SHREE SAIBABA SANSTHAN TRUST, SHIRDI

E-Tender Document

For
TURN KEY BASED
IT INFRASTRUCTURE PROJECT
Of
SUPPLY, DESIGNING, INSTALLATION, INTEGRATION, COMMISSIONING, TESTING
AND
FACILITY MANAGEMENT
FOR 5 YEARS DURATION.

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INDEX

Sr. No.	Content	Page Number
1	Tender Introduction	3
2	Scope of Work	6
3	Technical Bid	9
4	Commercial Bid	11
5	General Terms and Conditions	13
6	Optical Fibre Cable (OFC) Laying and Trenching Instructions	17
7	Annexure A: Firm/Company & Bank Details	21
8	Annexure B: Eligibility Criteria, Compliance Sheet	22
9	Annexure C: Undertaking by The Bidder	23
10	Annexure D: BoQ Format	24
11	Annexure E: Capability Statement (CS)	26
12	Annexure F: Technical Specifications and Compliance Sheet	27
13	Annexure G: Locational Distance Details	46
14	Annexure H: Tentative Requirement of LIU and Patch Panels	47
15	Annexure I: Buyback Items List	49
16	Annexure J: Network Diagram	50
17	Annexure K: Consortium Declaration	55
18	Annexure L: Power of Attorney	56

1. Tender Details:

1.1. Background:

Shree Saibaba Sansthan Trust, Shirdi (SSST) has initiated a project for upgradation of existing IT Infrastructure. This tender document is for the Supply, Designing, Installation, Integration, Commissioning, Testing and Facility Management of IT infrastructure involving Passive Networking, Active Configuration, Desktop Installation, UPS Installation. The project should be undertaken by a single party, who will take end-to-end responsibility for System Architecture, Supply, Site Preparation, Cabling, Support etc. to create an IT infrastructure. The Bidders are allowed to form Consortium subject to the conditions mentioned in 1.7.

1.2. Tender Procedure:

On behalf of SSST, the Chief Executive Officer invites online tender from eligible bidders for the Supply, Designing, Erection, Testing and Commissioning of the IT Equipment. For downloading and uploading the tender document, the same is available on www.mahatenders.gov.in and available for reference on sai.org.in.

1.3. Time table:

Online Tender Publish Date	Dt. 10/01/2025 Time- 11.00
Online Document Download / Sale Start date	Dt. 10/01/2025 Time- 11.00
Pre Bid Meeting	Dt. 17/01/2025 Time- 11.00
Online bid Submission Start	Dt. 21/01/2025 Time- 11.00
Online Bid Submission End Date	Dt. 04/02/2025 Time- 17.00
Online Technical Bid Opening Date	Dt. 06/02/2025 Time- 11.00

1.4. Tender Fees, Earnest Money Deposit & Security Deposit:
   a) Tender Cost: Rs. 20,000/- (Rs. Twenty Thousand only)
   b) Earnest Money Deposit (EMD): Rs. 5,00,000 (Rs. Five Lakh only)
   c) Security Deposit (SD): Amount equivalent to 3% of value of the awarded tender to be deposited within 15 days of acceptance of the Work Order.
   d) SD amount will be refundable upon the completion of successful and satisfactory warranty period.
   e) No interest will be paid on the EMD and the Security Deposit.

1.5. Pre-Bid Meeting:
   - Pre-bid meeting will be held on date & time as mentioned in the Time Table.
     Venue - Sai Meeting Hall, Shree Saibaba Sansthan Trust, Shirdi.
   - The participating bidders should attend the pre-bid meeting and also visit the site for understanding the details of the requirement. The queries should be submitted in the following format in excel sheet, within 48 hrs. of Pre-Bid Meeting.

Tender Document (Section & Page No.)	Tender Clause	Clarification Required

   - The responses to the queries (clarifications / corrigendum) shall be made available on https://mahatenders.gov.in
   - Contact Information: E-mail: it.office@sai.org.in Phone No: 02423-258953

1.6. Validity Period:

The submitted offers shall remain valid for the minimum period of **120 days** from the closing date of the tender.

Note:

1. The EMD amount is refundable to the unsuccessful bidders after issue of Work Order to the successful bidder.
2. The successful bidder's EMD amount will be adjusted in the payment of Security Deposit.
3. In case of bidders giving false and/or misleading information, statements, enclosures and exhibits, such bidders will be disqualified.

1.7 Consortium

The Bidders are allowed to form Consortium subject to the following conditions:

1. The number of Consortium members cannot exceed three, including the Lead Member.

2. The Lead Member should have the majority stake in the Project; stake being calculated from the detailed roles and responsibilities defined for the Consortium and as declared in the agreement submitted as a part of the Proposal.

3. Only the Lead Member will submit the Proposal and sign the Contract with SSST.

4. All the members of consortium shall be jointly and severally responsible for the execution of the contract.

5. In case of a Consortium Bid, the Lead Member would need to submit the Consortium Declaration in the format provided in Annexure K of this tender document. The Lead Member would also need to submit the Agreement between the Consortium members for the Contract clearly indicating their scope of work and relationship. Such Agreement should be prepared on a stamp paper of requisite value and is required to be submitted to SSST immediate after award of contract. In the event that the Lead Member does not submit the Agreement it will be considered as an individual bid.

6. All the signatories of the Consortium Agreement shall be authorized by a Power of Attorney signed by the respective authority/Board resolution.

7. Each Consortium member shall execute and submit along with the Pre-qualification Proposal, a registered power of attorney in the format provided in Annexure L, of the RFP in favour of the Lead Member which shall inter-alia, authorize the Lead Member to act for and on behalf of such member of the Consortium and do all acts as may be necessary for the performance under the contract.

8. The Consortium Agreement shall provide at least the following information in respect of the Consortium members that the Bidder will engage to provide any of the services required under this RFP.

    a. Brief description of nature of products/services to be provided by Consortium member;

    b. Head and Branch offices (if responsible for work under the contract) (provide mailing addresses, phone, fax and email);

    c. Date, form and state of incorporation of Consortium member;

     d.   Company Principals (Name, title and business address)

9.   The Consortium Agreement concluded by the Lead Member and Consortium member(s) should also be addressed to the SSST clearly stating that the Agreement is applicable to the contract executed out of this RFP and shall be binding on them for the Contract Period. Notwithstanding the Agreement, the responsibility of coordination and smooth execution of job under the contract will be with the Lead Member.

10.   The Lead Member shall be solely liable to and responsible for all obligations towards the SSST for performance of works/services including that of its partners/associates under the contract.

2. Scope of Work:

SSST is looking for a System Integrator, who will take end-to-end ownership and the responsibility of the entire project by coordinating with SSST, its consultants and any sub-contractors, to ensure the satisfactory completion of the work in time-bound manner, that will broadly include, but not limit to:

- <u>Equipment Supply:</u> Supply of all the equipment's required for the project, as per the specifications, quality and quantities as mentioned in the work order.
- <u>Site Preparation & Installation</u>: Verification of the dimensions, the electrical power requirements and the site conditions are a part of site preparation. Undertaking implementation, including all trenching, erection and necessary fabrication work on the site.
- <u>Supervision</u>: Monitoring of the installation and the commissioning of all the equipment's and related cabling work, in accordance with the system configuration finalized by the SSST. Regular progress reporting and arranging required demonstrations asked by the SSST.
- <u>Maintenance:</u> Ensure that the installed system is in working condition at satisfactory performance level during the work order tenure.

A: Diagram:

The interested bidders should visit the site for the feasibility study and submit their reports, along with the necessary network diagram. The diagram should be submitted along with the Technical Bid. The final approval of the network diagram will be the authority of the SSST.

B: Detailed Scope of Work:

B-1. Description of Work:
i)   General:

The successful bidder shall Supply, Design, Install, Configure, Fine-tune, Test, submit Report, Commission, and Maintain the upgraded Infrastructure and related accessories specified in this document.

The work assigned in contract shall be including but will not be restricted to the following:

- Supply, Design, Deliver and install all hardware, software and networking equipment's at site.
- Installation in accordance with specifications of the work order and SSST requirements.
- Carry out the initial tests and submit hard and soft copies of the reports, operational manuals and the service manuals, as demanded by the SSST from time to time.
- Ensure the continuous supervision of the on-site installation, configuration and co-ordinate with the PoC authorized by the SSST.
- Report of work progress on day-to-day basis to SSST's personnel.
- Submit documents as required by the SSST, from time to time.
- Providing samples, prototypes and drawings, wherever necessary in the opinion of the SSST. Permission from the authorized SSST persons, before the execution any work is mandatory.
- **60 MONTHS WARRANTY of the entire Installations and Equipment's.**
- Payments of all the customs duties, freight costs, patent royalties, etc. associated with supply, design and installation.
- Registration of all the products & equipment's on the respective company's website, with SSST's official email id. All credentials, including password email id and any other details, as desired by the SSST, to be shared with SSST IT team.

ii) Co-Ordination:
The successful bidder shall co-ordinate and co-operate with SSST site supervisor, consultants and all the contractors involved in this project, to ensure the timely completion and comprehensive integration of the work.

iii) **Project Management:**
The successful bidder shall provide project management services to meet the objectives of fulfilling the following requirements: -
- Monitor and manage the schedule of delivery, designing, installation, and configuration, fine tuning, commissioning, approvals and maintenance of the proposed system.
- Submit weekly/monthly progress report of the installation.

iv) Facility Management Services:
The successful bidder should appoint 02 Network/Hardware Technicians for 60 months (Project Tenure). These technicians will work in two shifts. Technicians will be stationed at Shirdi on a full-time basis as per the requirement of SSST. They will attend all hardware calls and monitor OS and software installations, OFC Calls, Patch Management and Switch Configurations.

B-2. **Job Systems:**
All equipment's and accessories or any work, which is necessary for the satisfactory and efficient functioning of the installations shall be provided and carried out by the successful bidder. Although, such material or work may not be explicitly mentioned in the specifications.

B-3. **Quality Assurance:**
All the equipment's and accessories supplied and the workmanship of successful bidder should conform to the highest Industrial / Technical Standards (as decided by the SSST).

Ensure defect-free performance of entire hardware, software and networking equipment's. It will be the entire and exclusive responsibility of the successful bidder to ensure that the materials and equipment's should have capacity to synchronize with the functioning and operational parameters of the existing IT infrastructure of the SSST. The whole system has to be designed, installed and incorporated with the existing IT Infrastructure, to provide better efficiency with respect to speed, uptime and the effective processing and any other objective of SSST.

B-4. **Uniformity:**
Once the SSST approves in writing a particular manufacturer, all the accessories of the equipments shall be of the same manufacturer and the original make, throughout the project duration.

B-5. **Documentation:**
Documentation should cover the following:
- Network diagram- Overall network with IP Scheme.
- Individual Networks-Main building LAN and Remote LANs.
- Network Architecture Diagram with all the Routes as defined by the SSST.
- Network Test Reports, Configuration Details of all Switches, Security Devices.
- Back up and Security Policy Documents.
- Network usage policies as provided by the SSST.
- SOP to maintain the infrastructure, as approved by the SSST.
- Training Manuals to be provided to the SSST.

B-6. **Testing and Commissioning:**
  i) **General:**

The successful bidder shall continuously and periodically test the complete installation to ensure that it complies with the required specifications and is mechanically and electrically safe so that it operates uninterrupted. Check all controls, protections and operative devices for correct adjustment and rating.

ii) Installation Test Plan:
The successful bidder shall design, implement and execute the installation plan for the overall systems to show that the systems are delivered and installed in good condition as approved by the SSST.
- To ensure smooth functioning of all the configurations and testing of the entire system to deliver the desired results as per SSST norms.

iii) Maintenance:
- Onsite maintenance of the software and the hardware (Switches, Security Component etc.) equipment's.
- Reconfiguration of the equipment's and the software (if required) as per the requirements in the warranty as well as the AMC duration.

B-7. Training:
The successful bidder shall provide on-the-job training in the operation and maintenance of the new infrastructure to SSST nominated personnel. Training should cover all the sections of work order, e.g. Network Architecture, Usage policies, Maintenance and Troubleshooting, first level configuration of devices etc., and as per the requirements of the SSST time to time.

B-8. Warranty:
All the materials and workmanship should guarantee the trouble-free performance of entire system for the duration of **60 months** from the date of Installation. ***The Cabling work is to be certified by the respective manufacturer for a period of 15 years. Certification charges are to be borne by successful bidder.***

During the duration of warranty, the successful bidder shall, at his own cost, promptly replace all the defective fixtures, materials etc. installed as part this project and provide free of cost workmanship up to the satisfaction of SSST. Successful bidder should provide standby arrangement to the defective equipments, to ensure that the system continues working without any interruption.

The successful bidder shall be responsible for **60 months'** on-site warranty, including comprehensive maintenance and support of the entire system, as well as integration with existing system. The successful bidder shall furnish an undertaking that spares for the same shall be available for further five years, after warranty period.

The successful bidder will be responsible for maintaining a single point of contact for all the maintenance calls. Routine preventive maintenance shall be scheduled and performed on quarterly basis, or as required by SSST time to time.

B-9. Project Completion:
Successful bidder has to prepare detailed Implementation Plan/Work Schedule in co-ordination with SSST and its consultant. Time lines mentioned in this schedule must be strictly followed by successful bidder. Successful bidder has to complete Supply, Designing, Installation, Integration, commissioning of all equipments and infrastructure mentioned in work order/contract within mentioned timeline, this period should not be more than 6 Months (180 days) from the date of acceptance of work order.

03 - TECHNICAL BID:

A. Bidder Eligibility (Qualification Criteria):

S.N.	Particulars	Description	Documents Required
1	Legal Entity	The bidder should be a registered firm (Partnership, Proprietorship or a Company). The bidder should have been in the business of supply and building of IT Infrastructure for the minimum of continuous Ten years, effective current date.	Certificates of incorporation with registration date. PAN and GST registration documents.
2	Certification	The bidder must have a valid ISO 9001:2015 or ISO 20000-1:2018 Certification or CMMI Level 3 or higher certification.	Copy of Registration Certificate to be enclosed.
3	Product Authorisation	The bidder should submit the valid letter from the OEMs confirming the followings: a) Authorization from OEM for the quoted product. b) Confirm that the products quoted are not end of life for 7 years. c) Confirm that the products would be covered under comprehensive warranty for the contract period.	a) MAF for this tender with date and tender id. b) Undertaking from OEM for End of Life. c) Undertaking for comprehensive warranty for the contract period.
4	White Papers	White papers of all products offered as per requirement in this tender like Desktop, Laptop, Printers, UPS, Active Components, Firewall etc.	White Papers with exact Make & Model no.
5	Support offices in the State of Maharashtra.	The bidder should have office and Service Support Centre in Maharashtra.	A self-certified undertaking with the office address proof in Maharashtra.
6	Average Sales Turnover in Hardware Sales & Maintenance services	Turnover in IT Sales/Infrastructure Project/ Maintenance services Minimum of Rs. 50 Cr. generated from IT Networking supply and associated maintenance services during the last three Financial years i.e: FY 2021-22, 2022-23, and FY 2023-24.	Certificate from the Statutory Auditor/CA including the Balance Sheets.
7	Net Worth	The net worth of the bidder in the last three financial years i.e. FY 2021-22, 2022-23, and FY 2023-24 should be positive.	CA Certificate with CA's Registration Number / Seal indicating net worth of the firm.
8	Blacklisting	The bidder should not be blacklisted by any Department of State Government and Government of India. If found black listed the bidder will not be considered in the initial stages only.	A self-certified undertaking by an authorized signatory.
9	Similar Turn Key projects	Bidder must have successfully completed at least 05 major IT Infrastructure/Networking projects of similar nature and value in the last three years FY 2021-22, 2022-23, and FY 2023-24.	Copy of Work order with Completion Certificate of authorized person.
10	Network Understanding	Bidder should personally visit site and provide the networking details with diagram of SSST requirements.	Provide suitable diagrams prepared for proposed network Solution
11	Capability Statement.	The bidder should have proper knowledge and expertise of handling such projects.	Capability statement format is given in Annexure .
12	Project Presentation	Bidder have to give technical presentation on proposed project. -Understanding of the project. -Execution Plan	A Self Certified letter stating "Agree to give Presentation".

B. Documentation:

The bidder is expected to examine all instructions, forms, terms and specifications in the tender documents and ensure all the requisite documents are attached/enclosed along with the bid. Any bids incomplete in any manner will be rejected by the SSST.

B.1. Clarification on Tender Requirements:

The interested bidder requiring any clarification of the tender documents may contact SSST well in advance, in writing at the email address indicated in the above.

B.2. Amendment of Bidding Documents:

- Interested bidder may submit their queries/clarification required if any, within 2 days of pre-bid meeting.
- The amendment in the tender document, if any will be uploaded on mahatenders.gov.in and sai.org.in. It is the responsibility of bidder to understand and record the amendments in the tender documents and submit the bid accordingly. SSST will not be responsible for any omission or negligence of bidder.

C. Evaluation of Technical Bid:

Technical bids will be evaluated based on fulfillment of eligibility criteria as per Bidder Eligibility. SSST reserves the right to reject any or all the bids not fulfilling the eligibility criteria, without giving any reason whatsoever. Commercial Bids of the bidders, whose Technical Bids are accepted, will only be opened.

C.1. Acceptance or Rejection of bids:

SSST reserves the right to accept or reject any or all the bids and to annul the bidding process and reject all bids at any time prior to the award of the contract.

C.2. Interpretation of the clauses:

In case of any ambiguity in the interpretation of any of the clauses in the tender document and/or the contract document, SSST interpretation shall be final and binding on all parties and cannot be challenged in any Court of Law or other judicial forum.

04 - COMMERCIAL BID:
A. Preparation of Bids.

1. Commercial Bid:

The commercial values should be submitted in BOQ provided online. Format of BOQ is attached in 'Annexure D'.

2. Bid Prices:

2.1 The bidder shall indicate the price and total bid prices of the goods it proposes to supply under the contract. Price breakup for each item of the BOM is to be mentioned clearly.

2.2 Prices indicated on the price schedule shall be entered separately.
   a. The prices of the materials and equipments mentioned in the bids should be inclusive of all applicable taxes.
   b. Tax % should be mentioned in separate column.
   c. The prices of the materials and equipments should be inclusive of P&F charges, freight charges, insurance charges, and any other charges not included in the quoted prices.

3. Period of Validity of Bids:

Bids shall be valid for 160 days from the last date of bid submission prescribed by SSST.

B. Award of Contract:

SSST will award Contract to Primary Bidder. Bidder may do consortium with other partner's subject to conditions mentioned in 1.7. These consortium deed need to be submitted to SSST immediate after award of contract. Primary bidder will be solely responsible for implementation of project.

1. Award Criteria:

SSST reserves the right to award the contract. The decision of SSST will be final and not debatable.

2. Right to Changes:

SSST reserves the right to change the quantity of material and or scope of work at the time of awarding the contract so also after awarding the contract. The changes in quantity will not affect the unit prices agreed at the time of awarding the contract. It is deemed that the successful bidder shall give undertaking to the above effect.

3. Right to accept or reject any or all bids:

SSST reserve the right to change accept or reject any or all the bids and also discontinue and cancel the bidding process without giving any reason whatsoever. The affected bidder will not have any right to claim any damages or compensation.

4. Notification of Award:
   4.1. SSST will notify the successful bidder either online or any other mode of communication, followed by email or registered letter.
   4.2. The acceptance by the bidder and confirmation by way of written communication will form part of contract.
   4.3. Upon the successful bidder furnishing security deposit, SSST will refund EMD of unsuccessful bidder.

5. Signing of Contract:

The successful bidder has to sign agreement within 1 month of work order acceptance. The cost incurred for agreement has to be borne by the successful bidder.

6. Security Deposit and Performance Security.

7.1   Within 15 days after the successful bidder's receipt of notification of award, the successful bidder should furnish **Security Deposit of 3%** of the bid value. The security deposit will be payable at Shirdi in favor of "Chief Executive Officer, Shree Saibaba Sansthan Trust, Shirdi". SSST reserves the rights to retains the security deposit for the entire duration of the contract.

7.2   After acceptance of Project if the successful bidder fails to deliver/install equipment in given time frame, the bid EMD will be forfeited and bidder will be black listed for 3 years.

7.3   During duration of work contract, if appointed bidder fails to provide the satisfactory services as per the requirements of the SSST, his security deposit will be forfeited and such bidder will be black listed for 3 years.

7. Corrupt and/or Fraudulent Practices:

8.1   Under the policy of SSST, every bidder participating in this tender and the final bidder whom SSST awards the contract has to follow highest standards of ethics. If in case any bidder is found indulging in unethical practices, like favors, bribes and undue considerations, will be disqualified and a ban will be imposed by SSST by blacklisting such bidder for next three years.

8.2   SSST will reject a proposal for award, if SSST determines that the bidder recommended for award has engaged in corrupt and / or fraudulent practice, like forming cartel in competing for the contract.

8. Interpretation of the clauses in the Tender Document / Contract Document:

In case of any ambiguity in the interpretation of any of the clauses in the Tender document or the contract document, SSST's interpretation of the clauses shall be final and binding on all parties and shall not be challenged in any Court of Law or other judicial forum.

05 - GENERAL TERMS AND CONDITIONS:

1. Use of contract documents and Information:

1.1. Without SSST's prior written consent, the bidder shall not disclose the contract, provisions, specifications, plan drawing, pattern, sample or information furnished by SSST in connection therewith, to any person other than a person employed by the bidder during the duration of the contract and thereafter.

1.2. All documents shall remain the property of SSST and shall be returned to SSST on completion of the bidder's association under the contract, even though SSST does not demand.

2. Inspections and Tests:

A) Active Components like Firewall, Switches, Computers, UPS, Printers:

A.1. The inspection of equipments and accessories shall be carried out to check whether the equipments and accessories are in conformity with the technical specifications described in the work order. Following broad test procedure will generally be followed for inspection and testing of the system and components. These tests will be performed after completion of the installation and commissioning of all the equipments and accessories at the site.

It is the responsibility of the successful bidder to supply, install and commission IT Infrastructure with relevant hardware and software before the commencement of performance tests. During the tests all the equipments along with its various accessories, devices and the supplied software will be subjected to a continuous run of 8 hours for 6 days. During the endurance run of 48 hours, no malfunction, partial or complete failure of any part of the hardware or bugs in the software/OS will not be acceptable. All the software/OS should be complete and no missing modules/sections will not be permitted. The successful bidder shall maintain necessary logs in respect of the results of the tests to the entire satisfaction of the SSST. Consequent to such testing procedure, SSST will conclude the successful completion of the tests. An average uptime efficiency of **not less than 99%** for the duration of the test period shall be considered as satisfactory. On successful completion of acceptability test by the bidder and acceptance by the authorised person of the SSST, SSST will issue acceptance certificate. **The date on which such certificate is signed shall be deemed to be the date of successful commissioning of the system.**

A.2. Before the equipments and accessories are taken over by SSST, the successful bidder shall supply operation and maintenance manuals. The contents of the manuals shall be such that, it will enable SSST to operate, maintain and adjust the equipments as stated in the specifications. The manuals and drawings shall be in the English language and in such form and numbers as stated in the contract. Unless otherwise agreed, the equipments and accessories shall not be considered to be complete for the purpose of taking over, until such manuals have been handed over to the authorised person of the SSST.

B) Passive Components like Pipes, Cables, IO, LIU, Patch Panels etc.:

B.1. Successful bidder should submit the samples of the products before the physical delivery to SSST.

B.2. After approval of the SSST the material should be delivered at Shirdi site without any freight charges.

B.3. SSST or its authorized representative shall have the right to inspect and/or to test the goods to evaluate and confirm their conformity to the contract specifications.

B.4. If any items fail to conform to the specifications, SSST will reject the material, and the successful bidder shall replace the rejected material with new and unused material, to meet the specification requirements. SSST defines this as the unconditional responsibility of the bidder.

B.5. SSST has the final right to inspect, test and if necessary, reject the goods after the arrival of goods at the project site. This authority of SSST will not be disqualified in any way, irrespective of any inspection and/or testing previously carried out by any individual, either prior to dispatch or during the transit.

3. Transportation:

As per the contract/WO terms, in case the bidder is required to deliver the items to a specified place within SSST/Shirdi defined as project site, the deliver to such place, shall be arranged by the bidder, and the freight/shipment charges shall be included in the contract prices.

4. Hardware Installation:

It shall be the responsibility of the successful bidder to unpack, assemble, wiring, complete wiring and install, laying/connect cable between the various network components and hardware units and connecting them to the power supply. The bidder shall test all hardware operation and accomplish all adjustments necessary for successful and continuous operation of the hardware at all installation sites.

5. Warranty:

5.1 The successful bidder as well as the manufacturer shall warrant that the equipments and accessories supplied under this contract/wo are new, unused, of the most recent or current models and batches. The successful bidder should further warrant that all equipments and accessories supplied under this contract/wo shall have no defect related to design, materials and workmanship.

5.2 Successful bidder should warrant that the supplied and installed equipments should not have 'end-of-life' in next 7 years.

5.3 The support executive appointed by successful bidder shall promptly notify SSST and bidder in writing of any defects/malfunctioning/damages covered under this warranty.

5.4 Upon receipt of such communication, the successful bidder shall immediately repair or replace the defective equipments/accessories or parts thereof, free of cost at site and make the system functional without any delay.

5.5 If any equipment or any system(s) gives continuous trouble, during the warranty period, the successful bidder shall replace the system(s) with new system(s) without any additional cost to SSST.

5.6 The successful bidder shall guarantee at least 99% uptime of the entire system.

5.7 Maintenance Service:

a) The maximum response time for maintenance complaint from any of the destinations shall not exceed 24 hrs.

b) It is expected that the average downtime of the system should not be more than 24 hours. (defined as number of hours for which an item or equipment is not usable because of inability of the supplier to repair it). In case an item is not usable beyond the stipulated maximum permitted time, the successful bidder should require to arrange for an immediate replacement of the same, till it will be repaired. Failure to arrange for the immediate repair/replacement will make the successful bidder liable for a penalty as mentioned in penalty clause. The amount of penalty will be recovered from the Performance Security during the warranty period.

6. Payment:

Requests for the payments should be made by the successful bidder in writing accompanied by invoice to SSST. The request should contain the details of item supplied and services rendered.

6.1 Payments Schedule:

a) Subsequent to the supply of material, SSST will release payment for the 25% value of the approved material supplied by the successful bidder. (Bidder have to submit Delivery Challan of material arrived on site)

b) Upon satisfactory installation and commissioning and SSST having issued Acceptance Certificate (refer **2. Inspections and Tests** above for term Acceptance Certificate) the bidder can apply for the 50% of the accepted and certified invoice value.

c) The successful bidder shall apply for balance 25% payment after 60 days after the receipt of 50% payment.

7. Change in Orders:

If there will be change in quantity of major active component under this project while actual execution to fulfill requirement. The quantity and amount will be finalized with mutual discussion.

8. Contract Amendments:

SSST reserves right to accept or reject any request for minor changes with regard to schedules, arising out of natural calamities and/or factors beyond human control.

9. Sub Contracts:

The successful bidder shall notify to SSST in writing of all subcontracts awarded under this contract. However, it will be the responsibility of the successful bidder to ensure satisfactory of the job. The final approval with regard to quality work will rest in the hands of the SSST.

10. Delays in the Performance:

10.1 Delivery of the equipments, accessories, services and performance of the services shall be made by the successful bidder in accordance with the time schedule specified by SSST.

10.2 If the successful bidder or its sub- contractor(s) encounter conditions impeding timely delivery of the items and performance of services, the successful bidder shall promptly notify SSST in writing of the time and cause of the delay. Upon receipt of such request, the SSST shall evaluate and may or may not accept the reasonability of cause. In which case the decision of SSST to allow extension or not will be final and binding on both the parties.

11. Penalty Clause:

- If the successful bidder fails to deliver any or all of the items or fails to render the services within the period(s) specified in the contract, SSST shall, without prejudice to its other remedies under the contract, will levy the penalty as under.
- The applicable rate of penalty is 0.5% per week of the cost of delayed items and services. The period will start from the schedule specified in contract. The period will be calculated the date of actual compliance. The penalty shall have limited to up to 10% of the tender contract price. In case penalty amount exceeds 10% value, SSST may consider termination of the contract and all delivered material will be confiscated.
- It is expected that the average downtime of the system should not be more than 24 hours. (defined as number of hours for which an item or equipment

is not usable because of inability of the supplier to repair it). In case an item or equipment is not usable beyond the stipulated maximum permitted time, the successful bidder should require to arrange for an immediate replacement of the same till it will be repaired. Failure to arrange for the immediate repair/replacement will make the successful bidder liable for a penalty of Rs. 5000/- per day per item/equipment.

- If successful bidder fails to Supply, Designing, Installation, Integration, commissioning of all equipments/infrastructure in stipulated time (Refer 2. Scope of Work, B-9 Project Completion), it will make the successful bidder liable for a penalty. Rs. 5000/- per day per item/equipment.
- Penalty amount will be recovered from Security Deposit.

12. Successful Bidder's Obligations:

- The successful bidder is obliged to work closely with SSST personnel and under the guidelines issued by the SSST.
- It will be the responsibility of the successful bidder to ensure that all the safety norms and Labour laws are strictly followed by the bidder as well as the sub- contractors. SSST will in no way will be responsible for any accidents arising out of non-compliance to the rules and regulations of SSST and Labour laws. The successful bidder and his sub-contractor have to provide all the safety equipments to its workmen during and off the duty at SSST site.
- The successful bidder is responsible for managing the activities of its personnel or sub-contractor's personnel and will hold itself accountable for any misdemeanors.
- For every workman deployed at SSST site, it will be the responsibility of successful bidder to obtain and produce the police verification certificate issued by the police stations of the place of residence of the workmen.

06 - OPTICAL FIBRE CABLE (OFC) LAYING AND TRENCHING INSTRUCTIONS:

SSST is planning to interconnect its various departments through OFC, this cable will be laid in two Routes namely "A Route" and "B Route". Each department of SSST should be connected through "A Route" as well as "B Route". The new cable is to be laid on the same path of existing cables. Diagram of proposed cable layout is attached in tender document.

6.1. Description of Work:

The work which shall be carried out as per construction specification contained in this section, involves Conventional Trenching and Reinstatement (CTR), Horizontal Directional Drilling (HDD), Related Allied Works (RAW). It will be the responsibility of successful bidder to carry out the following jobs up to the satisfaction of SSST.

a) Excavation Open trenching in Soft Soil - The width of trench can be more if required to lay the requisite number of pipes.
b) Excavation Open trenching on Tar Road/Concrete Road - Cable should lay down through GI pipe only in such areas. The width of trench can be more if required to lay the requisite number of GI pipes.
c) Wherever required, permission for road cutting from PWD, Shirdi Nagar Panchayat and other local authorities, shall be arranged by SSST.
d) Providing of mechanical protection to OFC by RCC Pipes/GI pipes / Hume pipes and/or constructing/chambering according to construction specifications, wherever required.
e) Fixing of GI pipes with clamps at culverts/bridges and /or chambering or constructing of GI Pipes/ troughs, wherever necessary.
f) Back filling and dressing of the excavated trenches according to construction specifications and instructions issued by SSST.
g) Digging of pit of size for construction of jointing chamber at wherever required bricks and mortar or fixing pre-caste jointing chamber of internal diameter of 1 metre filling of jointing chamber with clean sand, placing either pre-cast RCC cover on jointing chamber to protect the joint and back filling of jointing chamber with excavated soil.
h) Labelling and documentation of OFC layout: This includes OFC layout diagram, Joint location with reading, and chamber diagram with reading each cable. Cable diagram in each rack, core labelling on LIU, metal route markers.
i) Creating Roll-in and roll-out plan for fibre cables (new & old) without disturbing the ongoing network.
j) Termination fibre cable in existing rack & removing of old fibre as Roll-in plan & also testing & patching Cat6 as an when-ever necessary.

6.2. Allied Activities:

a. **Supply of Materials:**
The successful bidder to supply entire civil construction material of good quality.
b. **Drilling and Cutting Walls**: To pass OFC cables across building compound, building walls, concrete trench is sole responsibility of the successful bidder. Also the successful bidder to carry out reinstatement of wall with cement concrete / appropriate piping after completing task.

6.3 Routes:

This cable will be laid in two Routes Namely "A Route" and "B Route". Each department of SSST will be connected through "A Route" as well as "B Route". The new cable is to be laid on the same path of existing cables.

OFC Laying Approach

On the basis of the survey reports routes for OFC laying shall be finalized. Road Cutting permission shall be obtained from road authorities for laying the Optical Fibre Cable. This permission will be obtained by Shree Saibaba Sansthan Trust, Shirdi. Generally, OFC may preferably be laid straight as far as possible along the road

near the boundaries. When the OFC is laid along the highways, cable should run along the road land boundary.

Wherever available cable duct prepared by local authorities can be used to lay cable. If cable duct is not available trenching needs to be done.

6.4. Specification of Material:

6.4.1. General

Successful bidder shall be responsible for the supply of permanently lubricated HDPE pipes (PLB pipes). Wherever necessary, the successful bidder shall also provide additional protective pipes GI/RCC, as per instructed by SSST.

i. Excavation of trench in open soil up to a nominal depth of 100 cm depth & 45 cm width at top and 30 cm at bottom. Trench on Tar Road /Concrete Road must be depth of 50 cm depth & 45 cm width at top and 30 cm at bottom. Wherever possible cable trench of Local Authorities can be used. SSST officials shall have the power to decide any changes in dimensions.

ii. Material of construction of pipes and the laying activity to be decided by the SSST officials and shall be final.

iii. The process and procedure for laying of pipes shall be decided by SSST official.

iv. Laying Protection pipes on bridges and culverts. In case trenching and pipe laying is not possible on the culverts, the pipes shall be laid on the surface of the culverts/bridges.

v. Back filling and dressing of the trench according to construction specifications shall be responsibility of successful bidder.

vi. Wherever possible existing cable trench can be used, but opening trench chamber and closing it properly will be responsibility of successful bidder.

vii. Pulling Optical Fibre Cable using proper tools and accessories. Sealing of both ends of the PLB HDPE pipe in manhole by hard rubber bush of suitable size to avoid entry of rodents into the PLB HDPE Ducts, putting split PLB HDPE Ducts and split RCC pipes with proper fixtures over cable in the manhole to protect the cable. Successful bidder shall be responsible for these activities.

6.4.2. Specifications of Materials to be used:

All the materials required for laying of cables shall be the responsibility of successful bidder. The specifications are as under.

A) PLB HDPE Duct:

Optical Fibre Cables should be pulled though Permanently Lubricated HDPE suitable to number of cable to be carried from pipe.

B) PLB HDPE Duct Accessories:

1) Push fit Coupler: Push Fit couplers shall be used for coupling PLB HDPE ducts/coils.

2) End Cap: End Cap shall be used for sealing the ends of the empty ducts, prior to installation of the Fibre Cable and shall be fitted immediately after laying the duct to prevent the entry of any dirt, water, moisture, insects/rodents etc.

C) Material for Providing Additional Protection:

1) RCC Full Round Pipes:
   Reinforced cement concrete pipes (spun type) coupled with RCC collars sealed with cement mortar used to provide additional protection to PLB HDPE Ducts/coils at lessor depths.

2) G.I. Pipes: ISI mark standard quality GI pipe need to be installed over PLB HDPE pipes at some location

D) Joint Chamber:

The Joint Chamber shall be provided at every joint location to keep the OFC joint well protected and also to house extra quantity of the cable which may be required in the event of faults at a later date.

E) Route/Joint Indicator:

The Route/Joint indicators are co-located with each manhole/joint chamber. In addition, Route indicators are also to be placed where route changes direction like road crossings etc. Either RCC/Pre-cast or Stone based route indicators can be used. The detailed specification and design of the same shall be as per construction specification. Generally, Stone Route indicators shall be used.

F) Consumables:

Nails, Saddlers and other consumables of ISI standards.

G) Miscellaneous:

The successful bidder shall be responsible for supplying all the miscellaneous material of good quality (like ISI standard) up to the satisfaction the SSST.

6.4.3. Restoration of Road Surface:

(a) **RRSB**: Road Restoration work with <u>bituminous macadam</u> for semi grouting 50mm thick and premix carpet surfacing 25mm thick over the grouted surface (total up to 75mm thick), including supply of asphalt etc. to evenly match the road, including consolidation and rolling.

(b) **RRSC**: Road restoration work with <u>cement concrete</u> 1:4:8 mix for thickness varying from 150mm to 225mm, including supply of concrete to evenly match the road.

6.5. Cable pulling and Jointing/Splicing:

a) Cable Pulling.

The successful bidder shall be ensured that during the blowing /pulling of cable the tension is minimum and there is no damage to the Cable/Optical Fibres Cables.

b) Jointing/ Splicing

The Optical Fibre Cable thus jointed end-to-end in LIU will be tested by SSST technical team. The technical SSST team shall check for splice losses and transmission parameters. Any variations observed by the SSST technical team have to be rectified by successful bidder. The Optical Fibre should meet all the technical parameters, specified and no relaxation will be granted.

6.6 Documentation

It is the responsibility of the successful bidder to hand over the 2 sets (one soft copy and 2 hard bound copies) of documents which contain following details:

(i) **Route Index Diagrams:**

General: This diagram shall consist of Cable Route Details on Geographical Map drawn to scale with prominent land marks and alignment of cable with reference to road. This shall be prepared on **A3 size** of 80 GSM sheets.

(ii) **Route Index Diagrams –Profile**

These diagrams will contain-
– Make and size of the cable.
– Offset of cable from centre of the road at every 10 metres
– Depth profile of Cable at every 10 metres
– Details of protection with type of protection depicted on it;
– Location of culvert and bridges with their lengths and scheme of laying of PLB HDPE Ducts pipe thereon.
– Important landmarks to facilitated locating the cable in future; Location of Joints and pulling manholes.

These diagrams shall be prepared on **A4 size** of 80 GSM sheets. The diagram for 400 metres cable length should appear on a single sheet.

(iii) Joint Location Diagram

This diagram will show:

Geographical location of all the joints.

Depth of Joint Chambers from the ground level.

Type of chambers (Brick, Precast etc.).

Quantity of extra of OFC kept inside the joint chamber from each side.

This shall be prepared on A4 size sheets of 80 GSM.

All the diagrams (i), (ii) & (iii) shall bear the signatures of the successful bidder and the SSST representative as a testimony of accuracy of the details. The diagrams will be presented in a hard bound A4 size book with title on the front cover and index on front page. The front and back covers should be of laminated 110 GSM sheets.

(iv) Video shooting of OFC Route:

Video shooting of entire OFC route along with the chambers shall be carried out by successful bidder showing proper landmarks. The same video should be submitted to the SSST and acceptance to be obtained.

ANNEXURE - "A"

Firm/Company & Bank details
(On Company Letter Head)

Sr No	Item	Particulars
1	Name of the Firm.	
2	Address.	
3	Contact person name, Mobile number and email id	
4	PAN No	
5	GST Registration No	
6	Bank Details:– Name of the Bank	
	Address	
	Branch Name	
	Account Number	
	Account Type	
	IFSC Code	
	MICR Code.	

Date :
City :

Stamp and Signature:

ANNEXURE "B"

Eligibility Criteria and Compliance Sheet (with Technical Documents)

Sr No	Particulars	Description	Documents Required	Mention Page no of Compliance.
1	Legal Entity	**Legal Entity:** The bidder should be a firm (Partnership, Proprietorship or a Company) The bidder should have been in the business of supply and building of IT Infrastructure for the last Ten years	Certificates of incorporation with registration date. PAN and GST registration documents	
2	Certification	The bidder must have a valid 9001:2015 or ISO 20000- 1:2018 & Certificate or CMMi Level 3 certification.	Copy of Certification to be enclosed.	
3	Product Authorization	The bidder should submit the valid letter from the OEMs confirming the followings: a) Authorization from OEM for the quoted product. b) Confirm that the products quoted are not end of life at the time of Bid Submission. c) Confirm that the products would be covered under comprehensive warranty for the contract period.	a) MAF for this tender with date and tender id. b) Undertaking from OEM for End of Life c) Undertaking for warranty (comprehensive) for the contract period.	
4	White Papers	White papers of all products offered as per requirement in this tender like Desktop, Laptop, Printers, UPS, Active Components, Firewall etc.	White Papers with exact Make & Model no.	
5	Support offices in the State of Maharashtra.	The bidder should have Office in Maharashtra. with Service Support Centre in Maharashtra.	A Self Certified letter with office address proof in Maharashtra.	
6	Average Sales Turnover in Hardware Sales & Maintenance services	Turnover in IT Sales/Infrastructure Project/ Maintenance services Minimum of Rs. 50 Cr. generated from IT Networking supply and associated maintenance services during last three Financial years i.e: FY 2021-22, 2022-23, and FY 2023-24.	Extracts from the audited Balance sheet and Profit & Loss; OR Certificate from the Statutory Auditor/CA	
7	Net Worth	The net worth of the bidder in the three financial years should be positive. i.e. FY 2021-22, 2022-23, and FY 2023-24	CA Certificate with CA's Registration Number / Seal indicating net worth of the firm	
8	Blacklisting	The bidder must not under blacklisted by any Department of State Government or Government of India. The bidder must also disclose full details of any blacklisting by Central or State PSUs/ Undertakings/ Autonomous Organizations or under a declaration of ineligibility for corrupt or fraudulent practices in last three years 'as on' 31/03/2024.	A Self Certified letter by an authorized signatory.	
9	Similar trunk key projects	Bidder must have successfully undertaken minimum 05 Major IT Infrastructure/Networking supply, must have executed minimum 5000 nodes during last three years FY 2021-22, 2022-23, and FY 2023-24. Or Bidder must have successfully undertaken minimum 05 Major IT Infrastructure/Networking supply and associated maintenance services during last three years FY 2021-22, 2022-23, and FY 2023-24. of total Rs 50 Cr or more	Copy of Work order with values or Completion Certificate. Client Side POC from each Project with contact details.	
10	Network Understanding	Bidder should know the network requirement of SSST.	Provide suitable diagrams prepared for proposed network Solution	
11	Capability statement.	The bidder should have proper knowledge and expertise of handling such Jobs.	Capability statement format is given in Annexure.	
12	Project Presentation	Bidder have to give technical presentation on proposed project. -Understanding of the project. -Execution Plan	A Self Certified letter stating "Agree to give Presentation".	

ANNEXURE "C"

Undertaking (on the letter head)

To,
The Chief Executive Officer,
Shree Saibaba Sansthan Trust, Shirdi

I <<Name>>, Director/Proprietor/Partner of <<Name of the Firm>> situated at <<registered office address>>, hereby solemnly affirm and state on oath that:

My/Our Firm has not been Blacklisted by the Central Government, any State Government, any PSU Undertaking or Autonomous Bodies of the State Governments in the last three years.

Date:
Place:

Name:
Designation:
Signature: **Company Seal:**

ANNEXURE "D"
BoQ Format

Sn	Description of Material	UoM	Qty	Rate/No Incl. Tax	Amount Incl. Tax
1	Core Switch (Tech. Spec as per Annexure- F (1))	Nos	2		
2	Distribution Switch (Tech. Spec as per Annexure- F (2))	Nos	10		
3	Access Switch 48 Ports Non PoE (Tech. Spec as per Annexure- F (3))	Nos	6		
4	Access Switch- 24 Port Non PoE (Tech. Spec as per Annexure- F (4))	Nos	22		
5	Access Switch- 12 Port Non PoE (Tech. Spec as per Annexure- F (5))	Nos	18		
6	- Transceivers 10G SFP+ LR Fibre type: Single Mode Connector LC-LR **Qty. 160** - Transceivers 10G SFP+ LR Fibre type: Multi Mode Connector LC-SR **Qty. -25** - Transceivers 1G Copper connector type RJ45 **Qty. 100** (Qty. 160+25+100) (Tech. Spec as per Annexure- F (6))	Nos	285		
7	Data Centre Security Components (DC Security) (Tech. Spec as per Annexure- F (7))	Set	1		
8	Disaster Recovery Centre Security Components (DR Security) (Tech. Spec as per Annexure- F (8))	Set	1		
9	Network Racks, LIU Patch panels, Patch Cords (Tech. Spec as per Annexure- F (9))	Set	1		
10	OFC Cable Laying and Civil Works: (Tech. Spec as per Annexure- F (10))	Set	1		
11	Testing, labeling & Documentation and Facility Management for 5 years (Tech. Spec as per Annexure- F (11))	Set	1		
12	Network Monitoring Solution (Tech. Spec as per Annexure- F (12))	Set	1		
13	Desktop/AIO/Workstation/Laptop (Tech. Spec as per Annexure- F (13))	Nos	205		
14	Laser Printer Cannon LBP6030W/ LBP 2900/ HP 1020+ (Tech. Spec as per Annexure- F (14))	Nos	50		
15	Dot Matrix, Epson LQ-590II, 24-pin (Tech. Spec as per Annexure- F (15))	Nos	50		
16	Firewall (Tech. Spec as per Annexure- F (16))	Nos	2		
17	UPS of Diff. Capacities, Make APC, Vertiv/Libert, Fuji (Tech. Spec as per Annexure- F (17))	Nos	31		
18	Data Points (I/O) (Tech. Spec as per Annexure- F (18))	Nos	150		
19	Buy back of IT infra related material (As per details in Annexure I)	Set	1		

Note:
1. All the rates should be filled up online in the BOQ provided on website www.mahatenders.gov.in

2. In case of UoM as "Set" successful bidder has to provide item wise rate of all items in that specific set.
3. All the above mentioned item quantities may vary at the time project executions. Bidder has to raise the invoices as per the actual usage.
4. Item and quantity wise invoices should be raised as per actual usage, although BoQ. is in group/set.
5. Invoice will be verified by SSST at the basis of actual item, quantity.

ANNEXURE "E"
Capability Statement (CS)

1. Details of the Bidder:
    1.1 Name   :

    1.2 Address   :

    1.3 Contact Number   :

    1.4 Email id   :

2. Category:
    2.1 Manufacturer   :

    2.2 Authorized Distributor   :

    2.3 Dealer   :

    2.4 Other   :

Corporate Office:
Address   :
Description and Size of   :
Infrastructure
Does property is on lease or free hold, if on lease indicate date of expiry of lease in such case.

Similar Project/Services completed during the last two years:

Sr.No.	Nature of Project	Description	Qty. Details

Value of similar project in last three years:

Sr.No.	Project /Services (Turn Key basis)	Client Name	Value

Organizational Structure:
Technical   : <<Designation - No. of employees>>

Customer Support   : <<Designation - No. of employees>>

Administrative   : <<Designation - No. of employees>>

Others   : <<Designation - No. of employees>>

Service center near Shirdi:
Address   :
Contact Person Name :
Contact number   :

Name of Three Companies/Organizations with whom similar project was implemented in the last two years:

S.No.	Name	Start Date	End Date	Project Value	Contact person name, Designation & Cont. No.

(Purchase order copy & Project completion certificate from the Organization of the Project specified in list to be attached)

ANNEXURE "F"
Technical Specification Compliance Sheet

1) Core Switch – Qty-02, Make: Cisco/HPE Aruba/Extreme.

Sr.No.	Core Switch Specifications	Compliance Y/N
1.	**Switch Architecture and Performance:**	
1.1	Switch should have minimum 3.2 Tbps of higher Switching bandwidth & min 1000 Mbps of forwarding rate	
1.2	The switch should be equipped with minimum 16GB RAM, 16 GB Flash/SSD & 32 MB of packet buffer or more. Must support dual redundant power supplies that are hot swappable (supplied from day1). Must support N+1 redundant fan units / redundant fans with front to back airflow.	
1.3	Switch should support IPv4 and IPv6 switching and routing in hardware from day 1.	
1.4	Should support 0°C to 40 °C operating temperature and 10% to 90% relative humidity.	
1.5	The switch shall be supplied with the latest Modular OS version.	
2.	**Port Densities:**	
2.1	Switch Form Factor should be 1U /2U or Chassis based to meet the Port Configuration requirement with full functionalities.	
2.2	As per solution requirement switch support minimum 48 x 10/25G SFP28 and 8 x 40/100G QSFP+ . Vendor should quote the model to suffice the port	
3.	**Layer 2 features:**	
3.1	802. 1Q VLAN on all ports with support for 4k active concurrent VLANs & 4000 VLAN IDs and 802.1 AK or equivalent mechanism for dynamic VLAN propagation	
3.2	Must support IEEE standard such as 802.3ab, 802.3ae, 802.1s, 802.1w, 802.1d, 802.1ba, 802.1x, 802.1q, 802.3ad,802.1ab.	
3.3	Support for minimum 80K or more MAC addresses.	
3.4	Support for STP, MSTP, PVST+, RSTP.	
3.5	Should support Private VLAN,	
3.6	Should support SNMP and syslog Notification for MAC addition, deletion and movement across ports.	
4.	**Layer 3 features**	
4.1	Support for IP Unicast routing protocols (static, RIPv2, OSPFv2 & v3, VRRP, BGP, PIM-DM/SSM) from day 1.	
4.2	Support MVR and PIM-SM, PIM-SSM.	
4.3	Should support min 200K IPv4 routes, 150K IPv6 routes & 4K multicast groups or more.	
4.4	Should support policy-based traffic redirection.	
4.5	The switch should support unicast Reverse Path Forwarding (uRPF) check feature.	
5.	**Quality of Service (QoS) Features:**	
5.1	Must support Diff serv Marking	
5.2	Should support standard based protocols to dynamically reserve QoS and ensure lossless delivery of Real Time Traffic.	
5.3	Switch should support eight hardware queues per port.	
6.	**Security Features:**	
6.1	Switch Must support minimum 300 ACLs.	
6.2	Must support SSH-2, SFTP with encryption/authentication.	
6.3	Must support Denial of Service (DoS) protection. Please describe the switch capabilities to protect against DoS attacks.	

6.4	Must support 802.1x, RADIUS, TACACS+, Role-Base policy, MAC security.	
6.5	Must support the ability to authenticate multiple users on a single port via 802.1X, web, or MAC at the same time	
7.	Management Features:	
7.1	Should have dedicated console port and dedicated management port.	
7.2	Should support scheduled archiving / uploading of configuration and system log to a central server.	
7.3	Switch should support ASIC based Flow monitoring like SFLOW/NetFlow/IPFIX.	
7.4	Should support ability to restart individual CPU process like SNMP, SSH, STP etc. in case of process crash without the need to reboot the entire switch.	
7.5	Should be manageable by SSH, RMON, SNMP, and HTTP/s	
7.6	Should support fabric capabilities within same hardware. Must support the ability to automatically connect to the fabric backbone. Please describe the available features. Licenses for fabric network, Controller/Orchestration tool (including automation, dynamic segmentation etc.) or equivalent solution should be supplied from day 1.	
7.7	Should support OEM cloud / on premise management Zero touch provisioning either via cloud or on-premises NMS solution from day 1.	
8.	Standards:	
8.1	Switch should be compliant to following certifications and Safety Regulation: UL 60950-1, EN 60950-1, EN 60825-1, FCC CFR 47 Part 15 Class A, RoHS, WEEE, EN 55032, EN 55024, IEC/EN 61000-4-2,3,4,5,6,11 5	
9.	Warranty and Certification:	
9.1	All required licenses for above mentioned features and functionality should be included & quoted from day 1. All equipments should be covered under NBD Support contract with 24/7 TAC access. OEM should share NBD back-to-back contract copy with customer.	
9.2	OEM should have India Toll Free number TAC number, India R&D Center and at least 2x Support depot in India.	
9.3	All switches and transceivers should be from the same OEM. Core Switch and Access switches should have same operating systems.	
9.4	The OEM should belong to Gartner's Leaders Quadrant for the Enterprise Wired and Wireless LAN Infrastructure in the last 4 years.	
9.5	Warranty should include replacement of defective hardware components, entire device for 5 years, replacement of defective unit should be done within 7 business days.	
9.6	Access to software updates and upgrades, including new releases, security patches, and feature enhancements, for the entire duration of 5 years.	
9.7	24x7 access to TAC for 5 years, remote troubleshooting and support services included.	
9.8	5 years OEM warranty and end of life should not be less than 7 years from supply.	

2) Distribution Switches – Qty. 10, Make: Cisco/HPE Aruba/Extreme.

Sr.No.	Specification of Distribution switch	Compliance Y/N
1.	**Switch Architecture and Performance:**	
1.1	Switch should have minimum 1000 Gbps or higher Switching bandwidth & min 800 Mbps of forwarding rate	
1.2	Switch should be equipped with minimum 16GB RAM, 16 GB Flash/SSD & 32 MB of packet buffer or more. Must support dual redundant power supplies that are hot swappable from day1. Must support N+1 redundant fan units / fans with front to back airflow.	
1.3	Switch should support IPv4 and IPv6 switching and routing in hardware from day 1.	
1.4	Should support 0°C to 40°C operating temperature and 10% to 90% relative humidity	
1.5	The switch shall be supplied with the latest Modular OS version	
2.	**Required Port Densities:**	
2.1	Switch form factor should be 1U /2U or Chassis based to meet the port configuration requirement with full functionalities.	
2.2	As per solution requirement switch support minimum 24 x 1/10G SFP+, with minimum uplinks ports of 2 x 10 /25G SFP+ or 4x40/100G, Vendor should quote the model to suffice the port requirement.	
2.3	Should support high-speed stacking/cluster with the ability to stack up to eight units & should support minimum 160Gbps stacking bandwidth or switch should support HA between 2 switches with necessary optics and cables or DAC cables.	
3.	**Layer 2 features:**	
3.1	802. 1Q VLAN on all ports with support for 4k active concurrent VLANs & 4000 VLAN IDs and 802.1 AK or equivalent mechanism for dynamic VLAN propagation.	
3.2	Must support IEEE standard such as 802.3ab, 802.3ae, 802.1s, 802.1w, 802.1d, 802.1ba, 802.1x, 802.1q, 802.3ad,802.1ab / LLDP.	
3.3	Support for minimum 80K or more MAC addresses.	
3.4	Support for STP, MSTP, PVST+, RSTP.	
3.5	Should support Private VLAN,	
3.6	Should support SNMP and syslog notification for MAC addition, deletion and movement across ports.	
4.	**Layer 3 features:**	
4.1	Support for IP Unicast routing protocols (static, RIPv2, OSPFv2 & v3, VRRP, BGP) from day 1 and upgradeable to PIM-DM/SSM in future on same hardware.	
4.2	Support MVR and PIM-SM, PIM-SSM.	
4.3	Should support min 80K IPv4 routes, 40K IPv6 routes & 4K multicast groups or more.	
4.4	Should support policy-based traffic redirection.	
4.5	The switch should support unicast Reverse Path Forwarding (uRPF) check feature.	
5.	**Quality of Service (QoS) Features:**	
5.1	Must support Diff serv Marking.	
5.2	Should support standard based protocols to dynamically reserve QoS and ensure lossless delivery of real time Traffic.	
5.3	Switch should support eight hardware queues per port.	
6.	**Security Features:**	
6.1	Switch Must support minimum 300 ACLs.	
6.2	Must support SSH-2, SFTP with encryption/authentication.	
6.3	Must support Denial of Service (DoS) protection. Please describe the switch capabilities to protect against DoS attacks.	
6.4	Must support 802.1x, RADIUS, TACACS+, Role-Base policy, Mac security.	
7.	**Management Features:**	

	7.1	Should have dedicated console port and dedicated management port.	
	7.2	Should support scheduled archiving / uploading of configuration and system log to a central server.	
	7.3	Switch should support ASIC based Flow monitoring like SFLOW/Netflow/IPFIX.	
	7.4	Should support ability to restart individual CPU process like SNMP, SSH, STP etc. in case of process crash without the need to reboot the entire switch.	
	7.5	Should be manageable by SSH, RMON, SNMP, and HTTP/s.	
8.		**Standards:**	
	8.1	Switch should be compliant to following certifications and Safety Regulation: UL 60950-1, EN 60950-1, FCC CFR 47 Part 15 Class A, RoHS, WEEE, EN 55032, EN 55024, IEC/EN 61000-4	
9.		**Warranty and Certification:**	
	9.1	All required licenses for above mentioned features and functionality should be included & quoted from day 1. All equipments should be covered under NBD Support contract with 24/7 TAC access. OEM should share NBD back-to-back contract copy with customer.	
	9.2	OEM should have India Toll Free Number TAC number, India R&D Center and at least 2x Support depot in India.	
	9.3	All switches and transceivers should be from same OEM. Core Switch, Distribution switches and Access switches should have same operating systems.	
	9.4	The OEM should belong to Gartner's Leaders Quadrant for the Enterprise Wired and Wireless LAN Infrastructure in the last 4 years.	
	9.5	5 years OEM warranty and end of life should not be less than 7 years from supply.	

3) Access Switch 48 Ports Non PoE, Qty.- 6, Make: Cisco/HPE Aruba/Extreme.

Sr.No.	Specification of Access switch	Compliance Yes/No
1	1U/2U or chassis based 19-inch Rack mountable Ethernet switch.	
2	All functionalities of Switch shall be IPv6 compliant and it should work on IPv6 Platform without any additional hardware/ software.	
3	The switch shall be supplied with the latest Modular OS version.	
4	As a solution requirement switch should support minimum 48x 100Mb/1G BaseT RJ45 Ports and minimum uplinks ports of 2 x 10G SFP+.	
5	Must offer system performance of at least 176 Gbps switch bandwidth and 130Mpps forwarding rate.	
7	Switch must be supplied with minimum 1 power supply, support minimum 2 GB RAM and 2GB flash, support minimum 16K MAC or more, support minimum IPv4 ARP Table: 8K, support ip multicast entries :500 or more, support IPv4 Route Table: 3000 or more, support IPv6 Route Table:1500 or more.	
8	Switch should support Macsec on all ports. With 128-bit Advanced Encryption Standard (AES) support.	
9	Should support IEEE standards: -IEEE 802.3ab, EEE 802.3z, IEEE 802.3ae,IEEE	
10	VLAN Ids:4000 or more and 500 active VLANs.	
11	Switch should support QoS Egress Queues per port: 8.	
12	Switch should support IEEE 802.1d Spanning tree protocol.	
13	Switch should support 802.1s MSTP (Multiple instances of STP).	
14	Switch should support 802.1w RSTP (Rapid spanning tree), Should support IP FRR/IRF /ITU G.8032 or equivalent for ring resiliency for fast/better convergence from day 1.	
15	Switch should support 802.3ad Link Aggregation.	
16	Switch should support at least 8 Nos of 802.1p Priority Queues per port.	
17	Switch should support IGMP Snooping, MLD v1/v2 from day 1, Multicast Groups-500 or more.	
18	Switch should support Port mirroring/RSPAN.	
19	Switch should support shall be supported with Ipv4/Ipv6: Static routing, PBR, RIPv2, RiPng and OSPFv2/v3 from day 1.	
20	Switch should support MAC and 802.1 X authentication.	
21	Switch should support Radius and TACACS.	
22	Switch should support out-of-band management Port /Console Port and USB port.	
23	Switch should support RMON.	
24	Switch should support network management via SNMPv1/v2/v3.	
25	The Switch should support star and mesh as well as ring topology as a solution requirement.	
26	Switch Shall support Netflow/IPFIX/sflow for flow exports.	
27	Switch should support for Config/image upload and download from TFTP/FTP servers.	
28	Switch should support 4MB or more packet buffer.	
29	The switch shall conform to IEC-60950/CSA-60950/EN-60950/UL-60950, EN 300 386, CISPR 32, Class A, standard for safety requirements of information technology equipment.	
30	The offered equipment must be able to operate in the following environmental conditions: a. Operating temperature: 0°C to 45°C. b. Relative Humidity: 10% to 90% non-condensing.	
31	All required licenses for above mentioned features and functionality should be included & quoted from day 1. All equipment should be covered under NBD Support contract with 24x7 TAC access. OEM should share NBD back-to-back contract copy with customer.	

32	OEM should have India Toll Free number TAC number, India RnD Center and at least 2x Support depot in India.	
33	All switches and transceivers should be from same OEM. Core Switch, Distribution switches and Access switches should have same operating systems.	
34	The OEM should belong to Gartner's Leaders Quadrant for the Enterprise Wired and Wireless LAN Infrastructure in the last 4 years.	
35	5 years OEM warranty and end of life should not be less than 7 years from supply.	

4) Access Switch- 24 Port Non PoE, Qty.-22, Make: Cisco/HPE Aruba/Extreme.

Sr.No.	Specification of Access switch	Compliance Yes/No
1	1U/2U or chassis based 19-inch Rack mountable Ethernet switch.	
2	All Functionalities of Switch shall be IPv6 compliant and it should work on IPv6 Platform without any additional hardware/ software.	
3	The switch shall be supplied with the latest Modular OS version.	
4	As a solution requirement switch should support minimum 24x 100Mb/1G BaseT RJ45 Ports and minimum uplinks ports of 2 x 10G SFP+.	
5	Must offer system performance of at least 128 Gbps switch bandwidth and 95 Mpps forwarding rate.	
7	Switch must be supplied with minimum 1 power supply.	
8	Switch should support - minimum 2 GB RAM and 2 GB flash, minimum 16K MAC or more, minimum IPv4 ARP Table: 8000, IP multicast entries : 500 or more, IPv4 Route Table:3000 or more, IPv6 Route Table:1500 or more.	
9	Switch should support Macsec on all ports. With 128-bit Advanced Encryption Standard (AES) support.	
10	Should support IEEE standards: -IEEE 802.3ab, EEE 802.3z, IEEE 802.3ae.	
11	VLAN Ids:4000 or more and 500 active VLANs.	
12	Switch should support IEEE 802.1d Spanning tree protocol.	
13	Switch should support QoS Egress Queues per port: 8.	
14	Switch should support 802.1s MSTP (Multiple instances of STP).	
15	Switch should support 802.1w RSTP (Rapid spanning tree), Should support IP FRR/IRF /ITU G.8032 or equivalent for ring resiliency for fast/better convergence from day 1.	
16	Switch should support 802.3ad Link Aggregation.	
17	Switch should support at least 8 nos of 802.1p Priority Queues per port.	
18	Switch should support IGMP Snooping, MLD v1/v2 from day 1 , Multicast Groups- 500or more.	
19	Switch should support Port mirroring/RSPAN.	
20	Switch should support shall be supported with Ipv4/Ipv6: Static routing, PBR, RIPv2, RiPng and OSPFv2/v3 from day 1.	
21	Switch should support MAC and 802.1 X authentication.	
22	Switch should support Radius and TACACS.	

Sr.No.	Specification of Access switch	Compliance Yes/No
23	Switch should support out-of-band management Port /Console Port and USB port.	
24	Switch should support RMON.	
25	Switch should support network management via SNMPv1/v2/v3.	
26	The Switch should support star and mesh as well as ring topology as a solution requirement.	
27	Switch Shall support Netflow/IPFIX/sflow for flow exports.	
28	Switch should support for Config/image upload and download from TFTP/FTP servers.	
29	Switch should support 4 MB or more packet buffer.	
30	The switch shall conform to IEC-60950/CSA-60950/EN-60950/UL-60950, EN 300 386, CISPR 32, Class A, standard for safety requirements of information technology equipment.	
31	The offered equipment must be able to operate in the following environmental conditions.	
32	Operating temperature: 0°C to 45 °C.	
33	Relative Humidity: 10% to 90% Non-condensing.	
34	All required licenses for above mentioned features and functionality should be included & quoted from day 1. All equipment should be covered under NBD Support contract with 24/7 TAC access. OEM should share NBD back-to-back contract copy with customer.	
35	OEM should have India Toll Free Number TAC number, India R&D Center and at least 2x Support depot in India.	
36	All switches and transceivers should be from the same OEM. Core switch, Distribution switches and Access Switches should have same operating systems.	
37	The OEM should belong to Gartner's Leaders Quadrant for the Enterprise Wired and Wireless LAN Infrastructure in the last 4 years	
38	5 years OEM warranty and end of life should not be less than 7 years from supply	

5) Access Switch-12 Port Non PoE, Qty - 18, Make: Cisco/HPE Aruba/Extreme.

Sr.No.	Specification of Access switch	Compliance Yes/No
1	1U/2U or chassis based 19 Inch Rack mountable Ethernet switch.	
2	As a solution requirement switch should support minimum 12x 100Mb/1G BaseT RJ45 Ports and minimum uplinks ports of 2 x 10G SFP+.	
3	Switch must be supplied with minimum 1 power supply.	
4	Switch should support minimum 2 GB RAM and 2 GB flash.	
5	Should support - minimum 16K MAC or more, minimum IPv4 ARP Table: 8000 or high, minimum IPv4 route entries 3000 or high, minimum IPv6 route entries 1500 or high, minimum Multicast routing entries 500 or high, minimum VLAN entries 4096.	
6	Should support IEEE standards: -IEEE 802.3ab, EEE 802.3z, IEEE 802.3ae ———	

Sr.No.	Specification of Access switch	Compliance Yes/No
7	Switch should support IEEE 802.1d Spanning tree protocol.	
8	Switch should support QoS Egress Queues per port: 8.	
9	Switch should support 802.1s MSTP (Multiple instances of STP).	
10	Switch should support 802.1w RSTP (Rapid spanning tree), Should support IP FRR/IRF /ITU G.8032 or equivalent for ring resiliency for fast/better convergence from day 1.	
11	switch Should support minimum switching capacity 50Gbps.	
12	switch Should support minimum switching forwarding rate 50Gbps.	
13	Switch should support 802.3ad Link Aggregation.	
14	Switch should support network management via SNMPv1/v2/v3.	
15	The Switch should support star and mesh as well as ring topology as a solution requirement.	
16	Switch should support for Config/image upload and download from TFTP/FTP servers.	
17	Operating temperature: 0°C to 45 °C.	
18	Relative Humidity: 10% to 80%non-condensing.	
19	5 years OEM warranty and end of life should not be less than 7 years from supply.	

6) Transceivers 10G SFP+ LR Fibre Type, Make: Same as OEM of Switch (Cisco/HPE Aruba/Extreme)

Sr.No.	Specification of Transceivers	Unit	Qty	Compliance Y/N
1	Transceivers 10G SFP+ LR Fibre type: Single Mode Connector LC-LR.	Nos	160	
2	Transceivers 10G SFP+ SR Fibre type: Multi Mode Connector LC-SR.	Nos	25	
3	Transceivers 1G Copper connector type RJ45.	Nos	100	

7) Data Centre Security Components, (Make -C System, Mazor, Ravel)

Sr.No.	Description of Data Centre Security Components	UoM	Qty	Compliance Y/N
1	DC-Supply & Installation Rodent Controller System (12 Zone Rodent Repellent Panel - 1 Nos, Transducers - 11 Nos, 2 Core Cable - 100 Metres)	Sets	1	
2	DC-Supply & Installation of Fire Suppression System with Novac FM200 system For DC	Sets	1	
3	DC-Supply & Installation of FIRE ALARM SYSTEM (Kidde, Apollo, Agni) 2 Zone Convention Type fire alarm Panel - 1Nos, Photo Electric Smoke Detector below False Ceiling - 5 Nos, Above False Ceiling Smoke Detectors - 3 Nos, Response Indicators - 3 Nos, Manual Call Point - 1 Nos, Electronic Hooter - 1 Nos, Armoured 2 Core 1.5 Sqmm Cable - 100 Metres.	Sets	1	
4	DC-Supply & Installation of Water leak detection system with Control Panel, Sensors and Required Cables	Sets	1	
5	DC-Supply & Installation of 2 MP IP Cameras 6 Nos, 8 Channel NVR with 30 Days Backup, with required cables and accessories. (Axis, Honeywell, Bosch, Tyco)	Sets	1	
6	DC-Supply & Installation of Access Control biometric security system with control panel, Electromagnetic lock and push button system. (Times,	Sets	1	
7	DC-Supply & Installation of Environmental Monitoring System	Sets	1	
8	DC-Supply & Laying of CAT6 A Cable (SYSTIMAX, Panduit, Nexus)	Sets	5	
9	DC-Supply & Installation of CAT6A 24 Port Loaded Jack Panels (SYSTIMAX, Panduit, Nexus)	Box	8	
10	DC-Supply & Installation of 12 Core MPO Trunk OM4 Multimode 20 Metres (SYSTIMAX, Panduit, Nexus)	Nos	2	
11	DC-Supply & Installation of 12 Core MPO Trunk OM4 Multimode 30 Metres (SYSTIMAX, Panduit, Nexus)	Nos	2	

12	DC-Supply & Installation of LIU Loaded with 12 Port LC MPO Cassette (SYSTIMAX, Panduit, Nexus)	Nos	4	
13	DC-Supply & Installation of LIU Loaded with 48 Port LC 4 MPO Cassette (SYSTIMAX, Panduit, Nexus)	Nos	1	
14	Supply & Installation of LC-LC Fibre Patch Cards OM4 (SYSTIMAX, Panduit, Nexus)	Nos	20	
15	Supply & Installation of cable manager system for racks (vertical cable Managers 100/100-2 Nos, horizontal cable mangaers-10 Nos) (Netrack, Valrack)	Nos	2	
16	Supply & Installation of 42U 800/1000 Rack (Netrack, Valrack)	Nos	1	

8) DR Security Components (Make -C System, Mazor, Ravel)

Sr.No.	Description of Data Centre Security Components	UoM	Qty	Compliance Y/N
1	Supply & Installation Rodent Controller System (12 Zone Rodent Repellent Panel - 1 Nos, Transducers - 11 Nos, 2 Core Cable - 100 Meters)	Sets	1	
2	Supply & Installation of FIRE ALARM SYSTEM 2 Zone Convention Type fire alarm Panel - 1Nos, Photo Electric Smoke Detector below False Ceiling - 5 Nos, Above False Ceiling Smoke Detectors - 3 Nos, Response Indicators - 3 Nos, Manual Call Point - 1 Nos, Electronic Hooter - 1 Nos, Armored 2 Core 1.5 Sq mm Cable - 100 Meters	Sets	1	
3	Supply & Installation of Water leak detection system with Control Panel, Sensors and Required Cables	Sets	1	
4	Supply & Installation of 2 MP IP Cameras 3 Nos, 4 Channel NVR with 30 Days Backup, with required cables and accessories	Sets	1	
5	Supply & Installation of Access Control biometric security system with control panel, Electromagnetic lock and push button system	Sets	1	
6	Supply & Installation of Environmental Monitoring System	Sets	1	
7	Supply & Laying of CAT6 A Cable (SYSTIMAX, Panduit, Nexus)	Box	3	
8	Supply & Installation of CAT6A 24 Port Loaded Jack Panels (SYSTIMAX, Panduit, Nexus)	Nos	6	
9	Supply & Installation of 12 Core MPO Trunk OM4 Multimode 20 Metres (SYSTIMAX, Panduit, Nexus)	Nos	2	
10	Supply & Installation of 12 Core MPO Trunk OM4 Multimode 30 Metres (SYSTIMAX, Panduit, Nexus)	Nos	1	
11	Supply & Installation of LIU Loaded with 12 Port LC MPO Cassette (SYSTIMAX, Panduit, Nexus)	Nos	3	
12	Supply & Installation of LIU Loaded with 48 Port LC 3 MPO Cassette (SYSTIMAX, Panduit, Nexus)	Nos	1	
13	Supply & Installation of LC-LC Fibre Patch Cards OM4 (SYSTIMAX, Panduit, Nexus)	Nos	15	
14	Supply & Installation of cable manager system for racks (vertical cable Managers 100/100-2 no's, horizontal cable mangaers-10 Nos) (Netrack, Valrack)	Nos	1	

Note: Successful bidder have to bifurcation of items where unit is Sets.

9) Network Racks, LIU Patch panels, Patch Cords: Make Netrack / Valrack, Qty. 24

Sr.No.	Description	UoM	Qty.	Compliance Y/N
1	Supply & Installation of 42U Rack with all accessories 42U – 800WX1000D- Floor Mount Rack Conforms to DIN 41494 or Equivalent EIA / ISO / EN / CEA Standard -Construction - All Welded construction -Casters Wheels Set of 4 adjustable Levelers set of 4 -19" Reduced Channel - Loop Type -Top and Bottom Cover - Welded to Frame, -Vented and Field Cable entry exit cut outs -Front Door - Lockable Toughened Glass -Vertical Power Distribution Unit with 12 x 5/15 sockets Round Pin, 230 Volts AC 32 Amp with Plug -Finish - Powder Coated	Nos	04	

Sr.No.	Description	UoM	Qty.	Compliance Y/N
	-Horizontal Cable Managers -1U-Loop -Grounding and Bonding -Accessories - Cable Manager, Fan, Hardware mounting kit			
2	Supply & Installation of 22U Rack with all accessories 22U – 600 WX600 D- Floor Mount Rack - Construction - All Welded construction - Casters Wheels Set of 4 adjustable Levelers set of 4 -19" Reduced Channel - Loop Type - Top and Bottom Cover - Welded to Frame, -Vented and Field Cable entry exit cut outs - Front Door - Lockable Toughened Glass -Vertical Power Distribution Unit with 12 x 5/15 sockets Round Pin, 230 Volts AC 32 Amp with Plug -Finish - Powder Coated -Horizontal Cable Managers -1U-Loop -Grounding and Bonding - Rack Standard - DIN 41494 or better - Accessories - Cable Manager, Fan, Hardware mounting kit	Nos	06	
3	Supply & Installation of 12U Rack with all accessories Wall Mount 12U x 600 W x 600 D. -Construction - All Welded construction. -19" Reduced Channel - Loop Type. -Top and Bottom Cover - Welded to Frame. -Vented and Field Cable entry exit cut outs., -Front Door - Lockable Toughened Glass. -Vertical PDU with 6 x 5/15 Soc Round Pin, 230 Volts AC 32 Amp with Plug. -Finish - Powder Coated. -Horizontal Cable Managers -1U-Loop. -Grounding and Bonding. -Rack Standard - DIN 41494 or better. -Accessories - Cable Manager, Fan, Hardware mounting kit.	Nos	14	
4	Supply & Installation of 24-port Fully Loaded LIU with Couplers, Pigtails & Splice tray	Nos	68	
5	Supply & Installation of 48-port Fully Loaded LIU with Couplers, Pigtails & Splice tray	Nos	26	
6	Supply & Installation of CAT6 12 Port Loaded Jack Panel	Nos	20	
7	Supply & Installation of CAT6 24 Port Loaded Jack Panel	Nos	30	
8	Supply & Laying of SC-LC Single Mode Patch Cords	Nos	180	
9	Supply & Laying of SC-LC Multi Mode Patch Cords	Nos	50	
10	Supply & Installation of CAT6 1 Mtr Patch Cards	Nos	1000	
11	Supply & Installation of CAT6 2 Mtr Patch Cards	Nos	500	

10) OFC Cable Laying and Civil Works:

Sr.No.	Specification of Material	UoM	Qty	Compliance Y/N
1	24 Core Single mode OFC, **Make – Commscope, Panduit, Nexus,** Armored, Uni tube, Gel filled cable complying to ISO/IEC 11801, ITU-T G 652.D, Telcordia GR-20 Electro Chromium Coated Corrugated Steel Tape (ECCS) Core/Mode-Field Diameter@1310 nm(µm) - 9.2+/- 0.4 um Cladding Diameter - 125 + - 1 um, Coating Diameter - 245 + - 10 um Jacket – HDPE Black, Tensile Strength – Min 1000N or Better, Crush Resistance - 2000N/100 mm or Better. Nominal Cable Diameter - 12mm nominal, Operating Temperature - -20 Degree C to +50 Degree C, Structured Cabling Solution (Copper & Fibre) should be from one single OEM/Brand to achieve optimum performance. OEM should be member of International Structured Cabling Standards related Organization. The quoted Brand & OEM should have direct presence in India Market for at least 10+ Years, OEM should have ISO 9001:2015, ISO 14001:2015	Metres	85,000	
2	HDPE PLB duct pipe **Make – (ISI) Size: 80 MM,** Environment Stress Crack Resistance (ESCR), Impact Resistance, Crush Resistance, Low Coefficient of Friction, Temperature Resistance, Ultraviolet (UV) protection. ISI mark, IS 7328-1992 Compatible, IS 4984-1995 Compatible. Pipe Coupler, Saddlers, Nails, Rope, encloser and all required accessories for HDPE Laying and Fixing	Metres	15,000	
3	HDPE PLB duct pipe **Make – (ISI)Size: 1.5" (40 mm)** Environment Stress Crack Resistance (ESCR), Impact Resistance, Crush Resistance, Low Coefficient of Friction, Temperature Resistance, Ultraviolet (UV) protection. ISI mark, IS 7328-1992 Compatible, IS 4984-1995 Compatible. Pipe Coupler, Saddlers, Nails, Rope, encloser and all required accessories for HDPE Laying and Fixing	Metre	35000	
5	RCC Hume pipe ISI and Heavy duty 6" diameter and all required accessories for RCC Laying and Fixing (Road Crossing Purpose)	Metres	100	
6	GI Pipe IS 1239 Class C – Heavy 2"Size all required accessories for RCC Laying, Cutting, Jointing, Levelling, fitting (Road Crossing/Bridge Purpose)	Metre	50	
7	**Pre Cast Chamber Size 1 Meter X 1 Meter X 1 Meter** With Pre-cast RCC slab (Heavy Duty) with two handles to facilitate easy lifting and lettering 'Sansthan OFC' on top	Nos	10	
8	**Pre Cast Chamber Size 60 Cm X 60 CM X 60 CM Meter** With Pre-cast RCC slab (Heavy Duty) with two handles to facilitate easy lifting and lettering 'Sansthan OFC' on top	Nos	5	
9	a) **Soft Soil Approximate 25,000 meters** Excavating trenches up to a depth of 60 cm width 40 Cms at bottom of trench 30 Cms. Back filling the excavated trenches after laying, Jointing, Levelling, Fitting the HDPE / PLB pipe with protection as per tender specification. Laying /Pulling the OFC Cables through PLB-HDPE pipe. b) **Tar road/Concrete Road Approx 15,000 meters** Excavating trenches up to a depth of 60 cm width 40 Cms at bottom of trench 30 Cms. Back filling the excavated trenches after laying, Jointing, Levelling, Fitting the HDPE / PLB pipe with protection as per tender specification. Laying /Pulling the OFC Cables through PLB-HDPE pipe. Road restoration work with cement concrete 1:4:8 mix for thickness varying from 150mm to 225mm, including supply of concrete to evenly match the road. c) **On Wall with Saddle Approximate: 10000 Meters** Laying, Jointing, Levelling, Fitting the HDPE / PLB pipe with protection as per tender specification. Laying /Pulling the OFC Cables through PLB-HDPE pipe. Laying, Cutting, Jointing, Levelling, fitting and fixing GI Pipe and RCC Pipe with PLB/HDPE pipes/coils in trenches Supply and Fixing of Stone/RCC route Indicator including Digging of pit 1-metre on road side or on the trench/manhole/joint chamber	Metre	50,000	

Sr.No.	Specification of Material	UoM	Qty	Compliance Y/N
	for fixing of route/joint indicator, Painting & Sign writing on Route/Joint Indicators.			
10	Road crossing through horizontal boring method (manual / Mechanical) and inserting 6" diameter GI Pipes and pushing (HDPE/PLB Pipes/Coils inside. Depth shall be 2M and above GI Protection is must. (Qty 02 , horizontal bore will be 50 Meter each)	Nos	2	

11) Testing, labeling & Documentation and Facility Management for 5 years.

Sr.No.	Specification of Material	UoM	Qty	Compliance Y/N
1	**Facility Management for 5 years** The Supplier should appoint 02 Network / Hardware Technician for 60 months (Project Tenure). This technician will work in two shifts. Technician will be stationed at Shirdi on a fulltime basis. They will look after all Hardware calls, OS and software installation, OFC Calls, Patch Management, and Switch Configuration.	Sets	1	
2	**Documentation.** The documentation should cover following • Network diagram- overall network with IP scheme. • Individual Networks-Main building LAN and remote LANS. • Network Architecture diagram with all the routes define. • Network test reports, Configuration details of all switches, Security devices. • Back up and Security Policy documents. • Network usage policies provided by SSST.	Sets	1	
3	**Testing** The Cabling work is to be certified by the respective Manufacturer for a period of 15 years. Certification charges are to be borne by bidder.	Sets	1	

12) Network Monitoring Solution, Qty-01.

Sr.No.	Specifications	Compliance Y/N
1	Network Monitoring Solution (NMS) should Support Open standard to integrate with Multiple OEMs such as SNMP and MIBs or Api, SSH, PING, HTTPS.	
2	NMS Should have Single Pane of Glass Overview of the network.	
3	NMS Solution should be virtual / hardware based appliance.	
4	NMS Solution Architecture Must be able to support minimum 250 Devices (switches, routers, firewalls, servers, wireless VMware, VM, application, database) and should be scalable to 10000 Devices.	
5	NMS Must be able to create correlated topology based on CDP, LLDP , SNMP , STP connectivity hierarchy.	
6	NMS Must allow system-level operations such as device discovery, event management, logging and application & database monitoring to be performed centrally.	

Sr.No.	Specifications	Compliance Y/N
7	NMS Must provide the capabilities to modify, filter, and create your own flexible views of the network.	
8	NMS solution must allow for graphing or viewing in table format and multiple OIDs that are user selectable.	
9	Network Monitoring should allow scheduled events or tasks that the user can perform behind the scenes or schedule an event for another time in the future.	
10	NMS Must provide a utility to view and select MIB objects from a tree-based representation and include a compiler for new or third-party MIBs.	
11	NMS Must support TACACS, RADIUS, LDAP,AD Authentication for users of the NMS application.	
12	NMS Solution should be able to monitor Bandwidth, Interface Discards, error rates.	
13	Must provide an audit trail (event log).	
14	Must provide a detailed inventory of products organized by device type.	
15	Must provide the ability to track device attributes such as serial number, asset tag, firmware version, CPU type, and memory.	
16	Must support the ability to present detailed configuration information including date and time of configuration saves, firmware version, and file size.	
17	NMS Must provide a centralized history of inventory management operations.	
18	NMS Must be able to generate in-depth reports for network inventory.	
19	NMS must be able to schedule routine device configuration back-ups.	
20	Must provide a web interface that contains reporting, dashboards, troubleshooting and monitoring tools.	
21	NMS Solution should monitor Net flow.	
22	Must provide port level analysis capability.	
23	Must provide customizable reports .	
24	Should have the capability to integrate with 3rd party vendors such as Vmware, Sophos, Checkpoint, Cisco, Cisco Miraki, HPE, Dell, Fortinet, Microsoft Hyper V, SCCM, WatchGuard, Palo alto, McAfee, Citrix, Open stack etc.	

13) Desktop, Makes HP/DELL Qty-205.

Sr.No.	Technical Specification	UoM	Qty
1	**Form Factor - AIO** 14th Gen Intel® Core™ i5-14500T (24 MB cache, 14 Cores, 20 Threads, 1.7 GHz to 4.8 GHz Turbo, 35 W), Chipset: Q670 or Higher RAM: 8 GB, 1 x 8 GB-DDR5 (4800MTs or Higher), Minimum 2 DIMM Slots, SSD: 512 GB, M.2 2230, PCIe NVMe Gen 4, SSD, Class 35 Graphics: Intel® Integrated Graphics, Screen Size 23.8" FHD 1920X1080, IPS Non Touch, Antiglare 250NITS Wired Keyboard, USB Optical Mouse (From OEM), FHD Camera, Dual Array Microphones, Stereo Speakers 2Wx2 Ports: RJ-45 (Nos.-1), HDMI 1.4 / Display Port (Nos.-1), 1 USB 3.2 Gen 2 (10 GBPS) Type - C, 2 USB 3.2 Gen 1 (5 GBPS), 2 USB 2.0 (480 MBPS) with Smart Power On Ports, 1 Audio lineout Port, Intel WIFI 6AX201 2x2 WIFI 80211AX, Bluetooth 5.2 Windows 11 Pro, Energy star qualified (OEM Preloaded) **Warranty: 5 years Onsite next business day.**	Nos	75
2	**Form Factor – Tower** 14th Gen Intel® Core™ i5-14500 (24 MB cache, 14 Cores, 20 Threads, 1.9 GHz to 5.0 GHz Turbo), Chipset: Q670 or higher	Nos	100

Sr.No.	Technical Specification	UoM	Qty
	RAM: 8 GB, 1 x 8 GB-DDR5 (4400MTs or Higher), Minimum 2 DIMM Slots, SSD: 512 GB, M.2 2230, PCIe NVMe Gen 4, SSD, Class 35 Graphics: Intel® Integrated Graphics, Screen Size 19.5" " 1600 X900 Non Touch or Higher, Anti-Glare Wired Keyboard, USB Optical Mouse (From OEM), Ports: RJ-45 (Nos.-1), HDMI 1.4 (Nos.-1) Display Port 1.4a (Nos. -1), USB 2.0 (Nos. – 02), USB 3.2 Gen 1 Type C (Nos. 1), USB 3.2 Gen 1 (Nos.-03), Windows 11 Pro, Energy star qualified (OEM Preloaded). **Warranty: 5 years Onsite next business day.**		
3	**Form Factor – Tower (Dual Display)** 14th Gen Intel® Core™ i5-14500 (24 MB cache, 14 Cores, 20 Threads, 1.9 GHz to 5.0 GHz Turbo), Chipset: Q670 or higher RAM: 8 GB, 1 x 8 GB-DDR5(4400MTs or Higher), Minimum 2 DIMM Slots, SSD: 512 GB, M.2 2230, PCIe NVMe Gen 4, SSD, Class 35 Graphics: Intel® Integrated Graphics, Screen Size 19.5" 1600 X900 Non Touch or Higher, Anti-Glare X **2 Units,** Wired Keyboard, USB Optical Mouse (From OEM), Ports: RJ-45 (Nos.-1), HDMI 1.4 (Nos.-1) Display Port 1.4a (Nos. -1), USB 2.0 (Nos. – 02), USB 3.2 Gen 1 Type C (Nos. 1), USB 3.2 Gen 1 (Nos.-03) **Additional HDMI or Display for Dual Monitor connectivity** Windows 11 Pro, Energy star qualified (OEM Preloaded). **Warranty: 5 years Onsite next business day.**	Nos	15
4.	**Form Factor - Tower –Workstation** 14th Gen Intel® Core™ i7-14700 (33 MB cache, 20 cores, 28 threads, 2.1 GHz to 5.4 GHz Turbo, 65W) Chipset: W680 or Higher RAM: 32 GB: 1 x 32 GB, DDR5, 4400 MT/s, 4 DIMM Slots: Up to 128 GB Non-ECC DDR5 SSD: 1 TB, M.2 2280, Gen 4 PCIe NVMe, SSD, Class 40 NVIDIA® T1000, 8 GB GDDR6 or AMD Radeon™ Pro W7600, 8 GB GDDR6 Screen Size 24" FHD 1920X1080 Non Touch, Antiglare **Port Front:** 2 USB 3.2 Gen 1 (5 Gbps) port 1 USB 3.2 Gen 2 (10 Gbps) Type-C® port 1 USB 3.2 Gen 2 (20 Gbps) Type C Port with Power share 1 Universal Audio port **Port Rear:** 2 DisplayPort 1.4a HBR2 ports 2 USB 2.0 Ports with Smart power 1 RJ45 (1 GbE) Ethernet port 2 USB 3.2 Gen 2 (10 Gbps) ports 2 USB 3.2 Gen 2 (10 Gbps) Type-C® ports 1 Audio line-out Intel WiFi 6E AX211 2 X 2, 802.11AX, Bluetooth 5.3 Wired Keyboard, USB Optical Mouse (From OEM), Windows 11 Pro, Energy star qualified (OEM Preloaded). Power 300 W Platinum Internal Power Supply (80 Plus Platinum Certified). **Warranty: 5 years Onsite next business day.**	Nos	5
5.	**Laptop** 13th Gen Intel® Core™ i7 1355U or Higher (12 MB cache, 10 cores, 12 threads, up to 4.6 GHz Turbo) 16 GB: 1 X 16 GB/2 x 8 GB, DDR5, 5200 MT/s or higher 512 GB, M.2 2230, PCIe NVMe Gen 4, SSD, Class 35 Graphics Integrated Intel UHD Wi-Fi 2X2, Bluetooth Enable, FHD Camera, Mic Ports: RJ45, USB4 Gen 2 Type C (20 G X1), USB 3.2 Gen 1 Type A ports (Nos. – 2) , Audio line-out, HDMI 1.4 (Nos.-1), Screen Size: 14", FHD 1920x1080, 60Hz, WVA/IPS, Non-Touch, Anti-Glare, 250 nit, NTSC 45%,	Nos	10

14) Laser Printer Makes HP, Cannon

	UoM	Qty
Laser Printer Cannon LBP6030W/ LBP 2900b/ HP 1020+ **Warranty: 3 years Onsite next business day**	Nos	50

15) Dot Matrix Printer

Epson LQ-590II Dot Matrix Impact Printer, 24-pin Bidirectional Parallel (IEEE 1284 Nibble mode supported) USB 2 0, 24-pin, 80-column, USD speed of 550 characters/Sec **Warranty: 3 years Onsite next business day**	Nos	50

16) Firewall Qty. – 02, Make - FortiGate/Cisco/ Palo Alto

Sr.No.	Features Description of Firewall	Compliance Y/N
1	**Hardware Architecture**	
1.1	The firewall should be a purpose built hardware appliance supporting zone based firewall using Stateful Inspection, Intrusion Prevention, Web/URL Filtering, Application Control, User Authentication, Gateway DLP, Advanced Routing, Gateway Antivirus and Advanced Threat Protection (Zero-Day Malware Prevention) functions.	
1.2	The platform should use either Multi-Core CPU or ASIC-based or equivalent architecture that is optimized for packet and application level content processing.	
1.3	The firewall is to be offered in High Availability (1+1) in Active/Active HA or Active/Passive with Active sync of the configuration on the secondary firewall and logs stored out of the firewall	
1.4	Firewall appliance should have a minimum of 4x 10GE SFP+ Slots, 4 x 1GE SFP Slots and 12x 1GE RJ45 GE interfaces from day one. All these interfaces should be available simultaneously.	
1.5	Each firewall appliance should be fully populated with SFP transceiver modules from day one.	
1.6	Firewall appliance should have hot swappable redundant power supply from day one.	
1.7	The administrator must be able to view report on the CPU usage along with details of process specific utilization in GUI/CLI in real-time.	
2	**Performance & Scalability**	
2.1	A Minimum application throughput of NG Firewall in real world/production environment/Application Mix with all modes enabled– up to 20 Gbps.	
2.2	Threat Prevention throughput (including FW, IPS, Application Control & Antivirus) must be at least 10 Gbps with real-world / enterprise mix traffic and with all modes and full scan enabled	
2.3	NGFW (including FW, IPS, and Application Control) throughput must be at least 10 Gbps with real-world / enterprise mix traffic.	
2.4	Firewall should support minimum of 3,00,000 new sessions per second	
2.5	Firewall should support at least 80,00,000 concurrent sessions	
3	**Firewall Features**	
3.1	Firewall should provide native application firewalling , content inspection and user-id integration	
3.2	The Firewall solution should support NAT64, DNS64, DNS6 & DHCPv6	
3.3	The physical interface should be capable of link aggregation as per IEEE 802.3ad standard.	
3.4	The proposed system should have integrated Traffic Shaping functionality.	
3.5	The proposed solution should support Virtualization (Virtual Firewall, Security zones and VLAN) with minimum 10 Virtual Firewall license.	
3.6	Firewall solution must support dynamic SDN connectors to Public and Private Cloud vendors like AWS, Azure, GCP, VmWare ESXi/NSX, OpenStack etc. for dynamic object address creation and updation.	
3.7	Should support IPSEC, PPTP, L2TP & SSL VPN	
3.8	Solution must support at least 500 concurrent SSL VPN users from day one. Any additional licenses should be included from day one.	
4	**Advanced Routing Capabilities**	
4.1	The proposed systems should support automatic ISP/link failover as well as ISP/link load sharing for outbound traffic.	

Sr.No.	Features Description of Firewall	Compliance Y/N
4.2	The proposed system shall support Link SLA Monitoring based on below parameters and perform routing decision change based on configured SLA's for particular IP/User/Application on the basis of:	
4.2.1	Latency	
4.2.2	Jitter	
4.2.3	Packet loss threshold	
5	**Next Generation Intrusion Prevention System**	
5.1	Threat Prevention throughput (including FW, IPS, Application Control & Antivirus) must be at least 10 Gbps with real-world / enterprise mix traffic and with all modes and full scan enabled	
5.2	Should have the capability to inspect SSL traffic. The SSL inspection throughput should be minimum of 7 Gbps or more	
5.3	The proposed firewall shall be able to handle (alert, block or allow) unknown/unidentified applications like unknown UDP & TCP	
5.4	The proposed firewall should have the ability to create custom application signatures and categories directly on firewall without the need of any third-party tool or technical support.	
5.5	The NGFW must have GUI based packet capture utility within its management console with capability of creating packet capture filters for IPv4 and IPv6 traffic and ability to define the packet and byte count	
5.6	The proposed firewall shall be able to implement Zones, IP address, Port numbers, User id, Application id and threat protection profile under the same firewall rule or the policy configuration	
5.7	The firewall must support creation of policy based on wildcard addresses to match multiple objects for ease of deployment	
5.8	The proposed firewall shall delineate different parts of the application such as allowing Facebook chat but blocking its file-transfer capability inside the chat application base on the content.	
5.9	The proposed firewall shall be able to protect the user from the malicious content upload or download by any application. Example Blocking a malicious file downloads via a chat or file sharing application.	
5.11	The firewall must have the ability to manage firewall policy even if management server is unavailable	
5.12	The firewall must disallow root access to firewall system all users (including super users) at all times.	
5.13	The firewall must be capable of prevention against flooding of new sessions with high-volume single-session and multiple-session attacks.	
5.14	IPS solution should have capability to protect against Denial of Service (DoS) attacks. Should have flexibility to configure threshold values for each of the anomaly. DoS protection should be applied and attacks stopped before firewall policy look-ups.	
6	**Application Control Features:**	
6.1	Should have the intelligence to identify & control of popular IM & P2P applications like KaZaa, Bit Torrent, Skype, You Tube, Facebook, LinkedIn etc.	
6.2	Should have a native capability to enable application based polices on base functionality and block other sub-applications (disabling upload , download , chat but allowing base email functionality)	
6.3	The proposed system shall have the ability to detect, log and take action against network traffic based on over 3,000 application signatures	
6.4	The proposed system shall have the ability to identify, block or rate limit applications.	
6.5	Solution should support creation of custom application signatures.	
7	**Anti-Virus, Anti-Bot & Advanced Threat Protection**	
7.1	Should be able to block, allow or monitor only using AV signatures and file blocking based on per firewall policy or based on firewall authenticated user groups for HTTP, SMTP, POP3, IMAP, FTP , SMB protocols & their encrypted versions	
7.2	Firewall must include Anti-bot capability using IP reputation DB, and should be also be able to terminate botnet communication to C&C servers.	

Sr.No.	Features Description of Firewall	Compliance Y/N
7.3	The proposed solution should automatically detect and confirm multistage zero-day malware and targeted attacks without prior knowledge of the malware by performing cloud-based sandboxing of suspicious files.	
7.4	The solution must employ a cloud sandbox analysis engine using virtual execution to detect zero day and unknown threats and must not be reliant only on signatures.	
7.5	The Sandbox functionality of proposed solution should utilize a state-full attack analysis including Bare-Metal Analysis to detect the entire infection lifecycle, and trace the stage-by-stage analysis of an advanced attack, from system exploitation to outbound malware communication protocols leading to data exfiltration.	
7.6	The Sandboxing environment should provide an update signature for unknown threat	
7.7	The proposed firewall should have contect disarm and reconstruct feature to scan office and pdf files for active content and strip the actvie contents from these files.	
7.8	Should have DNS security feature to block malicious request from inside hosts to outside bad domains and should be able to integrate and query third party external threat intelligence data bases to block bad IP address, Domain and URLs	
7.9	The proposed solution must have be able to identify DGA and DNS tunnelling.	
7.1	The proposed solution must have DNS security that provides Tight integration with next-generation firewalls eliminates the need for standalone tools and enables automated threat response.	
7.11	The proposed solution must have option to enforce Policies that can be configured for action to block malicious domains and identify infected machines.	
7.12	The proposed solution should have URL filtering feature with 70+ categories categorizing URL.	
7.13	The URL filtering service should be able to override categorization of a site by creating custom categories.	
7.14	The solution must be able to define AV scanning on per policy basis such that certain policies may be excluded from AV scan while some policies to be always scanned	
7.15	Should be able to call 3rd party threat intelligence data on malicious IPs, URLs and Domains to the same firewall policy to block those malicious attributes and list should get updated dynamically with latest data	
7.16	Vendor should automatically push dynamic block list with latest threat intelligence data base on malicious IPs, URLs and Domains to the firewall policy as an additional protection service	
7.17	The NGFW should have native protection against credential theft attacks(without the need of endpoint agents) with ability to prevent the theft and abuse of stolen credentials and the following :	
	· Automatically identify and block phishing sites	
	· Prevent users from submitting credentials to phishing sites.	
8	User Authentication	
8.1	The proposed solution shall be able to support various form of User Authentication methods simultaneously, including:	
8.2	Local Database entries	
8.3	LDAP server entries	
8.4	RADIUS server entries	
8.5	Windows AD (Single Sign On capability - both Agent-based and Agentless)	
9	Data Leakage Prevention	
9.1	Firewall should have DLP functionality. Any additional hardware/ software/ license should be included from day one.	
9.2	System should allow administrator to prevent sensitive data from leaving the network. Administrator should be able to define sensitive data patterns, and data matching these patterns that should be blocked and/or logged when passing through the unit.	
9.3	Solution must detect, protect and log sensitive data travelling through HTTP and HTTPS channels	
9.4	DLP actions should be : Log only, block, quarantine user/IP/Interface	
10	High Availability	

Sr.No.	Features Description of Firewall	Compliance Y/N
10.1	System should have built-in High Availability (HA) features.	
10.2	Should support state full session maintenance in the event of a fail-over to a standby unit.	
10.3	Firewall in HA should support seamless up gradation activity for all major and minor versions	
10.4	High Availability feature must be supported for either NAT/Route or Transparent mode	
10.5	High Availability Configurations should support Active/Active & Active/ Passive.	
11	Logging Reporting & Management	
11.1	Solution must include external logging and reporting. . There should be a log forwarding feature to forward firewall logs to logging server. In case of virtual appliance for logging underlying server hardware to be provisioned by bidder.	
11.2.1	Traffic reports: availability, bandwidth usage per access circuit, bandwidth usage per application, QoS per access circuit with bytes , sessions , source and destination	
11.2.2	Security reports: all antivirus, web filtering, application control, intrusion prevention, email filtering, data leak prevention with user ID , source IP , Source and Destination region should be available within the firewall.	
11.2.3	Audit logs like admin authentications, detailed configuration changes including previous configuration and modified configuration.	
11.3	It should show near real-time traffic statistics	
11.4	Logging and Reporting solution should be able to perform Historic Retrospective Scan on the collected logs and reports. It should be able to scan previously received DNS, web filter, traffic logs back in time, so that when new definitions are received from threat intelligence server it can use new information to compare against old logs to check if there was any successful communication with malicious domains/URLs in the recent past.	
11.5	Logging and Reporting solutions should have minimum 2 TB storage capacity	
11.6	The solution must have the capability to give insight on optimize the security rule.	
11.7	The proposed solution must allow single policy rule creation for application control, user based control, host profile, threat prevention, Anti-virus, file filtering, content filtering.	
11.8	Should have real time logging base on all Traffic, Threats, User IDs, URL filtering, Data filtering, Content filtering, unknown malware analysis, Authentication, Tunnel Traffic and correlated log view base on other logging activities	
11.9	Should support the report generation on a manual or schedule (Daily, Weekly, Monthly, etc.) basis	
11.11	Should allow the report to be exported into other format such as PDF, HTML, etc.	
11.12	Should have built in report templates base on Applications, Users, Threats, Traffic and URLs	
11.13	Should be able to create report base on SaaS application usage	
11.14	Should be able to create reports base user activity	
11.15	Should be able to create custom report base on custom query base any logging attributes	
11.16	On device management service should be able to provide all the mentioned features	
12	Support and RMA	
12.1	Proposed solutions including Firewall & Reporting Solution should include licenses required to support above mentioned features and functionalities along with 24x7 remote support directly from OEM and Next Business Day RMA replacement for 5 years.	
12.2	**5 years OEM warranty and end of sale should be 7 years from supply**	

17) UPS Make APC, Vertiv, Libert, Fuji/Hitachi

Sr.No.	Specification of UPS	UoM	Qty.	Compliance Y/N
1	30 KVA Online with 3P IN 3P OUT 45-minute battery backup, MS Open rack, interlink, Installation charges. Comprehensive Warranty 5 years Onsite	Nos	1	
2	20 KVA Online with 3P IN 3P OUT 45-minute battery backup, MS Open rack, interlink, Installation charges. Comprehensive Warranty 5 years Onsite	Nos	1	

3	10 KVA Online with 1P In and 1P Out 45-minute battery backup, MS Open rack, interlink, Installation charges. Comprehensive Warranty 5 years Onsite	Nos	5	
4	3 KVA Online with 1P In and 1P Out 45-minute battery backup, MS Open rack, interlink, Installation charges. Comprehensive Warranty 5 years Onsite	Nos	9	
5	600 VA With 15 Minutes battery backup	Nos	15	

18) **Data I/O: Qty -150, Make: Commscope, Panduit, Nexus**

Technical Specifications of Information Outlets	Compliance Yes/No
Information Outlets: Faceplate with Single / Dual shutter, Screws / hole covers to supplied with face plate Labelling on transparent plastic window, Face Plate - ABS, UL94-HB, Dust Cover - ABS, UL94-HB PVC Back Box, Category 6 UTP Keystone, Suitable for 23-26 AWG stranded and solid wire. With required CAT6 Cable (Average distance of each I/O is 45 metres)	

ANNEXURE "G"

Locational Distance Details:

Sr. No.	Route	From	To	OFC Core	Cable Nos.	Location Distance (Mtr.)	Required Cable (Mtr.)
1	A	DC	DR	24 Core	2	3200	6400
2	B	DC	DR	24 Core	2	3300	6600
3	A	DC	Admin Building	24 Core	2	1500	3000
4	A	DC	New Darshan Queue Complex	24 Core	2	1300	2600
5	A	DC	Saibaba Bhaktaniwas (500 Room)	24 Core	2	2500	5000
6	A	DC	Saibaba Hospital	24 Core	2	2500	5000
7	A	DC	Sai Ashram Dharmashala	24 Core	2	2500	5000
8	A	DC	New Education Complex	24 Core	2	2600	5200
9	B	DR	Admin Building	24 Core	2	2000	4000
10	B	DR	New Darshan Queue Complex	24 Core	2	2000	4000
11	B	DR	Saibaba Bhaktaniwas (500 Room)	24 Core	2	750	1500
12	B	DR	Saibaba Hospital	24 Core	2	2500	5000
13	A	Admin Building 3 rd Floor	Sai Complex	24 Core	1	250	250
14	A	Admin 3 rd floor	Mangal Karalaya	24 Core	1	500	500
15	A	Admin 3 rd floor	Admin Building 2nd Floor	24 Core	1	100	100
16	A	Admin 3 rd floor	CCTV Section	24 Core	1	800	800
17	A	Admin 3 rd floor	Sai Udyan	24 Core	1	1000	1000
18	A	Admin 3 rd floor	Book Store	24 Core	1	800	800
19	A	Admin 3 rd floor	PRO Office	24 Core	1	500	500
20	A	Admin 3 rd floor	Donation Counter No. 1	24 Core	1	700	700
21	A	Admin 3 rd floor	Donation Counter No. 2	24 Core	1	1000	1000
22	A	Admin 3 rd floor	Sai Meeting Hall	24 Core	1	1000	1000
23	A	Admin 3 rd floor	Gate No. 4	24 Core	1	1000	1000
24	A	Saibaba Bhaktaniwas Server Room	Vehicle	24 Core	1	1300	1300
25	A	Saibaba Bhaktaniwas Server Room	ITI	24 Core	1	700	700
26	A	Saibaba Bhaktaniwas Server Room	Saibaba Kanya Vidya Mandir	24 Core	1	700	700
27	A	Saibaba Bhaktaniwas Server Room	Saibaba Bhaktaniwas Room Booking	24 Core	1	50	50
28	A	Saibaba Bhaktaniwas Server Room	Saibaba Bhaktaniwas Prasadalaya	24 Core	1	50	50
29	A	Darshan Complex	Siniwas Meeting Hall	24 Core	1	150	150
30	A	Darshan Complex	Purchase	24 Core	1	50	50
31	A	Saibaba hospital	Ware House	24 Core	1	2000	2000
32	A	Saibaba hospital	Dwarawati Bhaktaniwas	24 Core	2	1300	2600
33	A	Saibaba hospital	Sainath Admin Building	24 Core	2	2500	5000
34	A	Saibaba hospital	Shirdi Bus Stand	24 Core	2	250	500
35	A	Ware house	Dwarawati Bhaktaniwas	24 Core	1	2000	2000
36	A	Dwarawati Bhaktaniwas	Sainath Admin Building	24 Core	1	1300	1300
37	A	Sainath Hospital Admin	Sainath Hospital Reception	24 Core	1	500	500
38	A	Sai Ashram Dharmashala	Sainagar Railway Station	24 Core	1	3000	3000
39	A	Sai Ashram Dharmashala	Sai Plakhi Niwara	24 Core	1	3000	3000
40	A	DC	Sai Prasadalaya	24 Core	1	1000	1000

Sr. No.	Route	From	To	OFC Core	Cable Nos.	Location Distance (Mtr.)	Required Cable (Mtr.)
41	A	DC	Mechnical Department	24 Core	1	500	500
42	A	DR	Booking Counter	24 Core	1	30	30
				Total		54680	85380

ANNEXURE "H"
Tentative Requirement of LIU and Patch Panels:

Distribution Switches	Access Switch	Total Cables (Each of 24 Core)	Total Cores	LIU 48 Port (Nos.)	LIU 24 Port (Nos.)	New Rack	New I/O (Nos.)	New Patch Panel
Data centre	OFC to distribution location	16	384	4	12	42U X 2 No.		-
	OFC to Access location	2	48		2	-		-
	Sub Data Centre IT work area					-	10	12 Port
	Sai Prasadalaya	1	24		1	24U	10	12 Port
	Mechanical Department	1	24		1		10	12 Port
New Education Complex	New Education Complex	2	48		2	24U	20	24 Port
Admin 3 rd Floor	Third Floor from DC	2	48	1				
Admin 3 rd Floor	Third Floor from DR	2	48	1				
	OFC to Access location	12	288		12			
	Admin2nd Floor	1	24	1		42U	20	24 Port
	CCTV LIVE	1	24		1	12U	10	12 Port
	Sai Udyan Office	1	24		1	12U	10	12 port
	Bookstore	1	24		1	12U		
	Donation no 2	1	24		1	12U		
	Sai Complex	1	24		1	12U	12	12 Port
	Mangal Karalaya	1	24		1	12U	10	12 Port
	Donation no 1	1	24		1			12 Port
	O Meeting Hall	1	24		1	12U	6	12 Port
	Gate no 4	1	24		1	12U	5	12 Port
	PRO at Gate N0 1	1	24		1		10	12 port
Darshan Line	Darshan Line (from DC	2	48	1				
	Darshan Line (From DR)	2	48	1				
	Access location OFC	2	48		2			
	Purchase	1	24		1			
	Meeting Hall Sainivas	1	24		1	12U	4	12 Port
SAIBABA BHAKTNIWASHN SBN	SBN from DC and DR	4	96	2		24U		
	OFC to Access location	5	120		5			
	Booking Counter	1	24		1			
	KVM	1	24		1			
	ITI	1	24		1			
	Vehicle	1	24		1		6	12 Port
	SBN Prasadalaya	1	24		1	12U	6	12 Port
SAIBABA HOSPITAL SBH	Hospital Data Center	4	96	2		24U		
	OFC to Access location	7	168	3	1			
	Bus Stand	2	48	1			4	12 Port
	Dwarawati	4	96	1	2	24U		
	Warehouse	3	72	1	1			
	Sainath Hospital Admin	3	72	1	1	12U		

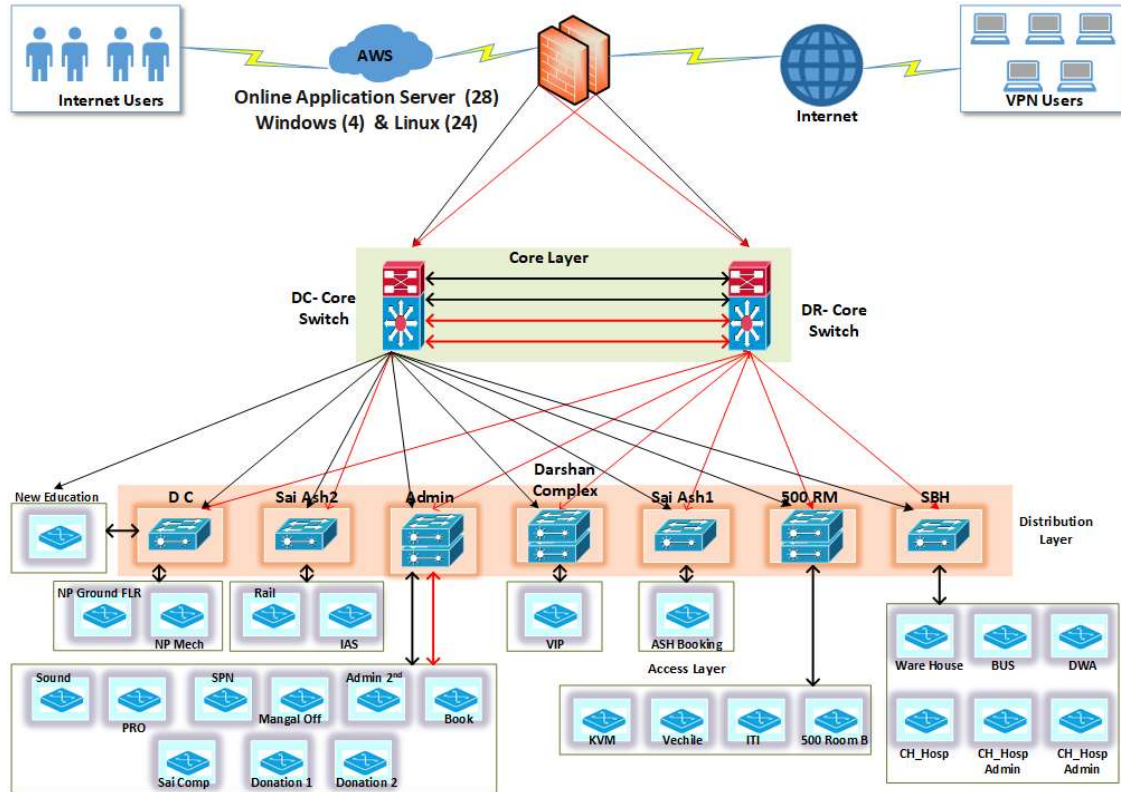| Distribution Switches	Access Switch	Total Cables (Each of 24 Core)	Total Cores	LIU 48 Port (Nos.)	LIU 24 Port (Nos.)	New Rack	New I/O (Nos.)	New Patch Panel
	Sainath Hospital Reception	1	24		1	12U		
Saiashram Dharmshala	Saiashram Dharmshala	4	96	2		24U		
	OFC to Access location	2	48		2			
	IAS academy	1	24		1	12U	5	12 Port
	Railway Station	1	24		1	12U	5	12 Port
Disaster Recovery	Disaster Recovery	4	96	2		42U		
	OFC to Access location	8	192	4				
	Saiashram Booking							

ANNEXURE "I"

Buy back Material:

Bidder have to take below listed material back, its consulate cost should be reflected in BOQ.
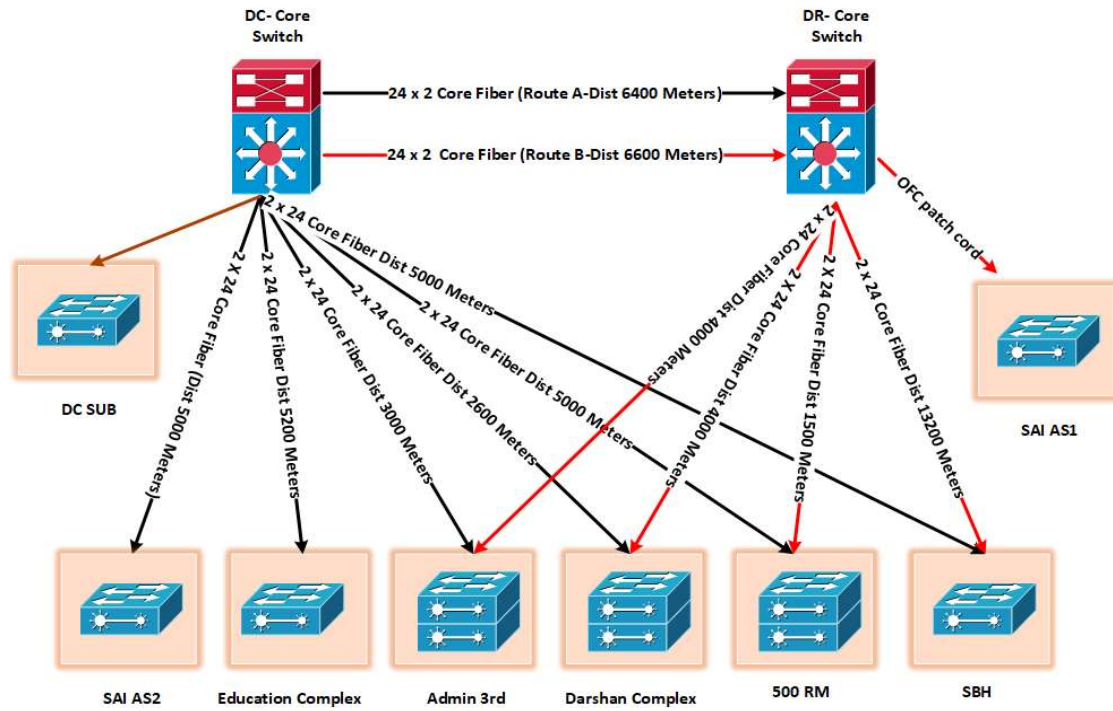(Successful bidder have to give price of each unit separately)

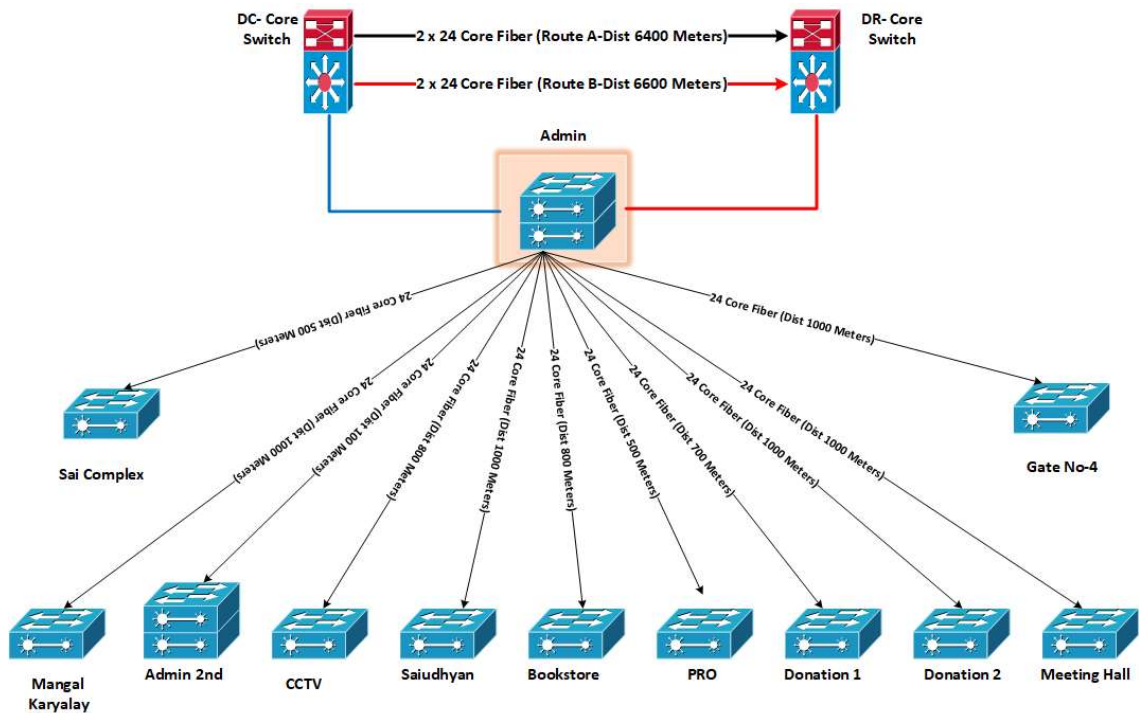| Sr.No.	ASSET ID	DESCRIPTION	UoM	QTY.
1	COMP/129	Dell OptiPlex 380 Dual Core desktop with 2 GB RAM, 250GB HDD SATA, LCD Monitor 17"	Nos.	115
2	COMP/130	Dell OptiPlex 380 Dual Core desktop with 2 GB RAM, 250GB HDD SATA, LCD Monitor 17"	Nos.	15
3	COMP/131	Dell OptiPlex 380 Dual Core with 2 GB RAM, 250GB HDD SATA, LCD Monitor 17"	Nos.	6
4	COMP/132	Dell OptiPlex 380 Dual Core with 2 GB RAM, 250GB HDD SATA, LCD Monitor 17"	Nos.	13
5	COMP/133	Dell(TM) E170S Entry 17 " Flat Panel LCD Monitor	Nos.	15
6	COMP/140	Security, Civil, Electronics Components Security components like, Fire detection, Smoke Detector, Fire Suppression, Gas System. At Data Centre and Disaster Recovery Centre	Set	1
7	ELQ/9905	Electrical Cables & Cable Trays	Set	1
8	ELQ/9906	UPS System(Make: DB Electronics) DB POWER 30 KVA QTY 02 WITH BATTEIRES DB POWER 20 KVA QTY 01 WITH BATTERIES DB POWER 15 KVA QTY 01 DB POWER 10 KVA QTY 02 DB POWER 06 KVA QTY 07 DB POWER 03 KVA QTY 06 DB POWER 01 KVA QTY 07	Nos.	26
9	ELQ/9907	UPS- 15 KVA	Nos.	1
10	ELQ/9908	DB POWER 01 KVA	Nos.	4
11	ELQ/9910	WIRING MATERIAL WITH SUPPLY AND INSTALLATION	Set	1
12	ELQ/9912	Casing Capping of Wiring	Set	1
13	ELQ/9913	Casing Capping of Wiring	Set	1
14	NET/2001	JUNIPER FIREWALL SSG 550M , 1 GB DRAM	Nos.	2
15	NET/2003	CAT AND ELECTRICAL WIRING	Set	2
16	NET/9984	OFC 6 CORE SINGLE MODE (Layed underground)	Mtr.	8325 (Approx.)
17	NET/9989	SC STYLE PIGTAIL	Nos.	284
18	NET/9990	OSP ARMOURED FIBRE CABLE 12 CORE (Layed underground)	Mtr.	23054 (Approx.)
19	NET/9997	SC STYLE PIGTAIL	Nos.	336
20	NET/9998	CISCO CATYALIST SWITCHES (Switch Qty is 45 SFP Qty is 45 Fibre Patch cables SM SC-LC Qty is 45, Total of all 135) Cisco Switch 24 Port 2960 SI QTY 24 cisco WS-C2960-48TC-S QTY 03 cisco WS-C3560G-24TS-S QTY 06 cisco WS-C3560V2-48TS-E QTY 05 cisco WS-C3750G-12S-E QTY 03 cisco WS-C3750V2-48TS-S QTY 02 cisco WS-C4506-E QTY 02	Nos.	135
21	NET/9999	Rack with Accessories	Nos.	1

ANNEXURE "J"

1) SSST NETWORK ARCHITECTURE DIAGRAM

2) SSST NETWORK FIBRE CONNECTIVITY DIAGRAM DC-DR DISTRUBUTION

DC- Core Switch

DR- Core Switch

24 x 2 Core Fiber (Route A-Dist 6400 Meters)

24 x 2 Core Fiber (Route B-Dist 6600 Meters)

OFC patch cord

2 x 24 Core Fiber Dist 5000 Meters

2 x 24 Core Fiber (Dist 5000 Meters)

2 x 24 Core Fiber Dist 5200 Meters

2 x 24 Core Fiber Dist 3000 Meters

2 x 24 Core Fiber Dist 2600 Meters

2 x 24 Core Fiber Dist 5000 Meters

2 x 24 Core Fiber Dist 4000 Meters

2 X 24 Core Fiber Dist 4000 Meters

2 x 24 Core Fiber Dist 1500 Meters

2 x 24 Core Fiber Dist 13200 Meters

DC SUB

SAI AS1

SAI AS2

Education Complex

Admin 3rd

Darshan Complex

500 RM

SBH

3) SSST NETWORK FIBRE CONNECTIVITY DIAGRAM: ADMIN BUILDING

DC- Core Switch

DR- Core Switch

2 x 24 Core Fiber (Route A-Dist 6400 Meters)

2 x 24 Core Fiber (Route B-Dist 6600 Meters)

Admin

24 Core Fiber (Dist 500 Meters)

24 Core Fiber (Dist 1000 Meters)

24 Core Fiber (Dist 1000 Meters)

24 Core Fiber (Dist 100 Meters)

24 Core Fiber (Dist 800 Meters)

24 Core Fiber (Dist 1000 Meters)

24 Core Fiber (Dist 800 Meters)

24 Core Fiber (Dist 500 Meters)

24 Core Fiber (Dist 700 Meters)

24 Core Fiber (Dist 1000 Meters)

Sai Complex

Gate No-4

Mangal Karyalay

Admin 2nd

CCTV

Saiudhyan

Bookstore

PRO

Donation 1

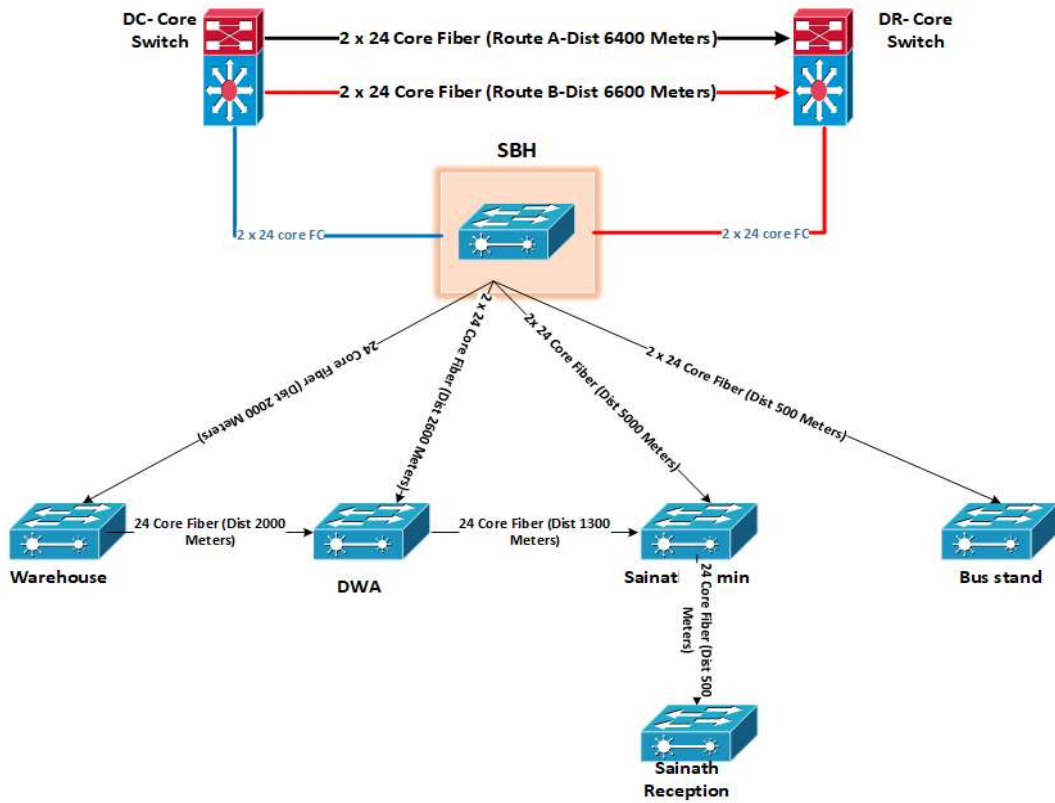Donation 2
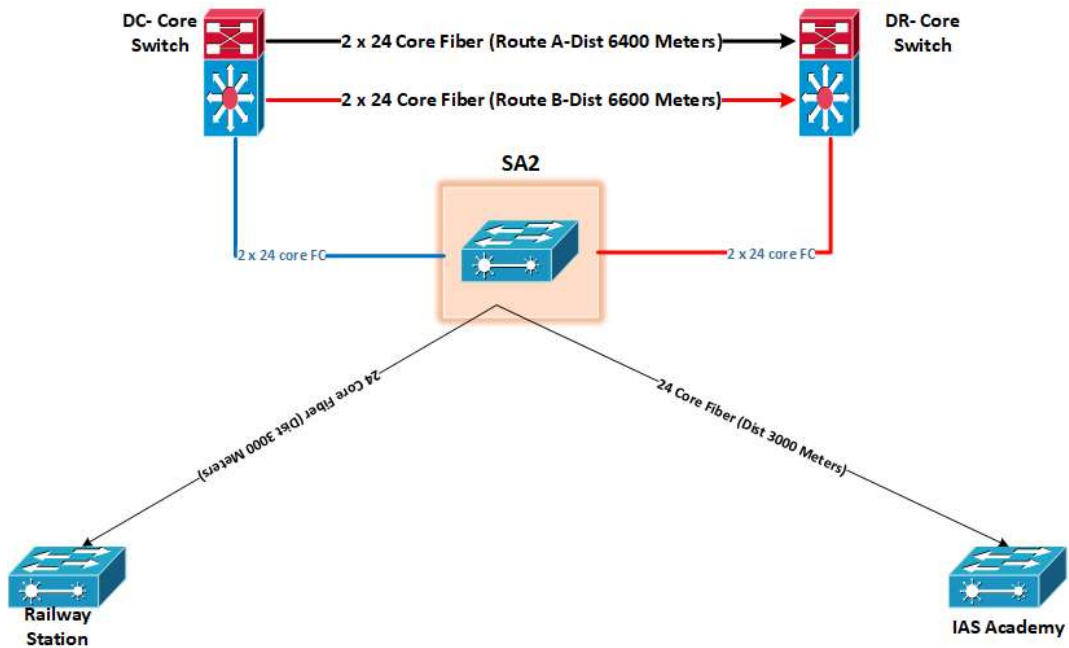
Meeting Hall

4) SSST NETWORK FIBRE CONNECTIVITY DIAGRAM: 500 ROOMS
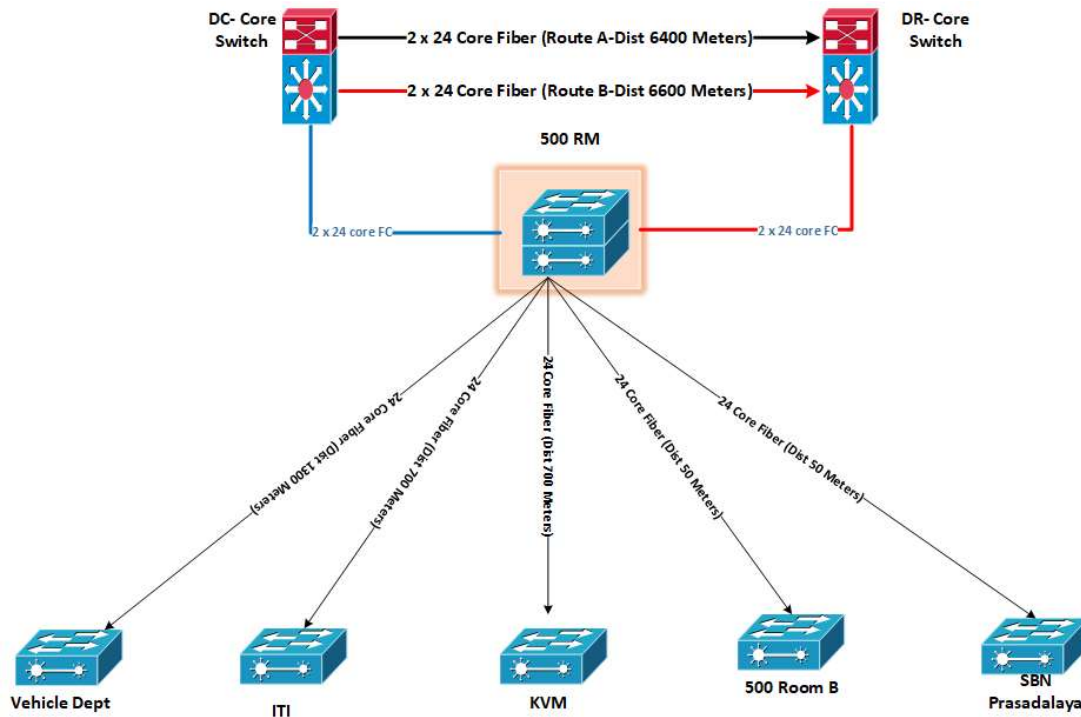
5) SSST NETWORK FIBRE CONNECTIVITY DIAGRAM: NEW DARSHAN COMPLEX
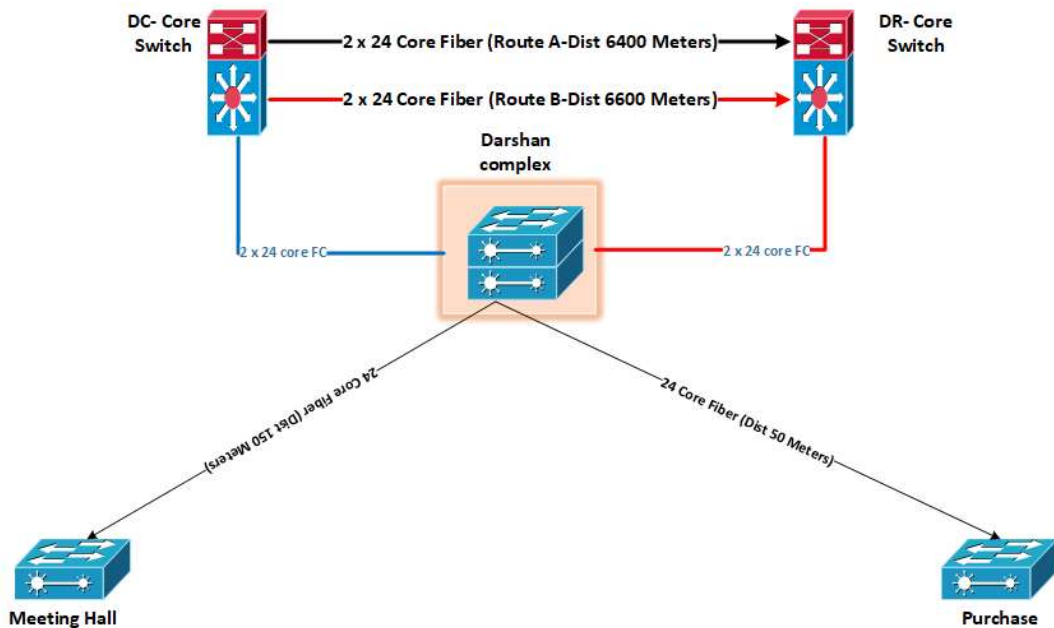
6) SSST NETWORK FIBRE CONNECTIVITY DIAGRAM: SAIBABA HOSPITAL

Diagram labels (top diagram - SBH):
- DC- Core Switch
- DR- Core Switch
- 2 x 24 Core Fiber (Route A-Dist 6400 Meters)
- 2 x 24 Core Fiber (Route B-Dist 6600 Meters)
- SBH
- 2 x 24 core FC
- 2 x 24 core FC
- 24 Core Fiber (Dist 2000 Meters)
- 2 x 24 Core Fiber (Dist 2600 Meters)
- 2 x 24 Core Fiber (Dist 5000 Meters)
- 2 x 24 Core Fiber (Dist 500 Meters)
- 24 Core Fiber (Dist 2000 Meters)
- Warehouse
- 24 Core Fiber (Dist 1300 Meters)
- DWA
- Sainath min
- 24 Core Fiber (Dist 500 Meters)
- Bus stand
- Sainath Reception

7) SSST NETWORK FIBRE CONNECTIVITY DIAGRAM: SAIASHRAM 2

Diagram labels (bottom diagram - SA2):
- DC- Core Switch
- DR- Core Switch
- 2 x 24 Core Fiber (Route A-Dist 6400 Meters)
- 2 x 24 Core Fiber (Route B-Dist 6600 Meters)
- SA2
- 2 x 24 core FC
- 2 x 24 core FC
- 24 Core Fiber (Dist 3000 Meters)
- 24 Core Fiber (Dist 3000 Meters)
- Railway Station
- IAS Academy

8) SSST NETWORK FIBRE CONNECTIVITY DIAGRAM: DATA CENTER

DC- Core Switch — 2 x 24 Core Fiber (Route A-Dist 6400 Meters) → DR- Core Switch

2 x 24 Core Fiber (Route B-Dist 6600 Meters)

DC Sub

2 x 24 core FC

2 x 24 core FC

24 Core fiber (Dist 2000 Meters)

24 Core Fiber (Dist 1000 Meters)

Patch cable

Prasadalaya Ground Floor

Mechanical

Prasadalaya_IT
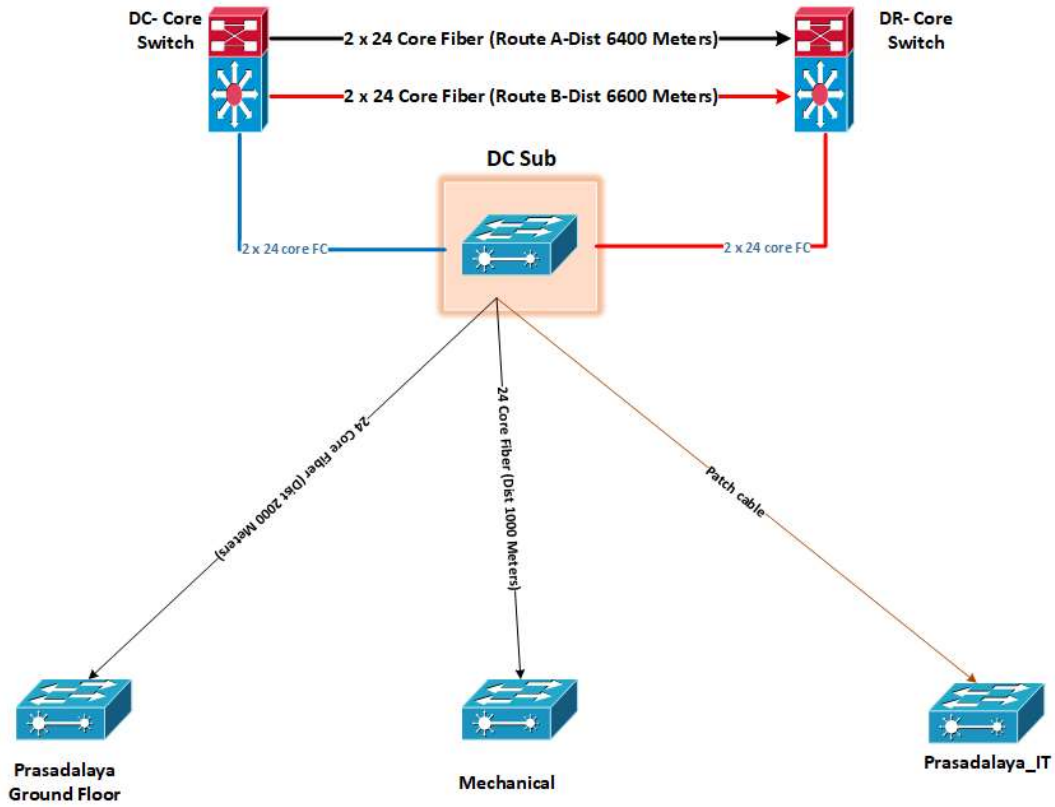
9) SSST NETWORK FIBRE CONNECTIVITY DIAGRAM: DISASTER RECOVERY CENTER

DC- Core Switch

2 x 24 Core Fiber (Route A-Dist 6400 Meters)

DR- Core Switch

2 x 24 Core Fiber (Route B-Dist 6600 Meters)

DR Sub

2 x 24 core FC

2 x 24 core FC

24 Core Fiber (Dist 30 Meters)

ASH Counter
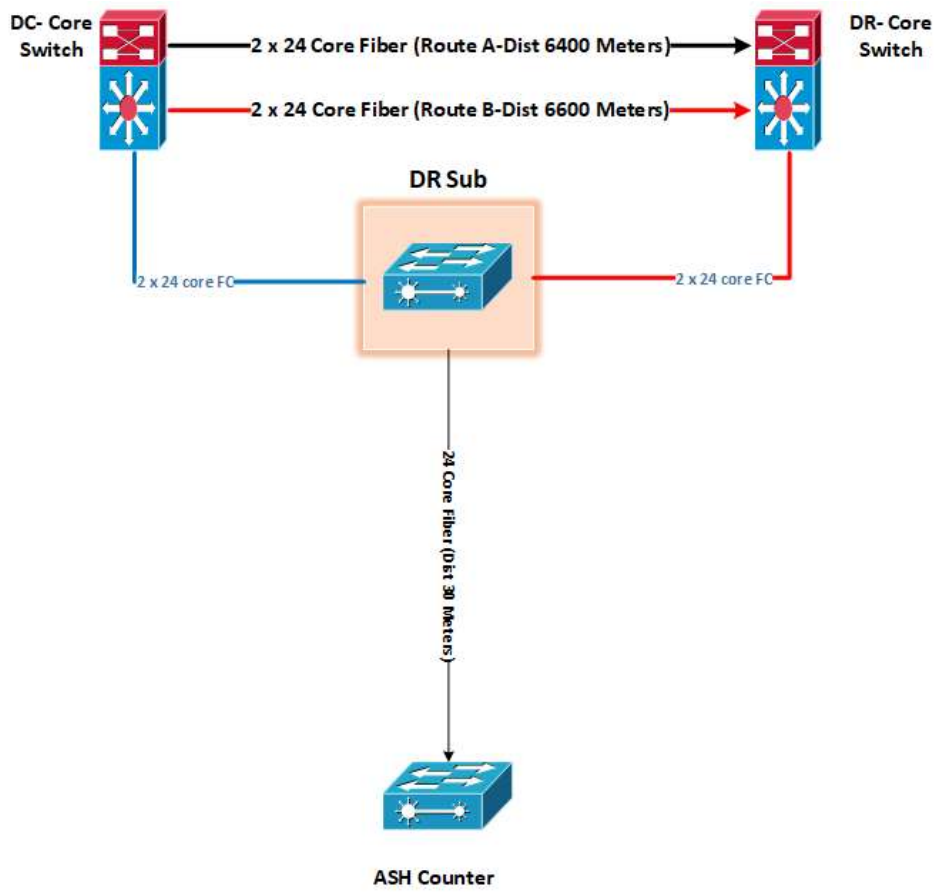
Annexure K
Consortium Declaration

(Company letterhead)

[Date]

To,

Executive Officer,

Shree Saibaba Sansthan Trust, Shirdi

Tal: Rahata, Dist: Ahmednagar-423109

Sub: **Declaration on Consortium**

RFP Reference No:

Dear Sir,

I / We as Lead Member of the Consortium, hereby declare the Roles and Responsibilities of the Consortium members:

Sr. No.	Member	Role	Responsibilities
1			
2			

I / We understand that as Lead Member, I / We are responsible for facilitating SaiTech project at SSST as per the scope of work provided in the Section 3.0 of the RFP document.

I / We understand that as Lead Member, I / We possess majority of the stake in this Project. I / We understand that stake is calculated based on roles and responsibilities declared for the Consortium in the Bid and the associated pricing declared in the Financial Proposal. I / We understand that if this information / declaration are found to be false or incorrect, the SSST reserves the right to reject the Bid or terminate the Contract with us immediately without any compensation to us.

Yours faithfully,

Authorized Signatory of the Lead Member

Designation

Date: Time:

Seal

Business Address

<div align="center">**Annexure L**
Power of Attorney</div>

Know by all men by these presents, We_____ (Name of the Bidder and address of their registered office) do hereby constitute, appoint and authorize Mr. / Ms_____ (name and residential address of Power of attorney holder) who is presently employed with us and holding the position of _____ as our Attorney, to do in our name and on our behalf, all such acts, deeds and things necessary in connection with or incidental to our Proposal for the **"Request for Appointment of System Integrator (SI) for Implementation of SaiTech for SSST",** including signing and submission of all documents and providing information / responses to the SSST, representing us in all matters before SSST, and generally dealing with the SSST in all matters in connection with our Proposal for the said Project.

We hereby agree to ratify all acts, deeds and things lawfully done by our said Attorney pursuant to this Power of Attorney and that all acts, deeds and things done by our aforesaid Attorney shall and shall always be deemed to have been done by us.

For _____
Name:
Designation:
Date:
Time:
Seal:
Business Address:

Accepted,

_____ (Signature)
(Name, Title and Address of the Attorney)

Note:
- The mode of execution of the Power of Attorney should be in accordance with the procedure, if any, laid down by the applicable law and the charter documents of the executant(s) and when it is so required the same should be under common seal affixed in accordance with the required procedure.

- The Power of Attorney shall be provided on Rs.100/- stamp paper.
- The Power of Attorney should be supported by a duly authorized resolution of the Board of Directors of the Bidder authorizing the person who is issuing this power of attorney on behalf of the Bidder.

Approved
Goraksha Gadilkar, I.A.S.
Chief Executive Officer,
Shree Saibaba Sansthan Trust, Shirdi

News Paper Advertisement

SHREE SAIBABA SANSTHAN TRUST, SHIRDI.
At.Po: Shirdi, Tal.- Rahata, Dist: Ahmednagar – 423 109.
Phone No. (02423) 258953
(Website-www.sai.org.in email: it.office@sai.org.in)

Online tenders are invited for upgradation of existing IT Infrastructure. This tender document is for the Supply, Installation, Integration, Commissioning and Testing with 5 years comprehensive warranty and Facility Management of IT infrastructure involving Passive Networking, Active Configuration, Desktop, UPS installation for Trust management.

The tender details will be available on https://mahatenders.gov.in for downloading & the tender has view only access on the Sansthan website www.sai.org.in under tender menu.

- Tender Cost   : Rs: 20,000 (Twenty Thousand Only)
- Earnest Money Deposit   : Rs: 5,00,000 (Five Lakh Only))
- e-Tender Start Date   :
- e-Tender End Date   :
- Pre Bid Meeting   :

<div align="right">

Chief Executive Officer,
SHREE Saibaba Sansthan Trust, Shirdi.

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Approved
Goraksha Gadilkar, I.A.S.   Chief Executive Officer,   SHREE Saibaba Sansthan Trust, Shirdi