



GOVERNMENT OF MADHYA PRADESH DEPARTMENT OF FOREST



Invites Tender for
Supply of Network Equipment's
with Installation, Service and support for Van Bhawan
connectivity,

OFFICE OF ADDITIONAL PRINCIPAL CHIEF CONSERVATOR OF FORESTS

(Information Technology) Van Bhawan, Bhopal – 462003 (MP)

Phone no. 0755 – 2524302,2674302 email:-apccfit@mp.gov.in

Website: <https://www.mpforest.gov.in>



OFFICE OF ADDITIONAL PRINCIPAL CHIEF CONSERVATOR OF FORESTS

Wing-Information Technology, "C" Block, 2nd Floor, Van Bhawan, Link Road no-2,

Bhopal-462003, Email:- apccfit@mp.gov.in , Phone 0755-2524302, 2674302.

Notice Inviting tender

The Forest Department has inviting tender for Invites Tender for Supply, Installation and Service of Network Equipment's for the Forest Department IT Wing. On-line proposals & financial bid is invited for this solution. The proposals will be submitted on-line only on <https://mptenders.gov.in>.

Important Dates

		Date
1	Online Publishing	21-08-2024
2	Online Submission of Proposal Start	22-08-2024
3	Online Submission of Proposal Ending	04-09-2024
4	Opening of Technical Proposal	05-09-2024
5	Presentation for Technically Qualified bidders	Date will be send by Email/ Letter

Tender Document Fee	Rs. 3,000/-
Online EMD	Rs. 2.00,000/-

For Technical specifications, timelines and other relevant details, please refer the Tender document. Please read all document carefully before submitting proposal & financial bid. For any Query contact 0755-2524302, 2674302

20/8/24

ADDITIONAL PRINCIPAL CHIEF CONSERVATOR OF FORESTS

(Information Technology)

Forest Department, Van Bhawan, Bhopal (MP)

1. Introduction & Background

Madhya Pradesh Forest Department Information Technology-Wing (IT-Wing) facilitates different wings within the Department for IT infrastructure and support. MPFD IT Wing is engaged in providing customized software, IT infrastructure, licensed product, IT hardware's & Provisioning of IT services. This wing extends support on GIS technology to its field staff. Van Bhawan Established at Tulsi Nagar, link road no 2, Bhopal-462008. We are required internet connectivity equipments for internet and intranet connectivity.

2. Definitions

In this document, unless otherwise mentioned or expressed clearly, the terms 'Competent Authority', 'Tenderer', 'Bidder', 'Committee' and 'Supply of Equipment's' would have meaning as given below:

Competent Authority: Additional Principal Chief Conservator of Forests, Information Technology (APCCF-IT) Van Bhawan, Bhopal.

Tenderer or Bidder: The Firm/Company who buys the tender document, signs and submits the Tender document and bids for the contract and/or awarded the Contract to implement Tender for 'Supply of Network Equipments, as the reference may indicate; it shall also include associates, license, collaborator, and agents.

E-Tender: means electronically bid submission on the website <https://mptenders.gov.in> with due procedure.

Committee: Committee means committee(s) constituted by PCCF Madhya Pradesh Forest Department acting through Additional principal chief conservator of forests (Information Technology) Van Bhawan, Bhopal in relation to the invitation of the Tender and selection of the Competent Tenderer for the purpose of this Tender, for the Supply, installation and service of Network Equipments.

Maintenance: Maintenance of the Network Equipments supply by the Vendor/Tenderer will be for the period of three Years, from the date of installation, in which the employees of the Tenderer will be engaged for the maintenance/repair of the supplied.

Warranty: Warranty of 3 years (Back to back OEM Support), conditions and period of which are mentioned in the detail technical specification of items. Period is specifically mentioned which would be deemed to be for 03 Years from the date of installation of the item by the Tenderer at the desired places by the M.P. Forest Department

Purchaser: Purchaser means Office of Additional Principal Chief Conservator of Forests Information Technology wing, M.P. Forest Department Van Bhawan, Bhopal.

Vendor/Supplier: means the Tenderer who has been declared the successful tenderer (bidder) and has been offered to enter into the agreement with the purchaser and who has entered into the agreement to execute the work/provide goods and services within the scope of this tender.

Authorized Suppliers: means the Tenderer who wins the Technical Bidding and then Financial Bidding and is authorized to supply of Network Equipments the Madhya Pradesh Forest Department.

OEM: means Original Equipment Manufacturer.

BOQ: means Bill of Quantity.

Tender Fee: Tender fee is the cost of a complete blank tender form with all detail Information about the tender like as technical specifications of each items, all terms and conditions of tender, all Pro-forms, forms, etc.

3. Scope of Work

In New Van Bhawan we have NIC & SWAN connectivity. cabling work has been done by MPT, including IO box to Patch panel and Rack to Rack, and also racks installed for connectivity. Bidder has to do equipment installation, commissioning, service in the Van Bhawan building and do the following: -

- ✓ Network layer-2 layer-3 switch, firewall, Wi-Fi device, interconnecting cables supply, installation and commission and service support of network equipment in network operation.
- ✓ Ensure seamless connectivity on all five wings and floors keeping in view the layout of Van Bhawan.
- ✓ Divide the network into logical units to enhance security and manage traffic effectively, such as creating VLANs for separate networks for employees, guests, servers, and IoT (Internet of Things) devices.
- ✓ Implement security measures to protect both wired and wireless infrastructure, such as encryption protocols, authentication mechanisms, VLAN segmentation, and intrusion detection/prevention systems.
- ✓ Define network policies and best practices to ensure efficient and secure network operation.

4. SUPPLYING ITEMS DETAILS:

SN	Particulars	Qty
1	48 Port Manageable Network Switch with 4 port Optical with Supporting PoE Port	25
2	24 Port Manageable Network Switch with 4 port Optical with Supporting PoE Port	15
3	L3- 24 Port 1/10G SFP+ and 02 Nos. 40/100 Gbps Ports along with necessary Optics as per required quantity. also should have stacking support and Module/cable	02
4	Firewall Unit up to 1000 users	01
5	Network controller / Manager (Hardware or Software)	01
6	Wireless Access Points (Indoor/Outdoor) as per location	30
7	Interconnecting Cables. (1, Meter Patch Card)	1000 Minimum
8	Interconnecting Cables. (3 Meter Patch Card)	1000 Minimum
9	Interconnecting Cables. (5 Meter Patch Card)	100 Minimum
10	Cable Manager using in Network Rack	60 Minimum.
11	Fiber Cable patch cord	150 Minimum.
12	SFP- Module (Fiber Connector)	100 Minimum
13	Installation and commissioning (all units)	All
All Equipment Technical specification sheet submit compulsory.		

* **Quantity units** may change as per the scenario. If we require additional units of equipment, payment will be made based on the billing amount mentioned in the BOQ. Preference will be given to the bidder who supplies the goods with installation & commissioning and testing work. All equipment should be compatible with 220 V Single Phase, 50 Hz supply. Electrical wiring for interconnection of the equipment up to main supply wherever necessary should be supplied along with equipment.

* The Selected bidder in technical evaluation they will give the product and services presentation in front of technical committee.

5. Details of Requirements and Technical Specifications of Equipment's (Attach Datasheet of equipment):

(Detailed Technical Specifications as Annexure-2) Form Factor - 19" Rack Mountable

- A. Generic Specifications of 48 Ports L2 PoE Switch (Manageable)
- B. Generic Specifications of 24 Ports Switch (Manageable)
- C. Generic Specifications of 24 Ports L3 CORE Switch (Manageable)
- D. Firewall (UTM) (1000 users) with support of Centralized Management System (CMS)
- E. Wireless Access Points (Indoor/Outdoor)
- F. Network controller / Manager
- G. LAN Patch Chord 1 Meter for connecting computer and network switch.
- H. LAN Patch chord 3 Meter for connecting computer and network switch.
- I. LAN Patch chord 5 Meter for connecting computer and network switch.
- J. Cable manager for using in Network rack.
- K. Fiber Patch Chord 1 Meter for connecting network switch.
- L. SFP- Module 10GE LR SFP+ Module, SMF, LC connector, 10 Km range for systems with SFP/SFP+ slots.

Note-

1. **Controller should be Hardware/Cloud/VM based with license up to Min 50 Access Points support and 1000+ devices and also should be upgradable. Controller should provide Multi factor Authentication features, MAC binding, Scheduling, Logging, User Authentication and Authorization etc. Controller should adhere to IEEE 802.11 ac wave 2 standards and other IEEE 802.11 standards. It should provide Centralised GUI based management console. Controller should have 3-years Onsite warranty support. POC (Proof of concept) needs to done for Wi-Fi devices in Indoor and Outdoor environment.**
2. **All above specification are generalized and may vary as per make/model/brand/manufacture etc., so it is desired to have proof of concept done before procurement of any hardware. Above specification of hardware items are not hardcoded to any Brand or Make, any item near to above configuration and able to produce desired result may be tested and procured as per government norms and terms/conditions like MII(make in India) Certificate etc. Preferable all hardware must have 3-year warranty support.**

6. Supply, Installation, and Commissioning:

Procure the necessary network equipment and components, Layer 2 and Layer 3 switches, and a firewall, based on the network design requirements.

1. Install and configure Layer 2 and Layer 3 switches to facilitate efficient and secure communication within the network, including VLAN segmentation and inter-VLAN routing.
2. Deploy a robust firewall solution to protect the network from unauthorized access, malware, and other security threats. Configure the firewall with appropriate rules and policies.
3. Integrate the network equipment and firewall into the existing IT infrastructure, ensuring compatibility and seamless operation.
4. Perform thorough testing and verification to ensure the functionality, performance, and security of the network. This includes testing connectivity, coverage, and security features such as authentication and access control.
5. Provide comprehensive documentation, including network diagrams, equipment configurations, and user manuals.
6. Conduct training sessions for the IT staff, covering the configuration, management, and troubleshooting of the network equipment and firewall.
7. Assist with the commissioning and handover of the network, ensuring that it meets all specified requirements and is ready for production use.
8. Provide post-installation support and maintenance, including addressing any issues that may arise during the initial operation of the network. Installation, Commissioning, Testing, Configuration, and Training is to be carried out by Bidder.
9. Online and onsite support during the 3year contract period as per the requirement.
10. Technical support for configuration during the contract period.
11. The complaint should be attended within 4 hours and resolution within 24 hours.
12. Single point of contact detail should be shared for incident logging and support.
13. After the project implementation training should be provided to IT support team by bidder.
14. Systems Integrator /Bidder needs to implement and design network as per the cyber security guidelines. If fail to implement secure design, PO will be withdrawn and no payment will be made for the work done so far. Note: It is essential to collaborate closely with the client's IT team and stakeholders throughout the process to ensure that the network design and installation align with their requirements and preferences. Additionally, the scope may vary depending on the specific needs of the Van Bhawan building, and it's recommended to have detailed discussions with the IT wing team to finalize the exact deliverables and timelines.

7. General conditions:

- a) Tender/Bid can also be downloaded from the website of Madhya Pradesh Forest Department <https://mpforest.gov.in> Bid will only be considered when submitted online.
- b) All formats and Forms should be duly filled up carefully after complete preparation of bid and uploaded correctly.
- c) The support, maintenance and services for the period of 03 (Three) years
- d) The department reserves to itself the right to invite the fresh Tenders or BID and to place orders against any quantity of any items in this Tender / BID without specifying any reasons.
- e) E-offers prepared in accordance with the procedures enumerated in this document then should be submitted online, EMD is also to be submitted online.
- f) The Department may cancel the tender and all proceedings relating thereto anytime without assigning any reason.
- g) Bidders are advised to study the Bid document carefully and thoroughly. Submission of Proposal shall be deemed to have been done after careful study and examination of the Bid document with full understanding of its implications.
- h) Bidders are also advised to ascertain whether they meet the eligibility criteria for bidding for the same. Bids for incomplete items will not be accepted.
- i) This Tender is non-transferable. Assignment and subletting is not permitted. Information regarding associates and principals is to be disclosed in the tender technical bid itself.
- j) Selected bidder will supply all items on single responsibility basis and will deliver the items at Van Bhawan Bhopal as directed by the Madhya Pradesh Forest Department.
- k) Order for the purchase of equipment's will be placed by Additional Principal Chief Conservator of Forests (IT), Bhopal (MP).
- l) Any defective equipment, failure or defect noticed during the implementation or operation of the bidder supplied networking equipment shall be replaced within 2 days.
- m) All Networking equipment will be supplied within 30 days from the date of intimation or acceptance of bid. In case of any delay beyond this period, a penalty of 0.5% of the value of the order per week will be applicable
- n) If the bidder fails to support Penalty of 0.5% per week of the project cost shall be imposed up to maximum of 5 weeks. In case of delay beyond five weeks, contract will be terminated after receiving the penalty the decision of committee will be final.
- o) Zero Deviation from the Scope of work and technical specification mentioned in order.
- p) The Bidder shall provide on-site 02 Technical support manpower in working hours up to 03 years (As per contract period).

8. ETHICAL CONDUCT OF THE BIDDERS:

The bidder or its representative shall not make any cartel or group to influence the bidding process or the price to the disadvantage of the Government.

1. The bidder or its representative shall not enter into uncalled for correspondence with competent Authority or any of his subordinate or Consultant or any agency as authorized by the Competent Authority with respect to this tender.
2. Where the bidder requires any information with respect to this tender, it or its authorized representative shall interact with Additional Principal Chief Conservator Of Forests (I.T.) only during office hours either in person or on his official phones. Bidders or their staff / agents / employees are strictly prohibited to interact with any Madhya Pradesh Forest Department Staff, subordinate to Additional Principal Chief Conservator Of Forests (IT), on any matter what so ever. Such unethical behavior shall lead to automatic disqualification of bid.
3. Where the bidder is not satisfied with any decision of the Additional Principal Chief Conservator Of Forests (IT), or any of the committee, it has liberty of representing its case before competent Authority or his nominee. But indulging into anonymous or pseudonymous petitions etc. shall be taken to be unethical practice.
4. Bidders must appreciate that only most suitable tender can be accepted and hence all the tenders cannot be accepted, so losing out the bid is also one of the business proposition well known to the bidder well in advance. Therefore, any indiscreet conduct post disqualification would be treated to be an unethical behavior.
5. The Bidder after being awarded the work, during / after its completion and during / after the onsite warranty and maintenance period shall not indulge into monopolistic or restrictive trade practices and shall not take advantage of its position / being privy to the knowledge of the system while working out the costs of spares, maintenance, bug fixing, additional programming to increase marginal but additional functionalities in the software etc.
6. Bidders must also appreciate that purchaser department is fully conversant of its requirements and is entitled to define its requirements.

7. Any canvassing in favour of or against any bid or for inclusion or deletion, substitution of any point in the RFP under its own name or in the name of any other entity or anonymous or pseudonymous before any authority not approved in the RFP or before multiple authorities or persistent pestering on any term or condition in the RFP may be taken to be unethical practice.
8. No OEM, its representatives, employees, agents, channel partners, stockiest, or whatever name it may be designated shall indulge into cartelization, preferential treatment to one or more bidder as against others, or any kind unethical practice respect to this project.

9. On-line Submission

Bid submission will have comprised of Technical Document, Proposal document & Commercial bids & it has to be submitted online as per schedule. bidders also fill and submit Annexure 1 and 2 compulsory.

10. Validity of Proposal

Tender Proposal should be valid for period of **180 days** from the last date of submission of proposal.

11. Technical Bid Submission and Evaluation: -

The documents submitted by the bidder will be scrutinized and evaluated. Technical bid will contain the Technical Bids with the following documents: -

1. The Bidder must be a company registered under Companies Act, 1956 or the partnership firm registered under the partnership act, or a society registered under relevant society act or proprietorship firm or any other legal entity.
2. Certificate of registration of firm/certificate of incorporation and Articles of Association/ Memorandum of Association. Certificate of business of manufacturing/trading/supplying issued by CA.
3. The Bidder must be in business of manufacturing/trading/supplying the Related to networking continuously since 01 Apr 2018 or before in India. The bidder must submit the latest certificate issued by Chartered Accountant.
4. Bidder will submit Bid Specific Authorized certificate by Original equipment manufacturer (OEM) certificate with OEM details such as name, designation, address, e-mail Id and Phone required to be furnished. (It will be clarify by OEM/authorized executive officer. or authorized dealership/ distributorship / Channel Partner certificate & Letter/ Certificate for applicable for supply items with product Model number/code).
5. Back to back 3-year OEM support and warranty certificate on **OEM Letter head**.
6. Last 3 years' experience certificate and work orders of successful supply, installation, servicing, Maintenance of Network equipment. Work Orders, Proof of supply, installation, servicing, Maintenance of Government sector supply installation, commissioning and service of Networking Equipment last three years. (Only 03 bill/ invoice of each years).
7. Turn over certificate by CA Bidder should have cumulative average annual turnover of Rs. 01 crore during last five financial years (2018-2019,2019-2020,2020-2021,2021-2022, 2022-23) for supply installation, commissioning and service of Networking Equipment, bidder should submit CA certified document for the same.
8. Audited Balance Sheet of last 3 years' (2020-21, 2021-22 & 2022-23)
9. Last 3 years ITR return (2020-21, 2021-22 & 2022-23).
10. PAN Card, GST registration, Gumashta certificate.
11. Certificate for acceptance of terms and conditions of tender enquiry on firm's letterhead.

12. Financial Bid Documents: Financial bids with prices in Indian National Rupees (INR) must be submitted in the prescribed formats, such as online BOQ 1 and BOQ 2. BOQ-1 is the total cost of the project and BOQ-2 is the cost of network equipment. Based on the total project cost, L1 will be selected for further process.

13. PROCEDURE OF FINALIZATION OF BIDS:

- 14.1 The information submitted by the Bidders in the technical bid documents shall be tabulated and compared with specifications given in the tender form. It will thus be ascertained whether the product offered by the bidder matches with the specification of the purchaser as given in the technical specifications in this tender document.
- 14.2 The committee would be entitled to call for any further information, document, undertaking and may also interview the authorized representative of the bidder in order to satisfy itself about the eligibility of the bidder, technical specifications of the Smartphone. The committee would be within its right to get any enquiry, secret or open conducted for the purpose. The information, documents submitted and undertaking given by the bidder or its authorized representative to the committee should be deemed to be the part of the “technical bid” of the bidder. The decision of the committee on technical suitability of the offer shall be final.
- 14.3 Out of all the bidders, committee shall prepare a list of the eligible/qualified bidder whose product/solution satisfies the Technical specifications as given in this document and is overall acceptable to purchaser being satisfied with bidder’s capacity to full fill the supplies terms within stipulated time.
- 14.4 Financial bids of only technically qualified Tenderers shall be opened. Rest bids shall not be considered and such short-listed bidders will be intimated about the date and time accordingly. At the time of the opening of Financial Bids, authorized representatives may remain present. It shall not be obligatory to accept only the lowest financial bid.
- 14.5 Bidders must understand that concerned committee and the competent authority may opt for any bid for the reason given for such preference. Technical qualification does not mean that all bids stands at equal footing in terms of quality, reliability, and use worthiness, ease of handling, recurring maintenance and operation cost, down time / up time expected life/service period after expiry of warranty period or often claimed life period etc. These may be among some of considerations on the basis of which concerned committee may recommend any item to be procured and competent authority may accept such item. While making such decisions, the committee(s) may rely on or call for user feedback from M.P. Forest Department employees or from any other Government organization or other user who is/has used the offered item in this past.

14. Payment Terms

- ✓ 60% of payment of order value will be done against verification of all supplied hardware. For releasing payment bill of materials (BOM) verified by a person authorized by the department will be required.
- ✓ 20% of payment of order value will be done against installation & commissioning of all supplied hardware. After one month of satisfactory functioning from the date system go-live.
- ✓ The remaining 20% of the total project amount will be after submitted of Performance bank guarantee.

15. SECURITY DEPOSIT:

- 15.1. The successful Tenderer will be required to furnish a fresh Security Deposit equal to 03% of the Contract value in the shape of FDR / Bank guarantee issued by any Indian Nationalized/ commercial Bank at the time of execution of agreement
- 15.2. After furnishing the security deposit by successful tenderer, the E.M.D. of fixed amount deposited with their bid of all other participating tenderers will be released
- 15.3. Security deposit will be returned to the vender/supplier after expiry of warranty period.

16. AGREEMENT:

- 15.1. The successful Tenderer will have to enter into an Agreement with the Madhya Pradesh Forest Department through APCCF (IT), for the material of the contract on Rs 1000/-non judicial stamped paper, within 15 days of the communication of the final order on bids, the cost of which has to be borne by the supplier. The Madhya Pradesh Forest Department shall provide Proforma for such an agreement. No variation is permitted in this agreement.
- 15.2. Until such an agreement is signed, there is no liability for Madhya Pradesh Forest Department and Competent authority. APCCF (IT), (Competent Authority) may scrap the tender or any of it part without assigning any reason at any time before the signing of the agreement. In case of scrapping of tender or its part the Competent Authority will not be liable for any loss or cost to tenderer. Till the signing of agreement, the tender shall bear its own cost for all the activities relating to this tender.
- 15.3. This RFP will also be a part of agreement.
- 15.4. Draft copy of the Agreement will be provided to the successful bidders.

17. Mode of Payment

1. Payment will be in Indian Rupees only.
2. Payment against bill/Invoice shall be released only after execution of the supply order and the quality of the items are found to the satisfaction of MPFD-IT.
3. Payment will be made directly to the supplier through NEFT/RTGS. No request for other mode of payment will be entertained.
4. No other charges towards transport or service charges or by whatsoever name called shall be payable.

18. Taxes

Bid amount is inclusive of all taxes, other liabilities and payments that may arise from time to time and taxes deducted as per prevailing Govt. norms.

19. Forest Department reserves the right to the following: -

- a) Reject any or all proposals received in response to the document without giving any reason whatsoever.
- b) Waive or change any formalities, irregularities, or inconsistencies in proposal format delivery.
- c) At any time before the submission of proposals, the department may amend the document by issuing an addendum in writing or by standard electronic means. the addendum will be displayed on website <https://mptenders.gov.in> and <https://mpforest.gov.in>.

Additional Principal Chief Conservator of Forests
(Information Technology)
Van Bhawan, Bhopal

DECLARATION

The terms and conditions as mentioned in the tender are acceptable to us.

Authorized Signatory
(Seal of the Firm)

*** For any query contact**

Office of APCCF-IT,
“C” Block, Van Bhawan, Tulsi Nagar, Link Road no-2, Bhopal-462003
Email:- apccfit@mp.gov.in , Phone 0755-2524302, 2674302.

Annexure-1Technical Documents Evaluation Form

S. N.	Details	Page no in Submitted Document	YES/NO
1	The Bidder must be a company registered under Companies Act, 1956 or the partnership firm registered under the partnership act, or a society registered under relevant society act or proprietorship firm or any other legal entity		
2	Certificate of registration of firm/certificate of incorporation and Articles of Association/ Memorandum of Association. Certificate of business of manufacturing/trading/supplying issued by CA.		
3	The Bidder must be in business of manufacturing/trading/supplying the Related to networking continuously since 01 Apr 2018 or before in India. The bidder must submit the latest certificate issued by Chartered Accountant.		
4	Bidder will submit Bid Specific MAF, Authorized certificate by Original equipment manufacturer (OEM) certificate with OEM details such as name, designation, address, e-mail Id and Phone required to be furnished. (It will be clarify by OEM/authorized executive officer. or authorized dealership/ distributorship / Channel Partner certificate & Letter/ Certificate for applicable for supply items with product Model number/code).		
5	Back to back 3-year OEM support and warranty certificate on OEM Letter head.		
6	Last 3 years' experience certificate and work orders of successful supply, installation, servicing, Maintenance of Network equipment. Work Orders, Proof of supply, installation, servicing, Maintenance of Government sector supply installation, commissioning and service of Networking Equipment last three years. (Only 03 bill/ invoice of each years).		
7	Turn over certificate by CA Bidder should have cumulative average annual turnover of Rs. 01 crore during last five financial years (2018-2019,2019-2020,2020-2021,2021-2022, 2022-23) for supply installation, commissioning and service of Networking Equipment, bidder should submit CA certified document for the same.		
8	Audited Balance Sheet of last 3 years' (2020-21, 2021-22 & 2022-23)		
9	Last 3 years ITR return (2020-21, 2021-22 & 2022-23).		
10	PAN Card, GST registration, Gumashta certificate.		
11	Certificate for acceptance of terms and conditions of tender enquiry on firm's letterhead.		
12	Proof of Submitted EMD.		

Authorized Signatory

(Seal of the Firm)

Annexure-2Technical specification Evaluation Form**A. Generic Specifications of 48 Ports L2 PoE Switch (Manageable)**

SN	Architecture	YES/NO	Page no
	Make & Model No		
1	The switch should have sufficient RAM/DRAM/ flash memory or more to support multiple software. images for backup purposes log report and future scalability.		
2	The switch through put of minimum 176 Gbps from day 1 or more		
3	Traffics handling capacity should be minimum 130Mpps or more from Day 1		
4	The switch should have Redundant Power supply from day one (Preferably)		
5	MAC Address 16,000 or more		
6	All modules SFP fan trays & Power supplies should be hot swappable (Optional)		
7	Switch should support stacking with 2 dedicated stacking ports (Optional)		
8	PoE+ Enable. PoE Power Output Capability per port 30W or Higher POE standards Interfaces		
9	Minimum 48 x 1000 Base-T from day 1		
10	Should have 4x10/10G Uplink Interfaces loaded with 1/10Gbps SM SFPs from Day 1		
Protocols			
1	Should support basic Routing features		
2	Should support IEEE Standards like IEEE 802.1 and 802.3 and its variants like 802.1d, 802 1s, 802 1w, 802 3ad, 802 3x. 802.1p, 802 1q. 802.3, 802.3u, 802.3ab, 802.3z etc.		
3	IPv6 Ready		
Security			
1	Access List/Firewall Filters, Port Security, MAC binding. VLAN, QoS, NTP/ SNTP or latest standard, SNMP, AAA. TACACS etc.		
2	Should support MACSec-128 or higher on hardware for all ports.		
3	IPv4 and IPv6 features like DHCP Guard/DHCP Snooping. Neighbor Discovery Inspection and IP Source Guard etc.		

B. Generic Specifications of 24 Ports Switch (Manageable)

SN	Architecture	YES/NO	Page no
	Make & Model No		
1	The switch should have sufficient RAM/DRAM/flash memory or more to support multiple software images for backup purposes, log report and futures capability		
2	The switch throughput of minimum 128 Gbps or more from day 1		
3	Traffics handling capacity should be minimum 95 Mbps or more from day I		
4	Preferably switch should have Redundant Power supply		
5	MAC Address support 16,000 or more		
6	All modules SFP fan trays & Power supplies should be hot swappable (Optional)		
7	Switch should support stacking with dedicated stacking ports (Optional)		
8	PoE+ Enable, PoE Power Output Capability per port 30W (Optional)		
Interfaces			
1	Minimum 24x10/10/100/1000Base-T		
2	Should have 4x1G/10G Uplink Interfaces with loaded with 1/10Gbps SM SFPs from Day!		
Protocols			
1	Should support basic Routing features		
2	Should support IEEE Standards like IEEE 802.1 and 802.3 and its variants like 802.1d 802.1s.802.1w.802.3ad.802.3x.802.1p.802.1q,802.3.802.3u,802.3ab,802.3z etc.		
3	Should support IPv6		
Security			
1	Access List/Firewall Filters, Port Security, MAC binding. VLAN, QoS, NTP/ SNTP or latest standard, SNMP. AAA. TACACS etc.		
2	Should support MACSec-128 or higher on hardware for all ports.		
3	IPv4/IPv6 features like DHCP Guard, DHCP Snooping. Neighbor Discovery Inspection and Source Guard		

C. Generic Specifications of 24 Ports L3 CORE Switch (Manageable)

SN	Architecture	YES/NO	Page no
	Make & Model No		
1	The switch should have sufficient internal flash memory or more to support multiple software images for backup purposes, log report and future scalability		
2	The switch throughput of minimum 1.2 Tbps or more from day 1		
3	Traffics handling capacity should be minimum 720 Mpps or more from Day 1		
4	The switch should have Redundant Power supply and fan from day one		
5	Should have 100k IPv4, 50k IPv6 routes and 30k Multicast Routes or equivalent		
6	All modules SFP, fan trays & Power supplies should be hot swappable		
Interfaces			
1	Minimum 24 Port 1/10G SFP+ and 02 Nos. 40/100 Gbps Ports along with necessary Optics as per required quantity. also should have stacking support and Module/cable		
2	Should support 4 x 100 Gbps Uplink Interfaces or higher		
Protocols			
1	Should have Basic Routing License and Option to upgrade for Advanced Routing License (latest Dynamic Routing Protocols)		
2	IEEE Standards IEEE 802.1D, 802.1x, 802.1w, 802.1x, 802.3ad, 802.1ae, 802.3x, 802.1p, 802.1q, 1588v2/ NTP/ SNTP/latest standard etc		
3	Segmentation Protocol Network segmentation protocols VLAN and VRF/virtual router etc.		
4	MAC Address 64K MAC Addresses or more and min 1024 active VLAN or higher		
5	Should Support management protocols SSHv2, SNMPv2c, SNMPv3, NTP, RADIUS and TACACS or equivalent/higher		
6	Switch should support high availability through Clustering/stacking of switches Switch should support an active/standby Control plane. Shall support upgrades, downgrades, and rollbacks without/ minimum downtime for a switch cluster (optional)		
7	IPV6 Ready from day 1		
Security			
1	802 1x authentication and accounting, IPv4 and IPv6 ACLs, Dynamic VLAN assignment and MACSec-128 or higher on hardware for all ports		
2	IPv4 and IPv6 features like IP Source guard. MAC security, Port Security, Dynamic ARP inspection. Storm Control, Port Mirroring. QoS etc.		
3	The switch/ switch series		

D. Firewall (UTM) (1000 users) with support of Centralized Management System (CMS)

SN	ARCHITECTURE	YES/NO	PAGE NO
	Make & Model No		
1	Integrated Security Appliance, which is capable of supporting Firewall, VPN, IPS, Web filtering, Botnet Filtering and Geo-IP protection etc. and Category, URL & IP Address based Bandwidth allocation Users & Group wise.		
2	Should have secure SD-WAN that enables distributed enterprise organizations to build, operate and manage secure, high-performance networks across remote sites for the purpose of sharing data, applications and services using readily available, low-cost public internet services. SD-WAN support to choose lower-cost public Internet services while continuing to achieve a high level of application availability and predictable performance.		
3	The proposed solution should have minimum 19 Gbps of IMIX throughput, minimum 70 Gbps Firewall throughput and minimum of 24 million Concurrent sessions and 300K New Sessions Per Second.		
4	The proposed solution should have a minimum 1000 GB SSD drive for storing logs and reports and the proposed system should support minimum 5 VDOM / Virtual Firewall.		
5	The OEM should have last three years ICSA LAB/NSS LAB/NDPP/ Gartner's Quadrant for Network Firewall certifications.		
6	The Proposed solution should have an option to provide complete policy enforcement and visibility of roaming users and should restrict the remote user from disabling it.		
7	The organization policy framework must be extended to the remote users and ideally it should control the Web and Application filter of remote user. solution should be able to alert on user activity outside business hours.		
8	The Firewall should have support Centralized Management System (CMS).		
9	The proposed solution should provide user wise policies for accessing popular web-based mails, web chats and Facebook webchat, web based popular social networking site & SMTP mail.		
10	The proposed system should have the flexibility to create rules for Popular web-based webmail sites to match various mail attributes such as Subject, From, To, CC, BCC, Msg Body, Msg Body Size, Attachment Text, Attachment Name, Attachment Size, Total Attachment Size, Attachment Type with a wide range of composite conditional option.		
11	The proposed system should provide control over HTTP, HTTPS, SMTP, SMTPS (Port 465), SMTPTLS (Port 587), Web Chat Messaging		
12	The proposed system should email daily group browsing reports to respective group heads in pdf format.		
13	3 Years Subscription and 3 Years warranty and onsite Product Support should be (24 x 7) with Advanced replacement.		
14	The bidder should be ISO certified organization.		
15	Partial Compliance submitted by OEM / Bidder will not be accepted and Any OEM or Bidder who has been blacklisted in the last 3 years in any government or PUC's will be disqualified for this tender.		

E. Wireless Access Points (Indoor/Outdoor)

SN	Specification Name Product & make.....	Indoor	Page NO	Outdoor	Page NO
1	Deployment	YES/NO		YES/NO	
2	Type of Access Point	Controller based			
3	Mounting	Ceiling or other			
4	Antenna Type	Internal/external			
5	Number Of Radios	Dual			
6	Frequency Band	2.4 GHz and 5GHz both bands			
7	Supported Wi-fi Standards	802.11ac Wave 2 or latest			
8	Wireless Speed Up to (Mbps)	1Gbps or more			
9	Min Wireless Signal Range in Mts	35 Mtr (in indoor) and 100 Mtrs (in Outdoor) or above			
10	Channel Width (MHz)	40/80/160			
11	Supported Encryption	WPA/WPA2-AES/WPA-TKIP/EAP-TLS or latest			
12	Dedicated Console Port	Yes			
13	Transmit power (tx)(dBm)	20-30 dBm			
14	Radio Resource Management such for power channel, coverage hole detection and performance optimization	Yes			
15	Support for Load Balancing between 2-4 Ghz and 5 Ghz	Optional			
16	Device Management	Web-based Configuration Interface (GUI)			
17	Support for QoS for Voice over Wireless	Yes			
18	Support for MU-MIMO	Yes			
19	Number of MIMO supported & Spatial Streams	2x 2:2 or Higher			
20	Number of WLAN (SSID) per AP	16 or Higher			
21	Support for Autonomous access-point option	You/No			
22	USB Ports	Yes/No			
23	Number of 10/100/1000 port	1.2 or more			
24	Fiber port (in case of outdoor AP)	Yes or should have provision to connect OFC media (optional)			
25	Support for Beam forming	Yes			
26	Support for QoS and Video Call Admission Control Capabilities	Yes			
27	Support for Rogue access point detection	Yes			
28	Support for Wireless Intrusion Protection System	Preferable			
29	WPC Certified	Yes			
30	Wi-Fi Certified	Yes			
31	Powering options (Such as AC/DC, 802/3af PoF, 802/3at PoE+), specify	AC/DC/802/3af PoE/802/3at PoE+ or			
32	Environmental Standard: plenum-rated (UL2043) for Indoor and IP67 for Outdoor	Yes			
33	On Site OEM Warranty (Years)	3 Years (Supplied items should not be End-Of-Life/End-Of-Support within 5 years of supply)			

F. Network controller / Manager

SN	Architecture	YES/NO	Page no
	Make & Model No		
1	The Controller should be Hardware/Cloud/VM based, up to 1000 Aps in single instance and licensed up to 250 APs from day one, multi-tenancy to allow multi-level access to network management team, capable to manage and monitor through mobile application. Controller should support quick configuration to onboard on controller by accessing Web GUI or Mobile App, quick configuration to onboard on controller by accessing Web GUI or Mobile App. Flexibility to segregate networks into multiple sites and multi-site management support needs to be supported for easy management. Management data or controller should pass through at least a 256-bit encrypted tunnel to ensure frames protection.		
2	Controller should support WPA/WPA2/WPA3 etc. along with other latest security standards like TLS 1.3, MD5, HMAC, IKE, ISAKMP etc.		
3	Support 802.1x Authentication Method for wireless client authentication purpose.		
4	Data or controller should pass through at least a 256-bit encrypted tunnel to ensure frames protection.		
5	Functions of SSID based Client Isolation, Rate Limiting, Time Scheduling, Wireless QoS Mapping etc.		

Authorized Signatory
(Seal of the Firm)