any commercial bank of India of 10% of the order value in the name of “Indian Association for the Cultivation of Science” is to be furnished by the successful bidder as Performance security. Performance Security may be furnished in the form of Fixed Deposit Receipt or Bank Guarantee from a Commercial Bank. Performance security money should remain valid for a period of 60 days beyond the date of completion of all contractual obligations of the supplier including warranty obligations. Bid security money or EMD will be refunded to successful bidder on receipt of the Performance security money.

8. TERMS OF PAYMENT:

All rates should be quoted in INR only. Payment will be made 100% on successful installation of switches & laying of the cables and against issue of “Completion Certificate”. Partial payment against supply within scheduled delivery period will not be admissible.

9. DOCUMENT

1. The model number, make and a printed literature of the product should be submitted positively.
2. Manufacturers / exclusive distributors / vendors should have history of supplying this type of switches to this or other scientific organizations. Availability of a list in this regard would be preferred.
3. Bidder should submit their past experience for supplying and successful installation of similar units to other research Institute/Universities/other organization in India. Please provide documentary proofs of such successful installation and project completion.
4. The tender should accompany a compliance chart.
5. Income Tax Return (for the last 3 years)
6. Audited Balance Sheet (for the last 3 years)
7. PAN Card copy
8. GST Certificate
9. Authorized dealership certificate should be provided in case of principal manufacturing company is not quoting directly.
10. A list of clients where L2 Switch and OFC has been installed should also be provided
11. Documentary proof of Servicing facility and service engineer stationed at Kolkata.
12. Documentary proof of the vendor/bidder working in this field for at least last 3 years
13. Annexure-I in letter head with company seal and sign

10. GENERAL INSTRUCTIONS

1. Validity of tender: Tender submitted should remain valid for at least six months from the date of opening the tender. Validity beyond six months from the date of opening of the tender shall be lapsed by mutual consent.
2. Incomplete and conditional tenders as well as tenders received after the due date will be summarily rejected without assigning any reasons thereof.
3. At any time prior to the bid due date, IACS may, for any reason, whether at its own initiative or in response to a clarification requested by a prospective bidder during pre-bid meeting, modify the bidding documents. The amendment(s) will be notified on the institute website. Prospective bidders are advised to occasionally visit the website (www.iacs.res.in) for any amendment.
4. A maximum of 2 representatives per bidder, duly authorized, may be allowed to attend the pre-bid meeting.
5. Installation/Demonstration/Application training at site: Installation & user training at IACS, free of cost by the supplier.
6. Service facility: In Kolkata, supplier should mention their details of service setup and man powers that are responsible for after sales support. Response time should be within 24 hrs.
7. Proposed delivery schedule should be mentioned clearly.
8. Guarantee certificate, users manuals etc. are to be handed over to the user after successful commissioning of the system.
9. In the event of date being declared a closed holiday for purchaser's office, the due date for submission of bids and opening of the technical bids will be the following working day at the appointed time.
10. In case of any dispute, the decision of IACS authority shall be final and binding on the bidders.
11. 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.
12. For any clarification regarding technical specifications, information etc., please send your queries to Dr. Swapan Deoghuria (ccsd@iacs.res.in).
13. The authority of IACS reserves the right to reject any or all of the tenders received without assigning any reason thereof.

Acting Registrar