

**NATIONAL INSTITUTE OF SECURITIES
MARKETS
ICT DEPARTMENT**

**REQUEST FOR PROPOSALS
FOR
NETWORKING AT NISM CAMPUS, PATALGANGA
(Document Reference No: NISM/ICT/RFP/09/2019-2020)**

**NISM Bhavan,
Plot No. : 82,
Sector - 17, Vashi,
NaviMumbai: 400703
Tel: 022-66735100-05,
Fax: 022-66735110
Web: www.nism.ac.in**

1. INTRODUCTION

National Institute of Securities Markets (NISM) is a public trust established by Securities and Exchange Board of India (SEBI) with the objective of enhancing the quality of securities market in the country through knowledge-based interventions. The institute therefore conducts a number of educational programs for Securities Market professionals and also various financial literacy initiatives for investors from all walks of life.

National Institute of Securities Markets has built a campus on 70 Acres land at Patalganga, a location around 40kilometres away from Vashi on Mumbai-Pune highway.

This Request for Proposals (RFP) is for setting up wired and wireless network in **Academic Block - B (2nd Floor), Academic Block - C (1st Floor) and Student Hostel - 3 (Ground Floor to 5th Floor)** in the campus. The scope of this RFP does not include Cat6 cabling from the I/O points (network points) on various facilities/offices on individual floors of each building upto the switches in the racks. The said cat6 cabling will be done by the building contractors.

2. SUBMISSION OF PROPOSAL

The proposals must be prepared covering the following information and submitted to NISM at the address contained herein on or before the closing date specified in Section-8 of this document. Please refer the checklist given in Section 2.2 to ensure that submissions have all the required documents.

2.1 Proposal Submission Instructions

The proposal will be submitted in three separate sealed envelopes strictly following the instructions given below:

- i. The first sealed envelope will contain the EMD as listed in Section-2.2 and the envelope will be super scribed as “EMD for Networking at NISM Campus, Patalganga(Document Reference No. : NISM/ICT/RFP/09/2019-2020)”.
- ii. The second sealed envelope will contain documents as listed in Section-2.2 confirming “Eligibility” of the bidder and the envelope will be super scribed as

“Eligibility for Networking at NISM Campus, Patalganga(Document Reference No. : NISM/ICT/RFP/09/2019-2020)”.

- iii. The third sealed envelope will contain the Price Bid as stated in Section-2.2 and the envelope will be super scribed as “Price Bid for Networking at NISM Campus, Patalganga(Document Reference No. : NISM/ICT/RFP/09/2019-2020)”.
- iv. The three separate sealed envelopes should be put together in another sealed main envelope super scribing it as “Proposal for Networking at NISM Campus, Patalganga(Document Reference No. : NISM/ICT/RFP/09/2019-2020)”.
- v. The first and the second envelope mentioned above must not contain any documents showing the bid price of the proposed products and services. If bid price figures are mentioned in any of the documents enclosed in envelope one or two, the proposal will be disqualified and will not be evaluated. The Price Bid will be enclosed only in Envelope-3 as mentioned Section 2.1 (iii).
- vi. The Price Bid must be unconditional. Conditions, if any should be indicated in eligibility proposal only.

2.2 Checklist of Proposal Content

The bidders are advised to carefully take note of the following table to ensure proper submission of proposal complete in all respects.

| # | Checklist of Proposal Content |
|-------------------|--|
| Envelope-1 | |
| 1 | EMD |
| Envelope-2 | |
| 1 | Letter of compliance with RFP terms and conditions in a format as stated in Annexure-A |
| 2 | Company profile in the format as given in Annexure -E |
| 3 | Documents confirming “Experience” as mentioned in Section 5.1 on eligibility Criteria. |
| 4 | Documents confirming “Company Turnover” as mentioned in Section 5.2 on eligibility Criteria. |

| | |
|-------------------|---|
| 5 | Confirmation of “Scope of Work” in the format as mentioned in Annexure-B. |
| 6 | Letter of incorporation of the company or the lead company of the consortium responding to the RFP. |
| Envelope-3 | |
| 1 | Price bid in the format as given in Annexure –C |

2.3 Earnest Money Deposit (EMD)

- Suppliers are required to provide an EMD of Rs. 22,500/- (Rupees Twenty Two Thousand Four Hundred only) by Demand Draft/Bankers Cheque/Pay Order drawn on any bank in Mumbai in favor of “National Institute of Securities Markets”. The EMD must be valid for a minimum period of 3 months. Cheques for EMD will not be accepted and bids accompanying cheques or without EMD will stand rejected.
- The bidder must write the name of the company and the RFP Document reference Number at the back of EMD Demand Draft/Bankers Cheque/Pay Order.
- The EMD will be placed in envelope-1 and submitted to NISM as indicated in Section-2.1.
- The EMD will be released to the unsuccessful bidders without interest soon after the tender is awarded.
- The EMD shall stand absolutely forfeited if the bidder revokes his bid during the period he is required to keep his bid open for acceptance by the institute.
- The EMD will not bear any interest.
- Bids not accompanied by EMD will be rejected.
- The EMD of the successful bidder will be released soon after receipt of the Performance Bank Guarantee in accordance with the condition stated in Section 6.

2.4 Other Terms and Conditions

- Please note that Suppliers must quote for all items. If the supplier does not quote for all items, the bid shall be disqualified.
- The suppliers are advised to study all technical and commercial aspects, instructions, forms, terms and specifications in the RFP carefully. Failure to furnish all information required in the bid or submission of a bid not substantially responsive to the RFP in every respect will be at the supplier’s risk and may result in rejection of the bid.

- The bidders are advised to visit the site prior to submission of bid. NISM will facilitate site visit on the day of Pre Bid Meeting and bidders are strongly advised to avail this opportunity. Also see Section 8. Location of the site is mentioned in Section 3.6.
- The bids not submitted in the prescribed format or incomplete in any manner are likely to be rejected.
- NISM is not responsible for non-receipt of proposals within the specified due date due to any reason including postal delay or holidays.
- The equipment/products quoted should not be from the discontinued production line. In case of discontinuation of production line after the issue of the purchase order, the supplier will supply the next higher configuration on the same terms and conditions.
- The prices quoted shall be in Indian Rupees only.
- Submission will be valid only if
 - ✓ It is received on or before the closing date and time as stated in Section-9 of this document.
 - ✓ The submission is not by Fax or Email.
- Only one response to this RFP from each bidder will be permitted. In case of partnerships / consortium, only one submission is permitted through the lead bidder.
- All expenses incurred towards the preparation and submission of the proposals by the bidder will be entirely borne by bidder themselves.
- NISM reserves the right to reduce or increase the scope of this RFP or cancel this RFP without stating any reasons whatsoever.
- NISM reserves the right to accept or reject any proposal and to annul the bidding process and reject all proposals at any time prior to award of the contract/purchase order, without thereby incurring any liability towards the affected supplier(s) or any obligation to inform the affected supplier(s) of the grounds for NISM's action.
- Payment will be made as per the Payment Plan stated in Section 9.
- Quantity of any of the item stated in this RFP may vary in the Purchase Order. NISM reserves the right to reduce or increase the quantity of an item or even completely remove an item while issuing the Purchase Order.

2.5 Contact Details

- a) The Proposals must be submitted in the sealed envelopes as mentioned above to the following officer:

Mr. NarayanaMaddala
Chief Technology Officer,
National Institute of Securities Markets,
5th Floor, NISM Bhavan, Plot No. 82,
Sector - 17, Vashi, Navi Mumbai - 400 703.

- b) For any clarifications/queries contact the following person:

Mr. Vaseem Salmani,
IT Engineer,
National Institute of Securities Markets,
Plot No. IS 1 & IS 2, Patalganga Industrial Area,
Village Mohopada (Wasambe), Rasayani,
District Raigad,
Maharashtra - 410222
Email: vaseem.salmani@nism.ac.in, Contact Tel.: 02192-668384

3. SCOPE OF WORK

The supplier is required to install wired and wireless network, configure network devices, test various components/segments of the network as required, test the integrated solution, provide documentation as required by NISM. The entire scope of work must be completed in all respects and made usable as per NISM requirements. The comprehensive scope of work is as follows:

3.1 Material Delivery

- a) The supplier will deliver the Goods and Services stated in Annexure-B.
- b) The bidders will quote for the mentioned quantity as stated in Annexure-B. Payment shall be made for the quantities as mentioned in the Purchase Order except the Patch Cords. Payment shall be made for only the actual quantity of Patch Cords used at the site (and not based on the ordered quantity).

3.1. Installation and Configuration of Active devices

3.2.1 Installation and Configuration of Network Devices

The supplier will install Distribution Switches in the designated racks in the blocks as mentioned in section 1. The Switches will be configured in line with the agreed configuration details supporting the existing overall architecture at NISM.

a) The supplier will install Access Points as follows:

1. At designated locations in each building as will be briefed by NISM
2. At designated locations in the corridors as will be briefed by NISM

b) The Supplier will deploy suitably qualified and experienced resources to configure all devices. Also these resources should preferably be suitably certified by the OEMs in the respective areas.

3.2.2 Configuration Documentation

- The supplier will discuss with NISM and agree on the details of configuration of the following devices prior to actual configuration of the devices.
 - a) Distribution Switches
 - b) PoE Switches
 - c) Access Points
- The supplier will update the existing Campus Network document as required. NISM will provide the required guidance.

3.3 Labeling Work

Labeling will be done strictly as per NISM standards and the material used for labels will be as specified below. Permanent labels will be printed in black color.

3.3.1 Labeling of Cat-6 cables

Each cat-6 cable will be labelled at one end i.e. the end terminating at patch panel from the other end terminating at I/O network point or access point. The labeling will be done as per NISM standards. Pipe labels (decided by NISM) will be used for labeling the cable at patch panel end and laminated sticky label will be used on the I/O network point/ access point. Similarly, the patch cords connecting the patch panel ports to switch ports will be labeled using piped labels at both sides.

3.3.2 Labeling of Active, Passive and other components

The following active network devices will be labeled as per NISM standards. The supplier will use laminated stickers to label the devices. The list given below is not

exhaustive and hence any other active device missing in the list given below will also be labeled.

- Switches
- Access Points
- Rack
- Patch Panel
- LIU
- Network I/O points plate
- Uplinks

3.3.3 Labeling of Network I/O Point plate and Access points

Laminated stickers will be used to label I/O network points and Access points in accordance with NISM standards.

3.3.4 Dressing of Racks and Cables

After deploying all devices, the supplier will ensure the following:

- a) Patch Panels must be connected to the switches using properly labeled patch cords.
- b) Proper dressing of cables will be done in the rack using cable ties, cable managers and clamps attached to the rack.
- c) Dressing and labeling of equipment and cables in the network rack as per NISM standards.

3.4 Network Testing

The Supplier is required to carry out testing in the following areas and submit a comprehensive report. The testing process will be planned in consultation with NISM. The testing will be conducted in the presence of designated officers of NISM.

Complete implementation and the testing thereof will be in accordance with NISM requirements and the industry best practices to be used at the time of implementation.

3.4.1 Splicing at LIUs

Splicing work of both LIUs (at Sh-3 block and C- block) must be done according to the standards to be discussed and agreed with the ICT Department of NISM. The splicing shall consist of both Single-mode and Multi-mode. Spliced fibers must be tested properly.

3.4.2 Network I/O Points and Access points Connectivity Testing

The Supplier is required to test the connectivity of each network point and Access point terminated on patch panel and document the test results. This will be done using a fluke machine on the patch panel ports after carrying out the cable patching.

3.4.3 Active Network Device Testing

NISM will discuss with the supplier and provide the required configuration to be done on the switches and access points. The Supplier will configure the equipment accordingly and offer it to NISM for testing.

3.5 Documentation

The supplier will update the existing Campus Network Configuration document in accordance with the work carried out as stated in this RFP. Furthermore, a comprehensive test report covering all the areas mentioned under Section 3.4 will be provided.

3.6 Location

The entire scope of work as mentioned in Section 3 will be delivered at the following location.

National Institute of Securities Markets,
Plot No. IS 1 & IS 2, Patalganga Industrial Area,
Village Mohopada (Wasambe), Rasayani,
District Raigad,
Maharashtra – 410222

3.7 Warranty Services

The bidders will provide warranty services from OEM for active devices mentioned in 3.7.1. details as requested in Annexure-B. The selected bidder must arrange all updates and upgrades through respective OEMs. The supplier must provide all updates and upgrades for the proposed devices free of cost during warranty period.

The supplier shall put in place all back to back support agreements for the proposed network components with respective OEMs for warranty services and submit documents in support of the same.

Warranty support services for all network equipment during the execution of the project before the project is signed off shall be provided by the bidder at no cost to NISM.

3.7.1 Active Devices

The bidder will provide Warranty Support Services from OEM for a total period of 5 years (including the default warranty period if any) for the following devices. An appropriate document/certificate will be provided for the said warranty.

- a) Access Switches
- b) Distribution Switches

3.8 Project Sign off

The selected bidder will develop a comprehensive project plan in consultation with NISM soon after receiving the purchase order. The Project will be signed off following the process prescribed by NISM. The Sign-off of the entire project will be subject to completion of the following key milestones amongst many other aspects:

- a) Completion of entire Scope of work as stated in this RFP
- b) Submission of Performance Bank Guarantee

4. DELIVERY PERIOD

The estimated delivery period for the entire scope of work stated in Section 3 is **One Month** from the date of issuance of Purchase Order. This includes material delivery, installation and configuration of all components, delivery of other associated services, acceptance testing and Project Sign Off.

5. ELIGIBILITY CRITERIA

The Company/Bidder/Lead Bidder (in case of a consortium) must meet the following criteria. **The proposals of the suppliers not meeting these criteria will be rejected.** NISM may ask for supplementary information or additional documents as necessary by email only to address inadequacy of information to develop more clarity at the time of eligibility assessment of each bidder within ten days from the date of opening of envelopes containing EMD and eligibility information (Envelope – 1 and 2). NISM is not responsible for any delay in receiving responses or non-receipt of any response from the bidders to such requests. All email correspondence will be addressed to email id mentioned under section 2.5 (b).

5.1 Experience

Should have carried out installation and configuration of similar networking devices at a scale as stated in Section-3. The Bidder must produce evidence of the said experience in the last 7 years (ending February 2020) as mentioned below

I. Should have executed three orders of similar nature, each order not less than 4.5 lakhs.

OR

II. Should have executed two orders of similar nature, each order value not less than 5.6 lakhs.

OR

III. Should have executed one order of similar nature not less than 8.9 lakhs.

The Bidder/Lead Bidder (in case of a consortium) must enclose copies of Purchase Orders in support of the above. In case of a Lead Bidder, the Purchase Orders must be in the name of the Lead Bidder. This should be submitted in envelope-2 as stated in Section-2.1.

5.2 Company Turnover

The Bidder/Lead Bidder (in case of a consortium) must have a minimum average turnover of 1.2 Crores per annum for the FY 2016-17, FY 2017-18 and FY 2018-19.

The Bidder/Lead Bidder (in case of a consortium) must enclose copies of Audited Company Balance sheet (along with Profit & Loss Account Statement) for the said financial years. In case of a Lead Bidder, the Balance Sheet & Profit and Loss Account Statements must be that of the Lead Bidder Company. This should be submitted in envelope-2 as stated in Section-2.1.

5.3 Scope of Work Confirmation

Bidder/Lead Bidder (in case of a consortium) will provide confirmation regarding scope of work to be executed in the format as stated in Annexure-B along with all supporting documents as requested in Annexure-B. **All the information pertaining to Section 5.1 to 5.3 will be submitted in Envelope-2 as mentioned in Section2.1.**

6. Performance Bank Guarantee (PBG)

The selected supplier will be required to submit a Bank Guarantee of 10% of the Bid Price (inclusive of applicable taxes) covering the scope of work as stated in Section-3. The Bank Guarantee will remain valid for a period of 6 months from the date of issuance of Purchase order or 5 months from the Project Sign-off whichever is longer. The Bank Guarantee will be submitted by the selected bidder within a week of issuance of Purchase Order. The Bank Guarantee will be drawn on a bank located in Mumbai or Navi Mumbai. The Bank Guarantee will be promptly extended by the supplier (if required) by a suitable period in line with the above mentioned validity period. The bank guarantee from Cooperative Banks will not be acceptable. The Performance Bank Guarantee shall be forfeited if the work is not completed as per the required schedule, requirements and specifications as stated in Section - 3.

7. EVALUATION OF PROPOSALS

7.1 Evaluation Process

The evaluation process will be as follows:

- i. Envelope-1 containing EMD will be opened first. If the EMD is found to be in order as per the terms stated in Section-2.3. Then the second envelope of the supplier will be opened.
- ii. The Eligibility Information of all those suppliers whose EMD is found to be in order will be checked against the eligibility criteria stated in Section-5 for compliance.
- iii. The Financial Proposals of only those suppliers who meet the eligibility criteria will be opened and evaluated by the evaluation committee of NISM.
- iv. The tender will be awarded to the supplier who has submitted the lowest bid price.

All decisions made by the Evaluation Committee of NISM during the above mentioned evaluation process shall be final and binding on all bidders.

7.2 Notification to Unsuccessful Bidders

Unsuccessful bidders will be notified by email after the entire procurement process is completed and the purchase order is issued to the successful bidder. Any queries regarding an unsuccessful proposal should be mailed to the contact address mentioned in Section-2.5(b) of this document.

8. IMPORTANT DATES

Bidders are requested to take note of the following dates.

8.1 Date of Issuance of RFP

The date of issuance of RFP is **28/02/2020**

8.2 Pre-bid meeting to seek clarifications regarding the RFP

The pre-bid meeting with all prospective bidders shall be held in the meeting room, Lower Ground Floor, Academic block -D, National Institute of Securities Markets, Plot No. IS 1 & IS 2, Patalganga Industrial Area, Village Mohopada (Wasambe), Rasayani, District Raigad on 06th March 2020. Only two to three representatives of each supplier are requested to attend the meeting. The meeting will be held from 16.00 Hrs. to 17.30 Hrs.

8.3 Date and Time of submission of duly filled and sealed proposal

The duly filled and sealed proposals should be submitted by 16.30 hrs on **16/03/2020** at NISM Bhavan, Plot no-82, Sector-17 Vashi, Navi Mumbai.

8.4 Opening of envelopes containing EMD and eligibility information

The envelopes containing **EMD and Eligibility Information** will be opened on 16/03/2020 at **17.30** hrs in the Board Room, 5th Floor, NISM Bhavan, Plot no 82, Sec-17, Vashi, Navi Mumbai.

8.5 Opening of Price Bids

The price bids of the eligible suppliers will be opened on 30/03/2020 at **17.00hrs** in the Board room, 5th floor, NISM Bhavan, Plot no-82, Sec-17, Vashi, Navi Mumbai.

9. PAYMENT PLAN

NISM will issue a Purchase Order for the project covering the entire scope of work as stated in Section 3. The entire Payment will be made only after the scope of work as mentioned in Section-3 is completed and the project is signed off.

10. SIGNING OF PROPOSALS

The proposal shall be typed or written in ink and shall be signed (on the cover letter) by a person or persons duly authorized by the supplier to bind the supplier to the contract.

All pages of the proposal, except unamended printed literature, shall be initialed by the person or persons signing the proposal. The proposal shall contain no interlineations, erasures or overwriting except as necessary to correct errors made by the supplier, in which case such corrections shall be initialed by the person or persons signing the proposal.

11. INSPECTION

NISM or its representative will carry out inspection and testing to confirm the conformity of the goods and services to the stated technical specifications. Should any inspected or tested equipment fail to conform to the specifications or it is not as per the purchase order, NISM may reject them and the supplier shall either replace the rejected goods or make all alterations necessary to meet specification requirements free of cost to NISM.

12. PENALTY FOR DELAY

The supplier must strictly adhere to the delivery, installation and configuration schedule given in Section-4. The supplier shall have to pay penalty to NISM @ One percent (1%) per week of the value of the purchase order inclusive of all taxes, duties levies etc. per week for late delivery. There shall be an upper limit of 10% of the gross amount (i.e. total order value) for the penalty to be deducted. The applicable penalty will be deducted from the amounts due for payment. In case of delay beyond 3 months from the stipulated delivery, installation and configuration schedule (as per Section-4), NISM reserves the right to terminate the contract by recovering the penalty. Also the Performance Bank Guarantee will be forfeited in the event of termination of the contract. The supplier will be asked to remove all equipment pertaining to any work in progress not acceptable to NISM and will not be paid for the concerned equipment and services. NISM also reserves the right to engage a third party supplier to complete the ongoing works to its satisfaction and recover the cost of the same from the terminated supplier.

13. INDEMNITY

The supplier shall indemnify, protect and save NISM against all claims, losses, costs, damages, expenses, action suits and other proceedings resulting from infringements in respect of all hardware and software supplied to NISM.

14. ARBITRATION

In the event of a dispute or difference of any nature whatsoever between NISM and the supplier during the course of assignment arising as a result of this RFP, the same shall be referred for arbitration to the panel of arbitrators. The panel shall be constituted prior to commencement of arbitration and shall comprise of two arbitrators and an umpire. NISM and the supplier shall each nominate an arbitrator to the panel and these arbitrators shall appoint an umpire. Arbitration shall be carried out at NISM office in Navi Mumbai and as per Indian Arbitration Act/Laws.

15. JURISDICTION

The jurisdiction for the purpose of settlement of any dispute of differences whatsoever in respect of or relating to or arising out of or in any way touching the works awarded or the terms and conditions thereof shall be that of the appropriate court in Mumbai. The jurisdiction of any other court in any place other than Mumbai is specifically excluded.

16. FORCEMAJEURE

Should either party be prevented from performing any of its obligations under this RFP by reason of any cause beyond its reasonable control, the time for performance shall be extended until the operation of such cause has ceased, provided the affected party gives prompt notice to the other of any such factors or inability to perform, resumes performance as soon as such factors disappear or are circumvented. If under this clause either party is excused of performance of any obligation for a continuous period of 90 days, then the other party may at any time hereafter while such performance continuous to be excused, terminate this agreement without liability, by notice in writing to the other. In all such cases NISM's decision shall be final and binding on all concerned.

ANNEXURE - A

(This will be enclosed in envelope-2)

Date:

To,
Chief Technology Officer
National Institute of Securities Markets,
NISM Bhavan, Plot No: 82, Sector - 17, Vashi,
Navi Mumbai - 400703.

Dear Sir/Madam,

Subject: Response to the Request for Proposals of NETWORKING at NISM CAMPUS, Patalganga (Document Reference No. : NISM/ICT/RFP/09/2019-2020)".

1. Having examined the Request for Proposals including Annexures, the receipt of which is hereby duly acknowledged, we, the undersigned offer to supply, install and configure the equipment in accordance with the scope of work as stated in Section-3 of the RFP within the cost stated in the proposal.
2. If our proposal is accepted, we undertake to abide by all terms and conditions of this RFP and also to comply with the delivery schedule as mentioned in the RFP.
3. We certify that we have provided all the information requested by NISM in the requested format. We also understand that NISM has the right to reject this offer if NISM finds that the required information is not provided or is provided in a different format not suitable for evaluation process for any other reason as it deems fit. NISM's decision shall be final and binding on us.

Thank you.
Yours faithfully,

Signature of the Authorized Signatory of Company

Name: _____, Designation: _____

Contact no(mobile): _____, Email Id: _____

Company Seal:

(This letter should be typed on the letterhead of the Company and must be signed by the Authorized Signatory of the Company/Lead Company of the Consortium.)

ANNEXURE - B

Confirmation of Scope of Work

(Fill in all blanks as appropriate)

(Also read Section-3 of the RFP before filling the following Form. The duly filled form must be submitted in envelope-2)

1. COMPANY NAME:

2. ADDRESS:

3. CONTACT PERSON: _____

4. PHONE NUMBER: _____

5. EMAIL: _____ 6. WEB SITE: _____

(NOTE: You may attach the brochures providing more details of the product)

We confirm that the following components and services will be delivered in accordance with the Terms and Conditions of the RFP meeting the stated requirements (Document Reference Number: NISM/ICT/RFP/09/2019-2020)

A. Components

| # | Component Code | Component Description | Brand | Model No | Specifications (Either provide Brochures/documents or URL on the Web) | Qty | Specify Additional features if any. Otherwise write "Yes" against each item |
|---|----------------|-------------------------------|-------|----------|--|-----|---|
| 1 | SW-L2 | Layer-2 48 Port Access Switch | | | | 6 | |

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REQUEST FOR PROPOSALS FOR NETWORKING AT NISM CAMPUS, PATALGANGA
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| | | | | | | | |
|----|-----------------|--|----------------|--|--|-----|--|
| 2 | SW-L3 | Layer-3 48 Port Distribution Switch (With 03 x Multi mode fiber ports and 03 x Single mode fiber) | Huawei | | | 2 | |
| 3 | N-RACK-Type-1 | 45U Network Rack | | | | 1 | |
| 4 | N-Rack-Type-2 | 36U Network Rack | | | | 1 | |
| 5 | LIU | Light Interface Unit | | | | 1 | |
| 6 | TR-Type-1 | Multi-mode Transceiver | Huawei | | | 6 | |
| 7 | TR-Type-2 | Single-mode Transceiver | Huawei | | | 6 | |
| 8 | PP | Patch Panel – 48 Port | | | | 9 | |
| 9 | Cab_Mgr | Cable Manager | | | | 10 | |
| 10 | Wr | Warranty Support Service from OEMs | Associated OEM | | | 5 | |
| 11 | Cat6 Pat-type-1 | Cat-6 Patch Cord(1mtr) | | | | 435 | |
| 12 | Cat6 Pat-type-2 | Cat-6 Patch Cord(2mtr) | | | | 15 | |
| 13 | Fbr-spl | Fibre splicing | | | | 48 | |
| 14 | Inst_Testing | Active and Passive Components, Installation and testing cost | | | | 1 | |

B. Services

| # | SERVICE | Qty | Confirm (Yes/No) | Remarks |
|---|---|----------|------------------|---------|
| 1 | Installation and Configuration of Active device (excluding Layer-2 Access switches) | 5 | | |
| 2 | Configuration of Access Points | 30 | | |
| 3 | Switch mounting | 16 | | |
| 4 | Rack installation | 3 | | |
| 5 | Fiber splicing | 48 cores | | |
| 6 | LIU mounting | 2 | | |

| | | | | |
|----|--|-----|--|--|
| 7 | Patch Panel mounting | 14 | | |
| 8 | Cable manager mounting | 16 | | |
| 9 | Cat-6 punching, | 435 | | |
| 10 | Patch Cords deployment, | 435 | | |
| 11 | Uplinks deployment in SH-3 from 2 nd to 4 th floor | 3 | | |
| 12 | Access Point mounting | 30 | | |
| 13 | Labelling work at I/O points, Access points, patch panel and patch cords | All | | |
| 14 | Network Testing, Documentation | All | | |
| 15 | Dressing | All | | |
| 16 | Preparatory work for acceptance testing | NA | | |

C. Warranty Services

The Supplier is required to provide comprehensive details of warranty services for each of the devices indicated in the following table in a format as given below. The details provided must meet the requirements stated in Clause 3.15.

The supplier must provide all updates and upgrades for the proposed devices free of cost during warranty period

1. Devices

| # | Device/Works | Total Warranty Period of 5 years | | Warranty Details (Either Attach Detailed Documents or provide URL details or Write key aspects of Warranty in this column) |
|---|---|----------------------------------|-------------------------------------|---|
| | | Default Warranty Period in years | Additional Warranty Period in years | |
| 1 | Layer-2 48 Port Access Switch | | | |
| 2 | Layer-3 48 Port Distribution Switch (With 03 x Multi mode fiber ports and 03 x Single mode fiber) | | | |

ANNEXURE -C

Price Bid

(This will be submitted in envelope-3)

F1. Cost Break down

| # (1) | Component Code (2) | Component Description (3) | Brand (4) | Model (5) | Qty (6) | Unit Price (exclusive of taxes)(Rs.) (7) | Total (exclusive of taxes)(Rs.) (6) x (7) |
|----------|-----------------------|--|--------------|--------------|------------|--|---|
| 1 | SW-L2 | Layer-2 48 Port Access Switch | | | 6 | | |
| 2 | SW-L3 | Layer-3 48 Port Distribution Switch (With 03 x Multi mode fiber ports and 03 x Single mode fiber) | | | 2 | | |
| 3 | N-RACK-Type-1 | 45U Network Rack | | | 1 | | |
| 4 | N-RACK-Type-2 | 36U Network Rack | | | 1 | | |
| 5 | LIU | Light Interface Unit | | | 1 | | |
| 6 | TR-Type-1 | Multi-Mode transceiver | | | 6 | | |
| 7 | TR-Type-2 | Single-mode transceiver | | | 6 | | |
| 8 | PP | Patch Panel – 48 Port | | | 9 | | |
| 9 | Cab_Mgr | Cable Manager | | | 10 | | |
| 10 | Wr | Warranty Support services from OEMs | | | 5 yrs | | |
| 11 | Cat6 Pat-type-1 | Cat-6 Patch Cord(1mtr) | | | 435 | | |
| 12 | Cat6 at-type-2 | Cat-6 Patch Cord(2mtr) | | | 15 | | |
| 13 | Fbr-spl | Fiber splicing | | | 48 cores | | |
| 14 | Services | Installation and Configuration | | | | | |

| | | | | | | | |
|--|--|---|--|--|--|--|--|
| | | of Active devices(switch and access points), Switch mounting, Access points mounting, Rack installation, Fiber splicing, LIU mounting, Patch Panel mounting, cable manager mounting Cat- 6 punching, Patch Cords deployment, Uplink deployment, Labelling work at I/O points, Access point, patch panel and patch cords, Network Testing, Documentatio n, Dressing, Preparatory work for acceptance testing | | | | | |
|--|--|---|--|--|--|--|--|

ANNEXURE - D

Specifications Catalogue

| # | Component Code | Component Description | Brand | Key Specifications |
|---|----------------|--|--|--|
| 1 | SW-L2 | Layer-2 48 Port Access Switch | Dlink, HP, Cisco, Dell, Aruba, Huawei | <ul style="list-style-type: none"> Number of Ethernet Ports : 48 Speed of Ethernet Port : 10/100/1000 Mbps Layer-2 Switch Unmanaged Minimum Throughput: 35 Mpps Power Cord : 01 Form Factor : 1U With 5 Years Warranty including default warranty period |
| 2 | SW-L3 | Layer-3 48 Port Distribution Switch (With 03 x Multi mode fiber ports and 03 x Single mode fiber) | Huawei | <p>Details provided under Item-A at the end of this table.</p> <ul style="list-style-type: none"> Number of Ethernet Ports (with RJ45 interface): 48 Speed of Ethernet Port : 10/100/1000 Mbps Layer-3 Switch Number of SFP+ Ports : 6 (To be used for Fiber Uplinks) Speed of SFP+ Ports: 10 Gigabits The Switch must be delivered with the Transceivers as indicated below <ul style="list-style-type: none"> Transceiver (10Gbps) for Multimode Fiber : 03 Transceiver (10Gbps) for Single mode Fiber: 03 All Transceivers must support LC Connectors The switch must have firmware with features to <u>create virtualization into a single control plane with 4 switches.</u> Number of Management Ports:01 Power Cord : 01 Form Factor : 1U With 5 Years Warranty including default warranty period |
| 3 | N-RACK-Type-1 | 45U Network Rack | Valrack ,Selrack, Netrack or WQ | <ul style="list-style-type: none"> width 800mm x depth 1000mm Form factor : 45 U Floor mounted Input current rating 15 A 4 PDUs with 6 sockets each of 5 Amp All sockets and plugs with round pins Sufficient cooling arrangement |
| 4 | N-RACK-Type-2 | 36U Network Rack | Valrack ,Selrack, Netrack or WQ | <ul style="list-style-type: none"> width 800mm x depth 1000mm Form factor : 36 U Floor mounted Input current rating 15 A 3 PDUs with 6 sockets each of 5 Amp All sockets and plugs with round pins Sufficient cooling arrangement |
| 5 | LIU | Light Interface Unit | Corning, Molex, TE, Seimon, Commscope, | <ul style="list-style-type: none"> LIU Tray (Panel) Height Unit: 2U |

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| | | | | |
|----|----------------|-----------------------|---|--|
| | | | Panduit | <ul style="list-style-type: none"> • Depth : 450 mm, width : 500mm • Compartments for 4 cassettes • Loaded with 3 cassettes – one with Single Mode 12 core Fiber Interface Unit and two with Multi Mode 6 core Fiber Interface Units • Each cassette should have an appropriate mechanism to hold the spliced ends of pig tails in a protected casing • Pig tails should have LC connectors • Incoming fiber must be spliced with pig tails • Bend Insensitive Pig Tails • Pigtail Length: 2 m • Rack mountable |
| 6 | TR-Type-1 | Transceiver Type-1 | Huawei | <ul style="list-style-type: none"> • For 10G port • 62.5 µm multimode cable @ 160 MHz*km = 2-26 m, • 62.5 µm multimode cable @ 200 MHz*km = 2-33 m, • 50 µm multimode cable @ 400 MHz*km = 2-66 m, • 50 µm multimode cable @ 500 MHz*km = 2-82 m, • 50 µm multimode cable @ 2000 MHz*km = 2-300 m • Must be compatible with the proposed Distribution or Core switch |
| 7 | TR-Type-2 | Transceiver Type-2 | Dlink, HP, Cisco, Dell, Aruba or any other reputed Equivalent Brand | <ul style="list-style-type: none"> • For 10G port • For Single mode fiber cable • Must be compatible with the proposed Distribution or Core switch |
| 8 | PP | Patch Panel – 48 Port | Belkin, APD, Dlink or any other equivalent brand | <ul style="list-style-type: none"> • Number of ports: 48 • Size: 1U • for Cat6 |
| 9 | PAT-CAT-Type-1 | 1 M Patch Cord | Dlink, TE Connectivity, Schneider electric, Panduit, Commscope, HP, Molex | <ul style="list-style-type: none"> • Length 1 m • Type of cable – cat6 • Connectors – RJ45 at both ends • Factory made |
| 10 | PAT-CAT-Type-2 | 2 M Patch Cord | Dlink, TE Connectivity, Schneider electric, Panduit, Commscope, HP, Molex | <ul style="list-style-type: none"> • Length 2 m • Type of cable – cat6 • Connectors – RJ45 at both ends • Factory made |
| 11 | Cab_Mgr | Cable Manager | Good Quality brand | <ul style="list-style-type: none"> • Rack mountable • Must hold 16/24/48 cat-6 cables |

Item-A: Specifications of 24 Port Layer-3 Distribution Switch Architecture

- Shall be Rack Mountable
- Shall have dual, hot-swappable power supplies
- Required number of RJ-45 autosensing 10/100/1000 ports
- The switch shall have required number of 10-Gigabit ports (SFP+/XFP) and 1G SFP ports in addition to the above ports
- 1 RJ-45 serial console port
- 1 RJ-45 out-of-band management port
- 512 MB SDRAM and 512 MB flash
- Shall have switching capacity of 224 Gbps
- Shall have up to 161 million pps switching throughput

Resiliency

- Shall support virtual switching fabric creation across nine switches using 10G Ethernet Links
- IEEE 802.1D Spanning Tree Protocol, IEEE 802.1w Rapid Spanning Tree Protocol and IEEE 802.1s Multiple Spanning Tree Protocol
- IEEE 802.3ad Link Aggregation Control Protocol (LACP)
- Ring protocol support to provide sub-100 ms recovery for ring Ethernet-based topology
- Graceful restart for OSPF, IS-IS and BGP protocols
- Bidirectional Forwarding Detection (BFD) for OSPF, IS-IS and BGP protocols

Layer 2 Features

- Shall support up to 1,000 port or IEEE 802.1Q-based VLANs
- Shall support GARP VLAN Registration Protocol or equivalent feature to allow automatic learning and dynamic assignment of VLANs
- Shall have the capability to monitor link connectivity and shut down ports at both ends if uni-directional traffic is detected, preventing loops
- Shall support IEEE 802.1ad QinQ and Selective QinQ to increase the scalability of an Ethernet network by providing a hierarchical structure
- Shall support Jumbo frames on GbE and 10-GbE ports
- Internet Group Management Protocol (IGMP)
- Multicast Listener Discovery (MLD) snooping
- IEEE 802.1AB Link Layer Discovery Protocol (LLDP)
- Multicast VLAN to allow multiple VLANs to receive the same IPv4 or IPv6 multicast traffic

Layer 3 Features (any additional licenses required shall be included)

- Static Routing for IPv4 and IPv6
- RIP for IPv4 (RIPv1/v2) and IPv6 (RIPng)
- OSPF for IPv4 (OSPFv2) and IPv6 (OSPFv3)
- IS-IS for IPv4 and IPv6 (IS-ISv6)
- Border Gateway Protocol 4 with support for IPv6 addressing
- Policy-based routing
- Unicast Reverse Path Forwarding (uRPF)
- IPv6 tunneling to allow IPv6 packets to traverse IPv4-only networks by encapsulating the IPv6 packet into a standard IPv4 packet
- Dynamic Host Configuration Protocol (DHCP) client, Relay and server

QoS and Security Features

- Access Control Lists for both IPv4 and IPv6 for filtering traffic to prevent unauthorized users from accessing the network
- Port-based rate limiting and access control list (ACL) based rate limiting
- Congestion avoidance using Weighted Random Early Detection (WRED)
- Powerful QoS feature supporting strict priority (SP) queuing, weighted round robin (WRR), weighted fair queuing (WFQ), weighted deficit round robin (WDRR) and weighted random early discard (WRED)
- IEEE 802.1x to provide port-based user authentication with multiple 802.1x authentication sessions per port
- Media access control (MAC) authentication to provide simple authentication based on a

user's MAC address

- Dynamic Host Configuration Protocol (DHCP) snooping to prevent unauthorized DHCP servers
- Port security and port isolation

Management Features

- Configuration through the CLI, console, Telnet, SSH and Web Management
- SNMPv1, v2, and v3 and Remote monitoring (RMON) support
- sFlow (RFC 3176) or equivalent for traffic analysis
- Management security through multiple privilege levels with password protection
- FTP, TFTP, and SFTP support
- Port mirroring to duplicate port traffic (ingress and egress) to a local or remote monitoring port. Shall support minimum four mirroring groups
- RADIUS/TACACS+ for switch security access administration
- Network Time Protocol (NTP) or equivalent support

NOTE:

1. Please note that all proposed fiber optic network components must be of the same brand to ensure efficient solution and ease of maintenance.

ANNEXURE -E

Company Profile

(This should be included in Envelope-2)

| | |
|--|--|
| Name of the company | |
| Legal Status (e.g., sole proprietor, partnership, limited liability partnership, corporation etc., (Attach a copy of the certificate of incorporation) | |
| Registered Physical Address | |
| Business Profile of the company (Attach a separate write-up or brochure that provides details of the business activities of the company) | |
| Year of Establishment | |
| GST IN | |
| Email ID of the company | |
| PAN Number of the company | |
| TAN Number of the company | |

| | |
|---|--|
| Name of the Contact Person with Mobile and land line Number | |
| Company Name as it appears in its Bank Account | |
| Bank Account Number | |
| Type of Account | |
| Bank Name | |
| Bank's Branch Address | |
| Bank Branch IFSC Code | |

Signature of the Authorized Signatory of Company
Name:
Designation:
Contact no. (Mobile):
Email Id:
Company Seal: