



भाकृअनुप - राष्ट्रीय कृषि अनुसंधान प्रबंध अकादमी
राजेन्द्रनगर, हैदराबाद-५०००३०, तेलंगाणा, भारत
ICAR-National Academy of Agricultural Research Management
(ISO 9001:2015 Certified)

Rajendranagar, Hyderabad-500030, Telangana, India
Phones: (040) 2458 1322; Fax: (040) 2401 5912; <https://naarm.org.in>



Phone No. 040-24581393

F.No.5-576/19-20/PS/NetworkSwitches

21st January 2020

E- TENDER ENQUIRY FOR PROCUREMENT AND INSTALLATION OF 10g NETWORK CORE, LAYER 3 & LAYER 2 DISTRIBUTION SWITCHES IN TWO BID SYSTEM

ICAR-NAARM is a premier publicly funded Training and Research Management Organization under ICAR, DARE, Ministry of Agriculture, and Government of India. The Director, ICAR-NAARM, Rajendranagar, Hyderabad – 500 030, Telangana, India, now invites Online bids from the Authorized OEM Partners / authorized dealers/ authorized suppliers for tenders for Supply & Installation of procurement and installation of 10g Network Core, Layer 3 & Layer 2 Distribution Switches” in two bid system (technical bid / financial bid) Invites sealed tenders for “In Two Bid System”.

Terms and Conditions:

1. Important Dates:

Sl. No.	Description	Date	Time
1.	Tender Publishing Date	21.01.2020	1600 hrs
2.	Document Download start date	22.01.2020	0900 hrs
3.	Seek Clarification Start Date	22.01.2020	1000 hrs
4.	Seek Clarification End Date	31.01.2020	1000 hrs
5.	Bid Submission Start Date	22.01.2020	1000 hrs
6.	Bid Submission Closing Date	10.02.2020	1200 hrs
7.	Bid Opening Date	11-02-2020	1200 hrs

Note:

- The items as per supply order shall be transported directly from OEM to ICAR-NAARM Stores at your cost.
- The information format should invariably be filled in and duly signed by the authorized signatory and the terms and conditions strictly be followed before submitting the tender.
- The tender(s) may be addressed to the Director, ICAR-NAARM, Rajendranagar, Hyderabad-500 030.
- Note: Bidder should Sign and Seal on each page of the Tender Document failing which your Tender Document will not be accepted.

General Terms and Conditions:

1. **Cost of Tender:** There is no cost for tender Document. The tender documents indicating with full details of **10g Network Core, Layer 3 & Layer 2 Distribution Switches specifications and** terms and conditions can be downloaded from the Government of India, Central Public Procurement Portal (<http://eprocure.gov.in/cppp/>) or NAARM Website (<http://www.naarm.org.in/>). Director, ICAR-NAARM reserves the right to accept or reject any tender(s) or in full without assigning any reason thereof. **THE TENDER HAS TO BE SUBMITTED ONLINE ONLY <http://eprocure.gov.in/cppp/>**.
2. **Earnest Money Deposit:** The vendors has to submit an EMD of Rs.1,50,000/- (Rupees One Lakh Fifty Thousands only) in the form of Demand Draft drawn in favor of "ICAR Unit – NAARM A/c", Hyderabad from any scheduled Bank and should be sent by speed post as to reach before due date at the above address. The EMD exempted for those registered with Micro, Small & Medium Enterprises (MSME) and National Small Industries Corporation (NSIC). No interest will be paid on Earnest Money/Security Deposit for the period of retention in the NAARM.
3. **Forfeiture of EMD:** The EMD made by the bidder will be forfeited if:
 - i. Bidder withdraws its bid before opening of the bids.
 - ii. Bidder withdraws its bid after opening of the bids but before Notification of Award.
 - iii. Selected Bidder withdraws its bid / Proposal before furnishing **Performance Security/Security Deposit**
 - iv. Bidder violates any of the provisions of the Tender Document up to submission of **Performance Security/Security Deposit**.
 - v. Selected Bidder fails to accept the order within five days from the date of receipt of the order. However, ICAR-NAARM reserves its right to consider at its sole discretion the late acceptance of the order by selected Bidder.
 - vi. Bidder fails to submit the **Performance Security/Security Deposit** within stipulated period from the date of execution of the contract. In such instance, ICAR-NAARM at its discretion may cancel the order placed on the selected Bidder without giving any notice
4. **How to Apply :** The duly filled Application form along with the relevant supporting documents and Price bid must be submitted through online mode only on <http://eprocure.gov.in>. Manually submitted Bids are not accepted / rejected. Bidders would be required to register themselves in the CPP Portal. For submission of bids, the bidder is required to have Digital Signature Certificate (DSC) from one of the authorized Certifying Authorities (CA). All the required documents (self-attested) in support of eligibility criteria are to be uploaded along with the tender documents. All pages of tender documents should be numbered serially. The bidders are advised to submit duly signed required papers / documents with their bids as per the specifications indicated in online only through Portal: <https://eprocure.gov.in> failing which their bids will be rejected.
4. **Payment:** No advance payment is permissible. Payment will be made only after satisfactory supply & installation of the goods/equipment material in couple of weeks with due certification of the concerned in-charges.
5. **Security Deposit:** The successful bidder has to furnish an amount equivalent to **10%** of the order value as **Performance Security Deposit**, which will be refunded / returned after satisfactory completion of the contractual obligations including warranty. The Security Deposit should be in the

form of Fixed Deposit Receipt or Bank Guarantee from any commercial bank and on which no interest will be paid.

6. **Delivery Schedule:**

- Supply, installation, commissioning and integration of existing Network Routers, Switches Delivery of equipment & licenses should be within 3 weeks.
- Installation and commissioning should be within 2 weeks after delivery.
- Specific mention imported/acquired and in the latter case, the time required for delivery after firm purchase order is placed should be indicated clearly.
- No part supply is allowed.

7. **Liquidated:** If you are failed to deliver any or all of the goods or to perform the services within the delivery period specified above, a sum equivalent to 0.5% of the contract price per week or part thereof off delay until actual delivery or performance shall be deducted from the Bill up to a maximum deduction of 10% of the contract price. Once the maximum is reached, we may consider termination of the contract and the firm will not be allowed to participate in any Tender for the next three (03) years.

8. **Bank details for e-payment:** The bank details may be furnished along with tender for making e-payment to the successful bidder.

9. **ISO Certification:** The ISO certification of the product may be furnished along with tender.

10. **OEM Authorization:** The Firm should be Submit Manufacturer's Authorization Form (MFA) from OEM of the quoted product. The scanned copy of the same to be uploaded in the CPP Portal and the Original certificate should be reached to the Academy before due date of the Tender. The Academy will verify the MFA with respective OEMs. If any discrepancy observe in the submitted MFA, severe administrative action may be taken against that firm.

11. **Service Support :** The quoted OEM should have a **local service center** to attend the calls within 2 or 3 hours. Contact Details of the Service Center and Address should be mentioned. Escalation matrix for service support should be submitted

12. **Expiry date:** The supplied goods should be from latest stock by the manufacturers. It should not be became obsolete models within five years from then date of Installation.

13. ICAR – NAARM has entitlement for GST exemption for Educational Institutions.

14. **Period of Validity:** Bids shall remain valid for a period of 180 days after the date of bid opening as mentioned in the Tender Document or as may be extended from time to time. ICAR-NAARM reserves the right to reject a bid valid for a period shorter than 180 days as non-responsive, without any correspondence

15. **Rates:** Rates should be quoted per Item basis in the prescribed Price Schedule in Indian Rupees only. Rates should be **quoted as prescribed format in the Price Bid** failing which the bids are rejected.

16. **Specifications:** Full specifications and part number of the item quoted for should be indicated in the tender along with illustrated pamphlets, drawings, Brochures, catalogues etc. must be invariably enclosed wherever applicable. The supplier has to submit the compliance statement on the technical specifications in the prescribed format enclosed to this schedule.
17. **Shipment:** Shipment should be directly supplied from Manufacture to the Academy securely package at supplier's risk, unless otherwise specified.
18. **Taxes / Duties:** If taxes, duties, or any other charges over and above the rates quoted are payable by the Academy, actual / percentage of such taxes / duties / charges should be clearly indicated. The Academy is eligible for Central Excise Duty Exemption. On request of the bidder This Academy will issue a certificate in this regard.
19. **Registration of GST:** Necessary declaration on the following line should be furnished: "Certified that the goods on which GST is chargeable have not been exempted under the relevant GST Act or rules made there under and the charges on account of GST on these goods are correct under the relevant act or rules made there under. A valid GST Registration Certificate must be enclosed along with the declaration
20. **Warranty:** The Equipment/goods supplied should be under comprehensive warranty for three years or as specified in the schedule of requirement from the date of installation and acceptance by the academy as specified in the Schedule of Requirements. However, the manufacturer's warranty, which exceeds the period specified in the Schedule of Requirements, should be extended accordingly.
21. **Penalty:** Security deposit submitted by the bidder will be forfeited, if the bidder/OEM fails to give service support during the warranty period as specified in the Tender document and the firm will not be allowed to participate in any Tender for the next three (03) years
22. **Enquiry's on tender:** Any enquiry's regarding the tenders will not be entertained once the tenders are opened.
23. **Acceptance of tender:** Director, ICAR-NAARM reserves the right to accept or reject any of the tenders either in part or in full without assigning any reason thereof.
24. **Quantities:** Director, ICAR-NAARM reserves the right to reduce or increase the work order / quantity at the time of placing the Purchase Order.
25. **Decision:** The Decision of the Director, ICAR-NAARM on any dispute in the matter will be final and legally binding.
26. **Jurisdiction:** All disputes including court proceedings shall be settled within the Hyderabad jurisdiction only.

27. **Rejection of tenders:** Tenders not complying with any one of the above conditions, are liable to be rejected. No correspondence in this regard will be entertained.

28. In the event of the date & time specified for tender receipt being declared as a closed holiday for purchaser's office, the due date for submission of tenders will be the following working day at the specified timings.

29. Bid Evaluation Process

The Bid Evaluation will be carried out in 2 stages:

Stage 1 – At this stage, Eligibility Criteria as per the check list and Technical Bid will be evaluated. Only those Bidders who have submitted all the required forms, relevant papers to support the eligibility criteria conditions and Datasheets of the quoted products and comply with the eligibility criteria and technical specifications will be considered for further evaluation.

Stage 2 – At this stage, those Bidders who qualify the eligibility and technical criteria will be evaluated further to finalize the successful Bidder.

30. Late submission of tenders & unsigned tenders shall not be entertained at any cost after specified date & time as indicated. **The tenders without EMD amount will not be considered.**

31. Director, ICAR-NAARM reserves the right to accept or reject any or all the tenders. Decision of the Director will be final and legally binding.

IMPORTANT NOTE: The bidder should submit the Tender Document along with Earnest Money Deposit (EMD) including schedule of requirements and technical specification item wise price mentioned in the Tender Document. The bid must be accompanied with earnest money deposit in the form of DD. In any case the bid without EMD/DD will not be entertained.

Asst. Admn. Officer (S&P)



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CHECK LIST FOR ELIGIBILITY CRITERIA

Please give page numbers to the tender document and all enclosures and also verify the following documents before submission of the tender in the sequence listed below, to avoid rejection or disqualification of your tender.

PLEASE NOTE THAT ALL RELATED XEROX COPIES MAY PLEASE BE ENCLOSED WITH THE TENDER DOCUMENT AS A PROOF

S.No.	List of the Documents to be enclosed with the Tender	Page No.	Enclosed (Yes/No)
1.	Earnest Money Deposit: EMD should be drawn on any Commercial Bank as indicated in the notice inviting tenders in favour of "ICAR UNIT – NAARM A/c" vide EMD D.D. No. _____ Dated: _____ for Rs. _____		
2.	The entire original tender document with seal and signature on each page at the time of submission of tender document(s) within the due date and the terms and conditions should strictly be followed before submitting the tender.		
3.	Registration certificate of the Firm		
4.	NSIC/MSME certificate registered with NSIC/MSME (if applicable) to be enclosed		
5.	Certificates of registration for GST issued by appropriate Government for the required sales with the seal of the tenderer to be enclosed.		
6. (a)	Experience: Existence of Firm should have minimum of 3 years in supply and installation of Network Switches and equipment and IT services (Proof of Document should submit)		
(b)	Performance: Minimum of 03 Purchase Orders for supply and installation of the similar network switches in Govt. of India, State Govt. Public or Private Sector Enterprises for worth of minimum Order Value Rs.10 lakhs for the past three years.		
(c)	The bidder should submit the Satisfactory Performance Certificates from the respective clients along with the completion report and complete contact details.		
7.	The firm should submit Income Tax returns of previous 03 assessment years i.e., 2015-16, 2016-17 & 2017-18 along with the tender document.		
8.	Annual Turnover minimum of Rs.3.00 crore in the past 03 years. Proof in the form of a certificate from registered Auditor only		

S.No.	List of the Documents to be enclosed with the Tender	Page No.	Enclosed (Yes/No)
9.	Manufacturers Authorization Form (MAF) direct from OEM must be submitted along with Tender Document		
10.	There should be 24x7 Technical Support from direct OEM for any technical issue for all the supplied products and the bidder has to submit the authorization letter from the OEM to that effect		
11.	The bidder has to submit the Warranty Certificate under taking from OEM		
12.	The Firm should not be blacklisted in last 05 years by Central Government/State Govt., Public or Private Sector Enterprises. The bidder should submit an undertaking in this regard		
13.	The bidder should Provide formal training to the ICAR-NAARM personnel for monitoring and managing the devices. The bidder has to submit the authorization letter from the OEM or its authorized training partner to that effect		
14.	Tender Form – Annexure – I		
15.	Technical Specification Compliance – Annexure – II		
16.	Data sheet for the quoted products with photo		
17.	Price Bid – Annexure – IV		
18.	Any other document or information as required in the tender document.		
		No. of Total Pages : _____	

If any of the documents of the above not submitted with in the technical bid, the quote will be rejected.

Signature and Seal of the Bidder: _____

Business Address: _____

SCOPE OF WORK,

1. The scope of work includes supply, installation, commissioning, maintenance and integration of Quoted Network switch models, with the existing Network Router model CISCO ME3800X, Switches i.e Dell make and firewall from SOPHOS XG 310 with onsite support as mentioned in the specifications. ICAR-NAARM intends to procure the Centrally Managed Network core devices and Distribution (Layer 3 and Layer 2) Switches, as per details provided in the Technical Specifications
2. The devices should have onsite comprehensive support from the OEM for a period of 3 years from the date of acceptance or as per the schedule of requirement.
3. The equipment quoted by bidder should not be declared as EOL or EOS by the OEM for next five years' period. In the event of the supplied equipment being declared as EOL or EOS within the period of 5 years from the date of commissioning of the equipment, the bidder has to replace the equipment with new equipment having equivalent or higher configurations.
4. The bidder ensures that after installation and commission of the quoted products, high availability for the CORE LAN network and various failovers scenarios need to consider.
5. Supply, installation and commissioning of Core Switches and Distribution Switches with existing infrastructure.
6. Supply, implement and manage all the equipment such as Core Switches, Distribution switches associated cables and accessories as required for implementing the core LAN network at ICAR-NAARM sites.
7. Necessary configuration for ICAR-NAARM network including L2/L3 protocols, security policies, NATing features etc.,
8. Provide documentation and template for conducting UAT (User Acceptance test).
9. The resolution time for hardware related issue of network core devices NBD. There should be 24x7 Technical Support from direct OEM for any technical issue for all the supplied products and the bidder has to submit the authorization letter from the OEM to that effect.
10. Bidder/OEM has to provide Industry Qualified and Trained engineers at the ICAR-NAARM Data center during the process of network devices Installation and Configurations and ensure that the activity is carried out strictly in accordance with the Industry Best Followed Practices and guidelines provided by ICAR-NAARM
11. Suggest suitable IOS for all the devices quoted as per the requirement of ICAR-NAARM & recommend the latest IOS if OEM identifies bug in the earlier recommended IOS.
12. Provide formal training to the ICAR-NAARM personnel for monitoring and managing the devices.
13. The responsibility of the Field Maintenance and upkeep of the network equipment deployed under this project lies with the Bidder during the warranty period
14. All the hardware and software deployed under this project by the Bidder should be IPv4 and IPv6 enabled. ICAR-NAARM may decide the implementation of IPv6 at any stage during the contract period and Service Provider should assist this activity during non-business hours
15. All Switches should be from same OEM and fully compatible with existing switches, CISCO Wi-Fi and D-Link CCTV cameras .
16. All Switches should have capability to manage, configure and troubleshoot from Network management system with a single pane of glass
17. All SFP, SFP+ and QSFP should be from same OEM as of switches

SCHEDULE OF REQUIREMENT

S.No	Switch	Quantity
1.	10 g 48 Port Layer 3 Network Ethernet over Copper Switch 2 SFP+ Uplinks (48x 10GBASE-T, 2x QSFP+, 4x 100GbE QSFP28, 2x AC PSU, 4x Fan module, I/O Panel to PSU Airflow with one 40G (4 x Transceiver SFP+, 10GbE 1310nm wavelength, up to 10km reach populated)	1 No.
2.	Layer 2 Distribution 48 Port POE+ Network Switch with 2 SFP+ 10g Uplink Modules and life time warranty with Transceivers (Total 4 Nos (2+2) SFP + Moudues populated (48 x RJ45 10/100/1000Mb PoE+ (up to 30.8W) autosensing ports, 2x SFP+ ports, 2x stacking ports, 1 integrated 1000W PSU (requires C15 plug), 2x Transceiver, SFP+ 10GbE, LR, 1310nm wavelength, up to 10km reach)	7 nos.
3.	Layer 2 Distribution 48 Port Network Switch with 2 SFP+ 10g Uplink Modules and life time warranty with Transceivers (Total 4 Nos (2+2) SFP + Moudues populated (48x RJ45 10/100/1000Mb auto-sensing ports, 2x SFP+ ports, 2x stacking ports, 1 integrated 100W PSU 2x Transceivers SFP+, 10GbE, LR, 1310nm wavelength, up to 10km reach)	3 Nos.
4.	Layer 2 Distribution 24 Port POE+ Network Switch with 2 SFP+ 10g Uplink Modules and life time warranty with Transceivers (Total 4 Nos (2+2) SFP + Moudues populated (24x RJ45 10/100/1000Mb PoE+ (up to 30.8W) autosensing ports, 2x SFP+ ports, 2x stacking ports, 1 integrated 1000W PSU (requires C15 plug) 2x Transceiver, SFP+, 10GbE, LR)	3 Nos
5	Layer 2 Distribution 24 Port Network Switch with 2 SFP+ 10g Uplink Modules and life time warranty with Transceivers (Total 4 Nos (2+2) SFP + Moudues populated (24x RJ45 10/100/1000Mb auto-sensing ports, 2x SFP+ ports, 2x stacking ports, 1 integrated 100W PSU 2x Transceiver, SFP+, 10GbE, LR, 1310nm wavelength, up to 10km reach)	3 Nos.
6	42U server Rack with Metered PDU with USB KVM Switch	2 Nos

TECHNICAL SPECIFICATIONS

I. 10 g 48 Port Layer 3 Network Ethernet over Copper Switch 2 SFP+ Uplinks

S.No	Specifications
1.	Switch should have minimum 48x 10GBASE-T, 2x QSFP+, 4x 100GbE QSFP28, 2x AC PSU, 4x Fan module, I/O Panel to PSU Airflow
2.	Multi-rate 100GbE ports should support 10/25/40/50 GbE speed
3.	Each should be equipped with one 40G (4 x Transceiver SFP+, 10GbE 1310nm wavelength, up to 10km reach)
4.	Switch should support capacity of 1.7Tbps and through put of 1300Mpps
5.	The Core Switches should support min 64 K MAC addresses and min 4K active VLANs
6.	Switch should support Scalable L2 and L3 Ethernet Switching with QoS, ACL and a full complement of standards based IPv4 and IPv6 features including OSPF, BGP and PBR
7.	The switch should support Openflow 1.3 / REST API integration / DEVOPS / scripting and programming using various tools or other means of deploying Software define technology which can integrate with multi-vendor switches, server, storage, and applications.
8.	Core Switch should support VXLAN Layer 2 & layer 3 Gateway features
9.	Core Switch should support Data center bridging features like 802.1Qbb Priority-Based Flow Control, 802.1Qaz Enhanced Transmission Selection (ETS), Data Center Bridging eXchange (DCBx), DCBx Application TLV (iSCSI, FCoE)
10.	The Core Switch should support SNMP v1, v2 & v3 for management. It should be manageable with any standard EMS/NMS.
11.	OEM should be Leader / Challenger / Visionary in latest Gartner's Magic Quadrant for Data Center Switches
12.	Warranty and Support: 3 years Warranty and onsite support 24x7

II. Layer 2 Distribution 48 Port POE+ Network Ethernet Switch with 2 SFP+ 10g Uplink Modules and life time warranty with Transceivers

Hardware features	48x RJ45 10/100/1000Mb PoE+ (up to 30.8W) autosensing ports, 2x SFP+ ports, 2x stacking ports, 1 integrated 1000W PSU
	Proposed network device must be 19" rack mountable
	Network Infrastructure equipment must use 240V AC power.
	The switch should support minimum 256MB Flash
	The switch should support minimum 256MB DRAM
	The switch should support 2 SFP+ 10G links, required 1G / 10G Optics as uplinks to be factored.
	The switch should be populated with 2 x Transceiver SFP+, 10GbE 1310nm wavelength, up to 10km reach
	Each Switch should be equipped with 2 x Transceiver SFP+, 10GbE 1310nm wavelength, up to 10km reach + Additional 2 x Transceiver SFP+, 10GbE 1310nm wavelength, up to 10km reach (4 Nos SFP+ Modules)
	The switch should support minimum 220 Gbps of Switching Performance with 164Mpps of Forwarding rate.
	The switch should support minimum 80Gbps of stacking bandwidth
	The stacking offered should be of Daisy chain, closed loop stacking, with minimum 10 switches in a single stack.
	License if any required to enable 1G / 10G and stacking to be included for all ports.
Scalability	
	Each SFP+ port should be able to support IEEE standard based 1000baseSX, LX, ZX, 1000baseT SFP, 10GbaseSR, LR, ER Optics. Any license required to be factored for all supported ports on the switch.
	All Optic and modules offered should be hotwappable.
	Must support port channeling or equivalent across multiple chassis.
	Physical standards for Network Device Should support Ethernet (IEEE 802.3, 10BASE-T), Fast Ethernet (IEEE 802.3u, 100BASE-TX), Gigabit Ethernet (IEEE 802.3z, 802.3ab), Ten Gigabit Ethernet (IEEE 802.3ae)
	Software based standards for Network Device Must support IEEE 802.1d - Spanning-Tree Protocol, IEEE 802.1w - Rapid Spanning Tree, IEEE 802.1s - Multiple Spanning Tree Protocol, IEEE 802.1q - VLAN encapsulation, IEEE 802.3ad - Link Aggregation Control Protocol (LACP), IEEE 802.1ab - Link Layer Discovery Protocol (LLDP), IEEE 802.3x Flow Control
	Must support auto-sensing and auto-negotiation (Link Speed/Duplex)
	The network infrastructure must allow for multiple equal metric/cost routes to be utilized at the same time
	The switch should support minimum 16K MAC address and 4K Vlan ID and 802.1Q vlans
	Should support 802.1 Q-in-Q
	IEEE 802.3ad Link Aggregation or equivalent capabilities

	The switch hardware shall be designed to run both IPv4 & IPv6 simultaneously (Dual Stack).
	Must be IPv6 capable. If IPv6 compliance/support is not available, please identify if compliance is defined in device roadmap along with a timeframe
	IP Version 6 (IPv6) must be supported in hardware
Security features	Must support multiple privilege levels for remote access (e.g. console or telnet access)
	Must support Remote Authentication Dial-In User Service (RADIUS) and/or Terminal Access Controller Access Control System Plus (TACACS+)
QoS features	Must support IEEE 802.1p class-of-service (CoS) prioritization, with 8 queues per port.
	Must support rate limiting (to configurable levels) based on source/destination IP/MAC, L4 TCP/UDP
	Must have the ability to complete traffic shaping to configurable levels based on source/destination IP/MAC and Layer 4 (TCP/UDP) protocols
	There should not be any impact to performance or data forwarding when QoS features
	Must support a "Priority" queuing mechanism to guarantee delivery of highest-priority (broadcast critical/delay-sensitive traffic) packets ahead of all other traffic
	Should support Network monitoring features like NetFlow, sFlow, SPAN, RSPAN or similar technologies
Virtulisation	The switch must support data center virtualization, giving department the ability to virtualize a physical switch into multiple logical devices. With each logical switch having its own processes, configuration, and administration
Management features	Must support SNMP V1, V2, V3
	Must support SNMP traps (alarms/alerts) for a minimum of four destinations
	Network switch should support Remote Monitoring on every port covering the following four groups (Statistics, Alarm, Event, History).
	Should support flow based traffic analysis features and the ability to export of network IP flow information.
	Must support Network Timing Protocol
	The switch should have USB port to transport device supports boot image, software, and configuration upload/download via USB.
Warranty and AMC	3 year 24x7 onsite support or as required
Product Support	The system should not be an end of life / end of service product.

III. Layer 2 Distribution 48 Port Network Switch with 2 SFP+ 10g Uplink Modules and life time warranty with Transceivers

Item	Minimum Requirement Description
Hardware	48x RJ45 10/100/1000Mb auto-sensing ports, 2x SFP+ ports, 2x stacking ports, 1 integrated 100W PSU
	Proposed network device must be 19" rack mountable
	Network Infrastructure equipment must use 240V AC power.
	The switch should support minimum 256MB Flash
	The switch should support minimum 256MB DRAM
	The switch should support 2 SFP+ 10G links, required 1G / 10G Optics as uplinks to be factored.
	The switch should be populated with 2 x Transceiver SFP+, 10GbE 1310nm wavelength, up to 10km reach
	Each Switch should be equipped with 2 x Transceiver SFP+, 10GbE 1310nm wavelength, up to 10km reach + Additional 2 x Transceiver SFP+, 10GbE 1310nm wavelength, up to 10km reach (4 Nos SFP+ Modules)
	The switch should support minimum 220 Gbps of Switching Performance with 164Mpps of Forwarding rate.
	The switch should support minimum 80Gbps of stacking bandwidth
	The stacking offered should be of Daisy chain, closed loop stacking, with minimum 10 switches in a single stack.
	License if any required to enable 1G / 10G and stacking to be included for all ports.
Scalability	Each SFP+ port should be able to support IEEE standard based 1000baseSX, LX, ZX, 1000baseT SFP, 10GbaseSR, LR, ER Optics. Any license required to be factored for all supported ports on the switch.
	All Optic and modules offered should be hotwappable.
	Must support port channeling or equivalent across multiple chassis.
	Physical standards for Network Device Should support Ethernet (IEEE 802.3, 10BASE-T), Fast Ethernet (IEEE 802.3u, 100BASE-TX), Gigabit Ethernet (IEEE 802.3z, 802.3ab), Ten Gigabit Ethernet (IEEE 802.3ae)
	Software based standards for Network Device Must support IEEE 802.1d - Spanning-Tree Protocol, IEEE 802.1w - Rapid Spanning Tree, IEEE 802.1s - Multiple Spanning Tree Protocol, IEEE 802.1q - VLAN encapsulation, IEEE 802.3ad - Link Aggregation Control Protocol (LACP), IEEE 802.1ab - Link Layer Discovery Protocol (LLDP), IEEE 802.3x Flow Control
	Must support auto-sensing and auto-negotiation (Link Speed/Duplex)
	The network infrastructure must allow for multiple equal metric/cost routes to be utilized at the same time
	The switch should support minimum 16K MAC address and 4K Vlan ID and 802.1Q vlans
	Should support 802.1 Q-in-Q
	IEEE 802.3ad Link Aggregation or equivalent capabilities

	The switch hardware shall be designed to run both IPv4 & IPv6 simultaneously (Dual Stack).
	Must be IPv6 capable. If IPv6 compliance/support is not available, please identify if compliance is defined in device roadmap along with a timeframe
	IP Version 6 (IPv6) must be supported in hardware
Security features	Must support multiple privilege levels for remote access (e.g. console or telnet access)
	Must support Remote Authentication Dial-In User Service (RADIUS) and/or Terminal Access Controller Access Control System Plus (TACACS+)
QoS features	Must support IEEE 802.1p class-of-service (CoS) prioritization, with 8 queues per port.
	Must support rate limiting (to configurable levels) based on source/destination IP/MAC, L4 TCP/UDP
	Must have the ability to complete traffic shaping to configurable levels based on source/destination IP/MAC and Layer 4 (TCP/UDP) protocols
	There should not be any impact to performance or data forwarding when QoS features
	Must support a "Priority" queuing mechanism to guarantee delivery of highest-priority (broadcast critical/delay-sensitive traffic) packets ahead of all other traffic
	Should support Network monitoring features like NetFlow, sFlow, SPAN, RSPAN or similar technologies
Virtualization	The switch must support data center virtualization, giving department the ability to virtualize a physical switch into multiple logical devices. With each logical switch having its own processes, configuration, and administration
Management features	Must support SNMP V1, V2, V3
	Must support SNMP traps (alarms/alerts) for a minimum of four destinations
	Network switch should support Remote Monitoring on every port covering the following four groups (Statistics, Alarm, Event, History).
	Should support flow based traffic analysis features and the ability to export of network IP flow information.
	Must support Network Timing Protocol
	The switch should have USB port to transport device supports boot image, software, and configuration upload/download via USB.
Warranty and AMC	3 year 24x7 onsite support or as required
Product Support	The system should not be an end of life / end of service product.

IV. Layer 2 Distribution 24 Port POE+ Network Switch with 2 SFP+ 10g Uplink Modules and life time warranty with Transceivers

Item	Minimum Requirement Description
Hardware features	24x RJ45 10/100/1000Mb PoE+ (up to 30.8W) autosensing ports, 2x SFP+ ports, 2x stacking ports, 1 integrated 1000W PSU (requires C15 plug)
	Proposed network device must be 19" rack mountable
	Network Infrastructure equipment must use 240V AC power.
	The switch should support minimum 256MB Flash
	The switch should support minimum 256MB DRAM
	The switch should support 2 SFP+ 10G links, required 1G / 10G Optics as uplinks to be factored.
	The switch should be populated with 2 x Transceiver SFP+, 10GbE 1310nm wavelength, up to 10km reach
	Each Switch should be equipped with 2 x Transceiver SFP+, 10GbE 1310nm wavelength, up to 10km reach + Additional 2 x Transceiver SFP+, 10GbE 1310nm wavelength, up to 10km reach (4 Nos SFP+ Modules)
	The switch should support minimum 160 Gbps of Switching Performance with 120 Mpps of Forwarding rate.
	The switch should support minimum 80Gbps of stacking bandwidth
	The stacking offered should be of Daisy chain, closed loop stacking, with minimum 10 switches in a single stack.
	License if any required to enable 1G / 10G and stacking to be included for all ports.
Scalability	
	Each SFP+ port should be able to support IEEE standard based 1000baseSX, LX, ZX, 1000baseT SFP, 10GbaseSR, LR, ER Optics. Any license required to be factored for all supported ports on the switch.
	All Optic and modules offered should be hotwappable.
	Must support port channeling or equivalent across multiple chassis.
	Physical standards for Network Device Should support Ethernet (IEEE 802.3, 10BASE-T), Fast Ethernet (IEEE 802.3u, 100BASE-TX), Gigabit Ethernet (IEEE 802.3z, 802.3ab), Ten Gigabit Ethernet (IEEE 802.3ae)
	Software based standards for Network Device Must support IEEE 802.1d - Spanning-Tree Protocol, IEEE 802.1w - Rapid Spanning Tree, IEEE 802.1s - Multiple Spanning Tree Protocol, IEEE 802.1q - VLAN encapsulation, IEEE 802.3ad - Link Aggregation Control Protocol (LACP), IEEE 802.1ab - Link Layer Discovery Protocol (LLDP), IEEE 802.3x Flow Control
	Must support auto-sensing and auto-negotiation (Link Speed/Duplex)
	The network infrastructure must allow for multiple equal metric/cost routes to be utilized at the same time
	The switch should support minimum 16K MAC address and 4K Vlan ID and 802.1Q vlans
	Should support 802.1 Q-in-Q
	IEEE 802.3ad Link Aggregation or equivalent capabilities

	The switch hardware shall be designed to run both IPv4 & IPv6 simultaneously (Dual Stack).
	Must be IPv6 capable. If IPv6 compliance/support is not available, please identify if compliance is defined in device roadmap along with a timeframe
	IP Version 6 (IPv6) must be supported in hardware
Security features	Must support multiple privilege levels for remote access (e.g. console or telnet access)
	Must support Remote Authentication Dial-In User Service (RADIUS) and/or Terminal Access Controller Access Control System Plus (TACACS+)
QoS features	Must support IEEE 802.1p class-of-service (CoS) prioritization, with 8 queues per port.
	Must support rate limiting (to configurable levels) based on source/destination IP/MAC, L4 TCP/UDP
	Must have the ability to complete traffic shaping to configurable levels based on source/destination IP/MAC and Layer 4 (TCP/UDP) protocols
	There should not be any impact to performance or data forwarding when QoS features
	Must support a "Priority" queuing mechanism to guarantee delivery of highest-priority (broadcast critical/delay-sensitive traffic) packets ahead of all other traffic
	Should support Network monitoring features like NetFlow, sFlow, SPAN, RSPAN or similar technologies
Virtulisation	The switch must support data center virtualization, giving department the ability to virtualize a physical switch into multiple logical devices. With each logical switch having its own processes, configuration, and administration
Management features	Must support SNMP V1, V2, V3
	Must support SNMP traps (alarms/alerts) for a minimum of four destinations
	Network switch should support Remote Monitoring on every port covering the following four groups (Statistics, Alarm, Event, History).
	Should support flow based traffic analysis features and the ability to export of network IP flow information.
	Must support Network Timing Protocol
	The switch should have USB port to transport device supports boot image, software, and configuration upload/download via USB.
Warranty and AMC	3 year 24x7 onsite support or as required
Product Support	The system should not be an end of life / end of service product.

V. Layer 2 Distribution 24 Port Network Switch with 2 SFP+ 10g Uplink Modules and life time warranty with Transceivers

Item	Minimum Requirement Description
Hardware features	24x RJ45 10/100/1000 Mb auto-sensing ports, Layer 2+ manage switch with Enterprise Layer2 capabilities, stackable, standard rackmountable switch.
	Proposed network device must be 19" rack mountable
	Network Infrastructure equipment must use 240V AC power.
	The switch should support minimum 256MB Flash
	The switch should support minimum 256MB DRAM
	The switch should support 2 SFP+ 10G links, required 1G / 10G Optics as uplinks to be factored.
	The switch should be populated with 2 x Transceiver SFP+, 10GbE 1310nm wavelength, up to 10km reach
	Each Switch should be equipped with 2 x Transceiver SFP+, 10GbE 1310nm wavelength, up to 10km reach + Additional 2 x Transceiver SFP+, 10GbE 1310nm wavelength, up to 10km reach (4 Nos SFP+ Modules)
	The switch should support minimum 160 Gbps of Switching Performance with 120 Mpps of Forwarding rate.
	The switch should support minimum 80Gbps of stacking bandwidth
	The stacking offered should be of Daisy chain, closed loop stacking, with minimum 10 switches in a single stack.
	License if any required to enable 1G / 10G and stacking to be included for all ports.
Scalability	
	Each SFP+ port should be able to support IEEE standard based 1000baseSX, LX, ZX, 1000baseT SFP, 10GbaseSR, LR, ER Optics. Any license required to be factored for all supported ports on the switch.
	All Optic and modules offered should be hotwappable.
	Must support port channeling or equivalent across multiple chassis.
	Physical standards for Network Device Should support Ethernet (IEEE 802.3, 10BASE-T), Fast Ethernet (IEEE 802.3u, 100BASE-TX), Gigabit Ethernet (IEEE 802.3z, 802.3ab), Ten Gigabit Ethernet (IEEE 802.3ae)
	Software based standards for Network Device Must support IEEE 802.1d - Spanning-Tree Protocol, IEEE 802.1w - Rapid Spanning Tree, IEEE 802.1s - Multiple Spanning Tree Protocol, IEEE 802.1q - VLAN encapsulation, IEEE 802.3ad - Link Aggregation Control Protocol (LACP), IEEE 802.1ab - Link Layer Discovery Protocol (LLDP), IEEE 802.3x Flow Control
	Must support auto-sensing and auto-negotiation (Link Speed/Duplex)
	The network infrastructure must allow for multiple equal metric/cost routes to be utilized at the same time
	The switch should support minimum 16K MAC address and 4K Vlan ID and 802.1Q vlans

	Should support 802.1 Q-in-Q
	IEEE 802.3ad Link Aggregation or equivalent capabilities
	The switch hardware shall be designed to run both IPv4 & IPv6 simultaneously (Dual Stack).
	Must be IPv6 capable. If IPv6 compliance/support is not available, please identify if compliance is defined in device roadmap along with a timeframe
	IP Version 6 (IPv6) must be supported in hardware
Security features	Must support multiple privilege levels for remote access (e.g. console or telnet access)
	Must support Remote Authentication Dial-In User Service (RADIUS) and/or Terminal Access Controller Access Control System Plus (TACACS+)
QoS features	Must support IEEE 802.1p class-of-service (CoS) prioritization, with 8 queues per port.
	Must support rate limiting (to configurable levels) based on source/destination IP/MAC, L4 TCP/UDP
	Must have the ability to complete traffic shaping to configurable levels based on source/destination IP/MAC and Layer 4 (TCP/UDP) protocols
	There should not be any impact to performance or data forwarding when QoS features
	Must support a "Priority" queuing mechanism to guarantee delivery of highest-priority (broadcast critical/delay-sensitive traffic) packets ahead of all other traffic
	Should support Network monitoring features like NetFlow, sFlow, SPAN, RSPAN or similar technologies
Virtulisation	The switch must support data center virtualization, giving department the ability to virtualize a physical switch into multiple logical devices. With each logical switch having its own processes, configuration, and administration
Management features	Must support SNMP V1, V2, V3
	Must support SNMP traps (alarms/alerts) for a minimum of four destinations
	Network switch should support Remote Monitoring on every port covering the following four groups (Statistics, Alarm, Event, History).
	Should support flow based traffic analysis features and the ability to export of network IP flow information.
	Must support Network Timing Protocol
	The switch should have USB port to transport device supports boot image, software, and configuration upload/download via USB.
Warranty and AMC	3 year 24x7 onsite support or as required
Product Support	The system should not be an end of life / end of service product.

VI. 42U server Rack with Metered PDU with USB KVM Switch

1. 42U Network Enclosure Frame-800X1000-STEEL,
2. Casters Set of 4,
3. Adjustable Levellers set of 4,
4. 19" Reduced Channel - Loop Type,
5. Glass Door-800-42U, Metal Door-800-42U-Vented, Side Panels-1000-42U-Vented,
6. Mounting Hardware-(Pack of 20),
7. FHU with 4 FAN 360CFM,
8. Vertical Power Distribution Unit C-14 with 12 x 6/16 sockets Round Pin with Voltage Meter,
9. 230 Volts AC, 32 Amp with Plug,
10. Vertical Power Distribution Unit C-13 with 12 x 6/16 sockets Round Pin with Voltage Meter,
11. 230 Volts AC, 32 Amp with Plug,
12. Vertical Cable Manager-42U-Loop, Horz. Cable Manager-1U-Loop
13. USB KVM 8 port switch with 8 cables.

Statement of Compliance

I. 10 g 48 Port Layer 3 Network Ethernet over Copper Switch 2 SFP+ Uplinks

Quoted Make and Model:

S.No	Specifications	Compliance (Yes / Not)	Remarks
1.	Switch should have minimum 48x 10GBASE-T, 2x QSFP+, 4x 100GbE QSFP28, 2x AC PSU, 4x Fan module, I/O Panel to PSU Airflow		
2.	Multi-rate 100GbE ports should support 10/25/40/50 GbE speed		
3.	Each should be equipped with one 40G (4 x Transceiver SFP+, 10GbE 1310nm wavelength, up to 10km reach)		
4.	Switch should support capacity of 1.7Tbps and through put of 1300Mpps		
5.	The Core Switches should support min 64 K MAC addresses and min 4K active VLANs		
6.	Switch should support Scalable L2 and L3 Ethernet Switching with QoS, ACL and a full complement of standards based IPv4 and IPv6 features including OSPF, BGP and PBR		
7.	The switch should support Openflow 1.3 / REST API integration / DEVOPS / scripting and programming using various tools or other means of deploying Software define technology which can integrate with multi-vendor switches, server, storage, and applications.		
8.	Core Switch should support VXLAN Layer 2 & layer 3 Gateway features		
9.	Core Switch should support Data center bridging features like 802.1Qbb Priority-Based Flow Control, 802.1Qaz Enhanced Transmission Selection (ETS), Data Center Bridging eXchange (DCBx), DCBx Application TLV (iSCSI, FCoE)		
10.	The Core Switch should support SNMP v1, v2 & v3 for management. It should be manageable with any standard EMS/NMS.		
11.	OEM should be Leader / Challenger / Visionary in latest Gartner's Magic Quadrant for Data Center Switches		
12.	Warranty and Support: 3 years Warranty and onsite support 24x7		

Signature and Seal of the Bidder: _____

Business Address: _____

II. Layer 2 Distribution 48 Port POE+ Network Ethernet Switch with 2 SFP+ 10g Uplink Modules and life time warranty with Transceivers

Quoted Make and Model:

Item	Minimum Requirement Description	Compliance (Yes / Not)	Remarks
Hardware features	48x RJ45 10/100/1000Mb PoE+ (up to 30.8W) autosensing ports, 2x SFP+ ports, 2x stacking ports, 1 integrated 1000W PSU		
	Proposed network device must be 19" rack mountable		
	Network Infrastructure equipment must use 240V AC power.		
	The switch should support minimum 256MB Flash		
	The switch should support minimum 256MB DRAM		
	The switch should support 2 SFP+ 10G links, required 1G / 10G Optics as uplinks to be factored.		
	The swith should be populated with 2 x Transceiver SFP+, 10GbE 1310nm wavelength, up to 10km reach		
	Each Switch should be equipped with 2 x Transceiver SFP+, 10GbE 1310nm wavelength, up to 10km reach + Additional 2 x Transceiver SFP+, 10GbE 1310nm wavelength, up to 10km reach (4 Nos SFP+ Modules)		
	The switch should support minimum 220 Gbps of Switching Performance with 164Mpps of Forwarding rate.		
	The switch should support minimum 80Gbps of stacking bandwidth		
	The stacking offered should be of Daisy chain, closed loop stacking, with minimum 10 switches in a single stack.		
	License if any required to enable 1G / 10G and stacking to be included for all ports.		
Scalability			
	Each SFP+ port should be able to support IEEE standard based 1000baseSX, LX, ZX, 1000baseT SFP, 10GbaseSR, LR, ER Optics. Any license required to be factored for all supported ports on the switch.		
	All Optic and modules offered should be hotwappable.		
	Must support port channeling or equivalent across multiple chassis.		
	Physical standards for Network Device Should support Ethernet (IEEE 802.3, 10BASE-T), Fast Ethernet (IEEE 802.3u, 100BASE-TX),		

Item	Minimum Requirement Description	Compliance (Yes / Not)	Remarks
	Gigabit Ethernet (IEEE 802.3z, 802.3ab), Ten Gigabit Ethernet (IEEE 802.3ae)		
	Software based standards for Network Device Must support IEEE 802.1d - Spanning-Tree Protocol, IEEE 802.1w - Rapid Spanning Tree, IEEE 802.1s - Multiple Spanning Tree Protocol, IEEE 802.1q - VLAN encapsulation, IEEE 802.3ad - Link Aggregation Control Protocol (LACP), IEEE 802.1ab - Link Layer Discovery Protocol (LLDP), IEEE 802.3x Flow Control		
	Must support auto-sensing and auto-negotiation (Link Speed/Duplex)		
	The network infrastructure must allow for multiple equal metric/cost routes to be utilized at the same time		
	The switch should support minimum 16K MAC address and 4K Vlan ID and 802.1Q vlans		
	Should support 802.1 Q-in-Q		
	IEEE 802.3ad Link Aggregation or equivalent capabilities		
	The switch hardware shall be designed to run both IPv4 & IPv6 simultaneously (Dual Stack).		
	Must be IPv6 capable. If IPv6 compliance/support is not available, please identify if compliance is defined in device roadmap along with a timeframe		
	IP Version 6 (IPv6) must be supported in hardware		
Security features	Must support multiple privilege levels for remote access (e.g. console or telnet access)		
	Must support Remote Authentication Dial-In User Service (RADIUS) and/or Terminal Access Controller Access Control System Plus (TACACS+)		
QoS features	Must support IEEE 802.1p class-of-service (CoS) prioritization, with 8 queues per port.		
	Must support rate limiting (to configurable levels) based on source/destination IP/MAC, L4 TCP/UDP		
	Must have the ability to complete traffic shaping to configurable levels based on source/destination IP/MAC and Layer 4 (TCP/UDP) protocols		
	There should not be any impact to performance or data forwarding when QoS features		

Item	Minimum Requirement Description	Compliance (Yes / Not)	Remarks
	Must support a "Priority" queuing mechanism to guarantee delivery of highest-priority (broadcast critical/delay-sensitive traffic) packets ahead of all other traffic		
	Should support Network monitoring features like NetFlow, sFlow, SPAN, RSPAN or similar technologies		
Virtulisation	The switch must support data center virtualization, giving department the ability to virtualize a physical switch into multiple logical devices. With each logical switch having its own processes, configuration, and administration		
Management features	Must support SNMP V1,V2, V3		
	Must support SNMP traps (alarms/alerts) for a minimum of four destinations		
	Network switch should support Remote Monitoring on every port covering the following four groups (Statistics, Alarm, Event, History).		
	Should support flow based traffic analysis features and the ability to export of network IP flow information.		
	Must support Network Timing Protocol		
	The switch should have USB port to transport device supports boot image, software, and configuration upload/download via USB.		
Warranty and AMC	3 year 24x7 onsite support or as required		
Product Support	The system should not be an end of life / end of service product.		

Signature and Seal of the Bidder: _____

Business Address: _____

III. Layer 2 Distribution 48 Port Network Switch with 2 SFP+ 10g Uplink Modules and life time warranty with Transceivers

Quoted Make and Model:

Item	Minimum Requirement Description	Compliance (Yes / Not)	Remarks
	48x RJ45 10/100/1000Mb auto-sensing ports, 2x SFP+ ports, 2x stacking ports, 1 integrated 100W PSU		
Hardware features	Proposed network device must be 19" rack mountable		
	Network Infrastructure equipment must use 240V AC power.		
	The switch should support minimum 256MB Flash		
	The switch should support minimum 256MB DRAM		
	The switch should support 2 SFP+ 10G links, required 1G / 10G Optics as uplinks to be factored.		
	The switch should be populated with 2 x Transceiver SFP+, 10GbE 1310nm wavelength, up to 10km reach		
	Each Switch should be equipped with 2 x Transceiver SFP+, 10GbE 1310nm wavelength, up to 10km reach + Additional 2 x Transceiver SFP+, 10GbE 1310nm wavelength, up to 10km reach (4 Nos SFP+ Modules)		
	The switch should support minimum 220 Gbps of Switching Performance with 164Mpps of Forwarding rate.		
	The switch should support minimum 80Gbps of stacking bandwidth		
	The stacking offered should be of Daisy chain, closed loop stacking, with minimum 10 switches in a single stack.		
	License if any required to enable 1G / 10G and stacking to be included for all ports.		
Scalability	Each SFP+ port should be able to support IEEE standard based 1000baseSX, LX, ZX, 1000baseT SFP, 10GbaseSR, LR, ER Optics. Any license required to be factored for all supported ports on the switch.		
	All Optic and modules offered should be hotwappable.		
	Must support port channeling or equivalent across multiple chassis.		

Item	Minimum Requirement Description	Compliance (Yes / Not)	Remarks
	Physical standards for Network Device Should support Ethernet (IEEE 802.3, 10BASE-T), Fast Ethernet (IEEE 802.3u, 100BASE-TX), Gigabit Ethernet (IEEE 802.3z, 802.3ab), Ten Gigabit Ethernet (IEEE 802.3ae)		
	Software based standards for Network Device Must support IEEE 802.1d - Spanning-Tree Protocol, IEEE 802.1w - Rapid Spanning Tree, IEEE 802.1s - Multiple Spanning Tree Protocol, IEEE 802.1q - VLAN encapsulation, IEEE 802.3ad - Link Aggregation Control Protocol (LACP), IEEE 802.1ab - Link Layer Discovery Protocol (LLDP), IEEE 802.3x Flow Control		
	Must support auto-sensing and auto-negotiation (Link Speed/Duplex)		
	The network infrastructure must allow for multiple equal metric/cost routes to be utilized at the same time		
	The switch should support minimum 16K MAC address and 4K Vlan ID and 802.1Q vlans		
	Should support 802.1 Q-in-Q		
	IEEE 802.3ad Link Aggregation or equivalent capabilities		
	The switch hardware shall be designed to run both IPv4 & IPv6 simultaneously (Dual Stack).		
	Must be IPv6 capable. If IPv6 compliance/support is not available, please identify if compliance is defined in device roadmap along with a timeframe		
	IP Version 6 (IPv6) must be supported in hardware		
Security features	Must support multiple privilege levels for remote access (e.g. console or telnet access)		
	Must support Remote Authentication Dial-In User Service (RADIUS) and/or Terminal Access Controller Access Control System Plus (TACACS+)		
QoS features	Must support IEEE 802.1p class-of-service (CoS) prioritization, with 8 queues per port.		

Item	Minimum Requirement Description	Compliance (Yes / Not)	Remarks
	Must support rate limiting (to configurable levels) based on source/destination IP/MAC, L4 TCP/UDP		
	Must have the ability to complete traffic shaping to configurable levels based on source/destination IP/MAC and Layer 4 (TCP/UDP) protocols		
	There should not be any impact to performance or data forwarding when QoS features		
	Must support a "Priority" queuing mechanism to guarantee delivery of highest-priority (broadcast critical/delay-sensitive traffic) packets ahead of all other traffic		
	Should support Network monitoring features like NetFlow, sFlow, SPAN, RSPAN or similar technologies		
Virtualization	The switch must support data center virtualization, giving department the ability to virtualize a physical switch into multiple logical devices. With each logical switch having its own processes, configuration, and administration		
Management features	Must support SNMP V1, V2, V3		
	Must support SNMP traps (alarms/alerts) for a minimum of four destinations		
	Network switch should support Remote Monitoring on every port covering the following four groups (Statistics, Alarm, Event, History).		
	Should support flow based traffic analysis features and the ability to export of network IP flow information.		
	Must support Network Timing Protocol		
	The switch should have USB port to transport device supports boot image, software, and configuration upload/download via USB.		
Warranty and AMC	life time warranty with Transceivers		
Product Support	The system should not be an end of life / end of service product.		

Signature and Seal of the Bidder: _____

Business Address: _____

IV. Layer 2 Distribution 24 Port POE+ Network Switch with 2 SFP+ 10g Uplink Modules and life time warranty with Transceivers

Quoted Make and Model:

Item	Minimum Requirement Description	Compliance (Yes / Not)	Remarks
Hardware features	24x RJ45 10/100/1000Mb PoE+ (up to 30.8W) autosensing ports, 2x SFP+ ports, 2x stacking ports, 1 integrated 1000W PSU (requires C15 plug)		
	Proposed network device must be 19" rack mountable		
	Network Infrastructure equipment must use 240V AC power.		
	The switch should support minimum 256MB Flash		
	The switch should support minimum 256MB DRAM		
	The switch should support 2 SFP+ 10G links, required 1G / 10G Optics as uplinks to be factored.		
	The switch should be populated with 2 x Transceiver SFP+, 10GbE 1310nm wavelength, up to 10km reach		
	Each Switch should be equipped with 2 x Transceiver SFP+, 10GbE 1310nm wavelength, up to 10km reach + Additional 2 x Transceiver SFP+, 10GbE 1310nm wavelength, up to 10km reach (4 Nos SFP+ Modules)		
	The switch should support minimum 160 Gbps of Switching Performance with 120 Mpps of Forwarding rate.		
	The switch should support minimum 80Gbps of stacking bandwidth		
	The stacking offered should be of Daisy chain, closed loop stacking, with minimum 10 switches in a single stack.		
	License if any required to enable 1G / 10G and stacking to be included for all ports.		
Scalability			
	Each SFP+ port should be able to support IEEE standard based 1000baseSX, LX, ZX, 1000baseT SFP, 10GbaseSR, LR, ER Optics. Any license required to be factored for all supported ports on the switch.		
	All Optic and modules offered should be hotwappable.		
	Must support port channeling or equivalent across multiple chassis.		
	Physical standards for Network Device Should support Ethernet (IEEE 802.3, 10BASE-T), Fast Ethernet (IEEE 802.3u, 100BASE-TX), Gigabit		

Item	Minimum Requirement Description	Compliance (Yes / Not)	Remarks
	Ethernet (IEEE 802.3z, 802.3ab), Ten Gigabit Ethernet (IEEE 802.3ae)		
	Software based standards for Network Device Must support IEEE 802.1d - Spanning-Tree Protocol, IEEE 802.1w - Rapid Spanning Tree, IEEE 802.1s - Multiple Spanning Tree Protocol, IEEE 802.1q - VLAN encapsulation, IEEE 802.3ad - Link Aggregation Control Protocol (LACP), IEEE 802.1ab - Link Layer Discovery Protocol (LLDP), IEEE 802.3x Flow Control		
	Must support auto-sensing and auto-negotiation (Link Speed/Duplex)		
	The network infrastructure must allow for multiple equal metric/cost routes to be utilized at the same time		
	The switch should support minimum 16K MAC address and 4K Vlan ID and 802.1Q vlans		
	Should support 802.1 Q-in-Q		
	IEEE 802.3ad Link Aggregation or equivalent capabilities		
	The switch hardware shall be designed to run both IPv4 & IPv6 simultaneously (Dual Stack).		
	Must be IPv6 capable. If IPv6 compliance/support is not available, please identify if compliance is defined in device roadmap along with a timeframe		
	IP Version 6 (IPv6) must be supported in hardware		
Security features	Must support multiple privilege levels for remote access (e.g. console or telnet access)		
	Must support Remote Authentication Dial-In User Service (RADIUS) and/or Terminal Access Controller Access Control System Plus (TACACS+)		
QoS features	Must support IEEE 802.1p class-of-service (CoS) prioritization, with 8 queues per port.		
	Must support rate limiting (to configurable levels) based on source/destination IP/MAC, L4 TCP/UDP		
	Must have the ability to complete traffic shaping to configurable levels based on source/destination IP/MAC and Layer 4 (TCP/UDP) protocols		
	There should not be any impact to performance or data forwarding when QoS features		
	Must support a "Priority" queuing mechanism to guarantee delivery of highest-priority (broadcast critical/delay-sensitive traffic) packets ahead of all other traffic		

Item	Minimum Requirement Description	Compliance (Yes / Not)	Remarks
	Should support Network monitoring features like NetFlow, sFlow, SPAN, RSPAN or similar technologies		
Virtulisation	The switch must support data center virtualization, giving department the ability to virtualize a physical switch into multiple logical devices. With each logical switch having its own processes, configuration, and administration		
Management features	Must support SNMP V1,V2, V3		
	Must support SNMP traps (alarms/alerts) for a minimum of four destinations		
	Network switch should support Remote Monitoring on every port covering the following four groups (Statistics, Alarm, Event, History).		
	Should support flow based traffic analysis features and the ability to export of network IP flow information.		
	Must support Network Timing Protocol		
	The switch should have USB port to transport device supports boot image, software, and configuration upload/download via USB.		
Warranty and AMC	life time warranty with Transceivers		
Product Support	The system should not be an end of life / end of service product.		

Signature and Seal of the Bidder: _____

Business Address: _____

V. Layer 2 Distribution 24 Port Network Switch with 2 SFP+ 10g Uplink Modules and life time warranty with Transceivers

Quoted Make and Model:

Item	Minimum Requirement Description	Compliance (Yes / Not)	Remarks
Hardware features	24x RJ45 10/100/1000 Mb auto-sensing ports, Layer 2+ manage switch with Enterprise Layer2 capabilities, stackable, standard rack mountable switch.		
	Proposed network device must be 19" rack mountable		
	Network Infrastructure equipment must use 240V AC power.		
	The switch should support minimum 256MB Flash		
	The switch should support minimum 256MB DRAM		
	The switch should support 2 SFP+ 10G links, required 1G / 10G Optics as uplinks to be factored.		
	The swith should be populated with 2 x Transceiver SFP+, 10GbE 1310nm wavelength, up to 10km reach		
	Each Switch should be equipped with 2 x Transceiver SFP+, 10GbE 1310nm wavelength, up to 10km reach + Additional 2 x Transceiver SFP+, 10GbE 1310nm wavelength, up to 10km reach (4 Nos SFP+ Modules)		
	The switch should support minimum 160 Gbps of Switching Performance with 120 Mpps of Forwarding rate.		
	The switch should support minimum 80Gbps of stacking bandwidth		
	The stacking offered should be of Daisy chain, closed loop stacking, with minimum 10 switches in a single stack.		
	License if any required to enable 1G / 10G and stacking to be included for all ports.		
Scalability			
	Each SFP+ port should be able to support IEEE standard based 1000baseSX, LX, ZX, 1000baseT SFP, 10GbaseSR, LR, ER Optics. Any license required to be factored for all supported ports on the switch.		
	All Optic and modules offered should be hotwappable.		
	Must support port channeling or equivalent across multiple chassis.		
	Physical standards for Network Device Should support Ethernet (IEEE 802.3, 10BASE-T), Fast Ethernet (IEEE 802.3u, 100BASE-TX),		

Item	Minimum Requirement Description	Compliance (Yes / Not)	Remarks
	Gigabit Ethernet (IEEE 802.3z, 802.3ab), Ten Gigabit Ethernet (IEEE 802.3ae)		
	Software based standards for Network Device Must support IEEE 802.1d - Spanning-Tree Protocol, IEEE 802.1w - Rapid Spanning Tree, IEEE 802.1s - Multiple Spanning Tree Protocol, IEEE 802.1q - VLAN encapsulation, IEEE 802.3ad - Link Aggregation Control Protocol (LACP), IEEE 802.1ab - Link Layer Discovery Protocol (LLDP), IEEE 802.3x Flow Control		
	Must support auto-sensing and auto-negotiation (Link Speed/Duplex)		
	The network infrastructure must allow for multiple equal metric/cost routes to be utilized at the same time		
	The switch should support minimum 16K MAC address and 4K Vlan ID and 802.1Q vlans		
	Should support 802.1 Q-in-Q		
	IEEE 802.3ad Link Aggregation or equivalent capabilities		
	The switch hardware shall be designed to run both IPv4 & IPv6 simultaneously (Dual Stack).		
	Must be IPv6 capable. If IPv6 compliance/support is not available, please identify if compliance is defined in device roadmap along with a timeframe		
	IP Version 6 (IPv6) must be supported in hardware		
Security features	Must support multiple privilege levels for remote access (e.g. console or telnet access)		
	Must support Remote Authentication Dial-In User Service (RADIUS) and/or Terminal Access Controller Access Control System Plus (TACACS+)		
QoS features	Must support IEEE 802.1p class-of-service (CoS) prioritization, with 8 queues per port.		
	Must support rate limiting (to configurable levels) based on source/destination IP/MAC, L4 TCP/UDP		
	Must have the ability to complete traffic shaping to configurable levels based on source/destination IP/MAC and Layer 4 (TCP/UDP) protocols		
	There should not be any impact to performance or data forwarding when QoS features		
	Must support a "Priority" queuing mechanism to guarantee delivery of highest-priority (broadcast critical/delay-sensitive traffic) packets ahead of all other traffic		

Item	Minimum Requirement Description	Compliance (Yes / Not)	Remarks
	Should support Network monitoring features like NetFlow, sFlow, SPAN, RSPAN or similar technologies		
Virtualization	The switch must support data center virtualization, giving department the ability to virtualize a physical switch into multiple logical devices. With each logical switch having its own processes, configuration, and administration		
Management features	Must support SNMP V1,V2, V3		
	Must support SNMP traps (alarms/alerts) for a minimum of four destinations		
	Network switch should support Remote Monitoring on every port covering the following four groups (Statistics, Alarm, Event, History).		
	Should support flow based traffic analysis features and the ability to export of network IP flow information.		
	Must support Network Timing Protocol		
	The switch should have USB port to transport device supports boot image, software, and configuration upload/download via USB.		
Warranty and AMC	life time warranty with Transceivers		
Product Support	The system should not be an end of life / end of service product.		

Signature and Seal of the Bidder: _____

Business Address: _____

VI. 42U server Rack with Metered PDU with USB KVM Switch

Quoted Make and Model:

Minimum Requirement Description	Compliance (Yes / Not)	Remarks
1. 42U Network Enclosure Frame-800X1000-STEEL,		
2. Casters Set of 4,		
3. Adjustable Levellers set of 4,		
4. 19" Reduced Channel - Loop Type,		
5. Glass Door-800-42U, Metal Door-800-42U-Vented, Side Panels-1000-42U-Vented,		
6. Mounting Hardware-(Pack of 20),		
7. FHU with 4 FAN 360CFM,		
8. Vertical Power Distribution Unit C-14 with 12 x 6/16 sockets Round Pin with Voltage Meter,		
9. 230 Volts AC, 32 Amp with Plug,		
10. Vertical Power Distribution Unit C-13 with 12 x 6/16 sockets Round Pin with Voltage Meter,		
11. 230 Volts AC, 32 Amp with Plug,		
12. Vertical Cable Manager-42U-Loop, Horz. Cable Manager-1U-Loop		
13. USB KVM 8 port switch with 8 cables.		

Signature and Seal of the Bidder: _____

Business Address: _____

Annexure -I

Existence of Firm should have minimum of 05 years in supply and installation of Network Switches and equipment and IT services. Document proof to be submitted

Annexure – II

The firm should be an OEM authorized partner for the last Five Years. Proof of Document to be submitted from OEM

Annexure – III

Minimum of 03 Purchase Orders for supply and installation of the similar switches or Network Components in Govt. of India, State Govt. Public or Private Sector Enterprises for the past three years. Document proof to be submitted.

Annexure – IV

The bidder should submit the Satisfactory Performance Certificates from the respective clients along with the completion report and complete contact details. Document proof to be submitted.

Annexure - V

The firm should submit Income Tax returns of previous 03 assessment years i.e., 2016-17, 2017-18 & 2018-19 along with the tender document. Document proof to be submitted

Annexure - VI

The bidder should be a profit (profit after tax) making company in last three financial years i.e. 2016-17, 2017-18, and 2018-19. Submit Profit and loss statement for the past three years duly certificate by registered Auditor

Annexure – VII

The bidder should be authorized to quote for the OEM products and support. Manufacture authorization from OEM should be enclosed.

Annexure – VIII

The quoted OEM should have a local service center to attend the calls within 4 hours. Contact Details of the Service Center and Address should be mentioned

Annexure – IX

The bidder should submit following Tender Form on Firm's Letterhead

Annexure –X

The bidder should submit the item wise Technical Specification Compliance statement along with the relevant datasheet. ()

Annexure – X1

The Firm should not be blacklisted in last 05 years by Central Government/State Govt., Public or Private Sector Enterprises. The bidder should submit an undertaking in this regard.

Annexure – XII

Statement of Compliance in the prescribed format as mentioned above (Pages from 19-33) duly signed by the bidder along with the datasheets, failing which the bid will be rejected

TENDER FORM

(To be filled in by the Tenderer duly printed on their letter head)

Tenderer's Ref.No. _____ Date: _____

From: _____

Grams: _____

Phone No. _____

PIN _____

Fax No. _____

To

The Director

ICAR-NAARM, Rajendranagar,
HYDERABAD – 500 030

Ref: Your Tender Notice Advt. No. _____ dated-----.

Dear Sir,

I/We hereby offer for your requirements detailed in the schedule hereto or such portion thereof as you may specify in the Acceptance of Tender at the **rates given in the said schedule and agree to hold this offer for 90 days for acceptance**. I/We shall be bound by a communication of Acceptance dispatched within the prescribed time and also execute agreement required in this regard.

2. I/We have understood the Instructions to Tenderers and General Conditions of Contract governing such contracts placed by Indian Council of Agricultural Research and its Research Institutes and the Special Conditions of Contract, and have thoroughly examined the details indicated in the Schedule to Tender thereof and am/are fully aware of the goods and/or services required and my/our offer to work/supply/provide the goods and/or services strictly is in accordance with the requirements.

3. D.D.No. _____ Dt. _____ for Rs. _____ (in words) Rupees
_____ only) drawn on (Bank)
_____ is enclosed towards Earnest Money Deposit.

The following pages have been added to and form part of this tender.

Yours faithfully,

Signature: _____

Name : _____

Address : _____

Signature and Seal of the Bidder: _____

Business Address: _____