



**RAILTEL CORPORATION OF INDIA LIMITED**

**(A Govt. of India Undertaking)**

**Registered & Corporate Office:**

**Plate-A, 6th Floor, Office Tower-2,  
NBCC Building, East Kidwai Nagar, New Delhi-110023**

**Selection of Partner For**

**“IT services to RCIL Customer”**

**EOI No: RCIL/EOI/CO/ITB/2025-26/IT services to RCIL customer/3 dated 02.05.2025**

**रेलटेल**  
**RAILTEL**

## EOI NOTICE

RailTel Corporation of India Limited Plate-A, 6th Floor, Office Tower-2,  
NBCC Building, East Kidwai Nagar, New Delhi-110023

EOI No: RCIL/EOI/CO/ITB/2025-26/IT services to RCIL customer/3

dated 02.05.2025

**RailTel Corporation of India Ltd., (here after referred to as RailTel) invites EOIs from RailTel's Empaneled Partners for the selection of suitable agency for "IT Services to RCIL Customer".**

The details are as under:

Last date for submission of EOIs by bidders	07-05-2025 before 15:00Hrs.
Opening of bidder EOIs	07-05-2025 at 15:30Hrs.
Earnest Money Deposit (EMD)	Rs 5,00,000/- (Five Lakhs) through DD or online transfer to RailTel in following account: Bank Name- Union Bank of India Branch- YUSUF SARAI, DELHI A/C Number - 340601010050446 Account Type- Current Account IFSC Code -UBIN0534064
Number of copies to be submitted for scope of work	01 in Hard Copy
Place of Bid submission	RailTel Corporation of India Limited Plate-A, 6th Floor, Office Tower-2, NBCC Building, East Kidwai Nagar, New Delhi-110023

Prospective bidders are required to direct all communications related to this Invitation for EOI document, through the following Nominated Point of Contact persons:

Contact: Naresh Kumar

Position: JGM/IT

Email: naresh.kumar@railtelindia.com Telephone: +91124 2714000 Ext 2222

### NOTE:

- I. All firms are required to submit hard copy of their EOI submissions, duly signed by Authorized Signatories with Company seal and stamp.**
- II. The EOI response is invited from empaneled partners of RailTel. Only RailTel empaneled partners are eligible for participation in EOI process.**

## **1. RailTel Corporation of India Limited–Introduction**

RailTel Corporation of India Limited (RCIL), an ISO-9001:2000 organization is a Government of India undertaking under the Ministry of Railways. The Corporation was formed in Sept 2000 with the objectives to create nationwide Broadband Telecom and Multimedia Network in all parts of the country, to modernize Train Control Operation and Safety System of Indian Railways and to contribute to realization of goals and objective of national telecom policy 1999. RailTel is a wholly owned subsidiary of Indian Railways.

For ensuring efficient administration across India, country has been divided into four regions namely, Eastern, Northern, Southern & Western each headed by Regional General Managers and Headquartered at Kolkata, New Delhi, Secunderabad & Mumbai respectively. These regions are further divided into territories for efficient working. RailTel has territorial offices at Guwahati, & Bhubaneswar in East, Chandigarh, Jaipur, Lucknow in North, Chennai & Bangalore in South, Bhopal, and Pune & Ahmedabad in West. Various other territorial offices across the country are proposed to be created shortly.

RailTel's business service lines can be categorized into three heads namely B2G/B2B (Business to Government and Business to Business) and B2C (Business to customers):

### **Licenses & Services**

Presently, RailTel holds IP-1, NLD and ISP (Class-A) licenses under which the following services are being offered to various customers:

### **CARRIER SERVICES**

1. National Long Distance: Carriage of Inter & Intra -circle Voice Traffic across India using state of the art NGN based network through its Interconnection with all leading Telecom Operators
2. Lease Line Services: Available for granularities from E1, DS-3, STM-1 & above
3. Dark Fiber/Lambda: Leasing to MSOs/Telco's along secured Right of Way of Railway tracks
4. Co-location Services: Leasing of Space and 1000+ Towers for collocation of MSC/BSC/BTS of Telco's

### **ENTERPRISE SERVICES**

1. Managed Lease Line Services: Available for granularities from E1, DS-3, STM-1 & above
2. MPLS VPN: Layer-2 & Layer-3 VPN available for granularities from 64 Kbps to nx64 Kbps, 2 Mbps & above
3. Dedicated Internet Bandwidth: Experience the "Always ON" internet connectivity at your fingertips in granularities 2mbps to 155mbps

### **RETAIL SERVICES**

RailWire: RailWire is the retail broadband service of RailTel. RailWire is a collaborative public private local entrepreneur (PPLE) model providing broadband services by leveraging the eco system available with different partners like RailTel, Access Network Provider, Aggregation Network Provider (AGNP) and Managed Service Provider (MSP) to offer high speed & cost-effective broadband to end customers. The model uses RailTel's nationwide Core fiber Backbone Network, Access Network available with Local entrepreneurs, FTTH Infrastructure providers etc. and Managed Service Partners/Application Service Providers having IT & management capabilities. The model has been tested for several years now with about 4 lakh+ home broadband users along with 5200+ local access network partners. It is noteworthy that this

approach whereby about 54% of the revenue is ploughed back into the local community not only serves the underserved but also creates livelihoods and jobs in the local communities.

## **2. Objective of EOI**

RCIL is implementing IT-ICT projects like providing Infra as a Service for its customers. RailTel is in process of selecting suitable empaneled partner for providing customer specific IT services.

## **3. Scope of Work**

The scope of work is to provide “Network Infra upgrade project ” for RailTel’s Customer as per Schedule of Requirements (SoR) Annexure-06. Detailed scope of work and technical specifications are provided under Annexure-04 and Annexure-05.

## **4. Language of Proposals**

The proposal and all correspondence and documents shall be written in English. The hardcopy version will be considered as the official proposal.

## **5. Proposal Preparation and Submission**

The Applicant/bidder is responsible for all costs incurred in connection with participation in this EOI process, including, but not limited to, cost incurred in conduct of informative and other diligence activities, participation in meetings/ discussions/presentations, preparation of proposal, in providing any additional information required by RCIL to facilitate the evaluation process or all such activities related to the EOI response process. RCIL will in no case be responsible or liable for those costs, regardless of the conduct or outcome of the bidding process.

## **6. Bidding Document**

The bidder is expected to examine all instructions, forms, terms and conditions and technical specifications in the bidding documents. Submission of bids, not substantially responsive to the bidding document in every aspect will be at the bidder’s risk and may result in rejection of its bid without any further reference to the bidder.

**All pages of the documents shall be signed and stamped by the bidder including the closing page in token of his having studied the EOI document and should be submitted along with the bid.**

## **7. Payment terms**

- 7.1. Actual Payment terms will be on back to back basis and as per agreement between RailTel and Customer.
- 7.2. Tentative payment terms :
  - 7.2.1. For SOR-A, B and C : 80% on account of supply of items and balance 20 % after successful commissioning and Go-Live
  - 7.2.2. FOR SOR-D : Quarterly payment at end of quarter during contract period of 5 years.
- 7.3. RailTel shall release the payment to selected bidder after receiving payment from Customer and on submission of Tax invoice by selected bidder on back to back basis.
- 7.4. Any penalty or deduction (LD) from customer shall be passed on to selected bidder on a

proportionate basis.

Bill passing authority is JGM/IT/CO and Bill payment authority is GM/Finance /CO.

**8. Delivery Schedule:** 16 to 18 weeks after issue of PO from RailTel.

**9. Compliance requirements**

- 9.1. The interested partner should be an Empaneled Partner with RailTel on the date of bid submission. Copy of RailTel's Empanelment Letter may be submitted in this regard.
- 9.2. The interested bidder should submit Earnest Money Deposit (EMD) through online transfer and submit the proof of same along with bid.
- 9.3. The interested bidder should comply to insertion of Rule 144(xi) in the GFR, 2017 vide office OM no. 6/18/2019-PPD dated 23-July-2020 issued by Ministry of Finance, Government of India, including revisions.( Annexure-01)
- 9.4. The interested bidder should not be blacklisted by any State / Central Government Ministry / Department / Corporation / Autonomous Body in India, on the last date of submission of EOI. ( Annexure-02)
- 9.5. There should not be any ongoing or past, arbitration case(s) between 'RailTel' and 'Interested Bidder' on the last date of submission of EOI. (Annexure-02)
- 9.6. The interested partner should have a valid Goods and Service Tax Identification Number (GSTIN), as on the last date of submission of EOI.
- 9.7. The Bidder must have cumulative turnover of minimum of Rs 29.07 Cr crores during the last 3 financial years. Bidder should submit audited balance sheets and certificate of CA for preceding three years.
- 9.8. The bidder should be profitable organization (on the basis of operating profit after tax for at-least 2 out of last 3 financial years). Bidder should submit copy of audited balance sheets along with profit & loss statement and certificate of CA for positive net worth during proceeding three years.
- 9.9. The interested bidder should have experience in IT or Network Infra project. Bidder should submit PO or work order copy/copies along with completion certificate for the work of SITC IT or network Infra setup project during last seven years from any government organization as per following details:
  - i) Three similar works each with value costing not less than ₹11.63 Cr (Incl. GST))
  - ii) Two similar works each with value costing not less than ₹7.75 Cr (Incl. GST))
  - iii) One similar work with value costing not less than ₹5.81 Cr (Incl. GST))
- 9.10. Bidder is required to submit authorization from OEM (MAF or mail confirmation from OEM).

**10. Schedule of Rates :** Provided under Annexure-06.

**11. Evaluation criteria**

Only those offers shall be considered for financial evaluation which fulfills all compliance requirements in clause number 9. Financial Evaluation will be carried on basis of lowest offer quoted by the bidder under Annexure-06 (Total SOR cost with tax).

**12. Liquidated Damages**

The timely delivery is the essence of this tender. Liquidated damages will be applicable at the rate of half percent (including elements of taxes, duties, freight, etc.) per week or part thereof for undelivered portion of SOR subject to a maximum of 10% of the cost of Purchase order for any reason whatsoever attributed to failure of tenderer. RailTel will have the right to cancel the order, place order on alternative source besides levying the liquidated damages as above.

### 13. Integrity Pact (IP) Program

- 13.1. RailTel has adopted Integrity Pact Program and for implementation thereof all EOI/RFPs relating to procurement of OFC, quad cable, pre-fab shelters, electronic equipment and its installation and/or commissioning etc and other item(s) or activity/activities proposed to be carried out or required by the Company for the value exceeding Rs. 15 crores at a time including for repair and maintenance of cable/network and any other items required for special works assigned to RailTel will be covered under the Integrity Pact Program and the vendors are required to sign the IP document and submit the same to RailTel before or along with the bids.
- 13.2. Only those vendors who have purchased the EOI/RFP document and signed the IP document can send their grievances, if any, to the Independent External Monitors (IEMs) and the nodal officer, i.e. Chief Vigilance Officer (CVO), RailTel.

Name of IEMs and contact details:

- |    |                           |                            |
|----|---------------------------|----------------------------|
| 1. | Mrs. Vinit Kumar Jayaswal | E-Mail: gkvinit@gmail.com  |
| 2. | Sh. Punati Sridhar        | E-mail: poonatis@gmail.com |

Name & Contact details of Nodal Officer (IP) in RailTel:

Chief Vigilance Officer  
RailTel Corporation of India Ltd.  
Plate-A, 6th Floor, Office Block Tower-2,  
East Kidwai Nagar, New Delhi - 110023  
e-mail: cvo[at]railtelindia[dot]com

- 13.3. If the order, with total value equal to or more than the threshold value, is split to more than one vendor and even if the value of PO placed on any/each vendor(s) is less than the threshold value, IP document having been signed by the vendors at bid stage itself, the Pact shall continue to be applicable.
- 13.4. Bidder of Indian origin shall submit the Integrity Pact (in 2 copies) on a non-judicial stamp paper of Rs. 100/- or the appropriate value (as the case may be), duly signed by the person signing the bid. If the bidder is a partnership or a consortium, the Integrity Pact shall be signed by all the partners or consortium members.
- 13.5. Bidder of foreign origin may submit the Integrity Pact on its company's letterhead, duly signed by the person signing the bid.
- 13.6. The 'Integrity Pact' shall be submitted by the Bidder duly signed in all pages along with the Bid. Bid received without signed copy of the Integrity Pact document will be liable to be rejected. Format of Integrity Pact is enclosed in this Tender document.
- 13.7. One copy of the Integrity Pact shall be retained by RailTel and the 2nd copy will be issued to the representative of the bidders during bid opening. If the Bidder's representative is not present during the Bid opening, the 2nd copy shall be sent to the bidder by post/courier.
- 13.8. The Integrity Pact is applicable in this EOI/RFP vide CVC circular no. 10/05/09 dt. 18.05.09 and revised guideline of CVC circular no. 015/VGL/091 dt. 13.01.17 or the latest updated from time to time shall be followed.
- 13.9. Interested may also refer the URL for IP Program : <https://www.railtel.in/tenders/integrity-pact.html>

#### **14. Technical Specification Compliance**

Bidder should submit compliance to Technical specification as provided under Annexure-05 and submit along with the bids. Bids without technical specification compliance shall not be considered.

#### **15. Bidding Process**

The bidder needs to submit the bid in sealed, signed and stamped envelope clearly mentioning EOI number, EOI name, addressed to the EOI inviting officer as well as Bidding Agency Name and Contact person.

**BID should consist of the following:**

1. Covering Letter
2. RailTel empanelment LOI
3. Signed and Stamped EOI Document
4. GST and PAN documents
5. EMD
6. Duly filled SOR (Annexure-06)
7. Integrity pact (Annexure-03)
8. Technical Specification compliance (Annexure-05)
9. Documents with respect to compliance requirement clause (9.1 to 9.10).
10. Deviation statement (if any) as per clause number 24.

#### **16. Period of Validity of bids and Bid Currency**

Bids shall remain valid for a period of 180 days from the date of submission of EOI response bid. The prices in the bid document to be expressed in INR only.

#### **17. RCIL's Right to Accept/Reject Bids**

RCIL reserves the right to accept or reject any bid and annul the bidding process or even reject all bids at any time prior to award of contract, without thereby incurring any liability to the affected bidder or bidders or without any obligation to inform the affected bidder or bidders about the grounds for RailTel's action.

#### **18. Security Deposit / Performance Bank Guarantee (PBG)**

In case RailTel submits BG to customer, Successful bidder has to furnish security deposit in the form of Performance Bank guarantee @ 3 - 10% of issued PO/ LOA value with tax of valid for 3 months beyond the date of completion of all contractual obligations including warranty obligations. The same should be submitted within 30 days of issue of LOA/PO, failing which a penal interest of 15% per annum shall be charged for the delay period i.e. beyond 30 (thirty) days from the date of issue of LOA/PO. This PBG should be from a Scheduled Bank and should cover warranty period plus three months for lodging the claim. The performance Bank Guarantee will be discharged by the Purchaser after completion of the supplier's performance obligations including any warranty obligations under the contract.

- 18.1. The Performa for PBG is given in Form No. 1. If the delivery period gets extended, the PBG should also be extended appropriately.
- 18.2. The security deposit/PBG shall be submitted to Corporate Office & will bear no interest.
- 18.3. A separate advice of the BG will invariably be sent by the BG issuing bank to the RailTel's Bank through SFMS and only after this the BG will become acceptable to RailTel. It is therefore in

interest of bidder to obtain RailTel's Bank IFSC code, its branch and address and advise these particulars to the BG Issuing bank and request them to send advice of BG through SFMS to the RailTel's Bank.

- 18.4. The security deposit/Performance Bank Guarantee shall be released after successful completion of Contract, duly adjusting any dues recoverable from the successful tenderer. Security Deposit in the form of DD/Pay Order should be submitted in the favour of "RailTel Corporation of India Limited" payable at New Delhi Only.
- 18.5. Any performance security upto a value of Rs. 5 Lakhs is to be submitted through DD/Pay order / online transfer only.
- 18.6. The claim period of PBG shall be 1 year after date of PBG validity

#### **19. Earnest Money Deposit (EMD)/ Bid Security**

- 19.1. The bidder shall furnish a sum as Earnest Money in the form of online transfer or Demand Draft from any scheduled bank in India in favour of "RailTel Corporation of India Limited" payable at New Delhi.
- 19.2. The EMD may be forfeited if a bidder withdraws his offer or modifies the terms and conditions of the offer during validity period and in the case of a successful bidder, if the bidder fails to accept the Purchase order and fails to furnish performance bank guarantee (security deposit) in accordance with clause 6.
- 19.3. Offers not accompanied with Earnest Money shall be summarily rejected.
- 19.4. Earnest Money of the unsuccessful bidder will be discharged / returned as promptly as possible as but not later than 30 days after the expiry of the period of offer / bid validity prescribed by the Purchaser.
- 19.5. The successful bidder's EMD will be discharged upon the bidder's acceptance of the purchase order satisfactorily and furnishing the performance bank guarantee in accordance with clause 17.
- 19.6. Earnest Money will bear no interest.

#### **20. Deadline for Submission of Bids**

Bids must be submitted to RCIL at the address specified in the EOI document not later than the specified date and time mentioned. If the specified date of submission of bids being declared a holiday for RCIL, the bids will be received up to the specified time in the next working day.

#### **21. Late Bids**

Any bid received by RCIL after the deadline for submission of bids will be rejected and/or returned unopened to the bidder.

#### **22. Modification and/or Withdrawal of Bids**

Bids once submitted will be treated as final and no modification will be permitted. No correspondence in this regard will be entertained. No bidder shall be allowed to withdraw the bid after the deadline for submission of bids. In case of the successful bidder, he will not be allowed to withdraw or back out from the bid commitments.

### 23. Clarification of Bids

To assist in the examination, evaluation and comparison of bids the purchaser may, at its discretion, ask the bidder for clarification. The response should be in writing and no change in the price or substance of the bid shall be sought, offered or permitted.

### 24. Bidder's Information

Company Name:	
Type of RCIL Business Partner	
Status of Applicant (Partnership, Company etc.)	
Number of Years of Experience	
Number of office locations in India (Provide details)	
Number of office locations globally (Provide details)	
Number of employees in India and global	

CONTACT DETAILS:			
First Name		LastName	
Designation			
Address for correspondence			
Contact Number (Office Landline)			
Mobile Number			
Official Email ID			
GSTN No			
PAN No			
Bank Account No			
IFSC Code			
Registered Address of Company			

### 25. Format for statement of Deviation

The following are the particulars of deviations from the requirements of the Instructions to bidders:

	CLAUSE	DEVIATION	REMARKS (Including Justification)

## **26. Duration of the Contract Period**

The contract duration shall be same as of RAILTEL'S CUSTOMER's contract duration with RailTel until otherwise terminated earlier. Tentative contract period is 5 year. The contract duration can be renewed / extended by RailTel at its discretion, in case RAILTEL'S CUSTOMER extends / renews services with RailTel by virtue of extending / renewing / new issuance of one or more Purchase Order(s) placed by RAILTEL'S CUSTOMER to RailTel.

## **27. Variation in Contract**

+/- 50 % variation may be operated during the period of validity of agreement with the approval of competent authority with similar terms and procedure as specified in the agreement.

## **28. Restrictions on 'Transfer of Agreement'**

The SELECTED BIDDER shall not assign or transfer its right in any manner whatsoever under the contract / agreement to a third party or enter into any agreement for sub-contracting and/or partnership relating to any subject matter of the contract / agreement to any third party either in whole or in any part i.e. no sub-contracting / partnership / third party interest shall be created.

## **29. Suspension, Revocation or Termination of Contract / Agreement**

29.1. RailTel reserves the right to suspend the operation of the contract / agreement, at any time, due to change in its own license conditions or upon directions from the competent government authorities, in such a situation, RailTel shall not be responsible for any damage or loss caused or arisen out of aforesaid action. Further, the suspension of the contract / agreement will not be a cause or ground for extension of the period of the contract / agreement and suspension period will be taken as period spent. During this period, no charges for the use of the facility of the SELECTED BIDDER shall be payable by RailTel.

29.2. RailTel may, without prejudice to any other remedy available for the breach of any conditions of agreements, by a written notice of Three (03) month issued to the SELECTED BIDDER, terminate/or suspend the contract / agreement under any of the following circumstances:

- The SELECTED BIDDER failing to perform any obligation(s) under the contract / agreement.
- The SELECTED BIDDER failing to rectify, within the time prescribed, any defect as may be pointed out by RailTel.
- Non adherence to Service Level Agreements (SLA) which RailTel has committed to RAILTEL CUSTOMER for the pertinent tender.
- The SELECTED BIDDER going into liquidation or ordered to be wound up by competent authority.

e) If the SELECTED BIDDER is wound up or goes into liquidation, it shall immediately (and not more than a week) inform about occurrence of such event to RailTel in writing. In that case, the written notice can be modified by RailTel as deemed fit under the circumstances. RailTel may either decide to issue a termination notice or to continue the agreement by suitable modifying the conditions, as it feels fit under the circumstances.

f) It shall be the responsibility of the SELECTED BIDDER to maintain the agreed Quality of Service, even during the period when the notice for surrender/termination of contract / agreement is pending and if the Quality of Performance of Solution is not maintained, during the said notice period, it shall be treated as material breach liable for termination at risk and consequent of which SELECTED BIDDER's PBG related to contract / agreement along with PBG related to the Empanelment Agreement with RailTel shall be forfeited, without any further notice.

g) Breach of non-fulfillment of contract / agreement conditions may come to the notice of RailTel through complaints or as a result of the regular monitoring. Wherever considered appropriate RailTel may conduct an inquiry either suo-moto or on complaint to determine whether there has been any breach in compliance of the terms and conditions of the agreement by the successful bidder or not. The SELECTED BIDDER shall extend all reasonable facilities and shall endeavor to remove the hindrance of every type upon such inquiry. In case of default by the SELECTED BIDDER in successful implementation and thereafter maintenance of services / works as per the conditions mentioned in this EOI document, the PBG(s) of SELECTED BIDDER available with RailTel will be forfeited.

### **30. Dispute Settlement**

30.1. In case of any dispute concerning the contract / agreement, both the SELECTED BIDDER and RailTel shall try to settle the same amicably through mutual discussion / negotiations. Any unsettled dispute shall be settled in terms of Indian Act of Arbitration and Conciliation 1996 or any amendment thereof. Place of Arbitration shall be New Delhi.

30.2. The arbitral tribunal shall consist of the Sole Arbitrator. The arbitrator shall be appointed by the Chairman & Managing Director (CMD) of RailTel Corporation of India Ltd..

30.3. All arbitration proceedings shall be conducted in English.

### **31. Governing Laws**

The contract shall be interpreted in accordance with the laws of India. The courts at New Delhi shall have exclusive jurisdiction to entertain and try all matters arising out of this contract.

### **32. Statutory Compliance**

32.1. During the tenure of this Contract nothing shall be done by SELECTED BIDDER in contravention of any law, act and/ or rules/regulations, there under or any amendment thereof and shall keep RailTel indemnified in this regard.

32.2. The Bidder shall comply and ensure strict compliance by his/her employees and agents of all applicable Central, State, Municipal and Local laws and Regulations and undertake to indemnify RailTel,

from and against all levies, damages, penalties and payments whatsoever as may be imposed by reason of any breach or violation of any law, rule, including but not limited to the claims against RailTel or its Customer under Employees Compensation Act, 1923, The Employees Provident Fund and Miscellaneous Provisions Act, 1952, The Contract Labour (Abolition and Regulation) Act 1970, Factories Act, 1948, Minimum Wages Act and Regulations, Shop and Establishment Act and Labour Laws which would be amended/modified or any new act if it comes in force whatsoever, and all actions claim and demand arising there from and/or related thereto.

### **33. Intellectual Property Rights**

33.1. Each party i.e. RailTel and SELECTED BIDDER, acknowledges and agree that the other party retains exclusive ownership and rights in its trade secrets, inventions, copyrights, and other intellectual property and any hardware provided by such party in relation to this contract / agreement.

33.2. Neither party shall remove or misuse or modify any copyright, trade mark or any other proprietary right of the other party which is known by virtue of this EoI and subsequent contract in any circumstances.

### **34. Severability**

In the event any provision of this EOI and subsequent contract with SELECTED BIDDER is held invalid or not enforceable by a court of competent jurisdiction, such provision shall be considered separately and such determination shall not invalidate the other provisions of the contract and Annexure/s which will be in full force and effect.

### **35. Force Majeure**

35.1. If during the contract period, the performance in whole or in part, by other party, of any obligation under this is prevented or delayed by reason beyond the control of the parties including war, hostility, acts of the public enemy, civic commotion, sabotage, Act of State or direction from Statutory Authority, explosion, epidemic, quarantine restriction, strikes and lockouts (as are not limited to the establishments and facilities of the parties), fire, floods, earthquakes, natural calamities or any act of GOD (hereinafter referred to as EVENT) , provided notice of happenings of any such event is given by the affected party to the other, within twenty one (21) days from the date of occurrence thereof, neither party shall have any such claims for damages against the other, in respect of such non-performance or delay in performance. Provided service under this contract shall be resumed as soon as practicable, after such EVENT comes to an end or ceases to exist.

35.2. In the event of a Force Majeure, the affected party will be excused from performance during the existence of the force Majeure. When a Force Majeure occurs, the affected party after notifying the other party will attempt to mitigate the effect of the Force Majeure as much as possible. If such delaying cause shall continue for more than sixty (60) days from the date of the notice stated above, the party injured by the inability of the other to perform shall have the right, upon written notice of thirty (30) days to the other party, to terminate this contract. Neither party shall be liable for any breach, claims, and damages against the other, in respect of non-performance or delay in performance as a result of Force Majeure leading to such termination.

### **36. Indemnity**

36.1. The SELECTED BIDDER agrees to indemnify and hold harmless RailTel, its officers, employees and agents (each an "Indemnified Party") promptly upon demand at any time and from time to time, from and against any and all losses, claims, damages, liabilities, costs (including reasonable attorney's fees and disbursements) and expenses (collectively, "Losses") to which the Indemnified party may become subject, in so far as such losses directly arise out of, in any way relate to, or result from :

- a) Any mis-statement or any breach of any representation or warranty made by SELECTED BIDDER or
- b) The failure by the SELECTED BIDDER to fulfill any covenant or condition contained in this contract by any employee or agent of the Bidder. Against all losses or damages arising from claims by third Parties that any Deliverables (or the access, use or other rights thereto), created by SELECTED BIDDER pursuant to this contract, or any equipment, software, information, methods of operation or other intellectual property created by SELECTED BIDDER pursuant to this contract, or the SLAs (i) infringes a copyright, trade mark, trade design enforceable in India, (ii) infringes a patent issues in India, or (iii) constitutes misappropriation or unlawful disclosure or used of another Party's trade secrets under the laws of India (collectively, "Infringement Claims"); or
- c) Any compensation / claim or proceeding by ECT or any third party against RailTel arising out of any act, deed or omission by the SELECTED BIDDER or
- d) Claim filed by a workman or employee engaged by the SELECTED BIDDER for carrying out work related to this agreement. For the avoidance of doubt, indemnification of Losses pursuant to this section shall be made in an amount or amounts sufficient to restore each of the Indemnified Party to the financial position it would have been in had the losses not occurred.

36.2. Any payment made under this contract to an indemnity or claim for breach of any provision of this contract shall include applicable taxes.

### **37. Limitation of Liability towards RailTel**

37.1. The SELECTED BIDDER liability under the contract shall be determined as per the Law in force for the time being. The SELECTED BIDDER shall be liable to RailTel for loss or damage occurred or caused or likely to occur on account of any act of omission on the part of the SELECTED BIDDER and its employees (*direct or indirect*), including loss caused to RailTel on account of defect in goods or deficiency in services on the part of SELECTED BIDDER or his agents or any person / persons claiming through under said SELECTED BIDDER, However, such liability of the SELECTED BIDDER shall not exceed the total value of the contract.

37.2. This limit shall not apply to damages for bodily injury (including death) and damage to real estate property and tangible personal property for which the SELECTED BIDDER is legally liable.

### **38. Confidentiality cum Non-disclosure**

38.1. The Receiving Party agrees that it will not disclose to third party/parties any information

belonging to the Disclosing Party which is provided to it by the Disclosing Party before, during and after the execution of this contract. All such information belonging to the Disclosing Party and provided to the Receiving Party shall be considered Confidential Information. Confidential Information includes prices, quotations, negotiated issues made before the execution of the contract, design and other related information. All information provided by Disclosing Party to the Receiving Party shall be considered confidential even if it is not conspicuously marked as confidential.

38.2. Notwithstanding the foregoing, neither Party shall have any obligations regarding non-use or non-disclosure of any confidential information which:

- a) Is already known to the receiving Party at the time of disclosure;
- b) Is or becomes part of the public domain without violation of the terms hereof;
- c) Is shown by conclusive documentary evidence to have been developed independently by the Receiving Party without violation of the terms hereof;
- d) Is received from a third party without similar restrictions and without violation of this or a similar contract.

38.3. The terms and conditions of this contract, and all annexes, attachments and amendments hereto and thereto shall be considered Confidential Information. No news release, public announcement, advertisement or publicity concerning this contract and/or its contents herein shall be made by either Party without the prior written approval of the other Party unless such disclosure or public announcement is required by applicable law.

38.4. Notwithstanding the above, information may be transmitted to governmental, judicial, regulatory authorities, if so, required by law. In such an event, the Disclosing Party shall inform the other party about the same within 30 (thirty) Days of such disclosure.

38.5. This Confidentiality and Non- Disclosure clause shall survive even after the expiry or termination of this contract.

### **39. Insurance**

The SELECTED BIDDER agrees to take insurances to cover all the elements of the project under this EOI including but not limited to Manpower, Hardware, Software.

### **40. Waiver**

Except as otherwise specifically provided in the contract, no failure to exercise or delay in exercising, any right, power or privilege set forth in the contract will operate as a waiver of any right, power or privilege.

## Format for COVERING LETTER

### COVERING LETTER (To be on company letter head)

EoI Reference No: **RCIL/EOI/CO/ITB/2025-26/IT services to RCIL customer/3 dated 02.05.2025**

Date:

To,

JGM/IT  
RailTel Corporation of India Ltd.  
Plate-A, 6th Floor, Office Tower-2,  
NBCC Building, East Kidwai Nagar,  
New Delhi 110023

Dear Sir,

SUB: Participation in the EoI Process

Having examined the Invitation for EoI document bearing the reference number \_\_\_\_\_ released by your esteemed organization, we, undersigned, hereby acknowledge the receipt of the same and offer to participate in conformity with the said Invitation for EoI document. I/We also agree to keep this offer open for acceptance for a period of 180 days from the date of submission of EOI response bid to RailTel and in default thereof,

If our application is accepted, we undertake to abide by all the terms and conditions mentioned in the said Invitation for EoI document.

We hereby declare that all the information and supporting documents furnished as a part of our response to the said Invitation for EoI document, are true to the best of our knowledge. We understand that in case any discrepancy is found in the information submitted by us, our EoI is liable to be rejected.

#### Authorized Signatory

Name

Designation

Contact Details

रेलटेल  
RAILTEL

**Compliance to Rule 144 (xi) of GFR, 2017 including amendments till date  
( On Organization Letter Head )**

Bid Ref No. :

Date:

To,

Jt.General Manager (IT),  
RailTel Corporation of India Limited,  
Plate-A, 6<sup>th</sup> Floor, Office Block Tower-2,  
East Kidwai Nagar, New Delhi - 110023

**Ref :** EOI No. RCIL/EOI/CO/ITB/2025-26/IT services to RCIL customer/3 dated 02.05.2025

Dear Sir,

I, the undersigned, on behalf of M/s ..... , have read the clause/para regarding restrictions on procurement from a bidder of a country which shares a land border with India and on sub-contracting to contractors from such countries.

(a) I certify that M/s ..... is not from such a country and will not sub-contract any work to a contractor from such countries unless such contractor is registered with the Competent Authority. I also certify that M/s ..... will not offer any products / services of entity from such countries unless such entity is registered with the Competent Authority.

***OR (Strikeout either (a) or (b), whichever is not applicable)***

(b) I certify that M/s ..... is from such a country and has been registered with the Competent Authority. I also certify that M/s ..... has product/services of entity from such countries and these entity / entities are also registered with the Competent Authority.

*(Where applicable, evidence of valid registration by the Competent Authority is to be attached with the bid.)*

I hereby certify that M/s ..... fulfills all requirements in this regard and is eligible to be considered.

I hereby acknowledge that in the event of acceptance of my bid on above certificate and if the certificate is found to be false at any stage, the false certificate would be a ground for immediate termination of contract and further legal action in accordance with the Law.

Signature of Authorised Signatory

Name

Designation

**Undertaking for Non-Blacklisting & Arbitration Case**  
( On Organization Letter Head )

Bid Ref No. :

Date:

To,

Jt. General Manager (IT),  
RailTel Corporation of India Limited,  
Plate-A, 6<sup>th</sup> Floor, Office Block Tower-2,  
East Kidwai Nagar, New Delhi - 110023

**Ref : EOI No. RCIL/EOI/CO/ITB/2025-26/IT services to RCIL customer/3 dated 02.05.25**

Dear Sir,

I, the undersigned, on behalf of M/s ..... , hereby submits that

1. We are not blacklisted by any State / Central Government Ministry / Department / Corporation / Autonomous Body at the time of submission of bid.
2. We are not having any ongoing or past, arbitration case(s) with RailTel at the time of submission of bid.

I hereby acknowledge that in the event of acceptance of bid of M/s ..... on above undertaking and if the undertaking is found to be false at any stage, the false undertaking would be a ground for immediate termination of contract and further legal action in accordance with the Law, including but not limited to the encashment of Bank Guarantee related to Empanelment and Performance Bank Guarantee (PBG), as available with RailTel, related to this EoI.

Signature of Authorized Signatory

Name

Designation

रेलटेल  
RAILTEL

**PROFORMA FOR SIGNING THE INTEGRITY PACT**  
( On Stamp paper of Appropriate Value )

RailTel Corporation of India Limited, hereinafter referred to as “The Principal”.

And

....., hereinafter referred to as “The Bidder/ Contractor”

**Preamble**

The Principal intends to award, under laid down organizational procedures, contract/s for ..... The Principal values full compliance with all relevant laws of the land, rules, regulations, economic use of resources and of fair- ness/transparency in its relations with its Bidder(s) and /or Contractor(s).

In order to achieve these goals, the Principal will appoint an Independent External Monitor (IEM), who will monitor the EOI/RFP process and the execution of the contract for compliance with the principles mentioned above.

**Section 1- Commitments of the Principal**

1. The Principal commits itself to take all measures necessary to prevent corruption and to observe the following principles:-

a. No employee of the Principal, personally or through family members, will in connection with the EOI/RFP for, or the execution of a contract, demand, take a promise for or accept, for self or third person, any material or immaterial benefit which the person is not legally entitled to.

b. The Principal will during the EOI/RFP process treat all Bidder(s) with equity and reason.

The Principal will in particular, before and during the EOI/RFP process, provide to all Bidder(s) the same information and will not provide to any Bidder(s) confidential/additional information through which the Bidder(s) could obtain an advantage in relation to the process or the contract execution.

c. The Principal will exclude from the process all known prejudiced persons.

2. If the Principal obtains information on the conduct of any of its employees which is a criminal offence under the IPC/PC Act, or if there be a substantive suspicion in this regard, the Principal will inform the Chief Vigilance Officer and in addition can initiate disciplinary actions.

## **Section 2- Commitments of the Bidder(s) /Contractor(s)**

1. The Bidder(s)/Contractor(s) commit himself to take all measures necessary to prevent corruption. He commits himself to observe the following principles during his participation in the EOI/RFP process and during the contract execution.

a. The Bidder(s)/contractor(s) will not, directly or through any other persons or firm, offer promise or give to any of the Principal's employees involved in the EOI/RFP process or the execution of the contract or to any third person any material or other benefit which he/she is not legally entitled to, in order to obtain in exchange any advantage during EOI/RFP process or during the execution of the contract.

b. The Bidder(s)/Contractor(s) will not enter with other Bidders into any undisclosed agreement or understanding, whether formal or informal. This applies in particular to prices, specifications, certifications, subsidiary contracts, submission or non-submission of bids or any other actions to restrict competitiveness or to introduce cartelization in the bidding process.

c. The Bidder(s)/Contractor(s) will not commit any offence under the relevant IPC/PC Act; further the Bidder(s) /Contractors will not use improperly, for purposes of competition or personal gain, or pass on to others, any information or document provided by the Principal as part of the business relationship, regarding plans, technical proposals and business details, including information contained or transmitted electronically.

d. The Bidder(s)/Contractor(s) of foreign origin shall disclose the name and address of the Agents/representatives in India, if any. Similarly, the bidder(s)/contractor(s) of Indian Nationality shall furnish the name and address of the foreign principals, if any.

e. The Bidder(s)/Contractor(s) will, when presenting his bid, disclose any and all payments he

has made, is committed to or intends to make to agents, brokers or any other intermediaries in connection with the award of the contract. Further, details as mentioned in the “Guidelines on Indian Agent of Foreign Suppliers” shall be disclosed by the Bidder(s) / Contractor(s). Further, as mentioned in the Guidelines all the payments made to the Indian agent / representative have to be in Indian Rupees only. Copy of the “Guidelines on Indian Agents of Foreign Suppliers” as annexed and marked as Annexure-A.

2. The Bidder(s)/Contractor(s) will not instigate third persons to commit offences outlined above or be an accessory to such offences.

### **Section 3: Disqualification from EOIRFP process and exclusion from future contracts**

If the Bidder(s)/Contractor(s), before award or during execution has committed a transgression through a violation of Section 2, above or in any other form such as to put his reliability or credibility in question, the Principal is entitled to disqualify the Bidder(s)/Contractor(s) from the EOIRFP process or take action as per the procedure mentioned in the “Guidelines on banning of business dealings”. Copy of the “Guidelines on Banning of Business Dealings” is annexed and marked as Annexure-B.

### **Section 4: Compensation for Damages**

1. If the Principal has disqualified the Bidder(s) from the EOIRFP process prior to the award according to Section 3, the Principal is entitled to demand and recover the damages equivalent to Earnest Money Deposit/Bid Security.

2. If the Principal has terminated the contract according to Section 3, or if the Principal is entitled to be terminated the contract according to Section 3, the Principal shall be entitled to demand and recover from the Contractor liquidated damages of the Contract value or the amount equivalent to Performance Bank Guarantee.

### **Section 5: Previous Transgression**

1. The Bidder declares that no previous transgressions occurred in the last three years with any other company in any country conforming to the anti-corruption approach or with any other public sector enterprise in India that could justify his exclusion from the EOIRFP process.

2. If the bidder makes incorrect statement on this subject, he can be disqualified from the EOI/RFP process for action can be taken as per the procedure mentioned in “Guidelines on Banning of business dealings”.

#### **Section 6: Equal treatment of all Bidders/ Contractors/Subcontractors**

1. The Bidder(s)/Contractor(s) undertake(s) to demand from all subcontractors a commitment in conformity with this Integrity Pact, and to submit it to the Principal before contract signing.

2. The Principal will enter into agreements with identical conditions as this one with all bidders, contractors and subcontractors.

3. The Principal will disqualify from the EOI/RFP process all bidders who do not sign this Pact or violate its provisions.

#### **Section 7: Criminal charges against violation by Bidder(s) / Contractor(s) / Sub Contractor(s)**

If the Principal obtains knowledge of conduct of a Bidder, Contractor or Subcontractor, or of an employee or a representative or an associate of a Bidder, Contractor or Subcontractor which constitutes corruption, or if the Principal has substantive suspicion in this regard, the Principal will inform the same to the Chief Vigilance Officer.

#### **Section 8: Independent External Monitor / Monitors**

1. The Principal appoints competent and credible Independent External Monitor for this Pact. The task of the Monitor is to review independently and objectively, whether and to what extent the parties comply with the obligations under this agreement.

2. The Monitor is not subject to instructions by the representatives of the parties and performs his functions neutrally and independently. He reports to the CMD, RailTel.

3. The Bidder(s)/Contractor(s) accepts that the Monitor has the right to access without restriction

to all project documentation of the Principal including that provided by the Contractor. The Contractor will also grant the Monitor, upon his request and demonstration of a valid interest, unrestricted and unconditional access to his project documentation. The same is applicable to Subcontractors. The Monitor is under contractual obligation to treat the information and documents of the Bidder(s)/ Contractor(s)/Subcontractor(s) with confidentiality.

4. The Principal will provide to the Monitor sufficient information about all meetings among the parties related to the Project provided such meetings could have an impact on the contractual relations between the Principal and the Contractor. The parties offer to the Monitor the option to participate in such meetings.

5. As soon as the Monitor notices, or believes to notice, a violation of this agreement, he will so inform the Management of the Principal and request the Management to discontinue or take corrective action, or to take other relevant action. The monitor can in this regard submit non-binding recommendations. Beyond this, the Monitor has no right to demand from the parties that they act in a specific manner, refrain from action or tolerate action.

6. The Monitor will submit a written report to the CMD, RailTel within 8 to 10 weeks from the date of reference or intimation to him by the Principal and, should the occasion arise, submit proposals for correcting problematic situations.

7. Monitor shall be entitled to compensation on the same terms as being extended to provided to Independent Directors on the RailTel Board.

8. If the Monitor has reported to the CMD, RailTel, a substantiated suspicion of an offence under relevant IPC/PC Act, and the CMD, RailTel has not, within the reasonable time taken visible action to proceed against such offence or reported it to the Chief Vigilance Officer, the Monitor may also transmit this information directly to the Central Vigilance Commissioner.

9. The word 'Monitor' would include both singular and plural.

## **Section 9: Pact Duration**

This pact begins when both parties have legally signed it. It expires for the Contractor 10 months

after the last payment under the contract, and for all other Bidders 6 months after the contract has been awarded.

If any claim is made / lodged by either party during this time, the same shall be binding and continue to be valid despite the lapse of this pact as specified above, unless it is discharged / determined by CMD of RailTel.

### **Section 10: Other Provisions**

1. This agreement is subject to Indian Law, Place of performance and jurisdiction is the Registered Office of the Principal, i.e. New Delhi.
2. Changes and supplements as well as termination notices need to be made in writing.
3. If the Contractor is a partnership or a consortium, this agreement must be signed by all partners or consortium members.
4. Should one or several provisions of this agreement turn out to be invalid, the remainder of this agreement remains valid. In this case, the parties will strive to come to an agreement to their original intentions.

(For & On behalf of the Principal)

(Office Seal)

Place \_\_\_\_\_

Date \_\_\_\_\_

(For & On behalf of Bidder/Contractor)

(Office Seal)

Place \_\_\_\_\_

Date \_\_\_\_\_

Witness 1:

(Name & Address)

Witness 2:

(Name & Address)

रेलटेल  
RAILTEL

### **Scope of Work**

1. Selected bidder is required to provide a comprehensive solution for designing, implementing, and maintaining a secure and efficient campus network with 5 years warranty. The network should support academic, administrative, and recreational activities while ensuring scalability, reliability, and security.

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#### **2. Objectives**

- Provide high-speed internet access across the campus.
- Ensure seamless connectivity for students, faculty, and staff.
- Implement a secure and scalable architecture.
- Support wired and wireless connectivity.
- Enable efficient management and monitoring of the network.

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#### **3. Network Requirements**

##### **3.1 Functional Requirements:**

- High-speed internet with redundancy.
- Wireless Access Points (WAPs) for Wi-Fi coverage in classrooms, libraries, dormitories, and outdoor spaces.
- Secure login mechanisms for authorized users.
- VLANs for different user groups (e.g., students, faculty, guests).

##### **3.2 Non-Functional Requirements:**

- Scalability to accommodate future growth.
- High reliability and uptime.
- Compliance with local cybersecurity regulations.

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#### **4. Proposed Network**

##### **4.1 Core Network:**

- Deploy high-performance core switches with Layer 3 capabilities.
- Implement redundant links for failover.

##### **4.2 Distribution Layer:**

- Use distribution switches to aggregate access layer traffic.
- Implement VLANs and inter-VLAN routing.

##### **4.3 Access Layer:**

- Deploy PoE (Power over Ethernet) switches to support WAPs and IP phones.
- Provide wired connections in labs and faculty offices.

##### **4.4 Wireless Network:**

- Install dual-band WAPs supporting Wi-Fi 6 (802.11ax).
- Use wireless controllers for centralized management.
- Ensure adequate coverage and minimal interference using site surveys.

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#### **5. Security Measures**

- Use firewalls to protect the network perimeter.
- Implement WPA3 for wireless security.

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#### **6. Network Monitoring and Management**

- Use a network management system (NMS) for real-time monitoring.
- Implement logging and alerting mechanisms.
- Conduct regular audits and performance evaluations.

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#### **7. Implementation Plan**

##### **7.1 Planning Phase:**

- Conduct a requirements analysis.

- Perform a site survey.
- Define budget and procurement strategy.

#### **7.2 Deployment Phase:**

- Install and configure core, distribution, and access layer devices.
- Set up WAPs and wireless controllers.
- Configure VLANs, firewalls, and security policies.

#### **7.3 Testing Phase:**

- Test network performance and connectivity.
- Verify security configurations.
- Address issues identified during testing.

#### **7.4 Maintenance Phase:**

- Schedule regular updates and patches.
- Provide 24/7 technical support.
- Monitor network health continuously.

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### **8. Scalability and Future Enhancements**

- Plan for additional bandwidth requirements.
- Upgrade to newer technologies as needed (e.g., Wi-Fi 7).
- Expand coverage to new campus buildings.

- 
9. The solution should provide a robust framework for implementing a campus network that meets the needs of all stakeholders. By following the outlined design and implementation steps, the campus can achieve seamless, secure, and scalable connectivity.

### **Project Requirements**

1. Dedicated/toll free Telephone No. for service support BIDDER/OEM must have Dedicated/toll free Telephone No. for service support.
2. The bidders should submit the escalation matrix for delivery & installation, for support services (contact persons details & e-mail ids). The escalation matrix should have separate support engineer and project manager for RailTel's Customer.
3. Solution should be proposed in-line with CERT-IN guidelines and should have mechanism to dynamically import and enforce IP addresses, URLs, domains, and custom indicators of compromise (IoCs) from external sources including CERT-IN from external source without changing SDWAN rules / configuration.
4. The Proposed equipment must be appliance based, rack-mountable, equipped from inception.

#### **8.1. Physical delivery of network equipment as per work order**

The Successful Bidder must deliver the network equipment mentioned at the Customer location. The successful Bidder is required to unpack, assemble, mount the supplied equipment in the rack/space provided, tagging of ports, boot the equipment, perform power-on self-test (POST) and capture the reports and get it verified by Authorities and submit it at RailTel's Customer Location.

#### **8.2. Installation, Integration & configuration of network equipment**

The successful Bidder is required to install the necessary service packs, patches, and fixes to the Operating System, set up and configure the equipment. Compatibility issues of subsystems with OS, respective drivers, firmware, any other cards to be installed, if required, are to be resolved by Bidder.

The activities and features mentioned in the Scope of Work section below has to be configured on installed and commissioned devices.

### **8.3. Provide warranty and AMC/ATS/ subscription support for the tenure of the contract**

Successful Bidder will be responsible to provide the following during the Contract period of 5 years w.e f Project Go-Live or acceptance by customer:

- 8.3.1. Onsite comprehensive warranty AMC/ATS/subscription.
- 8.3.2. Arrange back-to-back support from the respective OEM.
- 8.3.3. In Case of RMA, its successful bidder responsibility to replace the equipment and to return the faulty equipment to the OEM warehouse at no extra cost to the Customer location during the tenure of the contract.
- 8.3.4. SLA (if any) from Customer shall be applicable to selected bidder on back to back basis.

### **8.4. Guideline for Installation and Commissioning**

- 8.4.1. Carrying out all general tests such as physical test on delivery, pre-installation checks to ensure correct implementation and connections, completeness of system documentation etc.
- 8.4.2. The Successful Bidder shall follow all Safety Regulations and practices.
- 8.4.3. The Successful Bidder shall provide on-site warranty for all the components including hardware, software, etc. as per EOI for a period of Five Years.

### **8.5. Acceptance Testing:**

- 8.5.1. The Acceptance Tests for the sites shall be carried out in accordance to the scope, requirement, specifications and design principles mentioned in this document as per RailTel's customer requirements.
- 8.5.2. The above said Acceptance Test shall be conducted for each location.
- 8.5.3. All the functionalities, features and configuration relevant to this project shall be documented and demonstrated by the Successful Bidder to RailTel Customer.
- 8.5.4. The Final Acceptance Test cum Go-Live certificate will be issued to the successful bidder after successfully commissioning and testing all the equipment.

### **Assumptions in Scope:**

- **Rack Upgrade:** Increase rack size from 12U to 15U.
- **Network Topology Change:** Transition from star to ring topology.
- **Fiber Laying:** Install new fiber connections between racks to complete the ring topology.
- **Data Segregation:** Implement logical segregation of LAN and wireless networks.
- **New Switch Location:** Introduce a new location for the Trauma Center distribution switch.
- **Fiber Cable Installation:** Perform both soft and hard digging for HDPE pipe laying.
- **UTP Cable Laying:** Deploy new UTP cables for all data and PoE nodes.

- **Wireless Infrastructure:** Implement wireless controllers and access points.
- **Authentication Mechanisms:**
  - Employee authentication via Active Directory (AD).
  - Guest authentication using Pre-Shared Key (PSK).
- **Switch Deployment:** Install and configure network switches.
- **Fiber Connectivity:** Buildings 49 and 54 will be connected via a single fiber link

**Assumptions & Out of Scope:**

- Other than the **Trauma Center**, all other **distribution switch locations** remain unchanged.
- **Data Center location** remains the same.
- **Client Responsibility:** The client will provide all necessary permissions for **soft & hard digging and road crossing** for new fiber laying.
- One **additional subnet** is required for the wireless network.



**Technical Specification Compliance**

Core Switch			
S.No.		Specification	Compliance (Yes/No)
1	General Requirements	Managable L2/3 switch should have minimum 48x GE/10 GE SFP+ ports and 6x 40 GE QSFP+ ports or 4x 100 GE QSFP28 ports	
2		Proposed switch should have a RJ-45 Serial console port and Dedicated Management 10/100/1000 Port	
3		The form factor of the proposed switch should be 1 RU Rack-Mount Appliance with Dual redundant hot swappable power supply	
4		Switching capacity of the proposed switch should be minimum 1760 Gbps	
5		Packet per second capacity of the switch should be minimum 1500 Mpps	
6		Proposed Switch should support minimum 144K MAC address storage	
7		Proposed switch should support 4000 VLANs	
8		Should support min 8 GB RAM, maximum to be specified and 128MB Flash and a 128GB SSD Storage	
9	Layer 2 Requirements	Should support Jumbo frames and link auto-negotiation	
10		Should support Spanning Tree Protocol MSTP native, and backwards compatible with RTSP, STP and STP Root Guard	
11		Should support Edge Port / Port Fast	
12		IEEE 802.1AX Link Aggregation	
13		IEEE 802.1q VLAN tagging, Private VLAN, Voice VLAN	
14		Should support IEEE 802.3ad Link Aggregation with LACP with maximum 8 Link Aggregation Group size	
15		should support Unicast/Multicast traffic balance over trunking port for dst-ip, dst-mac, src-dst-ip, src-dst-mac, src-ip, src-mac	
16		Should support IEEE 802.3x Flow Control and Back-pressure, IEEE 802.3 10Base-T, IEEE 802.3u 100Base-TX, IEEE 802.3z, 1000Base-SX/LX, IEEE 802.3ab 1000Base-T	
17	Authentication Requirements	Should support virtual wire between two ports for troubleshooting	
18		Admin Authentication Via RFC 2865 RADIUS	
19		Should support 802.1x port-based authentication	
20		Should support 802.1x MAC-based authentication, IEEE 802.1x MAC Access Bypass (MAB)	
21		Should support IEEE 802.1x Guest and Fallback VLAN	

22		Should support IEEE 802.1x Dynamic VLAN Assignment, MAC-IP Binding	
23		Should support Radius CoA (Change of Authority) and Radius Accounting	
24		Switch should support local user database and can integrate with LDAP, RADIUS, TACACS+ servers	
25	Layer3 Requirements	should support Static L3 hardware-based routing	
26		Should support Dynamic Routing Protocols :OSPFv2, RIPv2, VRRP	
27		Should support BFD(Bidirectional Forwarding Detection)	
28		Should support DHCP Relay	
29	Security	should support LLDP, LLDP-MED, MCLAG(Multi-chassis link aggregation).	
30		should support Storm Control, LoopGuard	
31		Should support IGMP snooping, DHCP snooping(entry limit per port) and Dynamic ARP Inspection	
32		Should support Port mirroring, sFlow , TDR (time-domain reflectometer)/cable diagnostics.	
33		Should support Sticky MAC and MAC Limit	
34		Switch should support ACL with classifier(source and destination MAC address, VLAN id, source and destination IP address, or service (layer 4 protocol id and port number)) and Actions(1. Allow or block the packet, redirect the packet, mirror the packet. 2. Police the traffic 3. Mirror the packet to another port, interface or trunk 4. CoS queue assignment 5. Outer VLAN tag assignment 6. Egress mask to filter packets	
35		Switch should support 4000 ACL entries	
36	Qos	Switch should support Device Detection to understand the type of device operating systems, display the IP address.	
37		Switch should support Policy Control of Users and Devices	
38		Should support IEEE 802.1p Based Priority Queuing	
39		Should support IP TOS/DSCP Based Priority Queuing	
40	Management	Should support Telnet,SSH, HTTP,HTTPS with IPv4 and IPv6 Management	
41		Switch should support SNMP v1, v2c and v3	
42		Software download/upload: TFTP/FTP/GUI	
43		Proposed switch should be managed via both, GUI and CLI	
44		MUST support multiple configuration files with Dual-firmware image support	
45		Should Support for HTTP REST APIs for Configuration and Monitoring	
46		Switch should support IP conflict detection and notification	
47	Environment	Power Required :100–240V AC, 50–60 Hz	
48		Operating Temperature :0–40°C	
49		Humidity : 10–90% RH non-condensing	

50	Certification	FCC, CE, RCM, VCCI, BSMI, UL, CB, RoHS2	
51	Support & Warranty	The proposed switch should include 5 years 24X7 support with all required licenses from Day 1	

Distribution Switch			
S.No.		Specification	Compliance (Yes/No)
1	General Requirements	Managable switch should have minimum 24x GE/10 GE SFP+ Slots and 2x 40GE / 100GE QSFP+ / QSFP28 Slots	
2		Proposed switch should have a RJ-45 Serial console port and Dedicated Management 10/100 Port	
3		The form factor of the proposed switch should be 1 RU Rack-Mount Appliance with Dual redundant hot swappable power supply	
4		Switching capacity of the proposed switch should be minimum 880 Gbps	
5		Packet per second capacity of the switch should be minimum 1300 Mpps	
6		Proposed Switch should support minimum 64K MAC address storage	
7		Proposed switch should support 4000 VLANs	
8		Should support min DRAM- 8 GB, maximum to be specified	
9	Layer 2 Requirements	Should support Jumbo frames and link auto-negotiation	
10		Should support Spanning Tree Protocol MSTP native, and backwards compatible with RTSP, STP and STP Root Guard	
11		Should support Edge Port / Port Fast	
12		IEEE 802.1AX Link Aggregation	
13		IEEE 802.1q VLAN tagging, Private VLAN, Voice VLAN	
14		Should support IEEE 802.3ad Link Aggregation with LACP with maximum 8 Link Aggregation Group size	
15		should support Unicast/Multicast traffic balance over trunking port for dst-ip, dst-mac, src-dst-ip, src-dst-mac, src-ip, src-mac	
16		Should support IEEE 802.3x Flow Control and Back-pressure, IEEE 802.3 10Base-T, IEEE 802.3u 100Base-TX, IEEE 802.3z , 1000Base-SX/LX, IEEE 802.3ab 1000Base-T	
17		Should support virtual wire between two ports for troubleshooting	
18	Authentication Requirements	Admin Authentication Via RFC 2865 RADIUS	
19		Should support 802.1x port-based authentication	
20		Should support 802.1x MAC-based authentication, IEEE 802.1x MAC Access Bypass (MAB)	
21		Should support IEEE 802.1x Guest and Fallback VLAN	
22		Should support IEEE 802.1x Dynamic VLAN Assignment, MAC-IP Binding	
23		Should support Radius CoA (Change of Authority) and Radius Accounting	

24		Switch should support local user database and can integrate with LDAP, RADIUS, TACACS+ servers	
25	Layer3 Requirements	should support Static L3 hardware-based routing	
26		Should support Dynamic Routing Protocols :OSPFv2, RIPv2, VRRP	
27		Should support BFD(Bidirectional Forwarding Detection)	
28		Should support DHCP Relay	
29	Security	should support LLDP, LLDP-MED, MCLAG(Multi-chassis link aggregation).	
30		should support Storm Control, LoopGuard	
31		Should support IGMP snooping, DHCP snooping(entry limit per port) and Dynamic ARP Inspection	
32		Should support Port mirroring, sFlow , TDR (time-domain reflectometer)/cable diagnostics.	
33		Should support Sticky MAC and MAC Limit	
34		Switch should support ACL with classifier(source and destination MAC address, VLAN id, source and destination IP address, or service (layer 4 protocol id and port number)) and Actions(1. Allow or block the packet, redirect the packet, mirror the packet. 2. Police the traffic 3. Mirror the packet to another port, interface or trunk 4. CoS queue assignment 5. Outer VLAN tag assignment 6. Egress mask to filter packets	
35		Switch should support 512 ACL entries	
36		Switch should support Device Detection to understand the type of device operating systems, display the IP address.	
37		Switch should support Policy Control of Users and Devices	
38	Qos	Should support IEEE 802.1p Based Priority Queuing	
39		Should support IP TOS/DSCP Based Priority Queuing	
40	Management	Should support Telnet,SSH, HTTP,HTTPS with IPv4 and IPv6 Management	
41		Switch should support SNMP v1, v2c and v3	
42		Software download/upload: TFTP/FTP/GUI	
43		Proposed switch should be managed via both, GUI and CLI	
44		MUST support multiple configuration files with Dual-firmware image support	
45		Should Support for HTTP REST APIs for Configuration and Monitoring	
46		Switch should support IP conflict detection and notification	
47	Central Management	Should be ready to integrated with existing switch controller which offers visibility, user access control, and threat mitigation to quarantine automatically on the compromised host at the switch port level. If bidder not supported they should include switch controller with required hardware and license in the quotation.	

48		Should support centralized security management, configuration and reporting through a single console from existing switch controller or from external NMS	
49		Should have option to create switch profiles to allow specific settings to be applied to all authorized Switches.	
50		Proposed switch should be managed by existing switch controller for performing the following configurations. VLAN, POE Control, RSTP/MSTP, 802.1x Authentication, Syslog Collection, Device Detection, Host Quarantine on Switch Port, QoS, Radius accounting(COA) and Centralized Firmware Management through this single pane of glass.	
51		Centralized management should show the network topology of all managed switches through a single console	
52		Switch should discover automatically by centralized switch controller and configures with Zero-touch provisioning	
53		Switch should automatically discover the controller when the controller is under an L3 network	
54	Environment	Power Required :100–240V AC, 50–60 Hz	
55		Operating Temperature :0–50°C	
56		Humidity : 10–90% non-condensing	
57	Certification	FCC, CE, RCM, VCCI, BSMI, UL, CB, RoHS2	

Access Switch 48 Port Non-PoE			
SN		Specification	Compliance (Yes/No)
1	General Requirements	Managable switch should have minimum 48x GE RJ45 ports and 4x 10 GE SFP + ports	
2		Proposed switch should have a RJ-45 Serial console port	
3		The form factor of the proposed switch should be 1 RU Rack-Mount Appliance	
4		Switching capacity of the proposed switch should be minimum 170 Gbps	
5		Packet per second capacity of the switch should be minimum 250 Mpps	
6		Proposed Switch should support minimum 32 K MAC address storage	
7		Proposed switch should support 4000 VLANs	
8		Should support min memory of 512MB DDR3 or more, maximum to be specified	
9	Layer 2 Requirements	Should support Jumbo frames and link auto-negotiation	
10		Should support Spanning Tree Protocol MSTP native, and backwards compatible with RTSP, STP and STP Root & BPDU Guard	
11		Should support Edge Port / Port Fast	
12		IEEE 802.1AX Link Aggregation	

13		IEEE 802.1q VLAN tagging, IEEE 802.1ab Link Layer Discovery Protocol (LLDP), IEEE 802.1ab LLDP-MED, DHCP-Snooping	
14		should support Unicast/Multicast traffic balance over trunking port for dst-ip, dst-mac, src-dst-ip, src-dst-mac, src-ip, src-mac	
15		Should support IEEE 802.3x Flow Control and Back-pressure, IEEE 802.3 10Base-T, IEEE 802.3u 100Base-TX, IEEE 802.3z , 1000Base-SX/LX, IEEE 802.3ab 1000Base-T	
16	Authentication Requirements	Admin Authentication Via RFC 2865 RADIUS	
17		Should support 802.1x port-based authentication	
18		Should support 802.1x MAC-based authentication, IEEE 802.1x MAC Access Bypass (MAB)	
19		Should support IEEE 802.1x Guest and Fallback VLAN	
20		Should support IEEE 802.1x Dynamic VLAN Assignment	
21		Switch should support local user database and can integrate with LDAP, RADIUS, TACACS+ servers	
22	Management	Should support Telnet,SSH, HTTP,HTTPS with IPv4 and IPv6 Management	
23		Switch should support SNMP v1, v2c and v3	
24		Software download/upload: TFTP/FTP/GUI	
25		Proposed switch should be managed via both, GUI and CLI	
26	Central Management	Should be ready to integrated with switch controller which offers visibility, user access control, and threat mitigation to quarantine automatically on the compromised host at the switch port level. Required fucntionaloty, If not supported then bidder need to include switch controller with required hardware and license in the quotation.	
27		Should support centralized security management, configuration and reporting through a single console from switch controller or from external NMS	
28		Should have option to create switch profiles to allow specific settings to be applied to all authorized Switches.	
29		Proposed switch should be managed by switch controller for performing the following configurations. VLAN, POE Control, RSTP/MSTP, 802.1x Authentication, Syslog Collection , Device Detection, Host Quarantine on Switch Port, QoS, Radius accounting(COA) and Centralized Firmware Management through this single pane of glass.	
30		Centralized management should show the network topology of all managed switches through a single console	
31	Environment	Power Required :100–240V AC, 50–60 Hz	
32		Operating Temperature : 0–45°C	
33		Humidity : 10–90% non-condensing	
34	Certifications	UL, CB, RoHS2, FCC, CE, RCM, VCCI, BSMI	

Access Switch 48 Port PoE			
SN		Specification	Compliance (Yes/No)
1	General Requirements	Managable switch should have minimum 48x GE RJ45 ports and 4x 10 GE SFP + ports. The proposed switch should be PoE enabled and should have the POE power budget of 740W or more.	
2		Proposed switch should have a RJ-45 Serial console port	
3		The form factor of the proposed switch should be 1 RU Rack-Mount Appliance	
4		Switching capacity of the proposed switch should be minimum 170 Gbps	
5		Packet per second capacity of the switch should be minimum 250 Mpps	
6		Proposed Switch should support minimum 32 K MAC address storage	
7		Proposed switch should support 4000 VLANs	
8		Should support min memory of 512MB DDR3 or more, maximum to be specified	
9	Layer 2 Requirements	Should support Jumbo frames and link auto-negotiation	
10		Should support Spanning Tree Protocol MSTP native, and backwards compatible with RTSP, STP and STP Root & BPDU Guard	
11		Should support Edge Port / Port Fast	
12		IEEE 802.1AX Link Aggregation	
13		IEEE 802.1q VLAN tagging, IEEE 802.1ab Link Layer Discovery Protocol (LLDP), IEEE 802.1ab LLDP-MED, DHCP-Snooping	
14		should support Unicast/Multicast traffic balance over trunking port for dst-ip, dst-mac, src-dst-ip, src-dst-mac, src-ip, src-mac	
15		Should support IEEE 802.3x Flow Control and Back-pressure, IEEE 802.3 10Base-T, IEEE 802.3u 100Base-TX, IEEE 802.3z , 1000Base-SX/LX, IEEE 802.3ab 1000Base-T	
16	Authentication Requirements	Admin Authentication Via RFC 2865 RADIUS	
17		Should support 802.1x port-based authentication	
18		Should support 802.1x MAC-based authentication, IEEE 802.1x MAC Access Bypass (MAB)	
19		Should support IEEE 802.1x Guest and Fallback VLAN	
20		Should support IEEE 802.1x Dynamic VLAN Assignment	
21		Switch should support local user database and can integrate with LDAP, RADIUS, TACACS+ servers	
22	Management	Should support Telnet,SSH, HTTP,HTTPS with IPv4 and IPv6 Management	
23		Switch should support SNMP v1, v2c and v3	
24		Software download/upload: TFTP/FTP/GUI	
25		Proposed switch should be managed via both, GUI and CLI	

26	Central Management	Should be ready to integrated with switch controller which offers visibility, user access control, and threat mitigation to quarantine automatically on the compromised host at the switch port level. Required functionality, If not supported then bidder need to include switch controller with required hardware and license in the quotation.	
27		Should support centralized security management, configuration and reporting through a single console from switch controller or from external NMS	
28		Should have option to create switch profiles to allow specific settings to be applied to all authorized Switches.	
29		Proposed switch should be managed by switch controller for performing the following configurations. VLAN, POE Control, RSTP/MSTP, 802.1x Authentication, Syslog Collection , Device Detection, Host Quarantine on Switch Port, QoS, Radius accounting(COA) and Centralized Firmware Management through this single pane of glass.	
30		Centralized management should show the network topology of all managed switches through a single console	
31	Environment	Power Required :100–240V AC, 50–60 Hz	
32		Operating Temperature : 0–45°C	
33		Humidity : 10–90% non-condensing	
34	Certifications	UL, CB, RoHS2, FCC, CE, RCM, VCCI, BSMI	

Access Switch 24 Port Non-PoE			
SN		Specification	Compliance (Yes/No)
1	General Requirements	Managable switch should have minimum 24x GE RJ45 ports and 4x 10 GE SFP + ports	
2		Proposed switch should have a RJ-45 Serial console port	
3		The form factor of the proposed switch should be 1 RU Rack-Mount Appliance	
4		Switching capacity of the proposed switch should be minimum 128 Gbps	
5		Packet per second capacity of the switch should be minimum 190 Mpps	
6		Proposed Switch should support minimum 32 K MAC address storage	
7		Proposed switch should support 1000 VLANs	
8		Should support min memory of 512MB, maximum to be specified	
9	Layer 2 Requirements	Should support Jumbo frames and link auto-negotiation	
10		Should support Spanning Tree Protocol MSTP native, and backwards compatible with RTSP, STP and STP Root & BPDU Guard	
11		Should support Edge Port / Port Fast	
12		IEEE 802.1AX Link Aggregation	

13		IEEE 802.1q VLAN tagging, IEEE 802.1ab Link Layer Discovery Protocol (LLDP), IEEE 802.1ab LLDP-MED, DHCP-Snooping	
14		should support Unicast/Multicast traffic balance over trunking port for dst-ip, dst-mac, src-dst-ip, src-dst-mac, src-ip, src-mac	
15		Should support IEEE 802.3x Flow Control and Back-pressure, IEEE 802.3 10Base-T, IEEE 802.3u 100Base-TX, IEEE 802.3z , 1000Base-SX/LX, IEEE 802.3ab 1000Base-T	
16	Authentication Requirements	Admin Authentication Via RFC 2865 RADIUS	
17		Should support 802.1x port-based authentication	
18		Should support 802.1x MAC-based authentication, IEEE 802.1x MAC Access Bypass (MAB)	
19		Should support IEEE 802.1x Guest and Fallback VLAN	
20		Should support IEEE 802.1x Dynamic VLAN Assignment	
21		Switch should support local user database and can integrate with LDAP, RADIUS, TACACS+ servers	
22	Management	Should support Telnet,SSH, HTTP,HTTPS with IPv4 and IPv6 Management	
23		Switch should support SNMP v1, v2c and v3	
24		Software download/upload: TFTP/FTP/GUI	
25		Proposed switch should be managed via both, GUI and CLI	
26	Central Management	Should be ready to integrated with switch controller which offers visibility, user access control, and threat mitigation to quarantine automatically on the compromised host at the switch port level. If bidder not supported they should include switch controller with required hardware and license in the quotation.	
27		Should support centralized security management, configuration and reporting through a single console from switch controller or from external NMS	
28		Should have option to create switch profiles to allow specific settings to be applied to all authorized Switches.	
29		Proposed switch should be managed by switch controller for performing the following configurations. VLAN, POE Control, RSTP/MSTP, 802.1x Authentication, Syslog Collection , Device Detection, Host Quarantine on Switch Port, QoS, Radius accounting(COA) and Centralized Firmware Management through this single pane of glass.	
30		Centralized management should show the network topology of all managed switches through a single console	
31	Environment	Power Required :100–240V AC, 50–60 Hz	
32		Operating Temperature : 0–45°C	
33		Humidity : 10–90% non-condensing	
34	Certifications	FCC, CE, RCM, VCCI, BSMI, UL, CB, RoHS2	
<b>Access Switch 24 Port PoE</b>			

SN		Specification	Compliance (Yes/No)
1	General Requirements	Managable POE switch should have minimum 24x GE RJ45 ports and 4x 10 GE SFP + ports. The switch should have the POE power budget of 370W or more.	
2		Proposed switch should have a RJ-45 Serial console port	
3		The form factor of the proposed switch should be 1 RU Rack-Mount Appliance	
4		Switching capacity of the proposed switch should be minimum 128 Gbps	
5		Packet per second capacity of the switch should be minimum 190 Mpps	
6		Proposed Switch should support minimum 32 K MAC address storage	
7		Proposed switch should support 1000 VLANs	
8		Should support min memory of 512MB, maximum to be specified	
9	Layer 2 Requirements	Should support Jumbo frames and link auto-negotiation	
10		Should support Spanning Tree Protocol MSTP native, and backwards compatible with RTSP, STP and STP Root & BPDU Guard	
11		Should support Edge Port / Port Fast	
12		IEEE 802.1AX Link Aggregation	
13		IEEE 802.1q VLAN tagging, IEEE 802.1ab Link Layer Discovery Protocol (LLDP), IEEE 802.1ab LLDP-MED, DHCP-Snooping	
14		should support Unicast/Multicast traffic balance over trunking port for dst-ip, dst-mac, src-dst-ip, src-dst-mac, src-ip, src-mac	
15		Should support IEEE 802.3x Flow Control and Back-pressure, IEEE 802.3 10Base-T, IEEE 802.3u 100Base-TX, IEEE 802.3z , 1000Base-SX/LX, IEEE 802.3ab 1000Base-T	
16	Authentication Requirements	Admin Authentication Via RFC 2865 RADIUS	
17		Should support 802.1x port-based authentication	
18		Should support 802.1x MAC-based authentication, IEEE 802.1x MAC Access Bypass (MAB)	
19		Should support IEEE 802.1x Guest and Fallback VLAN	
20		Should support IEEE 802.1x Dynamic VLAN Assignment	
21		Switch should support local user database and can integrate with LDAP, RADIUS, TACACS+ servers	
22	Management	Should support Telnet,SSH, HTTP,HTTPS with IPv4 and IPv6 Management	
23		Switch should support SNMP v1, v2c and v3	
24		Software download/upload: TFTP/FTP/GUI	
25		Proposed switch should be managed via both, GUI and CLI	

26	Central Management	Should be ready to integrated with switch controller which offers visibility, user access control, and threat mitigation to quarantine automatically on the compromised host at the switch port level. If bidder not supported they should include switch controller with required hardware and license in the quotation.	
27		Should support centralized security management, configuration and reporting through a single console from switch controller or from external NMS	
28		Should have option to create switch profiles to allow specific settings to be applied to all authorized Switches.	
29		Proposed switch should be managed by switch controller for performing the following configurations. VLAN, POE Control, RSTP/MSTP, 802.1x Authentication, Syslog Collection, Device Detection, Host Quarantine on Switch Port, QoS, Radius accounting(COA) and Centralized Firmware Management through this single pane of glass.	
30		Centralized management should show the network topology of all managed switches through a single console	
31	Environment	Power Required :100–240V AC, 50–60 Hz	
32		Operating Temperature : 0–45°C	
33		Humidity : 10–90% non-condensing	
34	Certifications	FCC, CE, RCM, VCCI, BSMI, UL, CB, RoHS2	

Wireless Access Points			
S.No	Features	Specification	Compliance Yes/No
1	Architecture	The Access Point should be Wi-Fi 6E with support for IEEE 802.11a/b/g/n/ac/ax/ standards and OFDMA feature.	
2		Should have three radios and should be able to support devices on 2.4 GHz, 5 GHz, and the 6 GHz bands simultaneously.	
3		Should have at least 3 dual band Internal omni-directional radio antennas with a dedicated BLE/ZigBee antenna.	
4		Should have a BLE antenna with Bluetooth scanning. The integrated BLE radio should be able to use for beacons and locationing applications.	
5		Should have minimum 1 x 10/100/1000 Base-T RJ45, 1 X 100/1000/2500 Base-T RJ45, 1x USB 3.0, 1x RS232 RJ45 Serial Port	
6		Should support Power over Ethernet (PoE) 802.3at and 802.3af modes.	
7		Access point should be a 2x2 MU-MIMO capable.	
8	Mobility	The access Point should support throughput in Radio 1: Up to 574 Mbps, Radio 2: Up to 1200 Mbps and Radio 3: Up to 2400 mbps data rates	
9		Should support L2 and L3 wireless controller discovery	
10		Should support auto-selection of RF channel and transmit power	

11		Access point must have following wireless monitoring capabilities:	
12		a) Frequencies scanned for 2.4, 5 GHz and 6GHz	
13		b) Background scan with client access on 2.4, 5 GHz and 6GHz	
14		c) Full-time scan as dedicated monitor	
15		d) Should support one radio for air monitor and another radio for client access.	
16		Proposed AP should be Wi-Fi Alliance certified device.	
17		Should support 8 Simultaneous SSIDs per client serving radio.	
18		Should support following EAP types : EAP-TLS, EAP-TTLS/MSCHAPv2, PEAPv0/EAPMSCHAPv2, PEAPv1/EAP-GTC, EAP-SIM, EAP-AKA, EAP-FAST	
19		Should support user/device authentication through: WPA, WPA2 and WPA3 with 802.1x or Preshared key, WEP, Web Captive Portal, MAC blocklist & allowlist	
20		Should support Peak antenna gain of 4.5 dBi for 2.4 GHz, 5.5 dBi for 5 GHz & 6 GHz	
21		Should support Local AP diagnostic web portal	
22		Access Points must support upto 500 clients	
23		Should have physical security lock (such as Kensington lock)	
24	Management	Should be centrally managed through the wireless controller	
25		The Wireless Controller should be Hardware based, Reliable, purpose-built appliance with hardened operating system that eliminates the security risks associated with general-purpose operating systems	
26		Central Controller should support 200 Access Point from day one	
27		The controller should be rack mountable and have dual internal power supply from day one.	
28		The Central controller can be part of proposed solution by extending its functionality with or without additional licenses or can be quoted separately in hardware form factor meeting the specified RFP clauses.	
29		Should support DNS based Controller discovery, DHCP Based Controller discovery and static discovery	
30		Should support web-based secured management interface	
31		Should support Command line(CLI) to access point	
32		should support mounting options of Ceiling, T-Rail and wall all these accessories should included with box. If not quote all mounting kit.	
33		Operating Temperature - 0 – 50 °C	
34	Environment & Certificates	Access Point must be Wi-Fi Alliance Certified	
35		Low Voltage Directive , RoHS Directives compliant	

Centralized Wireless & Switch Controller		
S.No	Specifications	Comply (Yes/No)

1	Proposed solution must be dedicated hardware appliance controlling and managing the Wireless and Switching infrastructure.	
2	Must have 16X GE RJ45, 4X GE SFP, 4x 10 GE SFP+, 2X 25GE SFP28 and dedicated RJ45 Management from Day1. All required transceivers should be populated from day one.	
3	The proposed solution should have in-build firewalling with L3-L7 Security policy features with 100Gbps or more throughput.	
4	Should support 15 million or above Concurrent connections.	
5	The proposed wireless and switch controller support device profiles for quick provision of devices.	
6	It should support Access Point management and provisioning features like: Route AP detection, seamless roaming, band steering, RF Monitoring and captive portal etc.	
7	Controller should support management and monitoring features for managed switches with centralized VLAN creation, 802.1X authentications and host quarantine & dynamic VLAN assignment, QOS and mac filtering etc from the controller itself.	
8	The solution should have redundant/dual power supply and should be rack mountable. All required parts and accessories to be included from Day 1.	
9	The proposed solution should support HA in Active/Active and Active/Passive mode with support for both IPV4 and IPV6 traffic and stateful failovers.	
10	Controller must support NAT (SNAT and DNAT) with following modes Static, Dynamic, PAT, Nat66 (IPv6-to-IPv6), Nat 64 (IPv6-to-IPv4), Nat46 (IPv4- to-IPv6) , DNS64 & DHCPv6 functionality.	
11	Must support REST API for config programmability and any 3rd party API integrations.	
12	Proposed controller must have a hardened OEM operating system.	
13	The solution should support Static Routing, Policy based Routing, BGP, OSPF, VXLAN Inspection.	
14	Must support DNS client and NTP client. Controller should also have capability to be configured as DNS server for the LAN/segments/zones.	
15	Must support Link aggregation (IEEE 802.3ad) technology to group multiple physical links into a single logical link of higher bandwidth and link fail over capability. Also, must support Ethernet bonding functionality for full mesh deployment architecture.	
16	Support SNMP versions 3 & Syslog forwarding.	
17	Must support various form of user Authentication methods simultaneously, like: Local Database, LDAP server, RADIUS server, TACACS+ server and PKI methods (PKI authentication with PCKS#7, PCKS # 10 standards).	
18	Two-factor authentication for admins without any external Hardware.	
19	Windows Active Directory single sign-on by means of agent/clientless/Captive portal which broker between users when they log on to the AD domain and the end-device.	
20	Device should have dedicated Trusted Platform Module that hardens security by generating, storing, and authenticating cryptographic keys.	
21	The proposed solution should support the ability to create QoS policy on a per rule basis- by source address, by destination address, by application (such as Skype, Bittorrent, YouTube, azureus, webex), by static or dynamic application groups (such as Instant Messaging or P2P groups), by port and services.	
22	Should support the following authentication protocols: LDAP, Radius (vendor specific attributes), and Token- based solutions.	

23	Solution providing real-time monitoring, event logs collection, policy enforcement over a GUI interface on HTTPS or equivalent secure mechanism. Management of the appliances must also be available using SSH and direct console access.	
24	Management access control using Profile/Role based for granular control. Local access to appliance/s modules must support role based access.	
25	Support configurable option for E-mail or SMS alerts (Via SMS gateway) in case of any event trigger. Provision to send mail or SNMP traps in response to system failures or threshold violations of the Health attributes.	
26	Configuration changes / commands issued must be logged. Also provision for exporting to external syslog solution.	
27	Must provide the real time health status of the controller on dashboard and CLI together for CPU memory utilization, state table, total No. of concurrent connections and the connections/second counter, real time data transfer/bandwidth utilization of individual IP/Application/protocol/port/Interface/Zone	
28	Should allow the report to be exported into other formats such as PDF, HTML, CSV/XML etc.	
29	Configuration backup and restore on to/from a remote system via GUI/CLI over HTTPS/SSH or equivalent secure mechanism.	
30	Solution should conform to EN 55032:2015 /EN 55035: 2017/EN 300 328/IEC 62368-1.	
31	Should be USGv6/IPv6 certified.	
32	The solution should be quoted with support for all necessary licenses to support integration and management of minimum 1000 Wireless Access Points and upto 180 Switches from Day 1. The support should include hardware warranty and technical support from OEM.	

### **Network Monitoring System (NMS)**

S. No.	Monitoring System - Technical Specifications	Compliance (YES/NO)
1	For effective operations and management of IT Operations, there is a need for an industry-standard Network Monitoring System (NMS). Given the expanse and scope of the project, NMS becomes very critical for IT Operations and SLA Measurement. Some of the critical aspects that need to be considered for operations of IT setup of are: Network Fault Management, Network Performance Management, Server Performance Monitoring and unified Dashboard & Reporting.	
2	The Monitoring Solution should provide Unified Architectural design offering seamless common functions including but not limited to: Event and Alarm management, Auto-discovery of the Network environment, Reporting and analytics	
3	The solution must provide discovery & inventory of heterogeneous physical network devices like Layer-2 & Layer-3 switches, Routers and other IP devices and do mapping of LAN connectivity with granular visibility up to individual ports level.	

4	The solution shall provide future scalability of the whole system without major architectural changes.	
5	The proposed solution must not use any third-party database (including RDBMS and open source) to store data to provide full flexibility and control on collected data.	
6	All the required modules should be from same OEM and should be tightly integrated for single pane of glass view of enterprise monitoring	
7	The platform must provide complete cross-domain visibility of IT infrastructure issues	
8	The platform must consolidate monitoring events from across layers such as Network, Server, Application, Database etc	
9	The solution must support custom dashboards for different role users such as Management, admin, and report users	
10	The solution must support custom query-based widget with multiple visualization methods including Chart, Gauge, Grid, Top N list etc. to visualize and represent collected data with ease.	
11	The solution should provide superior view of infrastructure health across system,networks, application and other IT Infrastructure components into a consolidated, central console	
12	The solution must provide agentless and agent-based method for managing the nodes and have the capability of storing events / data locally if communication to the management server is not possible due to some problem. This capability will help to avoid losing critical events.	
13	The proposed solution platform shall provide a single integrated solution for comprehensive monitoring of the wired, wireless access, security access control devices, CCTV cameras or any pingable devices and rich visibility into connectivity and performance assurance issues.	
14	The proposed solution must provide comprehensive and integrated management of IT infrastructure components to maximize the availability of IT services and SLA performance.	
15	The design functionality shall facilitate creation of templates used for monitoring key network resources, devices, and attributes. Default templates and best practice designs are provided for quick out-of-the- box implementation automating the work required to use OEM validated designs and best practices.	
16	The proposed solution must provide Health Monitoring reports of the network with settable periodicity -@24 Hrs, 1 week, 1 month.	
17	The proposed solution must provide the graphical layout of the network element with modules drawn using different colors to indicate their status	

18	The proposed solution should have multiple alerting feature to get the notification via email, sms and third-party systems	
19	The proposed solution should provide alert console with alert summary, network alert, server alert, virtualization alert, cloud alert, application alert etc.	
20	The system must have provision to overlay alert on reported metric to understand alert triggering behaviour across multiple drill down pages	

## Proforma for Performance Bank Guarantee Bond

Form No. 1

### PROFORMA FOR PERFORMANCE BANK GUARANTEE BOND (On Stamp Paper of Rs one hundred)

(To be used by approved Scheduled Banks)

1. In consideration of the RailTel Corporation of India Limited, having its registered office at Plate-A, 6th Floor, Office Tower-2, NBCC Building, East Kidwai Nagar, New Delhi-110023 having agreed to exempt .....(Hereinafter called “the said Contractor(s)”) from the demand, under the terms and conditions of an Purchase Order No.....dated.....made between.....and..... for

(hereinafter called “ the said Agreement”) of security deposit for the due fulfillment by the said Contractor (s) of the terms and conditions contained in the said Agreement, on production of a Bank Guarantee for Rs. ....(Rs ..... only). We ..... (indicate the name of the Bank) hereinafter referred to as “the Bank”) at the request of..... Contractor(s) do hereby undertake to pay the RailTel an amount not exceeding Rs..... against any loss or damage caused to or suffered or would be caused to or suffered by the RailTel by reason of any breach by the said Contractor(s) of any of the terms or conditions contained in the said Agreement.

2. We, ..... Bank do hereby undertake to pay the amounts due and payable under this Guarantee without any demur, merely on demand from the RailTel stating that the amount is claimed is due by way of loss or damage caused to or would be caused to or suffered by the RailTel by reason of breach by the said Contractor(s) of any of terms or conditions contained in the said Agreement or by reason of the Contractor(s) failure to perform the said Agreement. Any such demand made on the Bank shall be conclusive as regards the amount due and payable by the Bank under this guarantee. However, our liability under this guarantee shall be restricted to an amount not exceeding Rs . .....

3. We, ..... bank undertake to pay to the RailTel any money so demanded notwithstanding any dispute or disputes raised by the Contractor(s) / Tenderer(s) in any suit or proceedings pending before any court or Tribunal relating thereto our liability under this present being, absolute and unequivocal. The payment so made by us under this Bond shall be a valid discharge of our liability for payment there under and the Contractor(s) / Tenderer(s) shall have no claim against us for making such payment.

4. We, ..... Bank further agree that the Guarantee herein contained shall remain in full force and effect during the period that would be taken for the performance of the said Agreement and that it shall continue to be enforceable till all the dues of the RailTel under or by virtue of the said Agreement have been fully paid and its claims satisfied or discharged or till RailTel certifies that the terms and conditions of the said Agreement have been fully and properly carried out by the said Contractor(s) and accordingly discharges this Guarantee. Unless a demand or claim under the Guarantee is made on us in writing on or before the ..... We shall be discharged from all liability under this Guarantee thereafter.

5. We,..... (indicate the name of Bank) further agree with the RailTel that the RailTel shall have the fullest liberty without our consent and without affecting in any manner our obligations hereunder to vary any of the terms and conditions of the Agreement or to extend time of to postpone for any time or from time to time any of the powers exercisable by the RailTel against the said contractor(s) and to forbear or enforce any of the terms and conditions relating to the said Agreement and we shall not be relieved from our liability by reason of any such variation, or extension to the said Contractor(s) or for any forbearance, act or omission on the part of RailTel or any indulgence by the RailTel to the said Contractor(s) or by any such matter or thing whatsoever which under the law relating to sureties would, but for this provision, have affect of so relieving us.

This Guarantee will not be discharged due to the change in the Constitution of the Bank or the Contractor(s) / Tenderer(s).

(indicate the name of Bank) lastly undertake not to revoke this Guarantee during its currency except with the previous consent of the RailTel in writing.

.....the day of 2024

for .....  
(indicate the name of the Bank)

Witness

1. Signature Name

2. Signature Name

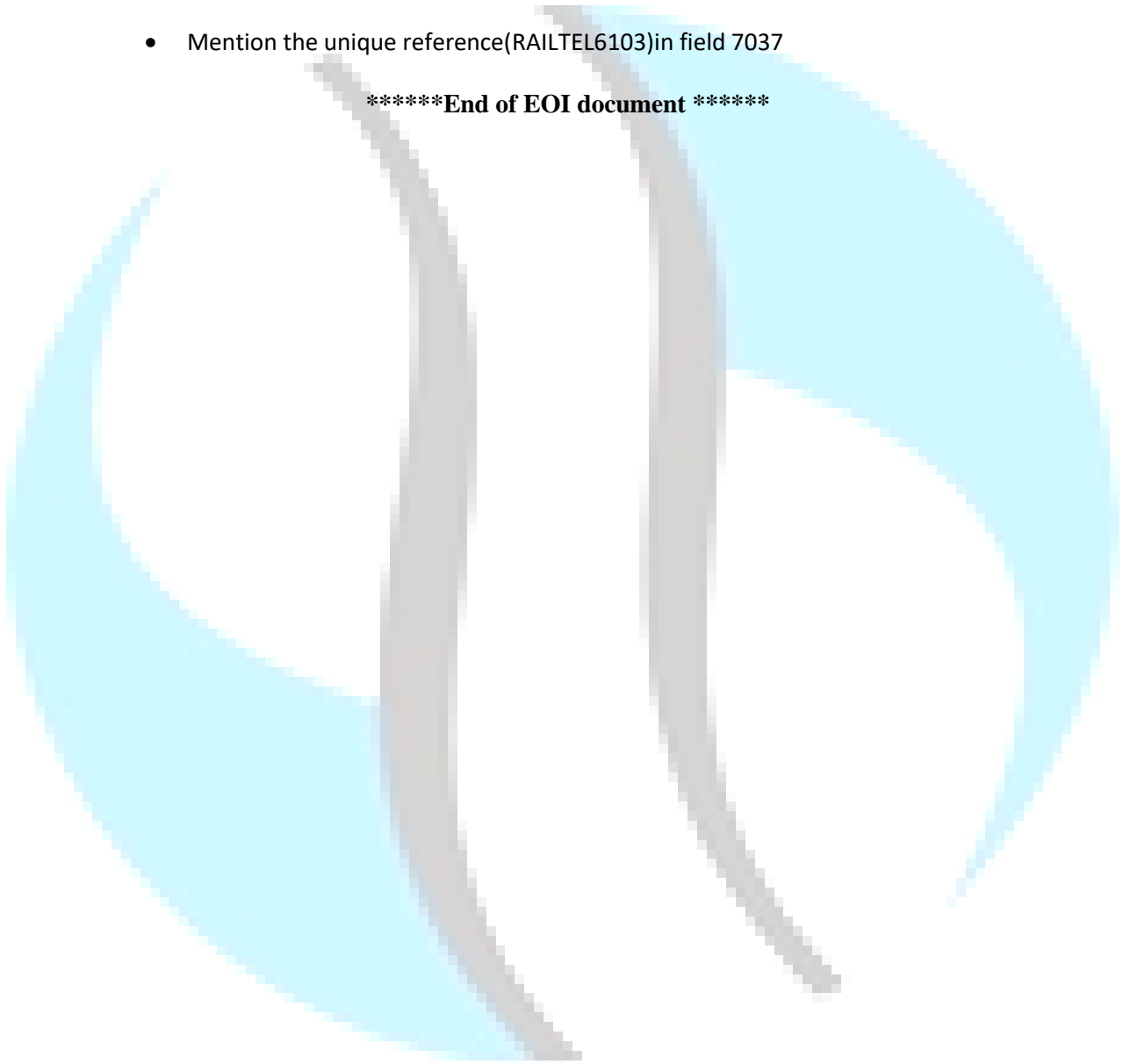
Note: Claim Period of BG will be 365 days more than the BG Validity date.

RailTel Bank Detail for SFMS are:

- To mandatorily send the Cover message at the time of BG issuance.
- IFSC Code of ICICI Bank to be used (ICIC0000007).

- Mention the unique reference(RAILTEL6103)in field 7037

\*\*\*\*\*End of EOI document \*\*\*\*\*



रेलटेल  
RAILTEL