



RailTel Corporation of India Limited

A Government of India (Ministry of Railways) Undertaking

Southern Region Head Quarters, 2nd Floor, B-Block, Rail Nilayam, Secunderabad- 500071

Regd. Office: Plate-A, 6th Floor, Office Tower-2, NBCC Building, East Kidwai Nagar, New Delhi-23.

visit www.railtelindia.com, Tel: 040-27821134 Fax: 27820682,

Corrigendum- III

GEM/2025/B/5877505

Date: 19.02.2025

Sub: Supply of Switches and SFPs as per SOR and Technical Specification

Ref: 1) GEM/2025/B/5877505, Dt.28.01.2025

2) Corrigendum-I Dt.07.02.2025.

3) Corrigendum-II Dt.13.02.2025.

With reference to the above, Corrigendum is issued herewith for the following item:

Tender CI No. & Item No	As per tender document	To be read as
SDN Controllers(specifications) SI No.8	Leaf-Spine Fabric should be built with L3 Underlay and open standards (VXLAN,EVPN) Overlay. Proposed fabric technology should support multiple OEM switches to be part of a single leaf-spine fabric.	Leaf-Spine Fabric should be built with L3 Underlay and open standards (VXLAN,EVPN) Overlay. In addition proposed fabric technology may support multiple OEM switches to be part of a single leaf-spine fabric is preferable.
Closing date for Submission of Bids wherever applicable	19.02.2025 up-to 15:00 Hrs. (Online)	27.02.2025 up-to 15:00 Hrs. (Online)
Opening of Bids wherever applicable	19.02.2025 at 15:30 Hrs. (Online)	27.02.2025 at 15:30 Hrs. (Online)

Note : Bidders may treat as "NO FURTHER QUERIES" will be addressed.

All other T&C are as per Tender document.

Sd/-
JGM/DC&TP/SC
For RailTel Corporation of India Ltd.



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Corrigendum- II

GEM/2025/B/5877505

Date: 13.02.2025

Sub: Supply of Switches and SFPs as per SOR and Technical Specification

Ref : GEM/2025/B/5877505, Dt.28.01.2025 & Corrigendum-I Dt.07.02.2025.

With reference to the above, Corrigendum is issued herewith for the following item:

Tender CI No. & Item No	As per tender document	To be read as
Closing date for Submission of Bids wherever applicable	14.02.2025 up-to 15:00 Hrs. (Online)	19.02.2025 up-to 15:00 Hrs. (Online)
Opening of Bids wherever applicable	14.02.2025 at 15:30 Hrs. (Online)	19.02.2025 at 15:30 Hrs. (Online)

Note : Bidders may treat as "NO FURTHER QUERIES" will be addressed.

All other T&C are as per Tender document.

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Clarifications for the Bidder queries - 2					13-02-2024
Query S/N	Clause S/N	Feature	Specification/Description	Query	Remarks
Spine Switches					
1	3	Port splitting	Each of the 100G ports should be able to support multiple lower speed ports using breakout/splitter cables	The spine switch will mainly be used to connect leaf over 100Gbps. Other connectivity of 25G or 10G will be very less, The total qty. of breakout optics (40G QSFP (QSFP-4X10GE-LR)) asked with breakout cable is only 21 nos. If equally divided among 6 spine switch one will not require more than 4 ports to be broken out per spine for the solution. Please confirm if the understanding is correct.	No Change
2	1	Hardware Type, Deployment Architecture, High Availability & Support requirements	Switches should have buffer of minimum 40MB or more	Change Requested : Switches should have buffer of minimum 80MB or more. Justification : Switch with required number of 100G ports requires optimum buffer to have a lossless ethernet fabric.	No Change
3	2	Switching Capacity & Performance	Switching Capacity & Performance: Non-blocking backbone bandwidth/wired switching capacity: 6.4Tbps or higher. Throughput/Switch Forwarding rates: 4 Bpps or higher	Change Requested: Non-blocking backbone bandwidth/wired switching capacity: 12.8 Tbps or higher. Throughput/Switch Forwarding rates: 4 Bpps or higher. Justification: Full duplex 40/100Gx64ports required 12.8Tbps of bandwidth.	No Change
4	3	10G long range optics per Spine Switch	10G long range optics per Spine Switch: 2 Nos of QSFP-4X10G LR. Transceiver from Switch OEM or third-party Multi-Source Agreement (MSA) standards compliant optical transceiver supported and tested.	Please delete this clause as no connectivity on spine is recommended apart from leaf. Moreover breakout is also not recommended over long range.	No Change
5	6	Scalability Features	Scalability Features: MAC Addresses: 128000	Change Requested: MAC Addresses: 256000 Justification : Recommended to meet Datacenter requirement and to cater future scalability needs without any additional licenses.	No Change

Clarifications for the Bidder queries - 2					13-02-2024
Query S/N	Clause S/N	Feature	Specification/Description	Query	Remarks
6	6	Scalability Features	IPv4 Routes: 200K	IPv4 Routes: 400K Justification : Recommended to meet Datacenter requirement and to cater future scalability needs without any additional licenses.	No Change
7	6	Scalability Features	IPv6 Routes : 100K	IPv6 Routes : 400K Justification : Recommended to meet Datacenter requirement and to cater future scalability needs without any additional licenses.	No Change
8	6	Scalability Features	IPv4 Multicast Routes : 2K	IPv4 Multicast Routes : 32K Justification : Recommended to meet Datacenter requirement and to cater future scalability needs without any additional licenses.	No Change
9	6	Scalability Features	VRF : 200	VRF : 500 Justification : Recommended to meet Datacenter requirement and to cater future scalability needs without any additional licenses.	No Change
SDN Controllers					
10	2	SDN Network Fabric	It should be possible to deploy the proposed leaf, spine and access switches in a Data Centre to form a highly available, non-blocking switch fabric for mission critical applications without any single point of link or power failures. The fabric as a whole should be able to sustain individual link and node failures at any layer.	Change Requested: It should be possible to deploy the proposed leaf and spine switches in a Data Centre to form a highly available, non-blocking switch fabric for mission critical applications without any single point of link or power failures. The fabric as a whole should be able to sustain individual link and node failures at any layer. Justification : Access switches are not part of SDN fabric. Access switches forms different switching layer , connecting externally to the SDN fabric.	No Change

Clarifications for the Bidder queries - 2					13-02-2024
Query S/N	Clause S/N	Feature	Specification/Description	Query	Remarks
11	3	SDN Network Fabric	It shall be possible to deploy the leaf, spine and access switches in multiple geographically distributed data centres connected over IP/MPLS backbone to form a single Layer-2 overlay network using VXLAN+EVPN	<p>Change Requested: It shall be possible to deploy the leaf and spine switches in multiple geographically distributed data centres connected over IP/MPLS backbone as remote leaf to form a single Layer-2 overlay network using VXLAN+EVPN.</p> <p>Justification: Typically Spine and Leaf exist in same data center and if they are geographically separated then it should be managed by already deployed fabric. These solutions are for edge data centers are commonly called remote leaf's.</p>	No Change
12	8	SDN Network Fabric	Leaf-Spine Fabric should be built with L3 Underlay and open standards (VXLAN, EVPN) Overlay. Proposed fabric technology should support multiple OEM switches to be part of a single leaf-spine fabric.	<p>Change Requested: Leaf-Spine Fabric should be built with L3 Underlay and open standards (VXLAN, EVPN) Overlay.</p> <p>Justification: No OEM while running EVPN based Spine-Leaf architecture support this feature. This cause operational challenges while having inter-op issue in running the critical dc environment.</p>	No Change
Leaf Switches					
13	3	Switching Capacity & Performance	Throughput/Switch Forwarding rates: 2 Bpps or higher	1 Bpps is good enough forwarding rate to achieve line rate throughput with average packet size of min. 200 bytes. While practically the average packet size in general is more than 512 bytes, at which only 0.423Bpps is required to achieve line rate performance. So, it is requested to change the forwarding rate to 1Bpps for wider product qualification.	No Change
14	1	Hardware Type, Deployment Architecture, High Availability & Support requirements	Switches should have buffer of minimum 32MB or more	<p>Change Requested: Switches should have buffer of minimum 40MB or more</p> <p>Justification : Switch with required number of 10/25/40/100G ports requires optimum buffer to have a lossless ethernet fabric.</p>	No Change

Clarifications for the Bidder queries - 2					13-02-2024
Query S/N	Clause S/N	Feature	Specification/Description	Query	Remarks
15	2	10GE Copper per Leaf switch	10GE Copper per Leaf switch: 10GE BASE-T RJ-45: 16 Nos (for connecting Leaf switches with servers with 10G links)	Change requested: 10GE BASE-T RJ-45: 6 Nos (for connecting Leaf switches with servers with 10G links). Justification : Since 10GBaseT consumes lot of power, its recommended to have not more than 6 ports in a fully populated switch. Our recommendation to use separate 10G copepr leaf switches for 10G BaseT RJ-45 ports	No Change
16	6	Scalability Features	Scalability Features: MAC Addresses: 200K	Change Requested: MAC Addresses: 256000 Justification : Recommended to meet Datacenter requirement and to cater future scalability needs without any additional licenses.	No Change
17	6	Scalability Features	IPv4 Routes: 200K	IPv4 Routes: 400K Justification : Recommended to meet Datacenter requirement and to cater future scalability needs without any additional licenses.	No Change
18	6	Scalability Features	IPv6 Routes : 100K	IPv6 Routes : 400K Justification : Recommended to meet Datacenter requirement and to cater future scalability needs without any additional licenses.	No Change
19	6	Scalability Features	IPv4 Multicast Routes : 2K	IPv4 Multicast Routes : 128K Justification : Recommended to meet Datacenter requirement and to cater future scalability needs without any additional licenses.	No Change
20	6	Scalability Features	VRF : 200	VRF : 500 Justification : Recommended to meet Datacenter requirement and to cater future scalability needs without any additional licenses.	No Change



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Corrigendum/Addendum - I

GEM/2025/B/5877505

Date: 07.02.2025

Sub: Supply of Switches and SFPs as per SOR and Technical Specification

Ref : GEM/2025/B/5877505, Dt.28.01.2025.

With reference to the above, Corrigendum/Addendum-I is issued herewith for the following item:

Tender CI No. & Item No	As per tender document	To be read as
Technical Eligibility Criteria : Page No.1 Similar Work and wherever applicable	Supply of Access/Distribution/ Leaf/Spine Switches	Supply of Access/ distribution/ leaf/ spine switches/ Routers
Access Switches (specifications) SI No1	220V, 50Hz AC Power Supplies: 1+1 redundant hot- swappable power supplies	220V, 50Hz AC Power Supplies: 1+1 redundant power supplies
CI No.3, Spine Switch specification - Optics per Spine Switch	8 Nos of 100G DR/SR1.2 BiDi (for connecting Leaf switches). Transceiver from Switch OEM or third-party Multi-Source Agreement (MSA) standards compliant optical transceiver supported and tested.	8 Nos of 100G DR/SR1.2 BiDi/BiDi (for connecting Leaf switches). Transceiver from Switch OEM or third- party Multi-Source Agreement (MSA) standards compliant optical transceiver supported and tested.
CI No.8, Security Features	uRPF	uRPF/ACL or similar feature
CI No.14, SOR SI No.4 100G QSFP	Supply and installation of QSFP 100G LR4/DR4/SR1.2 BiDi	Supply and installation of QSFP 100G LR4/DR4/SR1.2 BiDi/BiDi
CI no.20, Technical Compliance	Technical Compliance of all Specification of items as per ATC documents	Technical compliance for all products quoted must be given on OEM;'s letter head only as per the format attached "Annexure-B". Non submission of the Annexure-B liable to rejection of the bids
CI No.8, Evaluation	New clause (e)	The Bidder need to ensure that OEM engages its Professional Services (PS) team for planning, design, implementation, integration, validation, handover, and training of the respective hardware and software

Ceireria		components. The engaged PS Team members should be OEM's employees, and the OEM should not further outsource these to another vendor. These commitments will be a part of the Technical Evaluation and will be tracked at all stages after the issue of the PO	
Cl No.8, Evaluation Ceireria	New clause (f)	Compliance cross reference with supported Data Sheet of the product(s) offered in the bid, are to be uploaded along with the bid documents. The duly constituted Tender Evaluation Committee (TEC) shall evaluate the bids. The TEC shall be empowered to take appropriate decisions on POC/Testing, if any. In case of any unexplained mismatch of technical parameters, the bid is liable for rejection. The decisions of TEC shall be final and binding on all the bidders.	
Closing date for Submission of Bids wherever applicable		11.02.2025 up-to 15:00 Hrs. (Online)	14.02.2025 up-to 15:00 Hrs. (Online)
Opening of Bids wherever applicable		11.02.2025 at 15:30 Hrs. (Online)	14.02.2025 at 15:30 Hrs. (Online)

Annexure-B

1. Make & Model of the product _____
2. URL Link of the product data specification sheet :

S/N	Feature	Specification/Description	Complied / Not Complied
1			
2			

Note : The above format must be submitted on OEM's letter head by vendors for all the technical specifications given in the tender for each item offered.

All other T&C are as per Tender document.

Sd/-
JGM/DC&TP/SC
For RailTel Corporation of India Ltd.

Additional Terms and Conditions

Name of the Supply: "Supply of Switches and SFPs as per SOR and Technical Specification"

GEM Bid No: GEM/2025/B/5877505 dated 28-01-2025

1. The item/items in this bid should be quoted as per the technical specifications.
2. The bidder should be either OEM or his authorized dealer/distributor.
 - a. In case of the authorized distributor/partner tender specific authorization from the OEM to this effect should be submitted. The firm shall submit MAF as per Form-III.
 - b. If OEM is quoting, then OEM should submit the necessary certificates along with self-certification on MAF as per Form-III
3. Bidders are required to submit duly filled and signed technical compliance for the Technical Specifications.
4. The bidder shall upload the compliance of this ATC along with GEM Bid.
5. Bidder should not have been banned/blacklisted by any Govt./Semi Govt./PSU/State Govt./Any Telecom entity in India for the supply of the material. An undertaking to this effect signed by the authorized signatory to be submitted by the Bidder.
6. **Eligibility Criteria**

i. **Technical Eligibility Criteria:**

The Bidder / OEM (themselves or through reseller(s), should have executed project for supply and installation / commissioning of same or similar category products during preceding 3 financial years (i.e. current year and three previous financial years) as on opening of bid, as per following criteria:

- (i) Single Order of at least **35% (i.e., Rs. 3,61,47,889.75)** of estimated bid value; or
- (ii) Two Orders of at least **20% (i.e., Rs. 2,06,55,937.00)** each of estimated bid value; or
- (iii) Three Orders of at least **15% (i.e., Rs. 1,54,91,952.75)** each of estimated bid value.

Satisfactory performance certificate issued by respective Buyer Organization for the above Orders should be uploaded with bid. In case of bunch bids, the Category related to primary product having highest bid value should meet this criterion.

Offers not accompanied by copies of POs and work completion certificate (user certificate in the format of Form no.1) may be rejected.

Similar Work: Supply of Access/Distribution/Leaf/Spine Switches.

The certificates from actual users/s have to be submitted for this purpose along with the bid. The certificates thus submitted should contain the following details:

S.No.	User Customer Name	Signatory or Authorized contact person of the user			Model/Type of equipment	Qty.	Period
		Name	Contact No.	E-mail Id			
1							
2							

Non-submission of any of the documents required for the due fulfilment of eligibility criteria as above will lead to rejection of the offer.

ii. **Financial Eligibility Criteria:**

The tenderer must have received contractual payments in the previous three financial years and the current financial year up to the date of invitation of tender, at least **150% (i.e., Rs. 15,49,19,527.50)** of the advertised value of the tender. The tenderers shall submit Certificates to this effect which may be an attested Certificate from the concerned department / client or

Audited Balance Sheet duly certified by the Chartered Accountant/Certificate from Chartered Accountant duly supported by Audited Balance Sheet.

For Startups recognized by Department of Industrial Policy and Promotion DIPP: The bidder should have minimum cumulative turnover from operation in the previous three financial years and the current financial year, at least **50% (i.e., Rs. 5,16,39,842.50)** of the advertised value of the tender. The tenderers shall submit Certificates to this effect which may be attested.

Certificate from the concerned department / client or Audited Balance Sheet, Trading account and P&L duly certified by the Chartered Accountant/Certificate from Chartered Accountant duly supported by Audited Balance Sheet. The contact details of CA/Statutory Auditor along with UDIN No. shall be mandatorily mentioned on copy of certified Balance Sheet/Certificate.

(Note: Client certificate from other than Govt. Organization should be duly supported by Form 16A/26AS generated through TRACES of Income Tax Department of India). The OEM should have proven facilities for Engineering, manufacture, assembly, integration and testing of Access Point and basic facilities with respect to space, Engineering, Personnel, Test equipment, Manufacture, Training, Repair, Service Centre Supports for at least past three years in the country from where the proposed item are planned to be supplied. In case OEM is located outside India, it should have training repair and service center facilities in India also. The certificates/Undertaking for the same will have to be submitted online a GeM portal.

(The bidder will have to submit the proof of establishment for the facility).

7. Splitting of Quantity: Not Applicable.

8. Evaluation Criteria:

- a. The bidder shall quote the equipment prices as per the price format given in the tender.
- b. Bidder should quote for all the items. Non-quoting for all items will render the bid invalid and will not be considered for evaluation.
- c. The offers for respective Item will be determined on Total Unit Rate on CIP destination basis and installation cost which will include basic rate, GST, freight, insurance, inspection charges and any other charge or cost quoted by the tenderer.
- d. Offers from the tenderer not meeting the eligibility criteria will not be considered.

Note: RailTel may discharge the tender at any stage without assigning any reason.

9. Earnest Money Deposit (EMD):

Rs. 20,00,000/- through payment online through RTGS / internet banking in Beneficiary name RailTel Corporation of India Limited Account No. 33946516594, IFSC Code SBIN0020299, Bank Name: State Bank of India, Branch address: Veer Chambers, Ranga Reddy District, Begumpet – 500016. The Bid received without EMD will be summarily rejected.

EMD/Bid security to be submitted by all tenderers, subject to the following exemptions:

- a) Tender cases of value up to Rs. 5 Lakhs.
- b) Micro and Small Enterprises (MSEs) registered under UDYAM Registration.
- c) Startups recognized by Department of Promotion of Industry and Internal Trade (DPIIT).
- d) And as per GeM GTC latest version.

Note 1: In case the tenderer falls in these categories, the bidder should furnish a certified copy of its valid registration details and Bid Security Declaration (as per Form VI)

Note 2: Firms registered with UDYAM certification for the tendered item / work or Startups as recognized by Department of Industrial Policy & Promotion (DIPP) is exempted from submission of EMD. Firms claiming for the above exemptions under

UDYAM certification or Startup have to submit supporting documents.

UDYAM Certificate with category as Traders are not eligible for EMD exemption and such offers summarily rejected.

- 10. Warranty:** The materials are to be warrantied for a minimum period of **3 years** from the date of receipt & acceptance of material.
1. The supplier shall warrant that material to be supplied shall be new and free from all defects and faults in material, workmanship, and manufacture and shall be of the highest grade consistent with the established and generally accepted standards of materials for the type ordered and shall perform in full conformity with the specifications and drawings. The supplier shall be responsible for any defects (with respect to the specification of the material) that may develop subsequently under the conditions provided in the contract under proper use, arising out of faulty materials, design or workmanship such as corrosion, inadequate quantity of material to meet equipment requirements, deficiencies in design and/ or otherwise and shall remedy such defects at his own cost when called upon to do so by the Purchaser who shall state in writing in what respect the stores are faulty.
 2. If it becomes necessary for the contractor to replace or renew any defective hardware of the supplies under this clause, the provisions of the clause shall apply to the portion/portions of the equipment/ material so replaced or renewed or until the end of the above-mentioned period, whichever may be later. If any defect is not remedied within 72 Hrs., the Purchaser may proceed to do the work at the contractor's risk and expenses, but without prejudice to any other rights which the Purchaser may have against the contractor in respect of such defects.
 3. Replacement under the warranty clause shall be made by the contractor free of all charges at the site including freight, insurance, and other incidental charges.
 4. The Contractor/Seller hereby covenants that it is a condition of the contract that all goods/stores/articles furnished to the Purchaser under this contract shall be of the highest grade free of all defects and faults and of the best materials, quality, manufacture, and workmanship throughout and consistent with the established and generally accepted standards for materials of the type ordered and in full conformity with the contract specification, drawing or sample, if any and shall, if operable, operate properly.
 5. The Contractor also guarantees that the said goods/stores/articles would continue to conform to the description and quality as aforesaid, for a period after their delivery from the date of placement in service whichever shall be sooner, and this warranty shall survive notwithstanding the fact that the goods/stores/articles may have been inspected, accepted and payment thereof made by the Purchaser.
 6. If during the aforesaid period, the said goods/stores/articles be discovered not to conform to the description and quality aforesaid or have deteriorated, otherwise that by fair wear and tear the decision of the Purchaser in that behalf being final and conclusive that the Purchaser will be entitled to reject the said goods/stores/articles or such portions thereof as may be discovered not to conform to the said description and quality. On such rejection, the goods/stores/articles will be at the Seller's risk. If the Contractor/Seller so desires, the rejected goods may be taken over by him or his agents for disposal such manner as he may deem fit within a period of 3 months from the date of such rejection. At the expiry of the period, no claim whatsoever shall lie against the Purchaser in respect of the said goods/stores/articles, which may be disposed of by the Purchaser in such manner as he thinks fit. Without prejudice to the generality of the foregoing, all the provisions in the Standard Conditions of Contract relating to the 'rejection of stores' and 'failure' and 'termination' shall apply.
 7. The Contractor/Seller shall, if required, replace the goods or such portion thereof as have been rejected by the Purchaser, free of cost, at the ultimate destination, or at the option of the Purchaser, the Contractor/Seller shall pay to the Purchaser, the value thereof at the contract price and such other expenditure and damage as may arise by reason of the breach of the conditions hereinbefore specified. Nothing herein contained shall prejudice any other right of the Purchaser in that behalf under this contract or otherwise.
- 11. Completion Period of Supply:** The supply should be completed within **45 days** from the date of issue of GeM contract.
- 12. Consignee Details:** As per **Annexure-A**.
- 13. Tender Clarifications:**
RailTel Contact-I (for Technical Information)

Sanjeeva Kumar: JGM/DC&TP
Telephone +91 9949036346
E-mail ID: sanjeeva@railtelindia.com

RailTel Contact-II (for Technical Information)
Naga Hari Krishna. A: AGM/DC
Telephone +91 9701725906
E-mail ID: nagaharikrishna@railtelindia.com

RailTel Contact-I (for general Information and Bidding clarification)
Rama Mohan Rao : Sr.OA/DC
Telephone +91 9701114342
E-mail ID: armr@railtelindia.com

14. Schedule of Requirement (SOR):

S. No	Item	Quantity
1	Supply and installation of spine switches as per specification SDN controller in HA at SC)	6
2	Supply and installation of leaf switches as per specification	10
3	Supply and installation of access switches as per specification	10
4	Supply and installation of QSFP 100G LR4/DR4/SR1.2 BiDi	109
5	Supply and installation of 40G QSFP (QSFP-4X10GE-LR)	21
6	Supply and installation of break out cable 40/4 SM (Specification: MPO to LC*4 (SM break out cable 20 m) patch cord	21

15. Security deposit/ Performance Bank Guarantee:

The Successful Bidder is required to submit Performance Bank Guarantee (PBG) as per following schedule:

The successful tenderer is required to submit a Performance Bank Guarantee (PBG) within 30 days of the issue of LOA/Purchase order for a total value of **10%** of the value of issued 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 (39 Months) for lodging the claim.

Note: A separate advice of the BG will invariably be sent by the BG issuing bank to the RailTel's Bank through SFMS (MT 760) and only after this the BG will become acceptable to RailTel. It is therefore in own 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.

Important: SFMS Confirmation of the BG should be on **MT 760** format only. RailTel SR Bank Details for PBG:

Name: RailTel Corporation of India Limited
Account No: 327301010373007,
IFSC Code: UBIN0805050,
Bank Name: Union Bank of India,
Branch address: Union Bank of India, RP Road Branch, Bungalow no 109, New No 1-7-252 to 254, Oxford Street, SD Road, Near ParkLane Center, Secunderabad – 500003.

16. In case, if any contradiction between GeM Bid and Additional Terms & Conditions, RailTel's Bid Specific Additional Terms & Conditions will prevail.

17. Payment Terms: Payment will be made after submission of the following documents:

- I. Invoice.

- II. Delivery Challan/E-way bill
- III. Contractor's certificate of dispatch
- IV. Inspection Certificate
- V. Consignee's receipt
- VI. Warranty guarantee certificate of OEM
- VII. Performance Bank Guarantee
- VIII. Insurance Certificate valid till completion of supplies
- IX. Packing list
- X. OEM certificate for the ordered quantity/ material supplied as per specification.

100% of the value of the part supply of material on receipt and acceptance by the consignee at site duly inspected and accompanied with above mentioned documents.

18. Bill Passing & Paying Authority:

Bill passing Authority is JGM/DC&TP/SC and bill paying Authority is Sr.DGM/Fin/SR/SC. Bills to be submitted to JGM/DC&TP/SC for payment.

19. Notarized Affidavit - Form-V:

The tender shall submit a notarized affidavit on a **non-judicial stamp paper** stating that they are not liable to be disqualified, and all their statement/documents submitted along with bid are true and factual. Standard format of the affidavit to be submitted by the bidder is enclosed as **Form-V. Non submission of an affidavit by the bidder shall result in summarily rejection of his/their bid.** And it shall be mandatorily incumbent upon the tenderer to identify state and submit the supporting **documents duly self-attested** by which they/he is qualifying the Qualifying Criteria mentioned in the Tender Document. It will not be obligatory on the part of Tender Committee to scrutinize beyond the submitted document of tenderer as far as his qualification for the tender is concerned.

RailTel (RCIL) reserves the right to verify all statements, information and documents submitted by the bidder in his tender offer, and the bidder shall, when so required by the RailTel (RCIL), make available all such information, evidence and documents as may be necessary for such verification. Any such verification or lack of such verification by the RailTel (RCIL) shall not relieve the bidder of its obligations or liabilities hereunder nor will it affect any rights of the RailTel/Railway there under.

In case of any wrong information submitted by tenderer, the contract shall be terminated. Performance Guarantee (PG) of the contract will be forfeited and agency barred for doing business on RailTel (RCIL) for 3years.

20. Online Submissions:

The bidder is required to upload and submit the following documents online before due date & time of bid. The due date & time for closing of the bid as per GeM Bid and the bid will be opened as per GeM Bid.

- (I) Bid Security Declaration as per **Form-VI**.
- (II) Clause wise compliance along with all mentioned documents/Forms for all clauses of GeM Bid and ATC (Information to bidder) documents.
- (III) Data Sheet of offered item/equipment along with make and model of offered item.
- (IV) Financial (Certified copies of audited balance sheets/annual reports of last three preceding financial years) and Technical Eligibility Criteria documents.
- (V) Technical Compliance of all Specification of items as per ATC documents.
- (VI) Proof of document required against Eligibility criteria of OEM (or) Authorized bidder of OEM vide para as applicable.
- (VII) Statement of deviation as per **Form-II**
- (VIII) MAF/OEM Authorization as per **Form-III**
- (IX) Notarized affidavit on a non-judicial stamp paper as per **Form-V**.
- (X) Notarized Power of Attorney in name of authorized signatory

21. Submission of scanned documents (online):

- (I) Notarized Power of attorney in favor of the signatory duly authorizing the signatory.
- (II) Format for Affidavit as per Form-V on stamp paper of Rs.100/- regarding authenticity of the documents submitted/Information provided in the bid, Non submission of an affidavit by the bidder *may* result in rejection of his/their bid.

Important Note: The above documents shall be submitted (**offline**) in original by tenderer, **if asked for verification by RailTel officials**. Address submission of these documents is : *RailTel Corporation of India Ltd., 6A, 6th Floor, Gumidelli Towers, Opp: Shoppers Stop, Begumpet – 500016.s*

22. Make in India:

The provisions of the Public Procurement (Preference to Make in India) Order 2017 dated June 15, 2017 (or subsequent revisions, if any) by Department of Industrial Policy and Promotion, GoI shall apply to this tender to the extent feasible. Minimum Local Content for SOR Items shall be 50% for purchase preference as per the Notification No. 18-10/2017-IP dated 29th August 2018 issued by Department of Telecommunications, Ministry of Communications or as per the latest notification. Bidder shall be required to give a self-certification in his bid that the item offered meets the local content and shall give details of the location(s) at which the local value addition is made. Further the bidder shall provide a certificate from the statutory auditor or cost auditor of the company (in the case of companies) or from a practicing cost accountant or practicing chartered accountant (in respect of suppliers other than companies) giving the percentage of local content.

In case of any false declaration, action shall be taken in line with the provisions of the PPP-MIII order.

23. Insurance:

- i. The Contractor shall take out and keep in force a policy or policies of insurance from the date, the delivery of material starts (including the transit portion) against all liabilities of the contractor or the Purchaser. The contractor shall take out and keep in force a Policy or policies of Insurance for all materials covered in schedule of requirement irrespective of whether used up in the portion of work/supplies already done or kept for the use in the balance portion of the work/supplies until such material are provisionally handed over to RailTel. The contractor should ensure the stores brought to site, against risks as required under the Emergency Risk (Goods) Insurance Act in force from time to time up to contract value.
- ii. It may be noted that the beneficiary of the insurance policy should be RailTel or the policies should be pledged in favour of RailTel. The contractor shall keep the policy/policies current till the item/equipment are handed over to the purchaser and I&C of the same.

24. Constitution of Firm and Power of Attorney:

- 1. Any individual(s) signing the tender or other documents connected therewith should specify whether he is signing: -
 - (a) As sole proprietor of the concern or as attorney of the sole Proprietor.
 - (b) As partner or partners of the firm.
 - (c) As a Director, Manager or Secretary in the case of Limited Company duly authorized by a resolution passed by Board of Directors or in pursuance of the authority conferred by Memorandum of Association.
- 2. In the case of a firm not registered under the Indian Partnership Act, all the partners or the attorney duly authorized by all of them should sign the tender and all connected documents. The original Power of Attorney or other documents empowering the individual or individuals to sign should be furnished to the Purchaser for verification, if required.
- 3. The RailTel will not be bound by Power of Attorney granted by the tenderer or by the changes in the composition of the firm made subsequent to the execution of the contract agreement.
- 4. In case where Power of Attorney partnership deed has not been executed in English, the true and authenticated copies of the translation of the same by Advocate, authorized translators of Courts and licensed Petition Writers should

be supplied by the contractor(s), while tendering of the work.

5. The duly notarized Power of Attorney shall be submitted in original at the time of bid submission as per clause above.

Note:

- 1) The bidder is required to give acceptance of all the clauses of **GeM bid, ATC** and RailTel's Bid Specific **ATC** document. Any deviation / non-acceptance may lead to rejection of the bid.
- 2) Information to Bidder viz. corrigendum /addendum/ amendments etc. for this bid shall be posted on www.railtelindia.com and GeM only.
- 3) This bid is governed by the Specific Additional Terms & Conditions and General Terms & Conditions laid down by the GeM against **GeM Bid No: GEM/2025/B/5877505**
- 4) After opening of the technical bid no correspondence/submission of document made at the initiative of the bidder will be entertained. However, the purchaser can, if required, ask for clarifications which need to be submitted before a target date. The clarifications submitted as required by the purchaser before the target date will be considered.

25. Bill Tracking System (BTS) Clause:

Vendors are advised to submit their bills through bill tracking system (<https://bts.rcil.gov.in/Home>) of RailTel for their payment.

26. Trade Receivables Discount System (TReDS):

TReDS feature available.	Yes, on m1xchange portal. (Url: http://www.m1xchange.com)
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1. RailTel is registered with m1xchange TReDS Platform having Buyer registration Number "BUYER00001496". The URL for m1xchange platform is <http://www.m1xchange.com>. MSE suppliers/vendors are required to register themselves on m1change platform for availing the facility of bill discounting on TReDs portal. The bidder is mandatorily required to submit its TReDS registration number (as provided by M1xchange portal) and GRN (Goods/Service Receipt Note) Number (as provided by RailTel on delivery of Goods/Service) while submitting the invoices if requires to avail TReDS facility.
2. MSE vendor will bear all costs relating to availing the facility of discounting on TreDS platform including but not limited to registration chargers, Transaction chargers for financing , discounting chargers , interest on financing, or any other chargers known by any name shall be borne by MSE vendor.
3. MSE vendor hereby agree to indemnify, hold harmless and keep RailTel and its affiliates, Directors, officers, representatives, agents and employees indemnified, from any and all damages, losses, claims and liabilities (including legal costs) which may arise from sellers submission, posting or display, participation, in any manner, on the TReDS platform or from the use of services or from the buyer's breach of any of the terms and conditions of the usage Terms or of this Agreement and any applicable Law on a full indemnity basis.
4. RailTel shall not be liable for any special, indirect, punitive, incidental or consequential damages whatsoever (including but not limited to damages for loss of profits or savings, business interruption, loss of information), whether in contract, tort, equity or otherwise or any other damages resulting from using TReDS platform for discounting their (MSE vendor's) invoices.

27. Bidders sharing a land border with India

Office Memorandum F.No. 6/18/2019-PPD dated 23.07.2020 by Ministry of Finance, Department of Expenditure, Public Procurement Division shall also apply to this tender. A certificate as per **Form-VII**, shall be submitted by all the bidders regarding their compliance with this order. If such certificate given by a bidder whose bid is accepted is found to be false, this would be a ground for immediate termination and further legal action in accordance with law. Registration should be valid at the time of submission of bids and at the time of acceptance of bids. In respect of supply otherwisethan by tender, registration should be valid at the time of placement of order.

28. Inspection:

Inspection shall be carried by Consignee after receipt and acceptance of the material against GCTC.

- i. In case material/equipment fails during inspection, the fresh lot of same material/ equipment shall be offered without any extra cost, by the manufacturer/supplier.
- ii. Inspection of the material including that of raw material if deemed required shall be conducted by inspecting official of RailTel in exceptional circumstances, at the firm's premises.
- iii. The inspection shall be conducted by inspecting authority as per GCTC submitted by the firm for ensuring that the material supplied meets the required specifications.
- iv. Finished products shall be tested by the factory QC personnel before being supplied to RailTel for acceptance to ensure that it meets all quality requirements as per the relevant specifications. Duly filled in test formats indicating the results of such tests shall be submitted along with material.

29. Quantity Variation:

The Purchaser reserves the right to increase or decrease the quantity to be ordered by 30 percent of bid quantity at the time of placement of contract. The purchaser also reserves the right to increase the ordered quantity by up to 30% of the contracted quantity during the currency of the contract at the contracted rates. Bidders are bound to accept the orders accordingly.

30. Liquidated damages

0.5% per week or part thereof (with a maximum ceiling of 10% of the order value), shall be applicable if the delivery is not affected within the stipulated delivery period/completion period.

31. DENIAL CLAUSE

Supplier will not be entitled to any benefit of upward statutory variations in GST rates Announced after expiry of the original Delivery Period as per purchase order & in Case of reduction in GST rates if any, benefit will be passed on to RailTel at any stage of the contract.

TECHNICAL SPECIFICATION**1. Purpose**

The purpose of this document is to provide specifications for **Supply of Switches and SFPs as per SOR and Technical Specification.**

2. General Technical Requirements:

Spine Switches		
	Requirements given below are minimum. Models with higher capacities/bandwidths/ports, better technologies and higher performances are acceptable	
S/N	Feature	Specification/Description
1	Hardware Type, Deployment Architecture, High Availability & Support requirements	19" Rack mountable, Fixed or modular hardware architecture
		220V, 50Hz AC Power Supplies: 1+1 redundant hot-swappable power supplies
		Fans: 1+1/N+1 hot-swappable fans. Airflow direction should be Front to Back
		In-line hot insertion and removal of different parts like power supplies, fan tray, Module etc should be supported and should not require switch reboot & should not disrupt the functionality of the system
		Switches should have buffer of minimum 40MB or more
		Switch SDN Fabric must be able to support virtualised, containerised and bare-metal workloads. Openstack and Kubernetes based workload shall be supported
		The Switch fabric should support Non-Blocking architecture, all proposed ports must provide wire speed line rate Switching & Routing Performance at Layer 2 & Layer 3.
		Switch should fully support IPv4 and IPv6 services
2	Switching Capacity & Performance	Non-blocking backbone bandwidth/wired switching capacity: 6.4Tbps or higher
		Throughput/Switch Forwarding rates: 4 Bpps or higher
3	Interfaces/ports support	64x100Gbps non-blocking interfaces. Each port should be capable of supporting lower speed 40/100 Gbps
	Port splitting	Each of the 100G ports should be able to support multiple lower speed ports using breakout/splitter cables
	Optics per Spine Switch	8 Nos of 100G DR/SR1.2 BiDi (for connecting Leaf switches). Transceiver from Switch OEM or third-party Multi-Source Agreement (MSA) standards compliant optical transceiver supported and tested.
	10G long range optics per Spine Switch	2 Nos of QSFP-4X10G LR. Transceiver from Switch OEM or third-party Multi-Source Agreement (MSA) standards compliant optical transceiver supported and tested.
4	Layer 2 Features	Per port broadcast, multicast and unicast storm control
		VLAN Trunking: 802.1q
		IGMP: v1/v2/v3
		802.3ad Link Aggregation LACP

		VPC/multi chassis link aggregation or equivalent
		802.1AB Link Layer Discovery Protocol (LLDP)
		Jumbo Frames: 9000 bytes
		BPDU Guard, Root Guard, Loop Guard etc
		IGMP/MLD Snooping
		Local and remote Port Mirroring
		802.1p
5	Layer 3 Features	Proposed Switch should have all Static & Dynamic IPv4 Routing protocols and features available to use from day 1 including the following
		VRRP v2/v3
		Static route
		OSPFv2/v3
		BGPv4
		VRF
		Proxy ARP
		PBR for IPv4/IPv6 or or equivalent.
		MP-BGP
		IS-IS
		IPv6 Route Advertisement (RA) Guard/IPv6 ACL
		IPv6 Neighbor Discovery
		Multicast routing PIM-SSM
		Graceful restart for dynamic protocols like OSPF, IS-IS, BGP
		BFD For Fast Failure Detection as per RFC 5880
		IPv4 and IPv6 dual stack support
		IPv6 support in hardware for providing wire-rate forwarding for IPv6 networks
		Route Maps or or equivalent.
		ECMP : minimum 32 way
		Routed/Switched Virtual Interfaces (for inter VLAN routing):1000
6	Scalability Features	MAC Addresses: 128000
		IPv4 Routes: 200K
		IPv6 Routes : 100K
		IPv4 Multicast Routes : 2K
		VRF : 200
		Port-to-Port latency : < 5 us
		VLAN: 4000
7	Quality of Service (QoS) Features	8 hardware queues per port
		ACL Based QoS

		802.1p and DSCP/COS based classification/remarking
		Policing and Shaping
		ACL based classification,
		WRR (weighted round robin)/WFQ (weighted fair queue) scheduling and /WRED (Weighted Random Early Detection) or equivalent
		IEEE 802.1Qbb PFC (Priority-based Flow Control) or equivalent
		Priority Queuing
		Per-port QoS configuration
		ACL-based Rate Limit
8	Security Features	Standard and Extended ACLs using L2, L3, L4 fields
		AAA through TACACS/TACACS+/RADIUS and username/password
		Different privilege for login in to the system for monitoring and management like RBAC
		Control Plane Protection(CPP) to protect switch CPU from DoS attack
		DHCP Relay / Snooping
		ARP Inspection
		Encryption Protocols: SSH
		Port-based Network Access Control 802.1X
		Port Security
		SFTP
		uRPF
		Authentication support for IP protocols(OSPF, ISIS and BGP)
		MAC address based port level filtering support
9	Management Features	Manageability using Network Management Software /Orchstration tools
		Solution should provide ecosystem to support VMWARE, Hyper-V, Openstack, Kubernetes etc.
		Netflow/sFlow/J-Flow or equivalent
		Administrative tools like: ping , traceroute (IPv4 and IPv6)
		Console Port
		Management over IPv6
		100/1000 Management Port
		HTTP/HTTPS
		USB Ports for Mgmt
		Configuration roll-back
		NTPv2/PTP support
		Zero Touch Provisioning (ZTP)
		SNMP v1,v2,v3
		Remote login for administration using: Telnet and sshv2

		Syslog and system/console logging
10	IPv6 Readiness	All Functionalities of Switch shall be IPv6 compliant and it should work on IPv6 Platform without any additional hardware/software

SDN Controllers		
Requirements given below are minimum. better technologies and higher performances are acceptable		
S/N	Feature	Specification/Description
1	SDN Network Fabric	Network Fabric: Network Fabric should have the Clos Architecture defined using Spine, Leaf. Fabric must provide REST APIs from the Central management appliance/SDN Controller
2		It should be possible to deploy the proposed leaf, spine and access switches in a Data Centre to form a highly available, non-blocking switch fabric for mission critical applications without any single point of link or power failures. The fabric as a whole should be able to sustain individual link and node failures at any layer.
		It shall be possible to deploy the leaf, spine and access switches in multiple geographically distributed data centres connected over IP/MPLS backbone to form a single Layer-2 overlay network using VXLAN+EVPN
		Solution should support Non-Clos, 3-Clos , 5-Clos architecture on BGP-EVPN Fabric with VxLAN encapsulation
		Solution should support active-passive/active-active multihoming like ESI LAG, MLAG or equivalent.
		Solution should support VM and MAC mobility
		Solution should support ARP suppression
		Solution must be optimized for automated fabric based deployment that is based on proven, open standard-based protocols.
		Solution should provide fine grained control over ECMP and LAG for efficient utilisation of active-active links for tunneled and non-tunneled traffic
3		Switch Fabric should fully support IPv4 and IPv6 services
	DevOps tools like Ansible/Chef/Puppet/Salt stack	
	NETCONF	
3	Should be provided with unified monitoring, provisioning and telemetry solution from the same OEM. Should support telemetry with time-series database view, traffic flow analytics, endpoint search, POAP/ZTP, device resource utilization, underlay and overlay topology view.	
	Should be provided with unified monitoring, provisioning and telemetry solution from the same OEM. Should support telemetry with time-series database view, traffic flow analytics, endpoint search, POAP/ZTP, device resource utilization, underlay and overlay topology view.	
4	All Functionalities of Switch shall be IPv6 compliant and it should work on IPv6 Platform without any additional hardware/ software	
5	Should support unified multi-site Spine-Leaf Fabric. The inter-site communications may be communicated using Spine or via Border Leafs.	

6	The fabric should support 100G uplinks from leafs to Spine Switches with equal number of links forming full mesh from leaf to each spine.
7	The design should support Out of Band network management across all sites.
8	Leaf-Spine Fabric should be built with L3 Underlay and open standards (VXLAN, EVPN) Overlay. Proposed fabric technology should support multiple OEM switches to be part of a single leaf-spine fabric.
9	The fabric should be configured with EVPN multihoming for active-active redundancy to server and other appliances connected to the EVPN fabric.
10	Network monitoring and management system to be set up to centrally monitor and manage all the network switches across all sites and in remote provider location, from a central dashboard.
11	All service provisioning and day-2 fabric operations across sites should be done centrally from the SDN Fabric Manager/controller to minimize human errors.
12	Role based access control to be configured for network fabric.
13	Fabric to be configured to show physical and logical fabric topology on a central dashboard
14	Fabric controllers should be in N+N/N+1 redundancy.

Leaf Switches		
Requirements given below are minimum. Models with higher capacities/bandwidths/ports, better technologies and higher performances are acceptable		
S/N	Feature	Specification/Description
1	Hardware Type, Deployment Architecture, High Availability & Support requirements	19" Rack mountable, Fixed or modular hardware architecture
		220V, 50Hz AC Power Supplies: 1+1 redundant hot-swappable power supplies
		Fans: 1+1/N+1 hot-swappable fans. Airflow direction should be Front to Back
		The Switch fabric should support Non- Blocking architecture, all proposed ports must provide wire speed line rate Switching & Routing Performance at Layer 2 & Layer 3.

		In-line hot insertion and removal of different parts like power supplies, fan tray, Module etc should be supported and should not require switch reboot & should not disrupt the functionality of the system
		IEEE based BGP EVPN for providing control plane functionality for VXLAN
		Network Fabric: Network Fabric should have the Clos Architecture defined using Spine, Leaf. Fabric must provide REST APIs from the Central management appliance/SDN Controller
		Switches should have buffer of minimum 32MB or more
2	Downlink Interfaces	10/25GbE: 48 Nos SFP+
	Uplink Interfaces	100/40GbE Uplink Ports: 6 Nos QSFP
	25G SR optics per Leaf switch	25GbE SR MM LC-LC SFP: 16 Nos (for connecting Leaf switches with servers with 25G links)
	10G SR optics per Leaf switch	10GbE SR MM LC-LC SFP: 16 Nos (for connecting Leaf switches with Access switches and servers with 10G links)
	10GE Copper per Leaf switch	10GE BASE-T RJ-45: 16 Nos (for connecting Leaf switches with servers with 10G links)
3	Switching Capacity & Performance	Non-blocking backbone bandwidth/wired switching capacity: 3.6Tbps or higher
		Throughput/Switch Forwarding rates: 2 Bpps or higher
4	Layer 2 Features	Spanning Tree Protocols: IEEE 802.1.D, 802.1W, 802.1S
		Per port broadcast, multicast and unicast storm control
		VLAN Trunking: 802.1q
		IGMP: v1/v2/v3
		802.3ad Link Aggregation LACP
		VPC/multi chassis link aggregation or equivalent
		802.1AB Link Layer Discovery Protocol (LLDP)
		Jumbo Frames: 9000 bytes

		BPDU Guard, Root Guard, Loop Guard etc
		IGMP/MLD Snooping
		Local and remote Port Mirroring
		802.1p
5	Layer 3 Features	Proposed Switch should have all Static & Dynamic IPv4 Routing protocols and features available to use from day 1 including the following
		VRRP v2/v3
		Static route
		OSPFv2/v3
		BGPv4
		VRF
		Proxy ARP
		PBR for IPv4/IPv6 or or equivalent.
		MP-BGP
		IS-IS
		IPv6 Route Advertisement (RA) Guard/IPv6 ACL
		IPv6 Neighbor Discovery
		Multicast routing PIM-SSM
		Graceful restart for dynamic protocols like OSPF, IS-IS, BGP
BFD For Fast Failure Detection as per RFC 5880		

		IPv4 and IPv6 dual stack support
		IPv6 support in hardware for providing wire-rate forwarding for IPv6 networks
		Route Maps or or equivalent.
		ECMP : minimum 16 way
		Routed/Switched Virtual Interfaces (for inter VLAN routing):1000
6	Scalability Features	MAC Addresses: 200K
		IPv4 Routes: 200K
		IPv6 Routes : 100K
		IPv4 Multicast Routes : 2K
		VRF : 200
		Port-to-Port latency : < 5 us
		VLAN: 4000
7	Quality of Service (QoS) Features	8 hardware queues per port
		ACL Based QoS
		802.1p and DSCP/COS based classification/remarking
		Policing and Shaping
		ACL based classification,
		WRR (weighted round robin)/WFQ (weighted fair queue) scheduling and /WRED (Weighted Random Early Detection) or equivalent
		IEEE 802.1Qbb PFC (Priority-based Flow Control) or equivalent
		Priority Queuing
Per-port QoS configuration		

		ACL-based Rate Limit
8	Security Features	Standard and Extended ACLs using L2, L3, L4 fields
		AAA through TACACS/TACACS+/RADIUS and username/password
		Different privilege for login into the system for monitoring and management like RBAC
		Control Plane Protection (CPP) to protect switch CPU from DoS attack
		DHCP Relay / Snooping
		ARP Inspection
		Encryption Protocols: SSH
		Port-based Network Access Control 802.1X
		Port Security
		SFTP
		uRPF
		Authentication support for IP protocols (OSPF, ISIS and BGP)
		MAC address-based port level filtering support
9	Management Features	Manageability using Network Management Software /Orchstration tools
		Netflow/sFlow/J-Flow or equivalent
		Administrative tools like: ping , traceroute (IPv4 and IPv6)
		Console Port
		100/1000 Management Port
		HTTP/HTTPS

		Configuration roll-back
		NTPv2/PTP support
		Zero Touch Provisioning (ZTP)
		SNMP v1,v2,v3
		Remote login for administration using: Telnet and sshv2
		Syslog and system/console logging
10	IPv6 Readiness	All Functionalities of Switch shall be IPv6 compliant, and it should work on IPv6 Platform without any additional hardware/software

Access Switches		
Requirements given below are minimum. Models with higher capacities/bandwidths/ports, better technologies and higher performances are acceptable		
S/N	Feature	Specification/Description
1	Hardware Type, Deployment Architecture, High Availability & Support requirements	19" Rack mountable fixed hardware architecture
		220V, 50Hz AC Power Supplies: 1+1 redundant hot-swappable power supplies
2	Switching Capacity & Performance	Non-blocking backbone bandwidth/wired switching capacity: 176Gbps or higher
		Throughput/Switch Forwarding rates: 100 Mpps or higher
3	Downlink Interfaces	RJ-45 Copper Ports 1 Gbps: 48 Nos
	Uplink Interfaces	10G Optical SFP Uplink Ports: 4 Nos
	10G Optics per Access Switch	10G SR MM LC SFP - 4 Nos (for Access to Leaf switch uplink)
	Stacking ports	Should support Stack/MLAG/Virtual Chassis. for Stack required connecting cables to be supplied.
4	Layer 2 Features	Spanning Tree Protocols: IEEE 802.1.D, 802.1W, 802.1S
		802.1Q, 802.1ad

		802.3ad Link Aggregation LACP
		802.1AB Link Layer Discovery Protocol (LLDP)
		Jumbo Frames: 9000 bytes
		IPv4 and IPv6 dual stack support
5	Scalability Features	MAC Addresses: 16K
		VLAN IDs: 1-4000
6	Quality of Service (QoS) Features	802.1p CoS field classification
		Policing, Shaping and Marking. Minimum 8 hardware queues per port
7	Security Features	AAA through TACACS/TACACS+/RADIUS and username/password
		Root guard/BPDU guard
		Loop guard
		Control Plane Policing/Protection (CPP) to protect from DoS attack
		ARP & DHCP Snooping
		Port-based Network Access Control 802.1X
8	Management Features	Local and remote port mirroring
		NTP
		SFTP/SCP
		SNMPv2c, SNMPv3
		Remote login for administration using: SSH
		Syslog
		Netflow/Jflow/sflow or equivalent
		Configuration roll-back
9	IPv6 Readiness	All Functionalities of Switch shall be IPv6 compliant and it should work on IPv6 Platform without any additional hardware/ software

Special Conditions:

1. Necessary patch cables, trunk cables, patch panels as required (for spine to leaf, leaf to telecom room) as part of this tender are to be provided by the bidder. Data Centre spine/leaf/server racks and telecom room located in same floor i.e distance between is less than 150mts.
2. All the cables/SFPs provided by the bidder as part of this tender should be from reputed OEM and should be compatible with the switches supplied, tested. The same should be certified by the OEM.
3. The existing connectivity at the data centre is multimode and the hardware/network connectivity supplied as part of this tender should be compatible with the existing setup.
4. Material to be delivered at Secunderabad, Rail Nilayam and location of installation will be finalized at the later stage. Any change in the delivery location will be intimated by RailTel in advance. Bidder has to deliver the material accordingly.
5. The quantity of SDN controllers for HA (N+N or N+1) is OEM specific.

6. CommScope or equivalent LC-LC OM4 LSZH fibre patch cables 50Nos of 1mts, 50Nos of 2mts and 50Nos of 3mts to be supplied as spare cables.
7. SOR S.No 4 100G optics to be supplied compatible with spine optics.
8. Warranty start date will be considered from the date of Go-live of the material.
9. Bidders may submit 2 year long-term warranty cost for the materials (this criteria will be not be considered for evaluation of the bids).

FORM-I QUALIFYING CRITERIA USER'S CERTIFICATE

Name of the Firm Contract No. & date

Scope of supply :
Contract Amount (in Indian Rupees) :
Completion Period as per contract Data of Commencement :
Actual date of Successful Completion :
Quality of supply : Satisfactory / unsatisfactory(Please specify)

Name: Dated: Designation:

E-mail id:

Contact No:

FORM-II PROFORMA FOR STATEMENT OF DEVIATIONS

(1) The following are the particulars of deviations from the requirements of the tender specification.

Clause	Deviation	Remarks
		(Including justification)

(2) The following are the particulars of deviations from the requirements of the instructions to Tenderers, General and Special Conditions of contract-

Clause	Deviation	Remarks
		(Including justification)

Signature and seal of the Tenderer

Note: Where there is no deviation, the statement should be returned duly signed with an endorsement indicating "No Deviations".

FORM-III MANUFACTURER AUTHORIZATION FORM (MAF)

**ED/SR,
RailTel Corporation of India Ltd.**

Dated: _____

Subject: Manufacturer Authorization form (MAF) to M/s _____ for _____.

Ref: Tender No. _____.

Dear Sir,

We, M/s _____, are established and reputed manufacturer and service provider of _____ (Product details), having our registered office at _____.

We hereby authorize M/s _____ (Bidder name), Office _____ to participate in bid and subsequently upon award of the bid to execute the supply of our range of products against your above said bid.

We further extend our warranty for _____ years for our range of products offered by M/s _____ against the above-said bid.

Thanking you,

Best regards,

Authorized Signatory

FORM – IV GUARANTEE BOND FOR PERFORMANCE GUARANTEE

**(On Stamp Paper of requisite value)
(To be used by approved Scheduled Banks)**

1. In consideration of the RailTel Corporation of India Limited, 1-10-39 to 44, 6A, 6th floor, Gumidelli Towers, Begumpet Airport Road, Begumpet, Hyderabad – 500016. (Herein after called RailTel) having agreed to exempt(Hereinafter called “the said Contractor(s)”) from the demand, under the terms and conditions of an Agreement 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 and our local branch at New Delhi (indicate detail address of local New Delhi branch with code no.) 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).

We, the Bank further agree that this guarantee shall be invokable at our place of business at/New Delhi (indicate detailed address of local New Delhi Branch with code no.). The branch at New delhi is being advised accordingly. (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.

Dated the day of , 2025

for
(indicate the name of the Bank)

Witness

1. Signature Name
2. Signature Name

FORM-V FORMAT FOR AFFIDAVIT TO BE SUBMITTED BY TENDERER ALONG WITH THE TENDER BID DOCUMENTS
(To be executed in presence of Public notary on non-judicial stamp paper of the value of Rs. 100/-. The paper has to be in the name of the tenderer)

I..... (Name and designation)** appointed as the attorney/authorized signatory of the tenderer (including its constituents),
M/s..... (hereinafter called the tenderer) for the purpose of the Tender documents for the work of _____
as per the tender No. _____ of (-----Railway), do hereby solemnly affirm and state on the behalf of the tenderer including its constituents as under:

- (i) I/We the tenderer (s) am/are signing this document after carefully reading the contents.
- (ii) I/we the tenderer(s) also accept all the conditions of the tender and have signed all the pages in confirmation thereof.
- (iii) I/We hereby declare that I/We have downloaded the tender documents from RailTel’s website www.railtelindia.com or GEM PORTAL Portal. I/We have verified the content of the document from the website and there is no addition, no deletion or no alteration to the content of the tender document. In case of any discrepancy noticed at any stage i.e. evaluation of tenderer’s, execution of work or final payment of the contract, the master copy available with the railway Administration shall be final and binding upon me/us.
- (iv) I/We declare and certify that I/we have not made any misleading or false representation in the forms, statements and attachments in proof of the qualification requirements.
- (v) I/We also understand that my/our offer will be evaluated based on the documents/credentials submitted along with the offer and same shall be binding upon me/us.
- (vi) I/We declare that the information and documents submitted along with the tender by me/us are correct and I/we are fully responsible for the correctness of the information and documents submitted by us.
- (vii) I/We undersigned that if the certificates regarding eligibility criteria submitted by us are found to be forged/false or incorrect at any time during process for evaluation of tenders, it shall lead to forfeiture of the tender EMD besides banning of business for five year on entire IR. Further, I/we (insert name of the tenderer) ** _____ and all my/our constituents understand that my/our offer shall be summarily rejected.
- (viii) I/we also understand that if the certificates submitted by us are found to be false/forged or incorrect at any time after the award of the contract, it will lead to termination of the contract, along with forfeiture of EMD/SD and Performance Guarantee besides any other action provided in the contract including banning of business for five year on entire IR.

DEPONENT
SEAL AND SIGNATURE
OF THE TENDERER

VERIFICATION

I/We above named tenderer do hereby solemnly affirm and verify that the contents of my/our above affidavit are true and correct. Nothing has been concealed and no part of it is false.

DEPONENT
SEAL AND SIGNATURE
OF THE TENDERER

Place:

Dated:

** The contents in Italics are only for guidance purpose. Details as appropriate are to be filled in suitably by tenderer. Attestation before Magistrate/Notary Public.

FORM-VI FORMAT FOR BID SECURITY DECLARATION**(On non-judicial stamp paper of Rs. 100/-)**

Whereas, I/We____(Name of Agency) has submitted bid for____(Name of Work and Tender No.) and whereas Earnest Money Deposit is being exempted in the aforesaid tender to give relief to the bidders as per Govt. of India guidelines due to severe financial crunch on account of slowdown in the economy due to the pandemic,

I/We hereby submit the following “Bid Security Declaration” in lieu of exemption from submitting Earnest Money Deposit :-

- 1)** If I/We withdraw or modify my/our bid during the bid validity period (including extended validity of tender) specified in the tender documents;

Or

- 2)** If, after the award of work, I/We fail to accept LOA/LOI, or to sign the contract agreement or fail to submit performance guarantee or fail to commence the work within stipulated time period prescribed in tender documents;

Or

- 3)** If I/We furnish any incorrect or false statement / information/ document;

Or

- 4)** If I/We hide any relevant information or do not disclose any material fact in the tender;

Or

- 5)** If I/We commit any breach of integrity Pact;

I/We may be disqualified and banned for a period of three years and shall not be eligible to bid for future tenders in RailTel for the period of three years from date of issue of such orders.

(Signed by the Authorized Representative of Firm)

Name of Authorized Representative Name of Firm

Date

FORM-VII CERTIFICATE FOR LAND BORDER SHARING

- 1) Any bidder from a country which shares a land border with India will be eligible to bid in this tender only if the bidder is registered with the Competent Authority [The Competent Authority for the purpose of registration under this Order shall be the Registration Committee constituted by the Department for Promotion of Industry and Internal Trade (DPIIT)].
- 2) "Bidder" (including the term 'tenderer', 'consultant' or 'service provider' in certain contexts) means any person or firm or company, including any member of a consortium or joint venture (that is an association of several persons, or firms or companies), every artificial juridical person not falling in any of the descriptions of bidders stated hereinbefore, including any agency branch or office controlled by such person, participating in a procurement process.
- 3) "Bidder from a country which shares a land border with India" for the purpose of this Order means: -
 - a. An entity incorporated, established or registered in such a country; or
 - b. A subsidiary of an entity incorporated, established or registered in such a country; or
 - c. An entity substantially controlled through entities incorporated, established or registered in such a country; or
 - d. An entity whose beneficial owner is situated in such a country; or
 - e. An Indian (or other) agent of such an entity; or
 - f. A natural person who is a citizen of such a country; or
 - g. A consortium or joint venture where any member of the consortium or joint venture falls under any of the above.
- 4) The beneficial owner for the purpose of (III) above will be as under:
 1. In case of a company or Limited Liability Partnership, the beneficial owner is the natural person(s), who, whether acting alone or together, or through one or more juridical person, has a controlling ownership interest or who exercises control through other means.

Explanation

- a. "Controlling ownership interest" means ownership of or entitlement to more than twenty-five per cent. of shares or capital or profits of the company;
- b. "Control" shall include the right to appoint majority of the directors or to control the management or policy decisions including by virtue of their shareholding or management rights or shareholders agreements or voting agreements;
2. In case of a partnership firm, the beneficial owner is the natural person(s) who, whether acting alone or together, or through one or more juridical person, has ownership of entitlement to more than fifteen percent of capital or profits of the partnership;
3. In case of an unincorporated association or body of individuals, the beneficial owner is the natural person(s), who, whether acting alone or together, or through one or more juridical person, has ownership of or entitlement to more than fifteen percent of the property or capital or profits of such association or body of individuals;
4. Where no natural person is identified under (1) or (2) or (3) above, the beneficial owner is the relevant natural person who holds the position of senior managing official;
5. In case of a trust, the identification of beneficial owner(s) shall include identification of the author of the trust, the trustee, the beneficiaries with fifteen percent or more interest in the trust and any other natural person exercising ultimate effective control over the trust through a chain of control or ownership.
- 5) An Agent is a person employed to do any act for another, or to represent another in dealings with third person.
- 6) The successful bidder shall not be allowed to sub-contract works to any contractor from a country which shares a land border with India unless such contractor is registered with the Competent Authority.

Certificate to be given by the Tenderer:

"I have read the clause regarding restrictions on procurement from a bidder of a country which shares a land border with India; I certify that I am not from such a country or, if from such a country, I have been registered with the Competent Authority. I hereby certify that I

fulfill all requirements in this regard and I am eligible to be considered. [Where applicable, evidence of valid registration by the Competent Authority shall be attached.]"

Certificate to be given by Tenderer for Works involving possibility of sub-contracting:

"I have read the clause 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; I certify that I am not from such a country or, if from such a country, I have been registered with the Competent Authority and will not sub-contract any work to a contractor from such countries unless such contractor is registered with the Competent Authority. I hereby certify that I fulfill all requirements in this regard and I am eligible to be considered. [Where applicable, evidence of valid registration by the Competent Authority shall be attached.]"

FORM-VIII BIDDER'S ORGANIZATION DATA SHEET

1	Name of the Organization	
2	Name of the Authorized Person Submitting the Tender Documents (Submit the proof of authorizing the person to sign the tenders by the company on its behalf)	
3	Main line of Business	
4	Years of Experience	
5	Location (indicate address, tel.no., fax and the year from which they are operating in that location)	
6	Contact person	
7	Address	
8	Tel. No.	
9	Fax No.	
10	E-mail ID	

FORM-IX
OFFER LETTER

To,
Executive Director,
RailTel Corporation of India Limited,
2nd Floor, B-Block, Rail Nilayam,
Secunderabad – 500 071.

I/We _____ have read the various conditions detailed in tender documents attached here to and hereby agree to ABIDE BY THE SAID CONDITIONS. I/We also agree to keep this tender open for acceptance for a period of 20 days from the date fixed for opening the same and in default thereof, I/We will be liable for forfeiture of my/our Earnest Money. I/We offer to **Supply of Switches and SFPs as per SOR and Technical Specification** given in the Tender Document and the rates quoted in the attached schedule and hereby bind myself/ourselves to cover **warranty** from the date of issue of Purchase Order. I/We also hereby agree to abide by the Various Conditions of Contract and to carry out the supplies according to the Specifications for materials and works laid down by the RailTel for the present contract.

EMD for SOR (Supply and installation) :

2. A sum of Rs. _____ (or) **UDYAM** is herewith forwarded as “Earnest Money”. The full value of Earnest Money shall stand forfeited without prejudice to any other rights or remedies if, I/We withdraw or modify the offer within validity period to that effect.

SIGNATURE OF SUPPLIER (S) with Seal

Date:

SIGNATURE OF WITNESS CONTRACTOR (S) ADDRESS

1.

2.

CHECK LIST

SN	Have you submitted the following documents?	Submitted/ Complied or not	Page No/refno. of Offer
1	User Certificate as per Form-I		
1a	Similar Works carried out table on letter head vide Cl No.6		
2	Deviation Statement, if any (Chapter wise and Clause wise from Technical Specification & Tender conditions).Form-II		
3	Manufacturer Authorization form (MAF) as per Form-III		
4	Notarized Affidavit as per Form-V		
5	EMD of Rs. 20,00,000/- or Bid Security Declaration, where firms participated availing UDAYM/DPIIT as per Form-VI as per clause 9		
6	Land border certificate as per Form-VII		
7	Bidders Organization data sheet as per Form-VIII		
8	Power of attorney in favor of the signatory dulyauthorizing the signatory		
9	Complete Tender documents digitally signed or duly signed & stamped on each page in token of acceptance should be submitted online.		
10	Cost breakup of price indicating Basic rate, Packaging& Forwarding, CGST/SGST/IGST, Insurance etc.		
11	Offer Letter duly signed by authorized signatory Form-IX		
12	Compliance to Technical eligibility criteria as per clause 6 (i)		
13	Compliance to Financial eligibility criteria as per clause 6 (ii)		

CONSIGNEE DETAILS

Annexure-A

Shri Shiva Chaitanya Kumar. P
Chief Manager/Stores
Address:
RailTel Corporation of India Ltd.
2nd Floor, B-Block, Rail Nilayam,
Secunderabad – 500025
Telangana.