

Tamil Nadu FibreNet Corporation Limited
No.807, 5th Floor, Chengalvaraya Naicker Building,
Anna Salai, Chennai - 600 002



E-TENDER REFERENCE NO. NIT_TANFINET_023_Broadband_NOC
dated 30.11.2023

**TENDER FOR THE SELECTION OF A SYSTEM INTEGRATOR
FOR SUPPLY, INSTALLATION, INTEGRATION, TESTING,
AND COMMISSIONING OF HEADEND SYSTEMS, INCLUDING
OPERATION & MAINTENANCE**

Date of Release of Tender	30.11.2023
Prebid Meeting	06.12.2023
Last Date for Submission of Bid	03.01.2024 Up to 3.00 PM
Date of Opening of Bid	03.01.2024 at 4.00 PM

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IMPORTANT NOTICE

This tender procedure is governed by the Tamil Nadu Transparency in Tenders Act, 1998 and the Tamil Nadu Transparency in Tender Rules, 2000 as amended from time to time. In case of any conflict between the terms and conditions in the tender document and the Tamil Nadu Transparency in Tenders Act, 1998 and The Tamil Nadu Transparency in Tender Rules, 2000 the Act and Rules shall prevail.

1. PREAMBLE

Tamil Nadu FibreNet Corporation (TANFINET) is a Special Purpose Vehicle (SPV) setup by the Government of Tamil Nadu to implement the BharatNet phase-II project to provide high speed connectivity in the rural areas of the State.

The BharatNet project is under implementation and it will provide high-speed connectivity to all 12,525 Gram Panchayats (GP) through Optical Fiber Cable from Blocks. TANFINET now proposes to provide internet services to households and Business establishments, located in villages, GPs, Blocks and District Headquarters.

In this context, TANFINET invites sealed tenders from experienced System Integrators in “Two Cover System” for supply, installation, integration, testing and commissioning of headend systems including operation and maintenance for a period of *three* years through transparent bidding process. The Tender notification has been published fixing the date of opening of tender as **03.01.2024** at 4.00 PM. The Agency will be selected on the basis of Quality cum Cost Based Selection method (QCBS).

2. SCOPE OF WORK

The scope of work would inter-alia include the following:

- a. Supply, installation, integration, testing and commissioning of the following solutions along with High Availability at NOC and regional locations:
 - Business Support Service (BSS) Solutions
 - AAA Solutions
 - URL Filtering solutions
 - SMS Gateway, NMS, MRTG, Ticketing solutions
 - Payment Gateway Portal Solutions
 - Speed Test Solutions
 - Leaf/Core Switches
 - BNG Solutions including CGNAT/IPDR/DNS/DHCP
 - Internet Router
 - Internal Firewall

The detailed scope of work and technical specifications of the systems shall be as given in Annexure-I.

- b. All goods supplied shall be provided a comprehensive on-site warranty during the contract period.
- c. The bidder shall also undertake operation and maintenance of the system for period of 3 years from the date of completion of Acceptance Testing and acceptance by TANFINET as per clause 2(a). During this period the bidder should perform the following:
 - i. Operation and maintenance of all the installed systems including all hardware's and software by deploying adequate manpower.
- d. The bidder should submit Standard Operation Procedure (SOP) for the O & M period at the time of execution of the Agreement.
- e. Training: The bidder should also provide hands-on training on the operation and maintenance and regular operations of the installed system to the personnel of TANFINET with training materials on operation and maintenance of the system.

3. QUALIFICATION CRITERIA

Clause	Qualification Criteria	Supporting Documents/Remarks
a.	The bidder should be a registered legal entity in India and should be in existence for the past three years as on 31 st March 2023	(i) In case of Private / Public Limited Companies, 1. Copy of Incorporation Certificate issued by the Registrar of Companies 2. Copy of Memorandum and Articles of Association (ii) In case of Partnership Firm, 1. Copy of Registered Partnership Deed (or) 2. Copy of Incorporation Certificate (iii) In case of Proprietorship Firm, 1. Copy of GST Registration Certificate
b.	The bidder should have reported an Average Annual Turnover* of at least Rs.100 Crores in the	(i) The average annual turnover statement duly certified by Chartered Accountant with UDIN as per Annexure

	last three consecutive financial years i.e. FY2020-21, FY2021-22 and FY2022-23. *For the purpose of evaluation, only the Turnover from ICT / IT / Telecom business shall be considered.	VI (Certificates without UDIN will not be considered) (ii) The Annual Report / certified copies of Balance Sheet, Profit & Loss statement for the last 3 consecutive financial years (iii) Acknowledgement of Income tax return filed for last 3 consecutive financial years
c.	The bidder should have successfully completed supply, installation and commissioning of IT Hardware's for Datacenter/NOC including routers, switches, firewalls, servers etc. in a single project with a contract value of at least ₹20 crores to State / Central Government / BharatNet Projects/ Telecom Operators in India in the last five years as on Date of Bid submission.	Work order and Completion Certificates / Go-Live certificate issued by Client
d.	The bidder should have successfully completed implementation of NGFW Firewall solutions, OSS/BSS/AAA Applications and 150 MPLS Nodes in a single project for a State / Central Government / BharatNet Projects / Telecom Operators in India in the last five years as on Date of Bid submission.	Work order and Completion Certificates / Go-Live certificate by the Client

e.	The bidder shall submit Manufacturer Authorization Form (MAF) from Original Equipment Manufacturer (OEM) for all the active components.	(i) Manufacturers Authorization Form (MAF) as per Annexure V for each component should be enclosed. (ii) The bidders shall submit MAF from a maximum of 3 OEMs for a particular product. Bidders will be permitted to execute the contract through approved OEMs for which MAF was submitted.
f.	The bidder shall ensure that OEM complies with restrictions on procurement under rule 144 (xi) vide order no: 06/18/2019-PPD dated 23rd July 2020 inserting Rule 144(xi) in GFRs 2017.	An undertaking form as per Annexure VII should be enclosed.
g.	The bidder should have a full-fledged permanent office in Chennai (or) an undertaking to set up office in Chennai	(i) Proof of Chennai Office Address (ii) Alternatively, the bidder should give an undertaking that full-fledged office will be established in Chennai within 15 days from the date of issue of Letter of Acceptance
h.	The bidder should not have been blacklisted by Central Government, any State Government, a Statutory Body, any Public Sector Undertaking, Banks or Financial Institutions as on the date of bid submission.	(i) The declaration form as per Annexure VIII should be enclosed. (ii) Further, if the bidder is found blacklisted in India before the award of contract by any Government Agency / Quasi Government Agency / PSU, the bid will be rejected

Technical Evaluation Criteria (TEC)

The Bidders who satisfy all the MEC shall only be considered for TEC Evaluation. The bidder should enclose documentary evidences for fulfilling the TEC and the Tender Evaluation Committee will evaluate the bids as per the criteria set below:

S. No	Qualification Criteria and marks breakup	Maximum marks	Documents to be submitted
1.	The bidder should have reported an Average Annual Turnover* of at least Rs.100 Crores in the last three consecutive financial years i.e. FY2020-21, FY2021-22 and FY2022-23. Marks based on Average Turnover in the past three financial years (in Crores): > 100 Cr to 150 Cr - 10 Marks > 150 Cr to 200 Cr - 15 Marks > 200 Cr - 25 Marks	25	The average annual turnover statement duly certified by Chartered Accountant with UDIN as per Annexure VI (Certificates without UDIN will not be considered)
2.	The bidder should have successfully completed supply, installation and commissioning of IT Hardware's for Datacenter/NOC including routers, switches, firewalls, servers etc. in a single project with a contract value of at least ₹20 crores to State / Central Government / BharatNet Projects/ Telecom Operators in India in the last five years as on Date of Bid submission. Marks based on Single project value: > 20 Cr to 25 Cr - 20 Marks > 25 Cr to 30 Cr - 30 Marks	40	Work order and Completion Certificates / Go-Live certificate issued by Client

	> 30 Cr - 40 Marks		
3.	The bidder should have successfully completed implementation of NGFW Firewall solutions, OSS/BSS/AAA Applications and 150 MPLS Nodes in a single project for a State / Central Government / BharatNet Projects / Telecom Operators in India in the last five years as on Date of Bid submission. Marks based on Number of Nodes: 150 MPLS Nodes - 5 Marks 151-250 MPLS Node - 7 Marks 251-500 MPLS Node - 10 Marks	10	Work order and Completion Certificates / Go-Live certificate issued by Client
4.	Presentation by the Bidder on the projects handled	25	Detailed presentation by the bidder to evaluation committee, on the solution to be provided as part of the tender
	Total Marks	100	

Technical Bid Evaluation:

- a. After initial scrutiny of the bids, responsive bids would be further taken up for the evaluation of the MEC and Technical Evaluation Criteria (TEC) by the Technical Evaluation Committee. Bid that doesn't qualify in MEC & TEC would be summarily rejected.

- b. The technical score of a bidder 'Tb' shall be assigned to the bidder and it shall be awarded based on the marks obtained by the Bidder in Technical Bid. "Technical Score" shall be assigned to the Bidder as per the formulae below:

Tmax	Maximum Technical Score
Tb	Absolute Technical Score
Tn	Technical score of the bidder under Consideration

Technical score (Tn) = (Tb/ Tmax) * 100 (Adjusted to two decimal places)

- c. TANFINET's decision in this regard shall be final & binding and no further discussion shall be held with the bidders.

Financial Bid Evaluation

- a. The Financial Bids shall be opened, in the presence of technically qualified Bidders' representatives who choose to attend the Financial Bid opening on date and time to be communicated to all the technically qualified Bidders.
- b. The Financial score of a bidder 'Fb' shall be assigned to the bidder. 'Fb' shall be the total financial quote made by the bidder. The lowest evaluated Financial Proposal (Fmin) shall be given the maximum financial score (Fn) of 100 points. The Financial scores (Fn) of the other Financial Proposals shall be calculated as per the formula for determining the financial scores given below:

Fmin	Financial quote of the lowest evaluated financial proposal
Fb	Financial quote for the bidder under consideration
Fn	Normalized Financial score for the bidder under consideration

Normalized Financial Score (Fn) = (Fmin/ Fb) * 100 (Adjusted to two decimal places)

Final Evaluation of Bid

- a. Proposals shall be ranked according to their combined technical (Tn) and Financial (Fn) scores using the weights (T = 0.70 the weight given to the Technical Proposal; F = 0.30 the weight given to the Financial Proposal; T + F = 1).
- b. The final evaluation shall be based on Final Score which shall be calculated as shown below: Final Score (S) = (Tn x T) + (Fn x F). The bidder with highest final score (S) will be declared as the successful bidder (H1).

- c. In case of a tie where two or more bidders achieve the same highest combined technical and financial score, the bidder with the higher technical score shall be declared as the successful bidder (H1).
- d. The decision of TANFINET arrived at, as per above will be final and no representation of any kind shall be entertained.

4. LANGUAGE OF THE TENDER

The Tender prepared by the bidder as well as all correspondences and documents relating to the Tender shall be in English language only. If the supporting documents are in a language other than English/Tamil, the notarized translated English version of the documents should also be enclosed. Tender received without such translation copy will be rejected.

5. CONFLICT OF INTEREST

- a. A bidder shall not have a conflict of interest (the “Conflict of Interest”) that affects the Bidding Process. Any bidder found to have a Conflict of Interest shall be disqualified.
- b. A bidder shall be deemed to have a Conflict of Interest affecting the Bidding Process, if:
 - i. Any other prospective bidder or any associate or constituent thereof have common controlling shareholders or other ownership interest; or
 - ii. A constituent of such prospective bidder is also a constituent of another prospective bidder. Provided that ‘constituent’ in such cases will not include the provider of a proprietary technology to more than one bidder; or
 - iii. Such prospective bidder, or any associate thereof receives or has received any direct or indirect subsidy, grant, concessional loan or subordinated debt from any other bidder or Respondent, or any associate thereof has provided any such subsidy, grant, concessional loan or subordinated debt to any other bidder or Respondent, its member or any associate thereof; or

- iv. Such prospective bidder has the same legal representative for purposes of the Tender Proceedings as any other prospective bidder; or
 - v. Such prospective bidder, its member or any associate thereof, has a relationship with another prospective bidder, or any associate thereof, directly or through common third party/ parties, that puts either or both of them in a position to have access to each other's information about, or to influence the Response of either or each other; or
 - vi. Such prospective bidder, its member or any associate thereof, has participated in preparation of any documents, design or technical specifications of the Project; or
 - vii. If any legal, financial or technical advisor of the Tender Inviting Authority and Tender Accepting Authority in relation to the Project is engaged by the prospective tenderer, its member or any associate thereof, as the case may be, in any manner for matters related to or incidental to the Project.
 - viii. Provided that this clause shall not apply where such advisor was engaged by the bidder or Respondent, its member or associate in the past but such engagement expired or was terminated 6 (six) months prior to the date of release of tender or where such advisor is engaged after a period of 3 (three) years from the date of commercial operation of the Project and in case of Original Equipment Manufacturer offering products to multiple bidders.
- c. A bidder shall be liable for disqualification if any legal, financial or technical adviser of TANFINET in relation to the Project is engaged by the bidder, its Member or any Associate thereof, as the case may be, in any manner for matters related to or incidental to the Project. For the avoidance of doubt, this disqualification shall not apply where such adviser was engaged by the bidder or Respondent, its Member or Associate in the past but its assignment expired or was terminated 6 (six) months prior to the date of release of tender or where such adviser is engaged after a period of 3 (three) years from the date of commercial operation of the Project.

6. DOWNLOADING OF TENDER DOCUMENT

The tender document shall be downloaded from www.tntenders.gov.in at free of cost. For the downloaded tender document, the bidder should give a declaration for not having tampered the Tender document downloaded as per Annexure XI.

7. PREBID MEETING

- a. There will be a pre-bid meeting on **06.12.2023 at 03:00 PM** in the Head Office of Tamil Nadu FibreNet Corporation, No.807, 5th Floor, Chengalvaraya Naicker Building, Anna Salai, Chennai - 600 002 during which the prospective bidders can get clarifications about the tender. The bidders shall send their queries in writing through mail to tenders.tanfinet@tn.gov.in & tanfinet@tn.gov.in if any at least two days prior to the pre-bid meeting date as per the format in Annexure XI.
- b. The bidders are advised to check www.tntenders.tn.gov.in for up-to-date information like change in date / venue etc., of pre-bid meeting as TANFINET may not be able to identify and communicate with the prospective bidders at this stage. Non attending of pre-bid meeting is not a disqualification.

8. CLARIFICATION ON THE TENDER DOCUMENT

Any discrepancies, omissions, ambiguities or conflicts in the tender document or any doubts as to their meaning and any request for clarification may be sent in writing to “The Managing Director, Tamil Nadu FibreNet Corporation, No.807, 5th Floor, Chengalvaraya Naicker Building, Anna Salai, Chennai - 600 002” or through e-mail to tenders.tanfinet@tn.gov.in & tanfinet@tn.gov.in as per Annexure-XI. The Managing Director, will review the same and where information sought is not clearly indicated or specified in the tender documents, will upload such clarification on www.tntenders.gov.in. The Managing Director will neither make nor be responsible for any oral instructions. Request for clarification should be brought to the notice of the Managing Director, in writing, before 48 hours of the opening of the tender.

9. AMENDMENT OF TENDER DOCUMENT

TANFINET whether on its own initiative or as a result of a query, suggestion or comment of an Applicant or a Respondent, may modify the tender document by issuing an addendum or a corrigendum at any time before the opening of the

tender. Any such addendum or corrigendum will be uploaded on www.tenders.tn.gov.in and the same will be binding on all Applicants or Respondents or Bidders, as the case may be.

10. AUTHORISATION OF THE BIDDER

- a. The Tender should be signed on each page by the bidder or by the person who is duly authorized for the same by the bidder.
- b. The bidders should submit a Power of Attorney as per the format at Annexure-X, authorizing the signatory of the bid documents.

11. SUBMISSION OF TENDER

- a. The eligible bidders shall participate in bidding only in online mode through the website <https://tntenders.gov.in/nicgep/app> under two cover system (i.e. (i) Technical Bid and (ii) Financial Bid) in the prescribed format.
- b. Bidders are allowed to bid until the time of bid closing. The e-Procurement website will not allow any bidder to attempt bidding after the scheduled date and time of bid submission. The submission of bids physically is not permitted.
- c. All the documents in support of eligibility criteria are to be scanned and uploaded along with the tender documents in the designated website.
- d. The bidder should quote the price in the Price-Bid as per the format given in the E-tender portal.
- e. To participate in the bid, the bidder shall have a valid Class 3 Digital Signature Certificate (DSC), obtained from the certifying authorities enlisted by Controller of Certifying Authorities (CCA).
- f. Every page of the tender document should be signed and uploaded, in token of having accepted the tender conditions. Failing which the tender will be rejected summarily.
- g. No bidder shall submit more than one bid for the Project.
- h. The bidders shall be responsible for all of the costs associated with the preparation of their bids and their participation in the Bid Process.

TANFINET will not be responsible or in any way liable for such costs, regardless of the conduct or outcome of the Bidding Process.

- i. TANFINET shall not be liable for any omission, mistake or error in respect of any of the above or on account of any matter or thing arising out of or concerning or relating to the tender document or the Bidding Process, including any error or mistake therein or in any information or data given by TANFINET.

12. RIGHT TO ACCEPT / REJECT ANY OR ALL BID

- a. Notwithstanding anything contained in this tender document, TANFINET reserves the right to accept or reject any bid and to annul the Bidding Process and reject all bids, at any time without any liability or any obligation for such acceptance, rejection or annulment, and without assigning any reasons therefore. In the event that TANFINET rejects or annuls all the Bids, it may, in its discretion, invite all eligible Bidders to submit fresh Bids hereunder.
- b. TANFINET reserves the right to reject any bid if:
 - i. At any time, a material misrepresentation is made or uncovered, or
 - ii. The bidder does not provide, within the time specified by TANFINET, the supplemental information sought by TANFINET for evaluation of the bid documents.
 - iii. If such disqualification/ rejection occur after the Bids have been opened and the Lowest Bidder gets disqualified/ rejected or withdraws, then TANFINET reserves the right to invite the remaining Bidders to match the Lowest Bidder/ submit their Bids in accordance with the tender conditions or take any such measure as may be deemed fit in the sole discretion of TANFINET, including annulment of the Bidding Process.
- c. In case it is found during the evaluation or at any time before signing of the Contract Agreement or after its execution and during the period of subsistence thereof, including the agreement period thereby granted by TANFINET, that one or more of the pre-qualification conditions have not been met by the bidder, or the bidder has made material misrepresentation or has given any materially incorrect or false information, the bidder shall

be disqualified forthwith if not yet appointed either by issue of the LOA or entering into of the Agreement, and if the bidder has already been issued the LOA or has entered into the Agreement, as the case may be, the same shall, notwithstanding anything to the contrary contained therein or in this tender document, be liable to be terminated, by a communication in writing by TANFINET to the bidder, without TANFINET being liable in any manner whatsoever to the bidder and without prejudice to any other right or remedy which TANFINET may have under this tender document, the Bidding Documents, the Agreement or under applicable law.

- d. TANFINET reserves the right to verify all statements, information and documents submitted by the bidders in response to the tender. Any such verification or lack of such verification by TANFINET shall not relieve the bidder of its obligations or liabilities hereunder nor will it affect any rights of TANFINET there under.

13. RIGHT TO VARY SCOPE OF WORK

TANFINET reserves the right to vary the Scope of Work at any time during the contract period, by giving a written order. If any such change causes an increase or decrease in the cost of or the time required for the Bidder's performance of any part of the work under the Agreement, an equitable adjustment shall be made in the Agreement Value or time schedule, or both, and the Agreement shall accordingly be amended. Any claims by the Bidder for adjustment under this Clause must be asserted within one (1) week from date of the Bidder's receipt of TANFINET's order for change. The unit rate of each item quoted/accepted by the selected Bidder shall however not change.

14. EARNEST MONEY DEPOSIT

- a. The Tender should be accompanied by an Earnest Money Deposit (EMD) to the value of **Rs.20,00,000 (Rupees Twenty Lakhs only)** in the form of an Irrevocable Bank Guarantee with a validity period of 6 months from any Indian Nationalized Bank / Scheduled Commercial Bank or Online as per the procedure of the e-Tender Portal (<https://tntenders.gov.in>). The EMD in any other form will not be accepted.
- b. The bidders have to upload the scanned copy of the Bank Guarantee against the Demand Draft / Banker Cheque / NEFT / RTGS column given in the e-procurement portal.

- c. The Bank Guarantee in original should reach the office of Managing Director, Tamil Nadu FibreNet Corporation, No.807, 5th Floor, Chengalvaraya Naicker Building, Anna Salai, Chennai - 600 002 before the due date and time of opening of techno commercial bid. The same shall be submitted in person or through Postal / Courier. TANFINET will not be responsible for any postal delays.
- d. Non-submission/Non-remittance of EMD within the stipulated date and time will entail outright rejection of bids.
- e. The bids without EMD shall not be considered.
- f. Any request of the bidder, under any circumstances claiming exemption from payment of EMD, will be rejected and their price offer will not be opened.
- g. The amount remitted towards EMD is liable to be forfeited in the following cases:
 - i. Bidder fails to execute the Agreement.
 - ii. Bidder fails to remit the Security Deposit within the stipulated date.
 - iii. Bidder withdraws the Bid during the period of its validity as specified in the Tender.
 - iv. The Bidder(s) should not be involved in any litigation that may have an impact of affecting or compromising the execution of work as required under this contract. If at any stage of tendering process any suppression / falsification is brought to the knowledge of TANFINET, then TANFINET shall have the right to reject the bid or terminate the contract, and forfeit the EMD or SD as the case may be, without any compensation to the Bidder(s).

15. PRICE BID

- a. The price bid should be submitted only in electronic form as per the prescribed format given.
- b. The rates for each line item should be quoted in Indian Rupees (INR) in the column highlighted as blue colour in the price bid format.

- c. The price bid should not be altered and should not contain any commercial conditions. Variation in the commercial terms and conditions of the tender will not be accepted.

16. VALIDITY

The rate quoted in the Tender should be valid for the acceptance by TANFINET for a minimum period of 90 days from the date of opening of the Tender. Escalation in the rates will not be entertained under any circumstances.

17. OPENING AND EVALUATION OF THE TECHNICAL BID

- a. The tenders received up to 3.00 PM on **03.01.2024** will be taken up for opening. The technical bid will be opened online at 4.00 PM on **03.01.2024** by the Managing Director, TANFINET or by the persons / committee authorized by him.
- b. The Technical bid will be evaluated by the committee of TANFINET in terms of the qualification criteria.
- c. Any adverse/not satisfactory remarks on the performance of previous works will entail disqualification of the tender.
- d. Bidders will be deemed to have understood and agreed that no explanation or justification on any aspect of the Bidding Process or selection will be given.
- e. Any information contained in the bid shall not in any way be construed as binding on TANFINET, its agents, successors or assigns, but shall be binding against the bidder if the Project is subsequently awarded to it on the basis of such information.
- f. TANFINET reserves the right not to proceed with the Bidding Process at any time without notice or liability and to reject any or all bid(s) without assigning any reasons.
- g. If any information furnished by the bidder is found to be incomplete, or contained in formats other than those specified herein, TANFINET may, in its sole discretion, exclude the relevant details for qualifying in eligibility criteria.

- h. In the event that the claim of the bidder towards eligibility criteria submitted is determined by TANFINET as incorrect or erroneous, TANFINET shall reject such claim and exclude the same for qualifying in eligibility criteria. Where any information is found to be patently false or amounting to a material misrepresentation, TANFINET reserves the right to reject the bid in accordance with the provisions of Clause 12(b) and 12(c).
- i. TANFINET reserves the right to reject any bid which is non-responsive and no request for alteration, modification or substitution shall be entertained by TANFINET in respect of such bid.
- j. To facilitate evaluation of bids, TANFINET may, at its sole discretion, seek bonafide clarifications from any bidder regarding their bid. Such clarification(s) shall be provided within the time specified by TANFINET for this purpose. Any request for clarification(s) and all clarification(s) in response thereto shall be in writing / e-mail.
- k. If a bidder does not provide clarifications sought within the prescribed time, the bid shall be liable to be rejected. In case the bid is not rejected, TANFINET may proceed to evaluate the bid by construing the particulars requiring clarification to the best of its understanding, and the bidder shall be barred from subsequently questioning such interpretation of TANFINET.
- l. The bidders who are qualified in the technical bids and successfully complete the testing with existing TANFINET network will be informed the date of opening of Price bid.
- m. Quality and Cost based Selection (QCBS) method shall be adopted for the Evaluation.
- n. Under QCBS, the marks obtained under technical evaluation criteria will be allotted weightage of 70% while the Financial Proposals will be allotted weightage of 30%.

18. CONFIDENTIALITY

- a. Information relating to the examination, clarification, evaluation, and recommendation for the short-listed / pre-qualified bidders shall not be disclosed to any person who is not officially concerned with the process or is not a retained professional advisor advising TANFINET in relation to or

matters arising out of or concerning the Bidding Process. TANFINET will treat all information, submitted as part of bid, in confidence and will require all those who have access to such material to treat the same in confidence. TANFINET may not divulge any such information unless it is directed to do so by any statutory entity that has the power under law to require its disclosure or is to enforce or assert any right or privilege of the statutory entity and/ or TANFINET or as may be required by law or in connection with any legal process.

- b. All documents and other information provided by TANFINET or submitted by bidders to TANFINET shall remain or become the property of TANFINET. Bidders are to treat all information as strictly confidential and shall not use it for any purpose other than for preparation and submission of their bid. TANFINET will not return any bid, or any information provided along therewith.

19. EVALUATION OF THE PRICE BID

- a. The price bid will be evaluated in accordance with the Tamil Nadu Transparency in Tenders Act 1998 read with the Tamil Nadu Transparency in Tenders Rules 2000. The bidder who has quoted the lowest rate for executing the contract as per the scope of work (i.e. Part A + Part B) will be adjudged as H1.
- b. In the price bid, front loading of O&M cost will not be permitted. The O&M cost for 3 years should be minimum 20% of the total cost (i.e. Part A + Part B). In case if any tenderer quotes less than 20% of total cost (i.e. Part A + Part B), then 20% of total cost (i.e. Part A + Part B) will be treated as O&M cost and Part-A cost shall be readjusted to the tune of 80% of total cost (i.e. Part A + Part B) and payments will be released accordingly.
- c. The rate for operation & maintenance support for additional 2 years (i.e. for 4th and 5th year) i.e. Part C and additional equipment's and licenses (i.e. Part D) is asked only for the purpose of price discovery and the same will not be taken into consideration for evaluation. However, the L1 bidder has to match the lowest rates quoted by other qualified bidders if the rates quoted by them is higher. TANFINET reserves its rights to extend the contract for any period of time from 4 to 5 years and the successful tenderer shall provide the services at the finalized rate for the corresponding year and the option of purchasing additional equipment's and licenses is also solely vested with TANFINET based on the need in future during the contract period.

20. AWARD OF CONTRACT

- a. The bidder who is adjudged as L1 will be invited for price negotiations for further reduction of rates.
- b. Upon finalization of negotiated rate, TANFINET will issue the Letter of Acceptance (LoA) to the successful bidder.
- c. Validity of the price approved by TANFINET shall remain the same till the end of the contract period.
- d. The rates quoted by the bidder shall be kept firm for a period specified in the Tender. Escalation of rate will not be permitted during the said periods or during any period while providing services whether extended or not for reasons other than increase of taxes payable to the Governments in India within the stipulated delivery period.

21. SECURITY DEPOSIT

- a. On receipt of the Letter of Acceptance from TANFINET, the successful bidder should remit a Security Deposit (SD) of 5% of the value of Part-A in the form of an irrevocable Bank Guarantee with a validity period of 9 months from any Indian Nationalized Bank within 10 (Ten) working days from the date of receipt of letter of acceptance.
- b. If the Security Deposit amount is not paid within the time specified, the EMD remitted by the bidder shall be forfeited, besides cancelling the communication of acceptance of the Tender.
- c. Any amount pending with TANFINET will not be adjusted under any circumstances, against the Security Deposit if so requested.

22. AGREEMENT

- a. The successful bidder should execute an agreement as may be drawn up to suit the conditions on a non-judicial stamp paper of value, as prescribed in law and shall pay for all stamps and legal expenses incidental thereto. In the event of failure to execute the agreement, within the time prescribed, the SD/EMD amount remitted by the bidder will be forfeited besides cancellation of the Tender.

- b. If the contract is not executed as per the agreed terms and conditions, TANFINET will hold full authority to cancel the agreement or take any such action that will be deemed fit to the occasion at the risk and cost of the successful bidder. Such cancellation will entail forfeiture of SD.
- c. In the event of non- performance of the contractual provisions and if the selected bidder, has not fulfilled the contractual obligation with TANFINET in any manner during the currency of the contract or also found on later date, TANFINET reserves the right to forfeit the SD/PBG, levy LD, Penalty and take any legal action as deemed appropriate under the contract.

23. CONTRACT VALUE AND CONTRACT PERIOD

- a. For the purpose of this contract, the value of the contract is defined as the sum of the Part A of the Price Bid + Part B of the Price Bid.
- b. Contract Period is defined as the sum of the implementation and operation & maintenance period i.e. 4 months + 3 years.
- c. Upon successful completion of the contract period, TANFINET at its discretion shall extend the contract period for a further period of 2 years or part thereof by entering into a new agreement based on the operation & maintenance charges finalized for years 4 and 5.

24. ISSUE OF WORK ORDER

Work order will be issued by TANFINET after signing of Agreement and submission of Bank Guarantee.

25. WARRANTY

- a. The respective Original Equipment Manufacturer (OEM) through Bidder shall provide a comprehensive warranty on all goods supplied under this contract.
- b. The warranty shall include replacement of all equipment for reasons except theft and physically damaged/lost (repair not possible) for reasons not attributable to Bidder. The Replacement/repair under warranty clause shall be made by the Bidder free of all charges at site including freight, insurance, cost of works and other incidental charges.

- c. The Bidder shall warrant that the goods supplied under the Contract are new, non-refurbished, unused and recently manufactured; shall not be nearing End of Sale/End of Support; (through Self Certification from the respective OEM stating they will provide support, updates and upgrades, hardware replacement for next 7 years by renewing the contracts) and shall be supported by the Bidder and respective OEM along with service and spares support for next 3 years from the date of Go-Live to ensure its efficient and effective operation for the entire duration of the contract.
- d. The Bidder warrants that the goods supplied under this contract are complying the standards and quality specified by the tender documents and consisted with the established and generally accepted standards for materials of this type. The goods shall be in full conformity with the specifications and shall operate properly and safely. All recent design improvements in goods, unless provided otherwise in the Contract, shall also be made available.
- e. The Bidder further warrants that the Goods supplied under this Contract shall be free from all encumbrances and defects/faults arising from design, material, manufacture or workmanship (except insofar as the design or material is required by the Purchaser's Specifications).
- f. TANFINET shall promptly notify the Bidder in writing of any claims arising under this warranty.
- g. Upon receipt of such notice, the Bidder shall, as per the SLA mentioned in Tender, repair or replace the defective Goods or parts thereof, without prejudice to any other rights which TANFINET may have against the Bidder under the Contract.
- h. If the Bidder, having been notified, fails to remedy the defect(s), within a reasonable period in consonance with the SLA and remove the defective parts from site within fifteen (15) days, TANFINET may proceed to take such remedial action as may be necessary, at the Bidders risk & expense and without prejudice to any other rights which TANFINET may have against the Bidder under the Contract.
- i. During the warranty period, the Bidder shall provide all product(s) and documentation updates, patches/fixes, and version upgrades within 30 days of their availability and should carry out installation and make operational the same at no additional cost to TANFINET.

- j. All installed equipment's should have an onsite warranty at all locations against manufacturing defects and bad workmanship solely by the successful bidder irrespective of whether the same have been manufactured by them or not.
- k. All equipments should be supplied to the designated locations free from breakages, malfunctions, manufacturing defects. If any is found defective due to manufacturing defect or design fault or transit damage occurred at the time of supply or within the same should be replaced.
- l. During warranty period, the successful bidder should attend any call from TANFINET immediately, in case of any problems, related to operation or malfunctioning of equipment's supplied, without any delay for regular functioning of the equipment's. The above service should be done at Free of cost.

26. SCHEDULE OF IMPLEMENTATION

- a. The specification of the equipment's to be supplied should be as per Annexure-I.
- b. The supply, installation, integration, testing and commissioning of all the headend systems as per the scope of work shall be completed within 120 days from the date of issue of Work Order.
- c. Any delay beyond the period specified in Clause 26(b) will attract penalty as per clause 30.
- d. If the contract is not completed within the stipulated time or extended time, TANFINET will hold full authority to cancel the tender or take any such action that will be deemed fit to the occasion at the risk and cost of the successful bidder. Such cancellation will entail forfeiture of Security Deposit.
- e. In the event of non- performance of the contractual provisions or failure to effect the supply within the stipulated time or during the extended period and if it is found that the selected bidder, has not fulfilled the contractual obligation with TANFINET in any manner during the currency of the contract or also found on later date, TANFINET reserve the right to forfeit the SD/PBG,

levy LD, Penalty and take any legal action as deemed appropriate under the contract.

27. ACCEPTANCE TEST

The successful bidder shall demonstrate the performance of the equipment's installed by him in complete conformity with the relevant technical specifications and performance parameters to TANFINET.

28. PERFORMANCE BANK GUARANTEE

- a. The supplied equipment's and its accessories are to be given warranty/maintenance support for a period of 3 years.
- b. A performance bank guarantee equivalent to 10% of the contract value with a validity period of 3 years and 6 months from any Indian Nationalized Bank has to be submitted.
- c. Upon the complete fulfilment of this contract by the successful bidder to the satisfaction of the TANFINET i.e. after completion of O&M period of three years, the performance security (bank guarantee) furnished by the bidder will be released, after recovery of dues if any.

29. PAYMENT TERMS

- a. Advance up to 10% of Part-A shall be paid upon specific request of the bidder and submission of Bank Guarantee for 110% of the value of advance from Indian Nationalized / Scheduled Commercial Bank with a validity period of 1 year from the date of sanction of the advance. The Bank Guarantee will be released after recovering the advance amount in full. If there is any delay in completing the milestone specified in Clause 26(b), interest will be charged on the advance paid by TANFINET at the rate of 12% per annum.
- b. 90% of the cost for Supply, Installation, Integration, Testing and Commissioning of Head End Systems (i.e. Part A) will be made after successful completion of Acceptance Testing and acceptance by TANFINET.

- c. The advance will be recovered in the payments to be made for the bills. In other words, payments for the bills will be made only after recovering the advance in full.
- d. The balance 10% of the cost will be made after submission of bank guarantee as per clause 28 towards performance guarantee and submission of proof for payment of taxes to the Govt. as per invoice.
- e. If the Bidder fails to furnish necessary supporting documents i.e. GST invoice etc. and also fails to upload the information on GSTN in respect of the Duties/taxes for which input tax credit is available, the amount pertaining to such Duties/Taxes will be deducted from the payment due to the Bidder.
- f. Tax amount will be paid to the Bidder only after the Bidder declares the details of the invoices in its return in GSTR-1 and GSTR-3 uploaded by the Bidder and the same is reflected in GSTR-2A of TANFINET Corporation on GSTN portal.
- g. TDS/TCS shall be deducted at the prescribed rate, if any (as the case may be).
- h. TANFINET shall adjust/ forfeit Bank Guarantee obtained from the Bidder against any loss of input tax credit to TANFINET on account of Bidder's default.
- i. In case TANFINET has to pay GST on reverse charge basis, the Bidder would not charge GST on its invoices. Further, the Bidder undertakes to comply with the provisions of GST law as may be applicable.
- j. Upon successful commissioning of the headend systems and acceptance by the Managing Director of TANFINET or by the Committee authorized by him or the agency identified by TANFINET, SD will be released.
- k. For operation and maintenance, payment will be made proportionately on quarterly basis after satisfactory completion of maintenance for the respective quarter certified by the agency identified by TANFINET.
- l. Upon successful completion of the O&M period of 3 years, Performance Bank Guarantee will be released.

- m. TANFINET also reserves the right to recover any dues from the bidder, which is found on later date, during audit/excess payment, after final settlement is made to them. The bidder is liable to pay such dues to TANFINET immediately on demand, without raising any dispute/protest.

30. PENALTY

- a. Failure to complete the work within the stipulated timeline (as per clause 26) will attract a penalty ₹2,500 per day up to a maximum of ₹25,000. Delay beyond that period will result in cancellation of the order besides forfeiture of SD. Delays not attributable to the bidder would be exempted in calculation of penalty.
- b. The bidder has to maintain the following network related operation service levels:

Measurement	Definition	Monthly target	Penalty
Availability of Headend Systems	All commissioned equipment in the headed system	≥99.99 %	No Penalty
		≥99.8 % to ≥99.99 %	20.00 % on quarterly payment
		≥99.5 % to ≥99.8 %	35.00 % on quarterly payment
		≥99.5 %	Additional 5% penalty on account of each 0.05% reduction in uptime.

Any occurrence of more than 3 incidents during the contract period i.e. Failure to maintain the service level per month of ≥99.99% will result in termination of the contract besides forfeiture of SD/Performance Bank Guarantee.

- c. The maximum penalty shall be 5% of the contract value. Beyond which the contract is liable to be cancelled besides forfeiture of SD/Performance Bank Guarantee.

31. LIQUIDATED DAMAGES

- a. The Bidder shall perform the Services and comply in all respects with the critical dates and agrees that failure on part of the Bidder to meet the critical dates without prejudice to any other rights that TANFINET have, may lead to levy of penalty as set and/or termination of the Contract at the discretion of TANFINET.
- b. Liquidated Damages shall be capped to a maximum 10% of Part-A for implementation activities and 10% of Part-B for O&M activities. Beyond the maximum penalty, TANFINET has the right to terminate the contract or a portion or part of the work thereof. TANFINET shall give 30 days' notice to the Bidder of its intention to terminate the Contract and shall so terminate the Contract unless the Bidder initiates remedial action acceptable to TANFINET during the 30 days' notice period.
- c. TANFINET may without prejudice to its right to effect recovery by any other method, deduct the amount of penalties from any amount belonging to the Bidder in its hands (which includes Security Deposit / Performance Bank Guarantee and the withheld amounts during payments) or which may become due to the Bidder. Any such recovery or penalties shall not in any way relieve the Bidder from any of its obligations to complete the Works or from any other obligations and liabilities under the Contract.

32. SUSPENSION OF WORK

- a. The Bidder shall, if ordered in writing by TANFINET, temporarily suspend the works or any part thereof for such a period and such a time as ordered, then the Bidder shall not be entitled to claim compensation for any loss or damage sustained by him by reason of temporary suspension of the Works as aforesaid but shall be eligible for the payment (of products/services delivered and accepted) during the suspension period as per contract.
- b. An extension of time for completion, corresponding with the delay caused by any such suspension of the works as aforesaid shall be granted to the Bidder, if request for same is made and that the suspension was not consequent to any default or failure on the part of the Bidder.
- c. In case the suspension of works is not consequent to any default or failure on the part of the Bidder and lasts for a period of more than 2 months, the Bidder shall have the option to request TANFINET to terminate the Contract with mutual consent.

- d. In the event that TANFINET suspends the progress of work for any reason not attributable to the Bidder for a period in excess of 30 days in aggregate, rendering the Bidder to extend his Bank Guarantee, then TANFINET shall bear only the cost of extension of such bank guarantee for such extended period restricted to the normal bank rates as applicable subject to the Bidder producing the requisite evidence from the bank concerned.

33. TERMINATION OF CONTRACT

TANFINET reserves the right to terminate the contract at any time during the validity period on account of non-fulfilment of contract. In such a scenario, the additional cost if any incurred by TANFINET for competing the contract through other bidders will be recovered from the contractor.

34. FRAUD AND CORRUPT PRACTICES

- a. The bidders and their respective officers, employees, agents and advisers shall observe the highest standard of ethics during the Bidding Process. Notwithstanding anything to the contrary contained herein, TANFINET may reject a tender without being liable in any manner whatsoever to the bidder if it determines that the bidder has, directly or indirectly or through an agent, engaged in corrupt practice, fraudulent practice, coercive practice, undesirable practice or restrictive practice in the Bidding Process.
- b. Without prejudice to the rights of TANFINET under Clause hereinabove, if a bidder is found by TANFINET to have directly or indirectly or through an agent, engaged or indulged in any corrupt practice, fraudulent practice, coercive practice, undesirable practice or restrictive practice during the Bidding Process, such bidder shall not be eligible to participate in any bid or tender issued by TANFINET for a period of 2 (two) years from the date such bidder is found by TANFINET to have directly or indirectly or through an agent, engaged or indulged in any corrupt practice, fraudulent practice, coercive practice, undesirable practice or restrictive practice, as the case may be.
- c. For the purposes of this Clause, the following terms shall have the meaning hereinafter respectively assigned to them:

- i. “corrupt practice” means (i) the offering, giving, receiving, or soliciting, directly or indirectly, of anything of value to influence the actions of any person connected with the Bidding Process (for avoidance of doubt, offering of employment to, or employing, or engaging in any manner whatsoever, directly or indirectly, any official of TANFINET who is or has been associated in any manner, directly or indirectly, with the Bidding Process or the LOA or has dealt with matters concerning the contract or arising there from, before or after the execution thereof, at any time prior to the expiry of one year from the date such official resigns or retires from or otherwise ceases to be in the service of TANFINET, shall be deemed to constitute influencing the actions of a person connected with the Bidding Process); or (ii) save and except as permitted under clause 5(c), engaging in any manner whatsoever, whether during the Bidding Process or after the issue of the LOA or after the execution of the Agreement, as the case may be, any person in respect of any matter relating to the Project or the LOA or the Agreement, who at any time has been or is a legal, financial or technical adviser of TANFINET in relation to any matter concerning the Project;
- ii. “fraudulent practice” means a misrepresentation or omission of facts or suppression of facts or disclosure of incomplete facts, in order to influence the Bidding Process;
- iii. “coercive practice” means impairing or harming or threatening to impair or harm, directly or indirectly, any person or property to influence any person’s participation or action in the Bidding Process;
- iv. “undesirable practice” means (i) establishing contact with any person connected with or employed or engaged by TANFINET with the objective of canvassing, lobbying or in any manner influencing or attempting to influence the Bidding Process; or (ii) having a Conflict of Interest; and
- v. “restrictive practice” means forming a cartel or arriving at any understanding or arrangement among bidders with the objective of restricting or manipulating a full and fair competition in the Bidding Process.

35. FORCE MAJEURE

- a. Force Majeure means an event beyond the control of the bidder and not involving the bidder's fault of negligence and not foreseeable. Such event may include but not limited to the acts of Nature such as fire, flood, epidemic, etc., and other events such as wars, revolutions, quarantine restrictions, etc.
- b. If a Force Majeure situation arises, the bidder shall promptly notify TANFINET of such conditions and the causes thereof through e-mail within 5 days of such event. Unless otherwise, directed by TANFINET in writing, the bidder shall continue to perform his obligations under the Contract to a reasonably practical extent and shall seek all reasonable alternative means for effective performance of the Contract in time.
- c. The bidder, to the extent rendered unable to perform its obligations or part thereof under the Agreement as a consequence of the Force Majeure Event shall be excused from performance of the obligations. Provided that, the excuse from performance shall be of no greater scope and of no longer duration than is reasonably warranted by the Force Majeure Event.
- d. The bidder should bear its costs, if any, incurred as a consequence of the Force Majeure Event.
- e. The bidders shall be granted, extension of time specified in the contract for the performance of any obligation by such period not exceeding the period during which the relative performance was affected by the Force Majeure Event and permissible under Applicable Law.

36. GENERAL CONDITIONS

- a. Conditional tender in any form will not be accepted.
- b. TANFINET reserves the right to relax or waive or amend any of the tender conditions.
- c. The right of final acceptance of the tender is entirely vested with TANFINET and reserves the right to accept or reject any or all the bidder in part or in totality or to negotiate with any or all the bidders or to withdraw/ cancel/ modify this tender without assigning any reason whatsoever.

- d. After acceptance of the tender by TANFINET, the bidder will have no right to withdraw his tender.
- e. Pre-dispatch Inspection: The equipment should be strictly in accordance with the technical specification as per tender document. In case the equipment do not meet the specification, orders will be cancelled besides forfeiture of SD.
- f. TANFINET will not have any liability towards the manpower appointed by the bidder for implementation of the project.
- g. Any notice regarding any problems, to the bidder shall deemed to be sufficiently served, if given in writing at his usual or last known place of business.
- h. Conditions implacable in O&M period
 - i. Bidder shall not ordinarily remove any trained person for maintenance during the entire period of contract without valid reasons.
 - ii. Bidder shall respond to the tickets and requests from TANFINET and undertake required activities for rectification.
- i. Indemnity

The Bidder shall fully indemnify and defend TANFINET and its representatives & employees and hold TANFINET, its representatives, employees harmless from:

- i. Damages and losses caused by its negligent or intentional act or omission or any damages and losses caused by the negligent act of any third party or sub-contractor or agency engaged by the Bidder;
- ii. Damages or compensation payable at law in respect of or in consequence of any accident or injury to any workman or other person engaged by Bidder or sub- Contractor.
- iii. Damages and losses resulting from the non-compliance with the established obligations; Third Party claim against TANFINET or its nominated agency that any Deliverables/Services/Equipment provided by

the Bidder infringes a copyright, trade secret, patents or other intellectual property rights of any third party in which case the Bidder shall defend such claim at its expense and shall pay any costs or damages that may be finally awarded against TANFINET or its nominated agency.

- iv. If any Deliverable is or likely to be held to be infringing, the Bidder shall at its expense and option either (i) procure the right for TANFINET to continue using it, or (ii) replace it with a non-infringing equivalent, or (iii) modify it to make it non- infringing.
 - v. Any environmental damages caused by it and/or its representatives or employees or employees of any third party or sub-contractor or agency engaged by the Bidder.
 - vi. Breach (either directly by it or through its representatives and/or employees) of any representation and guarantee declared herein by it.
 - vii. From any and all claims, actions, suits, proceedings, taxes, duties, levies, costs, expenses, damages and liabilities, including attorneys' fees, arising out of, connected with, or resulting from or arising in connections with the services provided due to neglect omission or intentional act.
 - viii. Any liability or penalty (including taxation issues) which may be imposed by the Central, State or Local Authorities.
 - ix. The selected Bidder shall sign a deed of Indemnity in terms of the above.
- j. Labour Welfare & Laws:
- i. The Bidder or their contractor shall ensure strict compliance of the provisions of various Acts/ Rules like Workmen's Compensation Act, Contract Labour (Regulation & Abolition) Act, Contract Labour (Regulation & Abolition) Rules, Payment of Wages Act, Minimum Wages Act, Employees Liability Act, Industrial Dispute Act, Maternity Benefits Act, and any other Act or Rules as applicable.
 - ii. The Bidder or their contractor shall ensure strict compliance of the provisions of EPF and ESI Acts. A comprehensive Group Insurance shall be ensured for workers/ labourers not covered under EPF & ESI.

- iii. The Bidder or their Contractors shall indemnify and keep indemnified TANFINET against payments/ claims to be made under and for the observance of all the laws aforesaid.
- iv. The aforesaid laws and acts shall be deemed to be a part of this Tender document and any breach thereof shall be deemed a breach of contract on the part of the Bidder or their Contractors.
- v. Any failure to fulfil the above requirements shall also attract the penal provisions of this Contract.

37. EXIT MANAGEMENT PLAN

- a. The Bidder shall provide TANFINET with a recommended “Exit Management Plan” within 90 days from the date of issue of LoA which shall deal with the aspects of exit management in relation to the Agreement as a whole and in relation to the project Implementation, and the O&M.
- b. The Bidder shall redraft the Exit Management Plan annually thereafter to ensure that it is kept relevant and up to date and shall be provided to TANFINET.
- c. Each Exit Management Plan shall be presented by the Bidder to and approved by TANFINET.
- d. In case the contract period is extended, the Bidder shall extend the contract under the same terms & conditions of the original contract.
- e. If TANFINET decides to not extend the contract, a committee consisting of representatives from TANFINET and key resource persons of Bidder as required shall be formed.
- f. The committee should be formed at least 6 months before the end of contract period.
- g. The committee will define the structure, methodology and resources to carry out the operations and maintenance after exit of Bidder as applicable.
- h. Under the supervision of the committee, a team of personnel from the Bidder shall undertake the knowledge transfer. Bidder shall educate and train the

new agency/personnel on all operations and maintenance including aspects such as security, confidentiality, record keeping, etc.

- i. The knowledge transfer, training and handing over should happen to the satisfaction of the new agency and TANFINET.
- j. The new agency may make an offer of employment or contract for services to such employee of the Bidder and the Bidder shall not enforce or impose any contractual provision that would prevent any such employee from being hired by new agency.
- k. In the case of termination of the Project during the Implementation phase or during O&M phase the exit management provision shall apply for 6 months from the date agreed between TANFINET and Bidder.
- l. The exit management process shall comprise the following activities (illustrative not exhaustive) and the same shall be covered in the exit management plan to be shared by Bidder.
 - i. Providing all documents maintained by the Bidder including records and data related to customers and operations and the Bidder shall not retain any copies thereof
 - ii. To handover all assets owned by TANFINET in good shape
 - iii. Providing list of problems and risks pertaining to the location and services
 - iv. Provide access to the staff/personnel of the new agency including sharing of user IDs and passwords
 - v. Identify all third-party contracts and licenses owned or operated by Bidder into those that are transferable (with associated costs) and transfer them on terms not less favourable to TANFINET/new Agency than that enjoyed by the Bidder
 - vi. For those third-party contracts and licenses that are not transferable, Bidder must provide an alternative
 - vii. Provide any relevant documentation pertaining to transferable contracts/licenses as required by the new agency

m. General

- i. The Bidder shall provide all such information as may reasonably be necessary to effect as seamless a handover as practicable in the circumstances to TANFINET or new agency and which the Bidder has in its possession or control at any time during the exit management period.
- ii. The Bidder shall commit adequate resources to comply with its obligations under this Exit Management Schedule.
- iii. During the exit management period, the Bidder shall use its best efforts to deliver the services.

38. ARBITRATION

- a. In case of any dispute in the bid, including interpretation if any on the clauses of the bid or the agreement to be executed, the matter shall be referred by TANFINET/ bidder to an arbitrator who shall be selected by the bidder from the panel of arbitrators approved by TANFINET the same within 15 days, from the date of receipt of the letter from the TANFINET along with the panel. If there is no reply from the bidder within 15 days, TANFINET shall choose any of the arbitrators from the panel of arbitrators referred to above. The remuneration for the arbitrator and other expenses shall be shared equally by TANFINET and the bidder.
- b. The venue of the Arbitration shall be at the Head office of TANFINET, Chennai. The decision of the Arbitrator shall be final and binding on both the parties to the Arbitration.
- c. The Arbitrator may with the mutual consent of the parties, extend the time for making the award. The award to be passed by the Arbitrator is enforceable in the Court at Chennai city only.

39. JURISDICTION OF THE COURT

Any dispute arising out of non-fulfilment of any of the terms and conditions of this Agreement or any other dispute arising out of the arbitration award will be subject to the jurisdiction of the Courts in the City of Chennai only.

We agree to the above terms and conditions.

SIGNATURE OF THE BIDDER:

DATE:

NAME IN BLOCK LETTERS:

DESIGNATION:

ADDRESS:

SOLUTION ARCHITECTURE AND DETAILED SPECIFICATIONS

1. Introduction

1.1. Background

Tamil Nadu FibreNet Corporation (TANFINET), is a Special Purpose Vehicle formed by Govt. of Tamil Nadu (GoTN), as the nodal agency for implementation of the BharatNet Phase II project in the State. BharatNet is a project initiated by the Government of India and funded by Universal Service Obligation Fund (USOF), with an aim to provide broadband connectivity to Gram Panchayats. BharatNet project will form the basic platform for the provision of several services like e-governance, e-health, e-commerce, e-banking, video on demand, etc. The BharatNet project envisages to provide high-speed broadband connectivity to 12,525 GP through Optical Fiber Cable from Blocks. As part of BharatNet project, the OFCs are laid from Block to GP through aerial and in underground mode. (In aerial, ADSS 48F and 24F cable are being laid over existing electricity poles whilst in underground, 96F cable are being laid). Through BharatNet, each district would have one or more number of Block rings with capacities of 100Gbps and each Block would have one or multiple GP rings of 10Gbps capacity. Each GP will have dedicated six dark fibers and 1 Gbps of bandwidth.

The project is divided into 4 packages (Package A, B, C and D), executed by four different contractors. The District wise distribution of the project is mentioned in the table below

Package A	Package B	Package C	Package D
Kancheepuram	Cuddalore	Nagapattinam	Kanniyakumari
Tiruvallur	Ariyalur	Thanjavur	Madurai
Vellore	Perambalur	Tiruvarur	Ramanathapuram
Krishnagiri	Dharamapuri	Pudukottai	Theni
Chengalpattu	Kallakurichi	Namakkal	Thoothukkudi
Chennai (NOC)	Salem	Karur	Tirunelveli
Ranipet	Erode	Coimbatore	Virudhunagar
Tirupattur	The Nilgiris	Tiruppur	Tenkasi
Tiruvannamalai	Villupuram	Tiruchirappalli	Dindigul
		Mayiladuthurai	Sivagangai

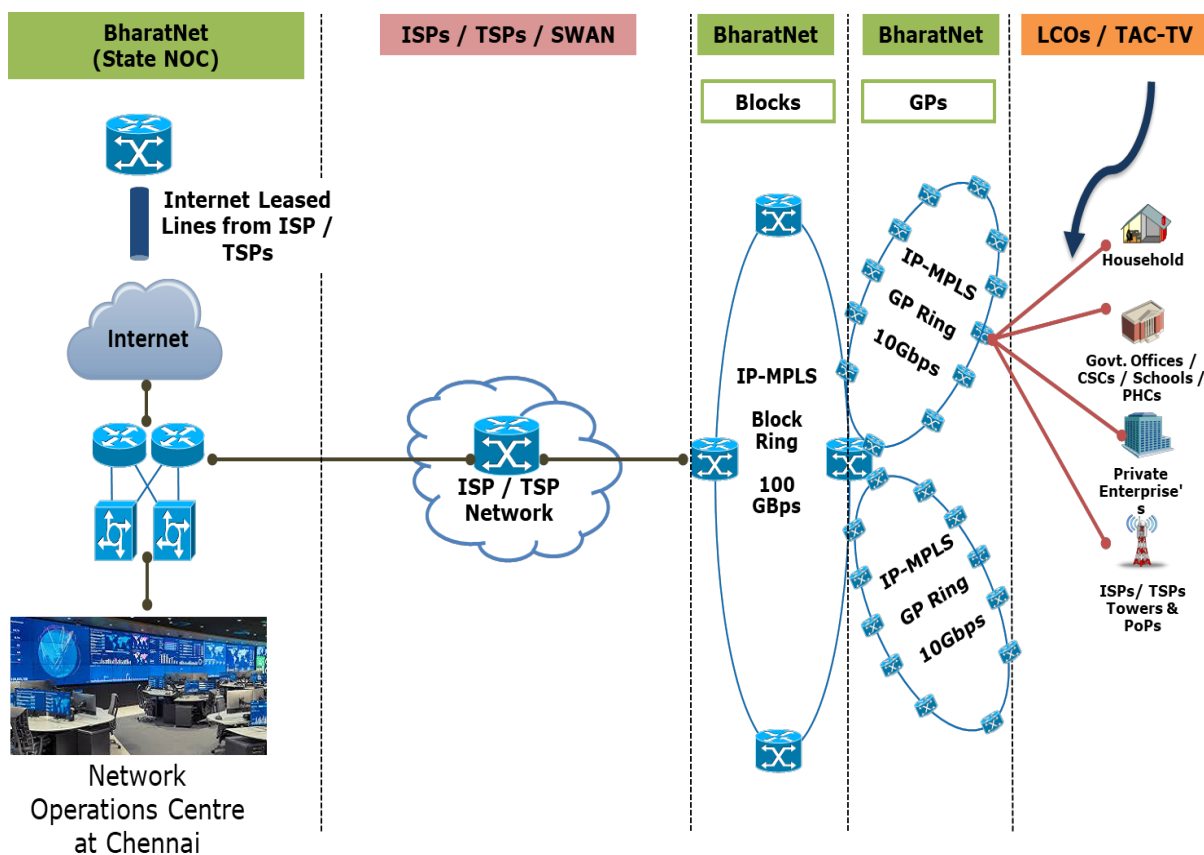
Package wise distribution of blocks, GP, Fiber is mentioned below in the table:

Package	No. of Blocks	No. of GPs	Aerial OFC (in km) (48F/24F ADSS)	UG OFC (in km) (96F)
A	75	3095	12,221	1696
B	94	3001	12,142	1558
C	110	3326	14,112	1438
D	109	3103	12,703	1924
Total	388	12525	51,178	6616

BharatNet is an IP-MPLS based network with 10Gbps Gram Panchayat ring and 100 Gbps Block level rings. Aggregation blocks are currently connected to State NoC through ISP links. The GP rings would have a maximum of 14 GPs in a Physical Ring (Including GP connected in Spur or Linear). A logical GP ring (10 Gbps) would contain a maximum of 7 GPs. Six cores of dedicated dark fibers are dropped at each GP from the Block. The Block Ring connectivity is planned as Dual - Homed architecture i.e. GPs that are situated on the same route would be connected between Blocks.

Block rings would have maximum six Blocks in a ring. Two adjacent blocks will be connected using either 96F Underground OFC or 48F Aerial optical fiber cable. The Block ring capacity would be 100Gbps. Aggregation blocks are nodes in which more than one block ring intersects. Aggregation blocks are currently connected to ISP network to take traffic up to NoC.

The Block and GP layer are majorly in ring configuration and it uses IP-MPLS technology. Currently, it is envisaged that the traffic aggregated from Blocks would reach NOC at ELCOT, Perungudi through ISP links. The current network architecture is at Figure below:

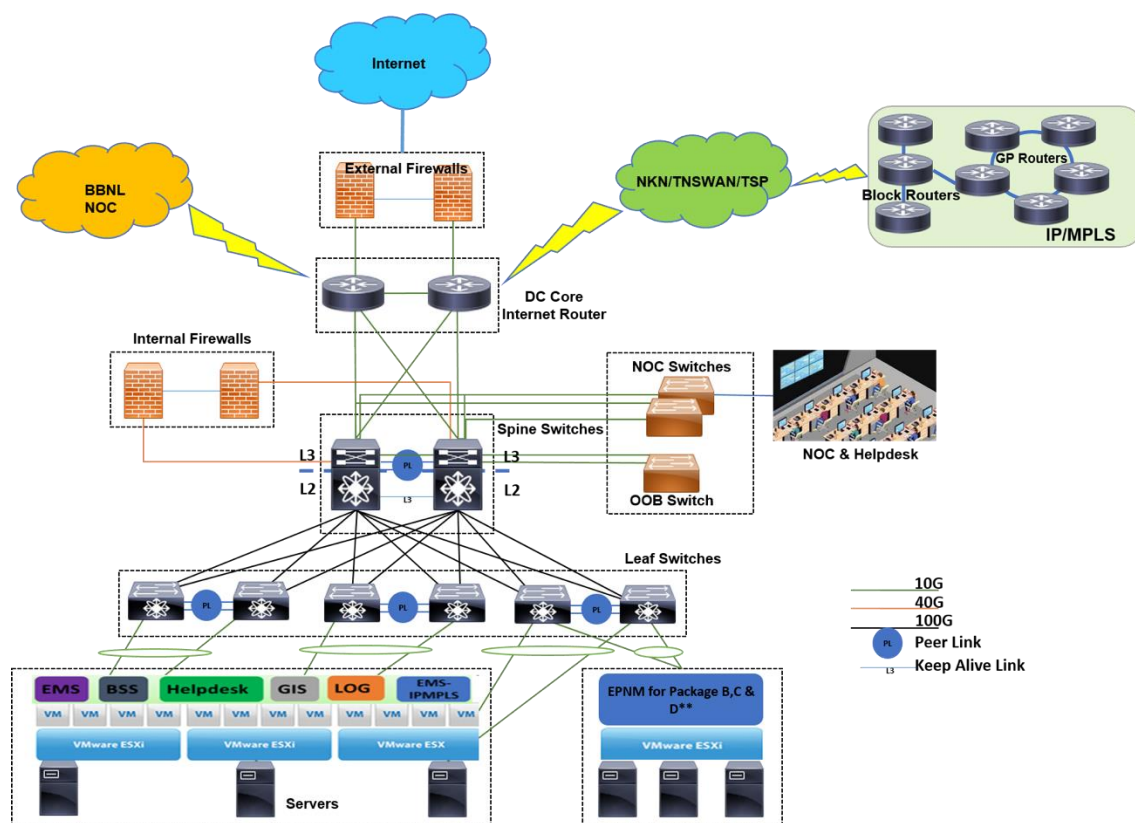


1.2. Current Architecture at NOC

Additionally, detailed information about the equipment housed in the Network Operations Center (NOC) is placed at Figure below. This includes a comprehensive list of the network equipment present at the NOC, such as routers, switches, firewalls, and other relevant devices.

By sharing these equipment details, a clear understanding of the hardware components supporting the network infrastructure and their respective roles within the system is provided.

Any other additional equipment required to deliver the allocated scope of work will have to be provided by the vendor.



The availability of the current fiber network diagram and equipment details allows stakeholders to gain insight into the existing infrastructure and aids in the evaluation of potential integration or expansion efforts.

1.3. Current Architecture at Field Level

TANFINET has a State Level MPLS ring architecture formed by using Cisco 560 Network Convergence Devices at Blocks and a Gram Panchayats Level MPLS ring architecture using Cisco 540 Network Convergence Devices.

The infrastructure created under the BharatNet project can be utilized for provisioning IP-MPLS/ broadband/internet services through Wi-Fi Hotspots, Fiber to the Home (FTTH) connections, leased lines, dark fiber, back haul to mobile towers, other emerging services, including triple play services.

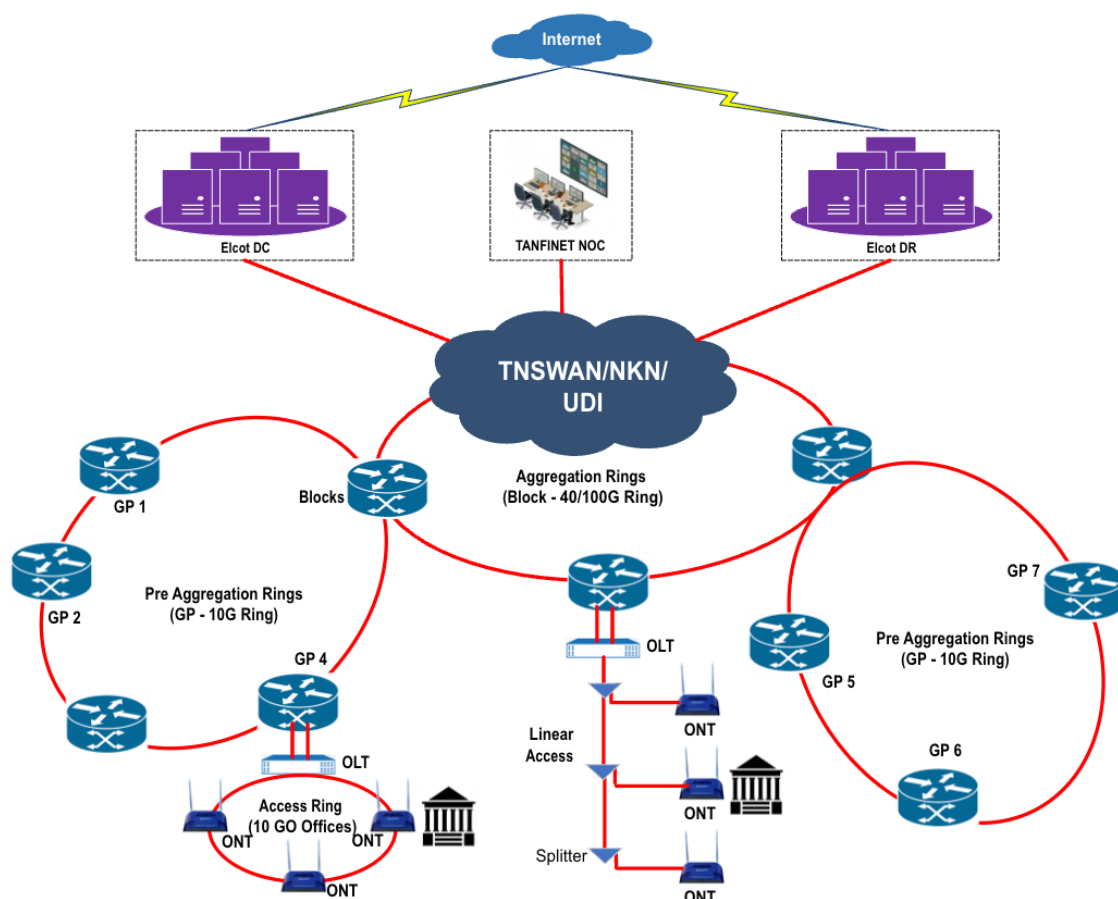
Access to broadband primarily has three major components, i.e. availability (presence of a reliable network), affordability (capacity to pay a reasonable price for the expected benefits) and adoption (willingness to use or presence of compelling use cases).

Government has already invested in making available the network in rural and remote areas through BharatNet. Now, the same is utilized to provide affordable connectivity services to end users.

To support the initiatives of BharatNet utilization, the Government is extending Last Mile Connectivity to Houses (Broadband Solutions), Private Enterprises and Government Institutions, such as School, Health Centre, Anganwadi, Police Station, Krishi Vikash Kendra, Post Office, Ration Shop etc

Now, Last mile connectivity through OFC and GPON solutions is being extended to Houses, Private Enterprise, and various government establishments including Offices connected through TNSWAN from Blocks or GP where the fiber has been laid as part of BharatNet.

The architecture is being implemented at field locations as below.



Some of the key considerations used include:

- OFC network from GP / blocks / district headquarters to end user Govt. offices;
- OFC network from GP / blocks / district headquarters to connect government offices which are already connected through TNSWAN;
- OFC network from GP / blocks / district headquarters to end user Houses.
- OFC network from GP / blocks / district headquarters to Private Enterprises.
- 1Gbps capacity of Bandwidth available till GPs and speeds up to 1Gbps to be shared with end users;
- Roll out e-Services in the state to increase uptake of internet connectivity and digitization.

2. Project Requirement

As part of this project deployment, Government is anticipating to provide internet services to 10 Lakhs end users including Houses, Govt Offices, Private Enterprises in next three years as per table below.

Sl.No	Year	No of Subscribers/ Connections	Average Bandwidth per Connection in Mbps
1	First Year	2,50,000	30
2	Second Year	6,25,000	30
3	Third Year	10,00,000	30

In order to provide Internet services, Critical Headend systems like BNG, CGNAT, BSS, AAA, IPDR, DNS , DHCP, etc solutions are required to be implemented as part of this project

Also Government is proposing to implement Internet Gateway Breakout services at Chennai and Coimbatore for the following reasons

- Scalability to increase subscriber base
- Effective Distribution
- Optimal NLD Bandwidth cost
- High Performance
- Use of National International Exchange services for interconnect exchange at regional locations.
- Peering options

In each location, Tentative distributions of End users as per the table below

Sl. No	Year	No of Subscribers/ Connections	Tentative No of Block	Tentative No of Block Aggregation Connectivity	Tentative No of GPs
1	First Year	1,25,000	180 to 200	20 to 30	5000 to 7500
2	Second Year	3,25,000	180 to 200	20 to 30	5000 to 7500
3	Third Year	5,00,000	180 to 200	20 to 30	5000 to 7500

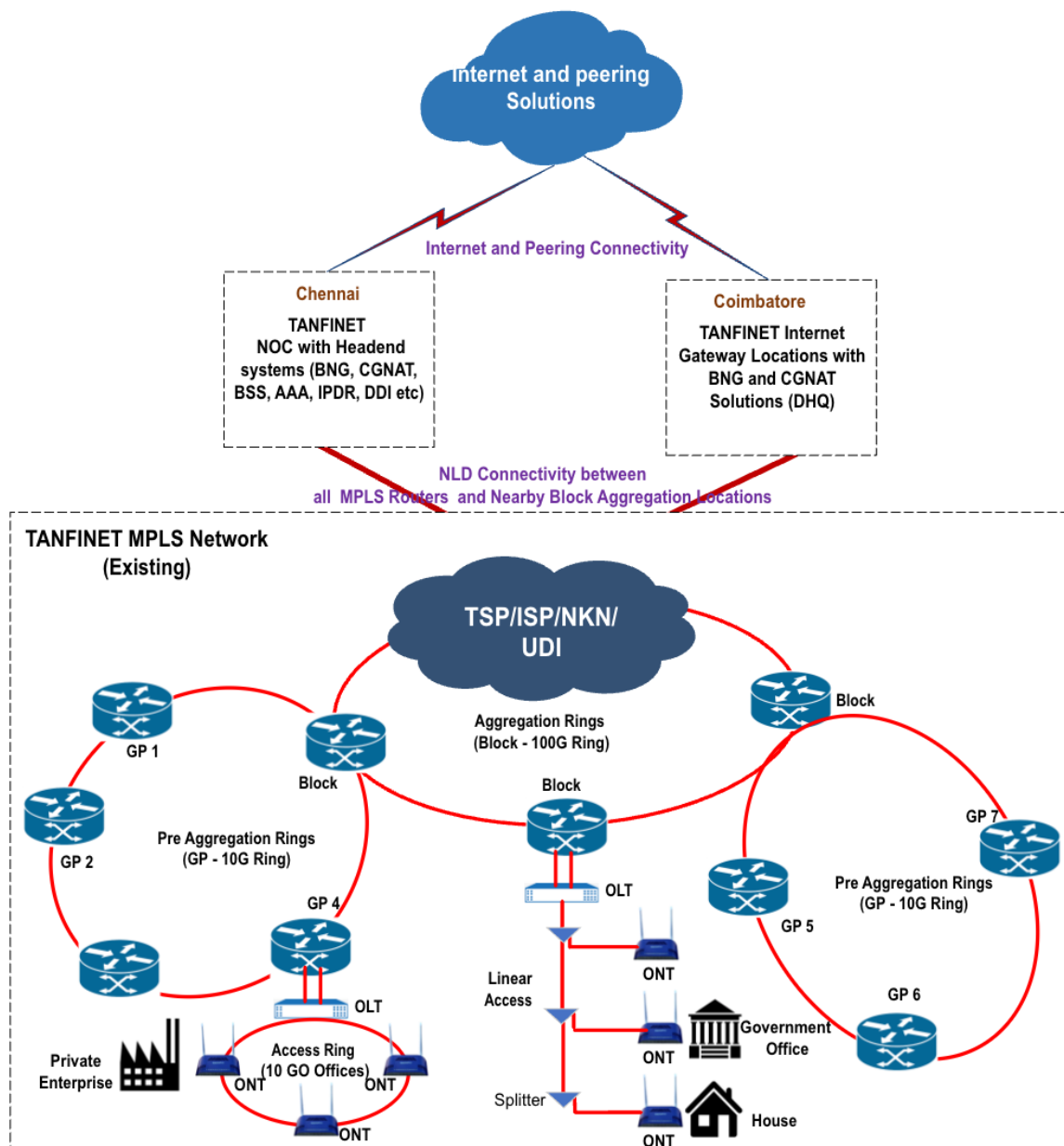
These Internet Gateway services will be deployed at Chennai S-NOC at TNSDC and Coimbatore District Head Quarter level and in order to roll out these services critical solutions like BNG, CGNAT, MPLS, and Internet Router should be deployed.

3. Proposed Solution

3.1 Proposed Overall Architecture

As mentioned in the project requirement, Government is proposing to implement Internet Gateway services at two locations (Chennai, Coimbatore). TANFINET will extend NLD Connectivity through TSP/ISP from existing Block Aggregation Router to nearest regional location on demand. Also shall provide the Upstream Internet Bandwidth by procuring multiple internet links with International Gateway providers and by peering with National Internet Exchanges and Private Internet Exchanges as per demand. All critical headend systems will be hosted in existing TANFINET S-NOC

locations for Customer creation, services, authentications, compliance purpose etc. The proposed solution should support Triple Play Services, also support various business models like G2B, G2G, B2B, G2C etc.

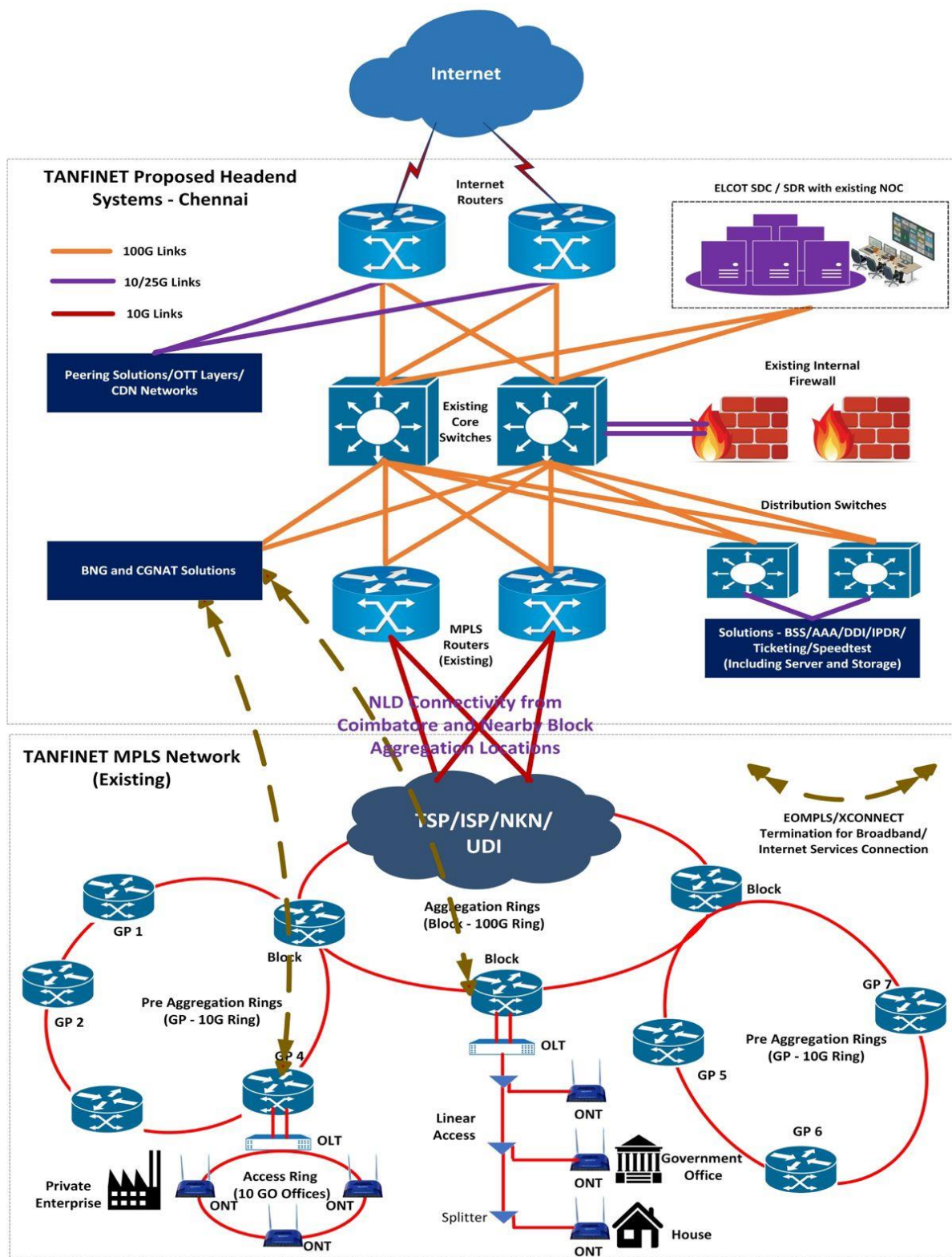


3.2 Proposed Architecture at Chennai NOC

For the internet service rollout, the vendor should consider the overall architecture and ensure all necessary items are included for the commissioning of the project. The vendor should Supply, Install, Commission and maintain the hardware, software, and applications for delivering internet services. All Hardware should independently have 99.99% uptime and all proposed solutions should have both IPv4 and IPv6 functionalities for any type of rollout and all super admin password for all system should be with TANFINET.

The following tentative solutions should be implemented by bidder at TANFINET NOC located in Chennai including hardware and software in High Availability N+N mode:

- BNG Solutions including CGNAT, IPDR, DNS & DHCP Solutions
- Business Support Service (BSS) Solutions
- AAA Solutions
- URL Filtering solutions
- SMS Gateway, NMS, MRTG, Ticketing solutions
- Payment Gateway Portal Solutions
- Speed Test Solutions
- HA Switches
- Internet Router (External BGP Solutions)
- MPLS Router (Existing Routers can be utilized with IBGP)
- Internal Firewall (Existing Firewalls can be utilized)
- Misc Components (If any solutions or components missed out, need to be implemented to rollout Internet services along with compliance)



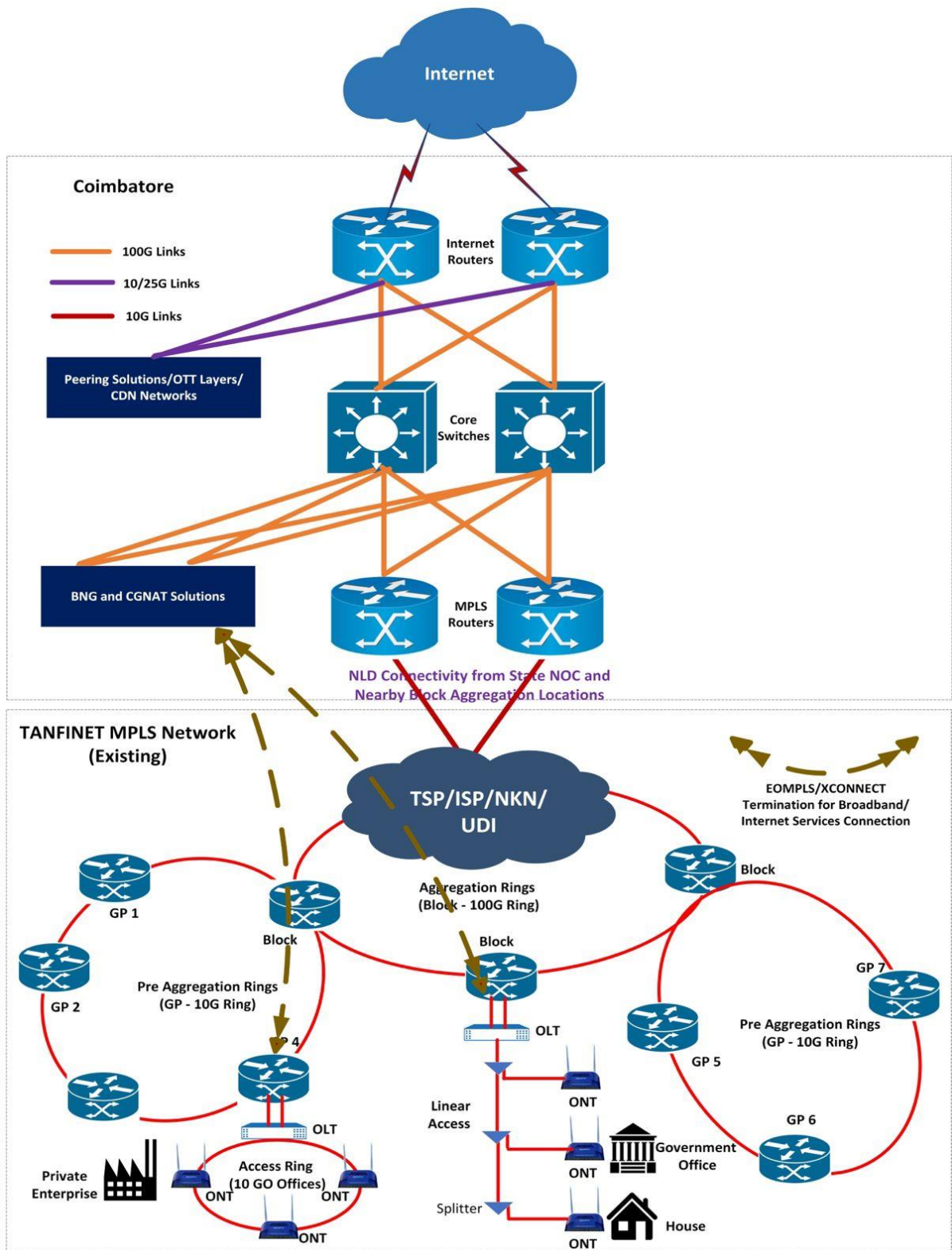
Note: BNG should include CGNAT, IPDR, DNS & DHCP Solution

3.3 Proposed Architecture at Coimbatore

For the internet service rollout, the vendor should carefully consider the overall architecture and ensure all necessary items are included for the commissioning of the project. The vendor should Supply, Install, Commission and maintain the hardware, software, and applications for delivering the services. All Hardware should independently have 99.9% uptime. All super admin password for all system should be with TANFINET.

The following tentative solutions should be implemented by bidder at Coimbatore including hardware and software in High Availability N+N mode:

- BNG Solutions including CGNAT
- Internet Router
- Speed Test Solutions
- HA Switches
- Smart Rack
- Integration with NOC Core Applications, if required
- Misc Components (If any solutions or components missed out, need to be implemented to rollout Internet services along with compliance)



Note: BNG should include CGNAT, IPDR, DNS & DHCP Solution

4. Scope of Work

4.1 Survey and Assessment

- Conduct a comprehensive survey of the existing TANFINET NOC and study the Field infrastructure components and rollout.
- Assess the suitability and availability of TANFINET infrastructure, at the Network Operating Center, for internet service rollout.
- Assess short listed potential areas for services rollout.
- Conduct Customer Requirement workshop, prepare document and get approval from TANFINET

4.2 Network Design and Planning

- Develop a detailed network design plan, utilizing the TANFINET fiber network as the backbone for internet connectivity or any other specific bandwidth requirements;
- In addition, provide the detailed network topology and diagram showcasing the connectivity between the core equipment, and end-user devices; Specifications of the network equipment, including models, capacities, and configurations; and Design considerations for scalability, redundancy, and security.
- Develop a detailed working model for providing internet services
- Prepare High Level Design document and Low level detailed design document along with Pre-requisite document encompassing the traffic from 12525 GPs and 388 Blocks

4.3 Infrastructure Deployment

- Supply, Install, Implement, Test Critical Solutions (BSS, BNG, CGNAT, AAA, IPDR, DDI, Speed Test, URL Filtering, NMS, MRTG Solutions etc) at NOC
- Integrate, if required with existing MPLS routers and Internal Firewall at NOC locations or provide an alternative
- Supply and implement Smart Rack Environment at Coimbatore District Headquarters
- Supply, Install, Implement, Test Critical Solutions (BNG, CGNAT, Speed Test Solutions etc) at Coimbatore
- Integrate with the existing enterprise management solutions and helpdesk solutions etc

- All hardware solutions should be implemented with IPv4, IPv6, Dual Stack from Day 1.
- Integrate Coimbatore location with Central NOC for Authentications, Compliance and other Services etc

4.4 Core Application Implementation

- Design and Implement Customer Portal including onboarding users, service creations, rollout etc
- Implement User Registration and authentications process along with SMS integration
- Implement Centralized Billing solutions including data collection, processing, invoicing procedures with payment gateway integration to accurately track and bill internet usage for subscribers.
- Integrate with the existing enterprise management solutions and helpdesk solutions etc
- Integrate the systems as required by USOF, BBNL, DoT and other Govt requirements etc
- All software solutions should be implemented with IPv4, IPv6, Dual Stack from Day 1
- Enable real-time monitoring of subscriber data consumption, generate timely billing reports, provide IPDR sessions reports, NAT logs and any other reports desired.
- Storage solutions for minimum Two years for ensuring Compliance

4.5 Quality Assurance and Testing

- Conduct thorough testing of the network infrastructure to ensure its reliability and scalability.
- Perform field tests to verify connectivity across different areas within the districts.
- Identify and escalate any issues or bottlenecks that may affect the quality of internet service provision.
- In addition, provide detailed test plan outlining the testing procedures for network connectivity; Performance metrics and benchmarks for assessing network reliability, speed, and latency; and User acceptance testing procedures and criteria.

- Bidder should create Acceptance test procedure based on functional requirements, RFP requirements and submit to TANFINET for approval. Upon approval, same need to be demonstrated.

4.6 Training

- Provide 3rd level technical support services to address user queries, troubleshoot connectivity issues etc.
- Conduct training sessions to familiarize TANFINET teams with the internet service, roaming features, Subscriber device configuration and billing processes.

4.7 Maintenance and Upgrades

- Develop a comprehensive maintenance plan to proactively monitor and manage the network infrastructure.
- Regularly update and upgrade the network components of the vendor network to ensure compliance with evolving technological standards and security requirements.
- Perform routine maintenance activities such as equipment inspections, firmware upgrades, and system backups to ensure uninterrupted service.
- In addition, provide preventive maintenance schedule for network equipment, including firmware updates and equipment inspections; Protocol for handling network outages, equipment failures, and service disruptions; and equipment replacement and upgrade plan to accommodate future growth and technological advancements.
- Create Custom Dashboard and Reports and provide automated reports on system metrics, performance, SLA reports etc

4.8 Compliance and Regulatory Requirements

- Necessary subscriber data/ network data required for Compliance and Regulatory Requirements to be provided by the vendor.
- Integrate the systems as required by USOF, BBNL, DoT and other Govt requirements.
- Create automated regulatory report and send it to be authorized entity.

4.9 Documentation and Reporting

- Maintain detailed documentation of the network infrastructure, configurations, and system specifications.
- Prepare regular progress reports, including project milestones, implementation status, and key performance indicators.
- Provide comprehensive documentation and handover materials to facilitate future operations and maintenance.
- In addition, provide documentation standards for network diagrams, configurations, and operating Procedures; reporting requirements, including progress reports, milestone updates, and key performance indicators; and system documentation.

4.10 Project Management

- Assign a dedicated project manager responsible for overseeing and coordinating all project activities.
- Develop a project schedule with clear milestones, timelines, and deliverables. Conduct regular project meetings and maintain open communication channels with all stakeholders.

5. Indicative Bill of Materials

5.1 Indicative Bill of Material at Central S-NOC

The following is an indicative bill of materials required to implement at S-NOC level from Day 1

Sl.No	Solution Components	Qty	UOM
Central Location - Core Components			
1	BSS, AAA, IPDR Solution with Software and Hardware in High Availability for 2.5 Lakhs Customer	1	Lot
2	NMS, SMS, MRTG, Ticketing, Speed Test, NATLOG, STORAGE Solution with Software and Hardware in High Availability N+N mode for 2.5 Lakhs Customer	1	Lot
3	BNG, CGNAT & DDI Solution including Software and Hardware in High Availability N+N mode for 1,25,000 Subscribers and 100 Gbps Traffic	1	No
4	Internet Routers along with HA	1	Lot
5	Storage Solutions for 2.5 Lakhs Customers	1	Lot
6	VPN Hardware for 20 Concurrent Users including HA (For Remote Login)	1	Lot
7	Implementation and Integration Charges	1	Lot
8	Any Misc Solutions and Components in order to deliver the complete functionality	1	Lot

5.2 Indicative Bill of Material at Coimbatore

The following is an indicative bill of materials required to implement at Coimbatore Location level from Day 1

Sl.No	Solution Components	Qty	UOM
Regional Locations			
1	BNG, CGNAT & DDI Solution including Software and Hardware in High Availability N+N mode for 1,25,000 Subscribers and 100 Gbps Traffic	1	Lot
2	Speed Test solutions along with hardware & software	1	Lot

3	Internet Router in High Availability N+N mode - Required for connecting peer links and multiple ISP	1	Nos
4	HA Switches	1	Lot
5	Smartrack Cooling Environment	1	Lot
6	Implementation and Integration Charges	1	Lot
7	Any Misc Solutions and Components in order to deliver the complete functionality	1	Lot

5.3 Indicative Bill of Material during Three Years (Upgrade based on demand)

The following is an indicative bill of materials will be required to implement and upgrade the existing solutions during Contract Period for which PO will be raised based on Subscriber demand.

Sl.No	Solution Components	Qty	UOM
1	Incremental cost of software and hardware to cater to additional 2.5 lakhs consumers at NOC	1	Lot
2	Incremental cost of software and hardware to cater to additional 1.25,000 subscribers	1	Lot

5.4 Operations and Maintenance Charges

The following is an indicative resource requirement to fulfil O&M services.

Sl.No	Solution Components	Qty	UOM
1	O&M Resources - Consumer helpdesk and Support Team (3xL1, 1xL2 for 24 x7 Support, 1 x L3 general Shift) at Chennai	12	Qtrs
2	O&M Resources – (3 x L1 for 24x7 Support, 1 x L2 General shift) at Coimbatore	4	Qtrs

6. Technical Specifications

6.1 BSS, AAA, IPDR Solutions

S.No	Specification
General Requirements	
1	The Solution shall be offered on dedicated hardware for 2.5 Lakhs customers from Day 1 and should be scalable to 10L Customers by adding hardware and Licenses. Compliance log should be maintained for a minimum two years.
2	The system should be deployed in High availability mode within Datacentre. The system shall be offered in DC-DR mode.
3	The system should support DC-DR mode during DR Site implementation. The DC-DR site shall work in Active-Active mode.
4	The hardware and software supplied shall carry a warranty and support for a minimum period of three years from date of commissioning. No additional licensing for OS, DB or other components apart from application license. The license granted for each of the supplied components shall be perpetual in nature and shall not have any host, processor, network, storage restrictions.
5	Installed hardware and Software should support 100% of the capacities requirements of AAA,NATLOG, and IPDR .
6	The expected integrated architecture needs to manage multi- tenancy: Multi-Vendors, Multi-Domains, Multi-Technologies.
7	The offered system should be open for integration with the existing software applications.
8	Interfaces: Standard interfaces like REST API, HTTP, SNMP for integrating with IT, Network & third-party solutions should be supported.
9	Solution should comply with the parameters for internet protocol detail record(IPDR) ,SYSLOG and IPFIX based NATLOG as per DOT guidelines No. 820-01/98- LR/Vol.(IX) Pt..I dated 01.10.2013
AAA	
1	The AAA should support centralized subscriber authentication and authorization
2	AAA server should be capable to integrate with BNG over RADIUS or Diameter over dual-stack network

3	AAA should support interoperability with multiple vendor gateways/access network components
4	AAA server should support atleast PPP, PPPoE, 802.1x and IPoE based authentication restricting unauthorized access to the system.
5	AAA may support GUI based configuration
6	AAA should be able to integrate with any external NMS easily over SNMP.
7	AAA should be compliant with latest relevant RFC's & EAP
8	The System should support the ability to add new RADIUS AVP / VSA in the directory.
9	The System should support the ability to work in a mode of RADIUS proxy.
10	Multi-vendor VSA support
11	AAA shall be possible to distinguish between access mechanisms on the basis of NAS Port type.
12	AAA shall control/limit the number of ports and concurrent access for each service or for specific customer or group of customers, business etc.
13	AAA shall allow configuration of remote access servers and their groups within the network, assignment of groups to partners for wholesale of access ports and monitoring each group.
14	AAA shall interoperate with any RFC compliant RADIUS for distribution of authentication and accounting information.
15	AAA shall be possible to deploy multiple AAA applications for failover in a distributed environment. It shall be possible to load balance multiple AAA applications.
16	AAA Shall be capable of authenticating through username/password, MAC Address or attributes sent via BNG as a part of Authentication Parameter and reply with Provision parameters as a part of subscriber profile.
17	AAA Shall be possible for proxy AAA to maintain local copy of the accounting information as well as transferring it to remote AAA.
18	AAA Shall also provide proxy packet filtering. It shall use filtering to set up rules for handling packets that are forwarded to or received from target applications. This is needed in case if some packets which are coming from the AAA server sending RADIUS Proxy are not required.
19	In addition to support for proxy RADIUS, it shall offer:
19.1	Attribute translation capabilities
19.2	Flexible username format capabilities
19.3	Full SNMP v1/2 reporting of events related to fault and alarms on the proposed NMS/EMS system related to core
20	AAA shall allow configuration of user profiles to easily assign a set of connection attributes to a user or group of users. It shall also make it easy to standardize profiles across different types of network access equipment for delivering the appropriate level of service to all customers, regardless of which network access equipment they connect to.

21	AAA Shall have provision to check and fix duplicate accounting records created due to retry mechanisms and multiple AAA applications in the network.
22	AAA Provision shall be available for restricting access based on a combination of duration, volume during the day; duration, volume during the week; duration, volume during the month; duration, volume during the year etc.
23	AAA Shall have automated mechanism to fix stale-sessions.
24	AAA shall support IP address leasing both in dynamic way and in static way
25	AAA Should have accounting message forwarding capability
26	AAA should have role-based access to restrict access to different operations, screens to different set of users
27	AAA should support audit trail functionality to trace all update operations performed by staff, customers from login to logout.
28	Should have inbuilt Radius simulator for radius test to be performed by customer care executives
29	AAA shall support staff password protection and lockout configuration.
30	AAA shall support unique user session enforcement and session concurrency management.
31	AAA Shall handles multiple simultaneous sessions.
32	AAA Shall track usage in real-time to enforce session disconnect policies.
33	Solution should have functionality to enforce change of policy using Radius messaging like CoA and/or DM (RFC 5176).
34	AAA Shall support PAP, CHAP, MSCHAPv1, MSCHAPv2, MAC,EAP-TLS, EAP-TTLS-MSCHAPv2, EAP- TTLS-CHAP, EAP-TTLS-PAP, EAP-AKA, EAP-AKA', EAP- SIM, EAP-FAST, EAP-PEAP/MSCHAPv2, EAP-PEAP/TLS, EAP State Machine according to RFC 4137 Authentication mechanisms.
BSS	
1	The system must have integration with multiple vendors for SMS, Email, WhatsApp notifications to subscribers.
2	The system must be capable of integrating with multiple payment gateways
3	REST API should be provided for all functionality on the dashboard
4	Webhooks are to be provided for listening for events like user creation, invoice generation, etc
5	The system should support pay-as-you-go, prepaid and postpaid revenue models. System should also support card generation, card tracking, card printing and management
6	The system should support a full fledged revenue sharing and accounting system with multi-tier hierarchy
7	The system must have billing with e-invoicing capability

8	The system must support integration with Aadhar EKYC validation APIs for generating eCAF and subscriber registration process
9	The solution must provide iOS and Android apps for admin , Partner and customer apps
10	The system must provide a self service portal for users to pay bills and manage their accounts
11	The system must support TR069 based provisioning of end customer CPE devices
12	The system should send automated notifications and payment follow up messages
13	The solution must integration with third party solutions like OTT providers and Voice PBX systems to activate/deactive services
14	The system must be capable of billing for multiple services such as voice, video and data on a consolidated bill
15	The system must provide a full fleded ticketing system for subscribers to raise tickets
16	In-built inventory management system must be available to track complete lifecycle of equipment
17	The solution must provide customizable invoice, payment receipts and credit note templates
18	The solution must be capable of accepting and tracking payments from multiple modes including cash, cheque, eNACH, BBPS, payment gateways
19	The system must be capable of sending annoucments to selected users with information as required
20	The system must be able to capture lead from multiple sources
21	The system must be able to track deployment and provisioning of subscribers
22	The solution must be capable of providing custom pricing, discounting, one time charges and overriding of billing orpackage parameters or on per subscriber level.
23	Generate GST Bill for G2G, G2B, G2C, B2B, B2C and provide XML output on daily basis for third party Accounting Integration
24	Send Bulk Emails / SMS to Subscribers / Partner
25	Should provide configuration of Partner Roles, Revenue shares as a Percentage of Revenue or as a Fixed Sum per subscriber or Fixed Sum per Month;
26	Should provide partner revenue share reports with required AGR, GST and TDS provisions;

27	Should have 360-degree view of subscriber data such as Last few sessions, last payments, last traffic usage, last tickets raised, devices used, services subscribed, services status, profile data and so on
28	Should provide SMS alerts to subscribers as per DOT regulations
29	Should support Triple Play services and other services
30	Should support with Aadhar Server
31	Should support both Prepaid and Postpaid payment options
Self Service Portal for Customers	
1	Self-Register for Services with UIDAI based KYC
2	Change Service as required and as enabled
3	Be able to download receipts and GST invoice
4	Be able to change Billing Address based on UIDAI data with Authentication
5	Update Mobile Number using OTP on old and new numbers
6	Update change in Email Address
7	See and download Traffic Consumption and Session Reports
8	Top Up account by using integrated payment gateway
9	Reconfigure devices such as labels, mac address allowed traffic per device, allowed session time per device, permit / restrict access for device based on day or time
10	Any changes made by subscriber should be logged with date and time stamp along with old data and new data
11	Subscribers should be able to add at least six devices under their account
12	Subscribers should be able to disable or enable devices under their account. Such disabled devices should be disconnected if already connected and should not be authorised in the network
13	Subscribers should be able to raise support requests and respond to solutions for tickets raised.
Mobile Applications	
1	Be able to download a mobile application from both Android Playstore and IOS App store which will have similar interface to the Self Service Portal and allow subscriber to perform similar functions as on the website
2	Support push notifications for subscriber alerts

6.2 NMS, MRTG, Speed Test solutions

Sr. No.	Specifications
Network Management Systems	
1	Be able to collect connection data from all connected and operational network elements, applications and solutions deployed as part of this project
2	Support topology discovery or topology definition for network elements and relevant alarms;
3	Support alarm parameter configuration, notification configuration and support escalation mechanism;
4	Store data changes for every element for a period of two years; and
5	Support remote configuration of supported network elements with minimum support for API, SSH and SNMP methods
MRTG Solutions	
1	Secure Multi Router Traffic Graph server with credential-based access to interface and subscriber traffic graphs for each element of the network is required to be stored.
2	Automatic discovery of new network elements or API/SSH/WEB based configuration should be possible for this server
3	The graphs should be made available for access from the subscriber portal and from the help desk interface with necessary security to provide enhanced diagnostic visibility and Support.
4	The graphing should be on a five-minute interval and should be made available on a Minute, Hourly, Weekly, Monthly and Yearly Average basis as per industry standard.
5	Standard SNMP should be supported and custom API / SSH based retrieval should be configurable
6	User based / Department based MRTG graphs should be generated (Hourly, Daily, Weekly, Monthly, Yearly) with Peak and average usage details reports
Speed Test Solutions	
1	Speed Test Server should host a HTML5 or equivalent speed test web-based application that will enable network diagnostic of the internal network and capacity determination from the NOC to the point of testing
2	Parameters such as latency, jitter, upload and download speeds should be part of the test result
3	If possible additional data such as signal quality of testing device may be provided for better field analysis of link quality.

6.3 BNG, CGNAT, DNS, DHCP & IPDR Solution

Sr. No.	Specifications
I.BNG	
1	General
1.1	BNG Solutions should be software-based solution and should be implemented in any industry standard server hardware
1.2	The solution should have minimum 1,25,000 subscribers license at day one and should be scalable up to 250K subscribers per location.
1.3	The solution should be capable of local breakout of the traffic for internet.
1.4	The solution should have capability to configure and manage the subscriber from the central NoC.
1.5	The solution should be able to support IPoE ,PPPoE and captive portal based services
1.6	The solution should be capable of minimum 2000 connections per seconds.
1.7	Solution should be capable, differential traffic treatment for defined destinations YouTube, Hot star, Netflix, etc.
1.8	Solution should support deterministic & non-deterministic logging as per DOT guidelines.
1.9	Bidder should provide and should provide open northbound interfaces for OSS/BSS integration.
1.1	System must support 1 G , 10 G , 40 G and 100 G interface. Provided solutions should have 100G Interfaces
1.11	System should support 100 Gbps throughput from Day 1 and should be scalable to 125 Gbps on same instance
1.12	System should support Bare Metal or Virtualization functionality
2	Layer 3 Protocol Support
2.1	Should support BGP, OSPF, Static Routing

2.2	Should support both IPv4, IPv6, Dual Stack solutions
2.3	Should support Policy Based Routing
2.4	Should support VRF, EOIP, IPIP
2.5	Should support PIM-SM, PIM-SSM
3	Layer 2 Protocol Support
3.1	Should support 4096 VLANs, VXLAN, MACSEC, BONDING
3.2	Should support 802.1q, QinQ, QinQinQ (Triple TAG)
3.3	Should support Jumbo Frames
3.4	Should support L2TP, SSTP, OpenVPN, IPSEC VPN
3.5	Should support LAG, LACP
3.6	Should support IGMP V1, v2, v3
3.7	Should support Multicast VLAN
4	High Availability Feature
4.1	Should support VRRP
4.2	Should have N+N, Redundancy with PADO delay
4.3	Should have Power supply redundancy
5	Subscriber Management Policy Features
5.1	Should support IPOE/DHCP, PPPoE, L2TP , IPSEC VPN, Captive Portal type deployment
5.2	Should support IPv4, IPv6, Dual Stack
5.3	Should support DHCPv4, DHCPv6 with Option 60,82
5.4	Should support DHCP Local , Relay with AAA support.
5.5	Should support IPv6 NDP, Stateful, Stateless Autoconfig
5.6	Should support IP Address Pool Mgmt, Separate pools for address, prefix, and delegation requests
5.7	Should support Dynamic or Static IP Assignment with Framed-IP and Framed-Route

5.8	Should support packet sniffing with streaming on a per interface basis with filtering options based on src/dst ipv4/ipv6/mac/port/protocol/vlan. Should also support local storage and scheduling.
6	AAA Functionalities
6.1	Should support external RADIUS and Local AAA
6.2	Multi-RADIUS failover or load balancing
6.3	HTTP / HTTPS Redirect
6.4	Captive Portal and Walled Garden
6.5	Radius specified Access
6.6	Public & Vendor RADIUS Attributes
6.7	RADIUS set QoS profiles and service attributes (IP, MTU, Bandwidth)
6.8	RADIUS COA, DMCOA
7	Subscriber QOS Policy Management
7.1	Subscriber QoS profile and ACL local or via RADIUS
7.2	Should support sfq, pcq, red, fifo queueing methods. Should support hierarchical queueing.
7.3	Should support burst and priority settings for dynamic and static queues
II. CGNAT	
1	IPv6 Technologies
1.1	Shall support DUAL STACK, IPv6 Gateway features, translate and load balance between IPv4 and IPv6 devices without acquiring additional license upgrade;
1.2	Dual Stack Support
1.3	User Quotas, configurable via CLI or/and GUI for per user/IP based, TCP, UDP, ICMP session limit;
2	Software design and Capacity of NAT box (In terms of sessions)
2.1	Power, Fan & Common unit redundancy Support
2.2	CGN Device must support 100 Gbps and should be scalable up to 125 Gbps of NAT44 throughput per instance
2.3	System must support 1 G , 10 G , 40 G interface. Provided solutions should have 100G Interfaces
2.4	CGN Solution must support SIP, FTP, TFTP, DNS, ICMP,PPTP, ESP, MGCP, H.323 and RTSP ALG's

2.5	CGN Must support allocation of NAT pool based on AAA profiling
2.6	CGN must support 1 to 1 destination based NAT
3	Logging
3.1	CGN must support Netflow and IPFIX for NAT log
3.2	AAA integration
3.3	CGN MAY HAVE traffic redirection and server load-balancing features
4	Routing
4.1	The CGN must support static routing
4.2	The CGN must support BGP
4.3	The CGN must support OSPF
5	High Availability Requirements:
5.1	CGN Device must support both N+1, 1+1 redundancy
5.2	The device must support Active-Active as well as Active-Passive redundancy.
5.3	The device must support VRRP/HSRP Standard
6	Management Requirements:
6.1	The device must support Web UI (HTTP/HTTPS) and CLI (Telnet / SSH) based Management
6.2	Should have configurable option to define remote access to the device on any interface and restrict the same to a specific IP/Subnet
6.3	There must be a means of connecting directly to the device through a console connection (RJ45 or DB9)
6.4	The device should have SNMP support (for sending alerts to NMS in case of URL blocks and system failures).
6.5	Provision to generate automatic notification of events via mails / syslog
6.6	Support for role-based administration of device
6.7	Support for external RADIUS, & LDAP and TACACS integration for Administrator Authentication
7	DDOS Protection feature
7.1	CGN must support dynamic filtering of public IP and port combination by tracking per protocol packet rate to mitigate DDOS attack targeting Public IP and port combination
7.2	System must support connection limiting for NAT session per user
7.3	System must support connection rate limit with 100 ms granularity for NAT session per user
III. DDI	
General Requirement	

1	DDI System must be an Appliance based solution providing all DNS, DHCP & IPAM with defined features & capacity from single vendor.
2	DDI System must provide integrated support for high availability configurations without the requirement for licensing of additional third - software components.
3	DDI System must support System logs forwarding/redirection of logs to a defined syslog host.
4	DDI system must support monitoring using SNMPv3
5	DDI system must support NTP time synchronization (client-mode) to multiple servers.
6	DDI system must integrate with multiple pass-through authentication options including RADIUS, LDAP, Active Directory
7	DDI Solution must support GUI & CLI based configuration.
8	DDI Solution must have DNS, DHCP & IPAM solution be integrated together
9	The proposed DDI Solution from the OEM should have minimum 4 Indian successful DDI deployment of which at least 2 in Indian Government / PSU organisation and 1 in State fibernet in the last 3 years as on the date of the RFP.
DDI Specific Requirements	
IPAM	
10	The IPAM Solution must support 2,50,000 IP Address Management for both IPv4 & IPv6 together & should be scalable to 10,00,000 IP address in future through additional license on the same proposed IPAM hardware appliance
11	The solution must NOT use software agents or thick clients
12	The IPAM solution must provide high-availability at DC
13	System proposed should be deployed 2 Qty at DC as dedicated IPAM Server.
14	The solution should provide appropriate automated failover.
15	The solution must be flexible to allow the creation of custom fields for objects in IPAM. This must be configurable via the Web GUI.
16	The solution must include an application programming interface (API) in order to interface with network and/or asset management systems, a configuration management database (CMDB) solution or other applications.
17	The IPAM solution should be able to seamlessly integrate with DNS and DHCP Records
18	The IPAM solution should be able act as Central management Server for proposed DNS & DHCP Server from single vendor.
19	The IPAM solution should be able to create its own widget to display customized subnet reports, free IP, used IP.

20	The IPAM solution should have the ability to locate the available subnets inside a Supernet. This is to provide assistance to users when creating subnets inside an aggregated Network.
21	DDI IPAM user interface must be web-based without specific browser vendor requirements
22	DDI IPAM system should support Auto seamless failover within DC
23	DDI IPAM system should support VLSM (Variable Length Subnet Masks)
24	DDI IPAM system should be able to export reports in PDF, CSV format
25	DDI IPAM system should have support for workflow process for various administrator roles and should include a change approval oversight capability.
26	DDI audit records should contain a timestamp, username and record modified.
27	DDI Reporting engine should include audit reports.
28	DDI system should support granular rights administration limiting the function and rights to user and record level
29	The tool must have the capability to find free address space across a range
30	Integration with Microsoft Active Directory user synchronization to automatically map IP address on IPAM for 1000 AD User ID
	<u>Cache & Recursive DNS Server</u>
31	The Solution must support 1,00,000 DNS QPS Day1 & should be scalable upto 5,00,000 DNS QPS DNS Server in future through additional license on the same proposed DNS hardware server.
32	System should have a Cache & Recursive DNS Server
33	System proposed should be deployed 2 Qty at DC as as dedicated Cache & Recursive DNS Server.
34	System should have a Cache DNS Architecture to switch on demand from BIND to UNBOUND and vice versa on same system.
35	System should be able to support the following common resource record types namely A, AAAA, DNAME, CNAME, MX, HINFO, PTR, SOA, NX
36	System should be deployed on-premise & should not be an Cloud based solution.
37	System should regularly monitor its cache contents and automatically purge / remove records that are old
38	System should have a built-in RPZ functionality and does not require additional licences to enable such feature
39	System RPZ should support action as Block, walled redirection, no response
40	System should support Access Control based on Source IP for Allow Query, Allow Query Cache.
41	System should Support DNSSEC

42	System must support Anycast for DNS with BGP, IS-IS and OSPF
43	System should support audit log.
44	System should support granular rights administration limiting the function and rights to user and record level
45	System should support sending logs to external Syslog server
46	The Solution should have the ability to Log Only, Block & Quarantine poorly behaving clients based on their DNS Transactions.
47	The Solution should provide for DNS Cache Saving to retain Cache Data even while applying software updates, patches, upgrades and reboot.
48	The Solution should have the ability to identify the poorly behaving clients based on their DNS Transactions & only allow client to access DNS Cache entries.
49	The Solution should have the ability to identify the poorly behaving clients based to allow clients to access Cache & restrict recursive query which seems to exfiltrate the using DNS protocol.
50	The solution must be both IPv4 and IPv6 compatible.
51	The Caching DNS Solution should be able to identify clients using any of the below identifiers to be used as
51.a	DNS Access Control List
51.b	DNSMASQ Mac Address
51.c	EDNS Client Subnet
51.d	CPE and Device ID
51.e	OpenDNS Device and IP
DHCP	
52	The solution must provide an easy to use "import wizard" to import DHCP records from legacy DHCP Solution
53	Import Wizard solution must be supported by the DHCP Appliance and must not require any external Java program or external Virtual Machines
54	System proposed should be deployed in HA of 2 Qty at DC as dedicated DHCP Servers
55	The DHCP solution must provide high-availability
56	The solution must track and log all user changes to DHCP configurations. The audit logs must be able to identify the change(s) made, the user/system making the change, and a timestamp. The solution should also be able to identify the client IP address from where the change was made.
57	The solution must be able to handle 2500 DHCP Lease/sec & should be scalable to handle 5500 DHCP Lease/Sec in future through additional license on the same proposed DHCP hardware appliance.

58	The solution must be able to perform Dynamic DNS for both IPv4 and IPv6 while linking all associated IP addresses to a single device/object.
59	The solution must graph (visually display) the different scopes based on number of IP's used/available over a set period of time
60	The DHCP solution must support one IP per MAC address (one lease per client).
61	The DHCP solution must be able to release the DHCP lease if the MAC address has moved to another IP
62	The solution must provide device finger printing and display or report the data in the GUI
63	The solution must support creating DHCP custom options.
64	The solution must provide the ability to detect or block devices attempting to use DHCP based on various attributes. These attributes must include MAC address but can include device fingerprint, DHCP options, etc
65	The DHCP Solution must integrate to IPAM for lease consolidation and capacity planning
66	The DHCP Solution must have its built-in security mechanism against Rogue Clients performing DHCP Storm attacks without the need for additional licenses
67	The DHCP Solution must be able to send alerts in case of DHCP related attacks
68	The DHCP Solution must have inbuilt Reports & stats.
External Authoritative DNS Server	
69	Solution must support standards-based DNS services.
70	The solution must support the ability to act as an External Authoritative name server
71	The Solution must support 50,000 DNS QPS acting as external Authoritative DNS Server.
72	System proposed should be deployed 2 Qty at DC as dedicated External Authoritative DNS Server.
73	The Solution must support to configure 200 Zone & 1000 Records on single instance.
74	The Solution must support Master-Slave, Multi Master or Stealth Mode deployment architecture.
75	The solution must be able to automate common tasks such as maintaining synchronization between forward and reverse records
76	Authoritative Name Servers must have the built-in protection using Response Rate limiting
77	Authoritative Name Servers must have the built-in protection using DNS DDoS protection - DNS Amplification/DNS reflection attacks.
78	The Solution must support A, NAPTR, SRV, NS, MX, CNAME records
79	The Solution must support IPv6: AAAA, PTR, host, ip6.arpa, DDNS records

80	The Solution must support multiple DNS views based on IPv4/IPv6 Addresses
81	The Solution must support Instant propagation of changes to the architecture, such as ACLs, DNS Server Options, Forwarders, etc.
82	The solution must support easy search, sort and filter on any DNS Zone or RR, using any field
83	The product must support the ability to control DNS logging: DNS query and response logging
84	The solution must provide a simplified/streamlined process to identify and manage DKIM, DMARC, ADSP, SPF and/or other similar DNS TXT records.
85	The system must be able to display all hosted DNS Resource Records in one GUI pane
86	The solution must provide a means to track changes to made via Dynamic DNS record assignment
87	The solution must support the standard DNSSEC specifications for serving of DNSSEC signed zones and the pass through of client resolution of external zones
88	The solution must have inbuilt reports & Stats.

6.6 HA Switches at Coimbatore

Sr.No.	Specifications
1	Interface Requirements
1.1	The Switch should support non-blocking Layer 2 switching
1.2	There switch should not have any single point of failure like power supplies and fans etc. should have 1:1/N+1 inbuilt level of redundancy
1.3	Switch should have atleast 8 Port 25G and 4 Port 100G.
1.4	Switch should support minimum 1.2 Tbps of switching capacity (or as per specifications of the switch if quantity of switches are more, but should be non-blocking capacity) including the services
2	Advanced Features
2.1	Switch should support VXLAN (RFC7348) passthrough
3	Layer 2 & 3 Features
3.1	Spanning Tree Protocol (IEEE 8201.D, 802.1W, 802.1S)

3.2	Switch should support VLAN Trunking (802.1q) and should support 4096 VLANs
3.3	Support for broadcast, multicast and unknown unicast storm control to prevent degradation of switch performance from storm due to network attacks and vulnerabilities
3.4	Switch should provide multicast traffic reachable using PIM-SM and SSM
4	Availability
4.1	Switch should provide gateway level of redundancy in Ip V.4 and IP V.6 using HSRP/ VRRP
5	Quality of Services
5.1	Switch should support Flow control of Ethernet ports to control traffic rates during congestion by allowing congested nodes to pause link operation at the other end for receiving traffic as per IEEE 802.3x
6	Security
6.1	Switch should support for deploying different security for each logical and physical interface using Port Based access control lists of Layer-2 to Layer-4 in IP V.4 and IP V.6 and logging for fault finding and audit trail
6.2	Switch should support for external database for AAA using TACACS+ / Radius
6.3	Switch should support to restrict end hosts in the network. Secures the access to an access or trunk port based on MAC address. It limits the number of learned MAC addresses to deny MAC address flooding
6.4	Switch should support for Role Based access control (RBAC) for restricting host level network access as per policy defined
6.5	Switch should support to prevent edge devices in the network not administrator's controlled from becoming Spanning Tree Protocol root nodes
6.6	Switch should support unicast and/or multicast blocking on a switch port to suppress the flooding of frames destined for an unknown unicast or multicast MAC address out of that port
7	Manageability
7.1	Switch should support for embedded RMON/RMON-II for central NMS management and monitoring
7.2	Switch should support for sending logs to multiple centralized syslog server for monitoring and audit trail
7.3	Switch should provide remote login for administration Telnet, SSHv2
7.4	Switch should support for capturing packets for identifying application performance using local and remote port mirroring for packet captures
7.5	Switch should support for management and monitoring status using different type of Industry standard NMS using SNMP V2 and V3

7.6	Switch should support for basic administrative tools like Ping and traceroute
7.7	Switch should support central time server synchronization using Network Time Protocol NTP V.2/3/4
7.8	Switch should support for providing granular MIB support for different statistics of the physical and logical interfaces
7.9	Switch should support for predefined and customized execution of script for device manage for automatic and scheduled system status update for monitoring and management
8	IPv6 features
8.1	Switch should support for IP V.6 connectivity and routing required for network reachability

6.5 Internet Router

Sl.No	Specifications
1	The proposed router should be of modular design with power supplies in N+N redundancy.
2	The proposed router should support AC power with voltage range: AC: 180 V AC to 260 V AC
3	Router should have support for 4x100GE, at least 24 x 10GE ports. Optical Modules should be made available on demand
4	The proposed router should support wire-speed routing capacity with hardware offload on all ports.
5	Shall support Frame sizes from 64 bytes to 1518; Proposed router should support jumbo frames of 9000 or above bytes on all ports

6	a. Routing Protocols: Static, RIP, OSPF, ISIS and BGP. VRRP VRF, should also be supported b. MPLS: MPLS LDP, IP FRR, BGP Labelled Unicast, BGP PIC (Edge and Core) c. VPNs: 6PE/6VPE, L3 VPN, EoMPLS, VPLS / EVPN/H-VPLS. Min. 128 MPLS VPN instances, 2048 EoMPLS tunnels/VPLS instances should be supported d. Multicast: uRPF, PIM-SM, PIM-SSM, M-VPN. e. NTP client and NTP server f. support soft bridge / bonding g. support VRRP / HSRP h. support ipv4 and ipv6 basic firewall i. support policy routing, router selection, router filtering
7	The router should also support 802.1Q, Q-in-Q or Stacked VLANs
8	Proposed router should support QoS mechanism for end-to-end bandwidth
9	The Proposed router should support multilevel priority scheduling/Strict priority queuing
10	Proposed router should support Quality of service for marking/policing traffic, hierarchical QoS, Prioritizing and assuring bandwidth Guarantees. Classification should be done based on DSCP, IP TOS (Type of Service), MPLS EXP and 802.1p.
11	The software shall have all the features to administer, manage, maintain and troubleshoot the network through the CLI, SSH, SNMP, NETCONF/RESTCONF and HTTP/HTTPS Web Access or GUI
12	Remote software and configuration download, backup of configuration without interruption of functioning of the system via management system shall preferably be possible including means of identification of software module versions/EMS
13	The proposed routers shall support the following: NTP, Telnet, SSH, FTP/SFTP, TFTP, Syslog, Radius for AAA
14	The router should support Internet Group Management Protocol (IGMP) v1, v2 and v3
15	The proposed router shall provide SNMP based Traps and Alarms to the configured EMS/NMS. SNMP v1, v2 and v3 should be supported
16	The system shall have the standard rack mountable capacity of 19" / 21" (ETSI compliant),
17	Should have to support Out of band management through Console / external modem for remote management

6.6 Smart Rack Cooling Environment

S.No	Specifications
1	Network / Server Rack (ID), 42U , 800 W x 1100 D , Front Glass Door & Rear Plain Split Door with side panels and rack accessories -2 Racks
2	Two Fix Shelf
3	One Keyboard Trey - 1 No
4	100% Blanking Panel
5	Horizontal & Vertical Cable Managers
6	Two 19" Rack Mount Cooling Unit , 7000 Watt, (2Tr.) for HA
7	Four Vertical Basic PDU, IEC C-13 & C-19 Socket ,32 Amp, single phase for both racks
8	Electrical Input Distribution Unit, 19" Rack mount
9	Industrial 5 Pin Plug & Socket for main incomer connection
10	Cable Kit for 2 Rack
11	DCIM Solution, 19" Rack Mount 1U Monitoring Unit
12	Temperature Sensor & Humidity Sensors for both racks
13	Door Sensor for both racks
14	Smoke Sensor for both racks
15	Water Leak Detection for both racks
16	Biometric Access Control for Front & Rear Door of Rack
17	Emergency Door opening with temp. logic on both Front & Rear Door
18	Gas Suppression system with External cylinder mounting
19	2Nos of 6Kva UPS Rack mounted - Batteries for 30Mins Load each - Externally placed

Operation and Maintenance (O&M) Framework

The bidder shall operate & maintain the network 24x7x365 and perform all the activities during the O&M period to ensure the uptime of the network as defined in this Tender Document.

1. The bidder shall prepare an operation & maintenance manual and submit to TANFINET for approval. It shall cover the following, but not limited to:
 - a. The details of the manpower deployment for maintenance.
 - b. The process/procedure for the periodical maintenance, problem resolution, fault rectification.
2. The bidder shall provide competent resources at S-NOC and Coimbatore to carry out the following tasks:
 - a. 24X7 monitoring of all the solutions implemented as part of the contract.
 - b. Co-ordinate with the field team and TANFINET S-NOC team for troubleshooting of issues and resolving trouble tickets
 - c. Generate daily, weekly, monthly & quarterly MIS reports in co-ordination with the TANFINET S-NOC team
 - d. To carryout software upgrades/updates for all active devices
3. The bidder shall submit periodical reports (monthly, quarterly, and annual) against the SLA as per clause 29(a)
4. In case of any issues due to poor workmanship and other technical reasons, the fault must be rectified, or parts have to be replaced by the bidder. All the components required for such restoration shall to be borne by the bidder.
5. Audit and Security services
 - i. The bidder shall be required to provide comprehensive support to TANFINET during the Third-Party Audit and Security Audit etc. TANFINET shall be responsible in getting the required readiness built in the network during audit for security solutions.
 - ii. State/ TANFINET reserves the right to inspect, monitor and assess the progress and performance of the project either itself or through another designated agency as it may deem fit, throughout the course of the Contract. TANFINET may demand and upon such

a demand being made, TANFINET shall be provided with any document, data material or any other information which it may require, to enable it to assess the progress of the project.

- iii. State/ TANFINET shall also have the right to conduct, either itself or through another agency as it may deem fit, an audit to monitor the performance of the Bidder of its obligations/ functions in accordance with the standards committed to or required by TANFINET and the Bidder undertakes to cooperate with and provide to TANFINET or any other agency appointed by TANFINET all documents and other details as may be required by them for this purpose.

- 6. The Bidder shall submit the periodical MIS reports on a regular basis as per the prescribed formats provided by TANFINET.

Note:

The bidder shall be required to follow the Technical Specification as mentioned for implementation of the project.

Bid Submission Letter

Date:_____

From,
Name:
Address:
Ph:
Fax:
E-mail:

To,
The Managing Director,
Tamil Nadu FibreNet Corporation Limited (TANFINET),
No.807, 5th Floor, Chengalvaraya Naicker Building,
Anna Salai, Chennai - 600 002

Sir,
Sub: Tender for the Selection of a System Integrator for Supply, Installation, Integration, Testing, and Commissioning of Headend Systems including Operation & Maintenance - Submission of Bid -Reg.

Ref: Your Tender Notice Dt.

With reference to your tender notice, we submit herewith our tender for Selection of a System Integrator for Supply, Installation, Integration, Testing, and Commissioning of Headend Systems including Operation & Maintenance as specified by TANFINET in this tender document.

We enclose the following documents:

- 1) Tender conditions duly signed in each page
- 2) Bank Guarantee no..... for Rs..... /-
(.....only), in favour of “ TANFINET Ltd.” towards Earnest Money Deposit
- 3) Details of the Bidder (as per Annexure-IV)
- 4) The copy of certificate of incorporation/registration.
- 5) Copy of Memorandum and Articles of Association
- 6) Copy of Registered Partnership deed, in case of Partnership Firm.
- 7) Average annual turnover statement duly certified by a Chartered Accountant (as per Annexure-VI).
- 8) The Annual Report / certified copies of Balance Sheet, Profit & Loss statement along with schedules for the last 3 consecutive financial years i.e. FY2020-21, 2021-22 and 2022-23

- 9) Work orders and completion certificates in support of clauses 3(c) and 3(d).
- 10) Letter of authorization from original equipment manufacturer for all active components (as per Annexure-V)
- 11) Undertaking on Rule 144(xi) in GFRs 2017 as per Annexure VII
- 12) Proof of Chennai office address or an undertaking that full-fledged office will be established in Chennai within 15 days from the date of issue of Letter of Acceptance
- 13) Declaration for not having blacklisted either by TANFINET or by any other Govt. agencies (as per Annexure-VIII).
- 14) Declaration for not having tampered the Tender documents downloaded from the website www.tntenders.gov.in (Annexure-IX).
- 15) Copy of GST Registration certificate.
- 16) Latest I.T return.
- 17) Notarized translated English version of the documents in a language other than English/Tamil, if any.

Yours faithfully,

SIGNATURE OF THE BIDDER

Encl: As stated above

DETAILS OF THE BIDDER

S.No.	Particulars	Description/Details
A	Name of Bidder	
B	Contact Details	
	Registered Office Address	
	Telephone No.	
	Fax	
	Email	
	Website	
C	Incorporation Details	
	Incorporation Number	
	Date of Incorporation	
	Authority	
D	GST Number	
E	Name of Authorized Signatory	
	Position	
	Telephone	
	Fax	
	Mobile	
	Email	
F	Number & Address of Offices	
	a) In Chennai	
	b) Outside Chennai	

LETTER OF AUTHORIZATION FROM THE OEM

To,
The Managing Director,
Tamil Nadu FibreNet Corporation Limited (TANFINET),
No.807, 5th Floor, Chengalvaraya Naicker Building,
Anna Salai, Chennai - 600 002

Sir,

We hereby authorize M/sto undertake to submit a Bid, and subsequently negotiate and sign the contract with the TANFINET against Tender No:_____ for the (type the Description of goods) manufactured by us. We hereby extend our full warranty for the goods offered for supply by the above company against this tender.

We also undertake to provide timely supplies as per terms of tender and as agreed mutually and also to provide a trouble free and continuous support either directly or through our authorized partners under our supervision during the said support period. We will provide the necessary support in the event of up gradation of any of the software is necessitated while providing the support and will arrange for complete replacement of the item(s) with an equivalent / higher version.

Further, if any product is declared end of sale, we shall proactively ensure that a suitable equivalent or higher roll over product is offered through the existing Bidder to TANFINET for due approval, contract and order executions thereafter. We do certify that none of the equipment covered under this subject tender are declared end of sale already or are planned for such declaration within the next 3 years.

For this tender we authorize M/s. _____
(Complete address and full contact details of the partner) to be our sales and service partner. In the event of discontinuation of supply and service by our partner or any problem arises during provision of supply and services, the entire responsibility to provide trouble free and continuous supply and services to the end user rests with us and we undertake to provide supply and services directly or through our alternative sales / service partners.

In case of violation of any of the conditions above, I/We
understand that I/ We are liable to be blacklisted by TANFINET for a period of three
years.

(Signature for and on behalf of Principal)

**NOTE: COMPETENT AUTHORITY OF THE MANUFACTURER SHOULD ISSUE THE
LETTER OF AUTHORIZATION FOR EACH BIDDER SEPARATELY.**

ANNUAL TURN OVER STATEMENT

The Annual turnover of M/s for the past three years from ICT/IT/Telecom business are given below and certified that the statement is true and correct.

S.No.	Year	Turnover from ICT/IT/Telecom business (Rs. in Crores)
1.	2020-2021	
2.	2021-2022	
3.	2022-2023	
	Total	
Average annual turnover		

Note: Average Turnover of any three consecutive audited financial years will be considered i.e. FY2020-21, FY2021-22 and FY2022-23.

DATE :

SIGNATURE OF THE BIDDER

SIGNATURE OF CHARTERED ACCOUNTANT
(with seal and Address)

UDIN:

Self-Declaration GFR Rule 144(xi)

Ref:

Date:

To

The Managing Director,
Tamil Nadu FibreNet Corporation Ltd.,
807, 5th floor, Chengalvaraya Naicker Maaligai, Anna Salai,
Chennai - 600 002.

Subject: Declaration Letter: Restrictions on procurement under rule 144 (xi).

Sir,

I/We, <Bidder/ OEM Name> have read the clause regarding restrictions on procurement from a Bidder/ OEM of a country which shares a land border with India.

I/We hereby certify that I/We, <OEM/ BIDDER Name> is not from such country or, if from such a country, has been registered with Competent Authority.

I/We hereby Certify that I/We fulfill all requirements in this regard and eligible to be considered.

Thanking You

For <OEM/ Bidder>

< (Authorized Signatory)>

Name:

Designation:

Contact Details:

Seal of the Company

NOTE:

1. The letter should be submitted on the letter head of the Bidder / OEM and should be signed by the authorized signatory.
2. Any deviation would lead to summarily rejection of bids.
3. Where Applicable, evidence of valid registration by the Competent Authority shall be attached.

CERTIFICATE

Date: _____

Certified that M/s...../ the firm /company or its partners / shareholders had not been blacklisted by Tamil Nadu FibreNet Corporation Limited (TANFINET), or by any Government Agencies.

**SIGNATURE OF THE BIDDER
(with seal and address)**

DECLARATION FORM

Date: _____

a) I/We having our office at do declare that I/We have carefully read all the conditions of tender sent to me/us by Tamil Nadu FibreNet Corporation Limited (TANFINET), for the tenders floated vide tender ref.no._____ for Selection of a System Integrator for Supply, Installation, Integration, Testing, and Commissioning of Headend Systems including Operation & Maintenance and complete the contract as per the tender conditions.

b) I/We have downloaded the tender document from www.tntenders.gov.in and I /We have not tampered / modified the tender document in any manner. In case, if the same is found to be tampered / modified, I/ We understand that my/our tender will be summarily rejected and full Earnest Money Deposit will be forfeited and I /We am/are liable to be banned from doing business with TANFINET or prosecuted.

SIGNATURE OF THE BIDDER
(with seal and address)

Power of Attorney for Signing of Tender Documents
(INR 100/- Stamp Paper)

Know all men by these presents, We..... (name of the firm and address of the registered office) do hereby irrevocably constitute, nominate, appoint and authorise Mr/ Ms (name), son/daughter/wife of and presently residing at, who is presently employed with us and holding the position of, as our true and lawful attorney (hereinafter referred to as the “Attorney”) to do in our name and on our behalf, all such acts, deeds and things as are necessary or required in connection with or incidental to submission of our tender for Selection of a System Integrator for Supply, Installation, Integration, Testing, and Commissioning of Headend Systems including Operation & Maintenance by TANFINET including but not limited to signing and submission of all applications, Bids and other documents and writings and providing information/ responses to TANFINET, representing us in all matters before TANFINET, signing and execution of all contracts and undertakings consequent to acceptance of our Bid, and generally dealing with TANFINET in all matters in connection with or relating to or arising out of our Bid for the said Project and/ or upon award thereof to us and/or till the entering into of the Agreement with TANFINET.

AND we hereby agree to ratify and confirm and do hereby ratify and confirm all acts, deeds and things done or caused to be done by our said Attorney pursuant to and in exercise of the powers conferred by this Power of Attorney and that all acts, deeds and things done by our said Attorney in exercise of the powers hereby conferred shall and shall always be deemed to have been done by us.

IN WITNESS WHEREOF WE,, THE ABOVE NAMED PRINCIPAL HAVE EXECUTED THIS POWER OF ATTORNEY ON THIS DAY OF, 20.....

For

.....

(Signature, name, designation and address)

Witnesses:

- 1.
- 2.

(Notarised)

Accepted

.....

(Signature)

(Name, Title and Address of the Attorney)

Notes:

- *The mode of execution of the Power of Attorney should be in accordance with the procedure, if any, laid down by the applicable law and the charter documents of the executant(s).*
- *Wherever required, the Applicant should submit for verification the extract of the charter documents and documents such as a board or shareholders' resolution/ power of attorney in favour of the person executing this Power of Attorney for the delegation of power hereunder on behalf of the Applicant.*
- *For a Power of Attorney executed and issued overseas, the document will also have to be legalised by the Indian Embassy and notarised in the jurisdiction where the Power of Attorney is being issued. However, the Power of Attorney provided by Applicants from countries that have signed the Hague Legislation Convention, 1961 are not required to be legalised by the Indian Embassy if it carries a conforming Apostille certificate.*

CLARIFICATION ON TENDER DOCUMENT FORMAT

BIDDER'S REQUEST FOR CLARIFICATION			
Name and Address of the Organization submitting request		Name and Position of Person submitting request	Contact Details of The Organization / Authorized Representative
			Tel:
			Fax:
			Email:
S.No	Reference(s) (Section, Page)	Content of Tender requiring Clarification	Points of clarification required
1			
2			

SIGNATURE OF THE BIDDER
(with seal and address)

PRICE BID - PART A

(Amount in Rs.)							
S.No.	BOQ	Qty	UOM	Unit Cost	Extended Price (Qty X Unit Cost)	GST	Total (Extended Price + GST)
	Central Location - Core Components						
1.	BSS, AAA, IPDR Solution with Software and Hardware in High Availability for 2.5 Lakhs Customer	1	No				
2.	NMS, SMS, MRTG, Ticketing, Speed Test, NATLOG, STORAGE Solution with Software and Hardware in High Availability N+N mode for 2.5 Lakhs Customer	1	No				
3.	BNG, CGNAT & DDI Solution including Software and Hardware in High Availability N+N mode for 1,25,000 Subscribers and 100 Gbps Traffic	1	No				
4.	Internet Routers along with HA	1	No				
5.	Storage Solutions for 2.5 Lakhs Customers	1	Lot				
6.	VPN Hardware and Software for 20 Concurrent Users including HA (For Remote Login)	1	No				
7.	Implementation and Integration Charges	1	Lot				
8.	Any Misc Solutions and Components in order to deliver the complete functionality	1	Lot				
	Regional Location at Coimbatore						

S.No.	BOQ	Qty	UOM	Unit Cost	Extended Price (Qty X Unit Cost)	GST	Total (Extended Price + GST)
9.	BNG, CGNAT & DDI Solution including Software and Hardware in High Availability N+N mode for 1,25,000 Subscribers and 100 Gbps Traffic	1	No				
10.	Speed Test solutions along with hardware & software	1	No				
11.	Internet Router in High Availability N+N mode - Required for connecting peer links and multiple ISP	1	No				
12.	HA Switches	1	No				
13.	Smartrack Cooling Environment	1	No				
14.	Implementation and Integration Charges	1	Lot				
15.	Any Misc Solutions and Components in order to deliver the complete functionality	1	Lot				

SIGNATURE OF THE BIDDER
(with seal and address)

PRICE BID - PART B

Operation & Maintenance cost for 3 Years

(Amount in Rs.)

S.No.	Description	Qty	UOM	Unit Cost	Extended Price (Qty X Unit Cost)	GST	Total (Extended Price + GST)
1.	O&M Resources - Consumer helpdesk and Support Team (3xL1, 1xL2 for 24 x7 Support, 1 x L3 general Shift)	12	Qtrs				
2.	O&M Resources – (3 x L1 for 24x7 Support, 1 x L2 General shift) at Coimbatore	4	Qtrs				

**SIGNATURE OF THE BIDDER
(with seal and address)**

PRICE BID - PART C

Operation & Maintenance cost for additional 2 years (4th and 5th Year)

(To be submitted in PDF format as part of Financial Bid)

(Amount in Rs.)

S.No.	Description	Qty	UOM	Unit Cost	Extended Price (Qty X Unit Cost)	GST	Total (Extended Price + GST)
1.	O&M Resources - Consumer helpdesk and Support Team (3xL1, 1xL2 for 24 x7 Support, 1 x L3 general Shift)	12	Qtrs				
2.	O&M Resources – (3 x L1 for 24x7 Support, 1 x L2 General shift) at Coimbatore	4	Qtrs				

**SIGNATURE OF THE BIDDER
(with seal and address)**

PRICE BID - PART D (To be submitted in PDF format as part of Financial Bid)

(Amount in Rs.)

S.No.	BOQ	Qty	UOM	Unit Cost	Extended Price (Qty X Unit Cost)	GST	Total (Extended Price + GST)
1.	Incremental cost of software and hardware to cater to additional 2.5 lakhs consumers at NOC	1	Lot				
2.	Incremental cost of software and hardware to cater to additional 1,25,000 subscribers	1	Lot				

**SIGNATURE OF THE BIDDER
(with seal and address)**

Bank Guarantee for Earnest Money Deposit (EMD)
(To be submitted and typed in a non-judicial stamp paper of value INR 100)

To
The Managing Director,
Tamil Nadu FibreNet Corporation Limited,
807, 5th floor, P.T.Lee Chengalvaraya Naicker Maaligai, Anna
Salai, Chennai – 600 002.

Whereas M/s.....(hereinafter called "the Bidder")
has submitted its bid dated..... for Tender No_____ dated to The
MD, TANFINET Corporation Limited (hereinafter called "the Purchaser") and is
required to furnish an Earnest Money Deposit (hereinafter called "EMD") of a sum of
Rs..... (Rupees) to the said Purchaser in compliance of the
precondition to participate in the bid,

KNOW ALL MEN by these presents that WE at (the Bank) bind
ourselves and our successors and assign by these present.

The Conditions of the Obligation are:

1. If the Bidder withdraws or amends its bid or impairs or derogates from the bid
in any respect during the period of bid validity as specified by the Purchaser on
the Tender Document form or extended subsequently; or
2. If the Bidder, having been notified of the acceptance of its bid by the Purchaser
during the period of bid validity.
 - a. fails or refuses to execute the Contract, if required; or
 - b. fails or refuses to furnish the Performance Security within the specified
time, in accordance with the instructions to Bidders.

We (name of the bank)_____do hereby undertake to pay the
amounts due and payable under this guarantee without any demure, merely on a
demand from the Purchaser, without the purchaser having to substantiate its
demand, provided that in its demand, the purchaser will note that the amount
claimed by it is due to it owing to the occurrence of one or both of the two
conditions, specifying the occurred condition or conditions. Any such demand

made on the bank shall be conclusive as regards the amount due and payable by the Bank under this guarantee where the decision of the Purchaser in these counts shall be final and binding on the bank. However, our liability under this guarantee shall be restricted to an amount not exceeding Rs.....(Rupeesonly).

This guarantee will remain in force as specified in Bid Document for a period of 6 months and any demand in respect thereof should reach the Bank not later than the specified date/dates.

Name & Signature of witness
Address of witness

Signature of the Bank Authority.
Name
Signed in Capacity of
Full address of Branch
Tel No. of Branch
Fax No. of Branch

Name of the Beneficiary: Tamil Nadu FiberNet Corporation
Limited. Name of the Bank: State Bank of India
Account No.: 38474125768
IFSC Code: SBIN0070644
Address of the Bank Branch: SME, 556, Anna Salai, Teynampet, Chennai- 600 018.

“Notwithstanding anything contained herein:

- a. Our liability under this Bank Guarantee shall not exceed Rs. _____ (Rupees _____ only);
- b. This Bank Guarantee shall be valid upto _____; (being the date of expiry of the guarantee) and
- c. The beneficiary's right as well the Bank's liability under this Guarantee shall stand extinguished unless a written claim or demand is made under this Guarantee on or before [] (being the date of expiry of claim period as per clause. (b) Above).
- d. The Bank guarantee should be returned to us after the expiry date for cancellation purpose even if the original guarantee is not returned, our liability on this guarantee ceased to exist.

“Notwithstanding anything contrary contained in any law for the time being in force or banking practice, this guarantee shall not be assignable or transferable by the beneficiary. Notice or invocation by any person such as assignee, transferee or agent of beneficiary shall not be entertained by the Bank. Any invocation of guarantee can be made only by the beneficiary directly.”

In presence of dated this day of 2023

Witness

1.

For and on Behalf of [the Bank]s

Selection of a System Integrator For Supply, Installation, Integration, Testing, And Commissioning Of Headend Systems, Including Operation & Maintenance							
NIT_TANFINET_023_Broadband_NOC dated: 30.11.2023							
Response to Queries No.1 dated : 03-01-2024							
Company	S.No	Page.No	Clause No.	Tender Clause Description	Clarification/Amendment Sought	Reason for requesting Amendment	TANFINET Response
CISCO	1	59	6.3	BNG Solutions should be software-based solution and should be implemented in any industry standard server hardware	BNG Solutions can be software or Hardware based and if it's a software-based solution, it should be implemented in any industry standard server hardware	Clause 1.1 is restricting the participation in the tender by OEMs who provide Physical BNG based solution. Kindly change the clause to allow maximum participation in the tender.	Refer Corrigendum
CISCO	2	59	6.3	The solution should have minimum 1,25,000 subscribers license at day one and should be scalable up to 250K subscribers per location.	The solution should have minimum 1,25,000 subscribers license at day one and should be scalable to 250k subscribers per location in future using 1+1 solution in load sharing to avoid single point of failure.	Future scalability should not cause any outage and single point of failure at the location should be avoided by adding 1+1 solution components. Request you to kindly change the Clause.	Tender Condition remains same
CISCO	3	59	6.3	Bidder should provide and should provide open northbound interfaces for OSS/BSS integration.	Bidder should provide and should provide northbound interfaces for OSS/BSS integration.	Request to amend "Northbound" Instead of "Open Northbound" for wider participations	Refer Corrigendum
CISCO	4	59	6.3	System must support 1G, 10G, 40G and 100G interface. Provided solutions should have 100G Interfaces	System must support 1G, 10G, 40G and 100G interface. Provided solutions should have 400G Interfaces in future if needed.	400G interfaces are becoming common and would be needed in near future considering the traffic growth due to IOT devices, Video Contents, etc. Request you to ask the support for 400G interfaces in future.	Tender Condition remains same
CISCO	5	59	6.3	System should support	System should support	100 Gbps throughput	Tender Condition remains same

O				port 100 Gbps throughput from Day 1 and should be scalable to 125 Gbps on same instance	port 6 Tbps throughput from Day 1 and should be scalable to 12 Tbps on same instance	throughput is less than 1 Mbps per subscriber which is very less considering the trends in other networks in India where the per subscriber bandwidth is considered at least 5 Mbps and it is expected to grow exponentially. Request you to please consider the bandwidth sizing as per industry standard.	condition remains same
CISCO	6	59	6.3	System should support Bare Metal or Virtualization functionality	System should support Bare Metal or Virtualization functionality if it is a software based solution	Clause restricting the participation in the tender by OEMs who provide Physical BNG based solution. Kindly change the clause to allow maximum participation in the tender.	Refer Corrigendum
CISCO	7		6.3	Additional requirement	The proposed solution should be of modular design with: - redundant control cards, Redundant Fabric, power supplies in 1+1 or N+1 redundancy and failure of controller card should not impact per slot throughput.	These are the basic requirements for ensuring a highly resilient architecture based router for being the gateway to entire internet in State of Tamilnadu.	Tender conditions remain the same
CISCO	8		6.3	Additional requirement	The proposed solution should be configured and populated with interfaces based on the complete interconnected design by the system integrator. Router should be configured with At least 2 Free slots for future expansion.	Free slots in hardware ensures the flexibility for addition of any traffic or connectivity requirements	Tender conditions remain the same
CISCO	9		6.3	Additional requirement	The proposed solution		Tender con

O				nt	tion should work with the current Tanfinet interconnected protocols and design of BGP		ditions remains the same
CISCO	10		6.3	Additional requirement	The proposed solution should support per slot 1.2Tbps with redundancy (failure of switch fabric should not impact the per slot capacity)	Assuming we are aggregating 60,000 subscribers traffic in one line card, and offering 20 Mbps bw per subscriber, we will have more than 600 - 700 Gbps of traffic, hence the card should be able to support traffic of 1 tbps or more	Tender conditions remains the same
CISCO	11		6.3	Additional requirement	The proposed solution should support the following: a. 20,00,000 MAC Addresses b. 5,000,000 IPv4 unicast routes c. 5,000,000 IPv6 routes d. 200,000 multicast routes e. 10 labels in label stack f. 1 000k MPLS labels, 128k L2 VPNs, 16k L3 VPNs.	BNG is the gateway to the entire layer 2 network, spread across tanfinet. After OLT the transportation of the subscriber Vlan over a layer3 MPLS network is possible only by using Layer 2 pseudowires. As we have huge pseudowires terminating on this BNG hardware, the ability of the hardware to handle the same has to be large, hence the ask for large number of layer 2 VPN, mac address and Multicast routes.	Tender conditions remains the same
CISCO	12		6.3	Additional requirement	The proposed solution should support MPLS LDP, IP FRR, BGP Labeled Unicast, BGP PIC (Edge and Core), VPNs: 6PE/6VPE, L	BNG is the gateway to the entire layer 2 network, spread across tanfinet. After OLT the transportation	Tender conditions remains the same

					3 VPN, PWE3, EoMPLS, VPLS, EVPN,H-VPLS. Min. 10000 MPLS VPN instances, 120000 EoMPLS tunnels, VPLS instances should be supported. Multicast: uRPF, PIM-SM, PIM-SSM, M-VPN. Segment routing, Segment routing TE & TI-LFA	on of the subscriber Vlan over a layer3 MPLS network is possible only by using Layer 2 pseudowires. As we have huge pseudowires terminating on this BNG hardware, the ability of the hardware to handle the same has to be large, hence the ask for large number of layer 2 EoMPLS tunnels and all layer 3 functionalities for seamless integration with tanfinet network	
CISCO	13			Additional requirement	The proposed solution should have following interfaces: 80 x 10G , 8 x 100G	Dimensioning of BNG needs to be understood and tied to the OLT's in the field, hence we need large number of 10 Gbps interfaces to aggregate and consolidate number of OLTs traffic coming under a block to particular set of ports, to achieve the same we need large number of 10G ports which has to be equally distributed across multiple line cards. In similar way to interconnect and transit the traffic from BNG to CGNAT , to peering routers t	Tender conditions remain the same

						o Data center etc.. and hence the 100Gbps interfaces	
CISCO	14		6.3	Additional requirement	The proposed solution from the OEM should have minimum 2 Indian successful deployment of which at least 1 in Indian Government/PSU/ ISP organization and 1 in State fibernet in the last 5 years as on the date of the RFP.	Request you to kindly ask for a minimum 2 deployment reference as the same has been asked in the other components. This would help Tanfinet to get a mature and field tested solution with a proven track record.	Tender conditions remains the same
CISCO	15		6.3	CGN must support IP anomaly filtering	CGN must support dynamic filtering of public IP and port combination by tracking per protocol packet rate to mitigate DDOS attack targeting Public IP and port combination	DDOS is a separate dedicated Solution, Hence should be removed from here and added as dedicated solution	Tender specifications remain the same. Solution can be proposed as part of CGN solution or dedicated solution with the throughput performance and features mentioned in the CGN
CISCO	16		6.3	System must support connection limiting for NAT session per user	System must support connection limiting for NAT session per user	DDOS is a separate dedicated Solution, Hence should be removed from here and added as dedicated solution	Tender specifications remain the same. Solution can be proposed as part of CGN solution or dedicated solution with the throughput performance and features mentioned in the CGN
CISCO	17		6.3	System must support connection rate limit with 100 ms granularity for NAT session per user	System must support connection rate limit with 100 ms granularity for NAT session per user	DDOS is a separate dedicated Solution, Hence should be removed from here and added as dedicated	Tender specifications remain the same. Solution can be proposed as part of CGN solution

						ed solution	on or dedicated solution with the throughput performance and features mentioned in the CGN
CISCO	18		6.3	Should support L2TP, SSTP, OpenVPN, IPSEC VPN	Should support L2TP, L2 VPNs, L3 VPNs	IPSec tunnels are not needed to be terminated on BNG. Traffic is terminated on BNG using L2 VPNs and in some case L3 VPNs. Request you to kindly remove the IPSec VPN and add L2, L3 VPNs.	Tender conditions remains the same
CISCO	19		6.3	Should support IPOE/DHCP, PPPoE, L2TP, IPSEC VPN, Captive Portal type deployment	Should support IPOE/DHCP, PPPoE, L2TP	Captive Portal will be needed in case IPoE deployment and would be part of the OSS solution and not the BNG solution. Request you to kindly remove the IP Sec VPN and Captive Portal requirement. This would lead to the cost enhancements.	Tender conditions remains the same
CISCO	20	69	6.5	Additional requirement	Proposed router should support a switching capacity of at least 800 Gbps Full Duplex	This is the internet peering router, considering next 7 years of traffic growth Day 1 minimum 800 Gbps router is required	Tender conditions remains the same
CISCO	21	69	6.5	Additional requirement	The router should support 6x100GE and 40x10GE simultaneously for all future requirement	Internet router will be connected internally on multiple 10 Gigs and externally wherever possible on 100Gig interface	Tender conditions remains the same

CISCO	22	69	6.5	Additional requirement	All ports in the proposed router s total forwarding performance should be. 330 MPPS or more	6. Mix packet type calculation for performance according to throughput	Tender Conditions remain same
CISCO	23	69	6.5	Additional requirement	Router should be Populated with 4 x 100G SR, 20 x 10 G SFP+ 10 Kms and 4 x 1 G SFP 10 kms Populated from DAY 1	Request to mention SFP Module from Day 1 on the internet router.	Tender conditions remain the same
CISCO	24	69	6.5	Additional requirement	The proposed router should support the following: a. 250,000 MAC Addresses b. 20,000,00 IPv4 unicast routes c. 40,000,00 IPv6 routes d. 10,000 multicast routes e. 4 labels in label stack , f.50,000 MPLS Label	Standard routes IPv4 and IPv6 supported across internet routers, and as these will also be peering to different peering routers hence the scale	Tender conditions remain the same
TCIL	25			Regarding Consortium and /or back to back arrangement for bidding...	We believe that consortium formation for bidding will enable us to deliver the best possible results in a timely and cost-effective manner. So kindly, allow consortium and /or back to back arrangement for participating in this tender.		Tender conditions remain the same
TCIL	26	3	Clause 3(d)	The bidder should have successfully completed implementation of NGFW Firewall solutions, OSS/BSS/AAA Applications and 150 MPLS Nodes in a single project...	It is requested to kindly amend as - The bidder should have successfully completed implementation of NGFW Firewall solutions, OSS/BSS/AAA Applications and 150 MPLS Nodes in a Single/Multiple projects.		Tender conditions remain the same
NETCON Technology	27	5		1. The bidder should have reported an Average Annual	The bidder should have reported an Average Annual	Average annual turnover is more higher than	Tender Conditions remain same

gies				ual Turnover* of at least Rs.100 Crores in the last three consecutive financial years i.e. FY2020-21, FY2021-22 and FY2022-23. Marks based on Average Turnover in the past three financial years (in Crores): > 100 Cr to 150 Cr – 10 Marks > 150 Cr to 200 Cr – 15 Marks > 200 Cr – 25 Marks	Annual Turnover* of at least Rs.100 Crores in the last three consecutive financial years i.e. FY2020-21, FY2021-22 and FY2022-23. Marks based on Average Turnover in the past three financial years (in Crores): > 100 Cr to 120 Cr – 10 Marks > 120 Cr to 140 Cr – 15 Marks > 140 Cr – 25 Marks	an the tender estimation cost. Request to change it for fair competition.	
NETC ON Te chnolo gies	28	5		2. The bidder should have successfully completed supply, installation and commissioning of IT Hardware's for Datacenter/NOC including routers, switches, firewalls, servers etc. in a single project with a contract value of at least ₹20 crores to State / Central Government / BharatNet Projects/ Telecom Operators in India in the last five years as on Date of Bid submission. Marks based on Single project value: > 20 Cr to 25 Cr – 20 Marks > 25 Cr to 30 Cr – 30 Marks > 30 Cr – 40 Marks	The bidder should have successfully completed supply, installation and commissioning of IT Hardware's for Datacenter/NOC including routers, switches, firewalls, servers etc. in a single project with a contract value of at least ₹20 crores to State / Central Government / BharatNet Projects/ Telecom Operators / Large Enterprises in India in the last five years as on Date of Bid submission. Marks based on Single project value: > 20 Cr to 25 Cr – 20 Marks > 25 Cr to 30 Cr – 30 Marks > 30 Cr – 40 Marks	Kindly accept projects from Large enterprises as well for fair competition	Tender Conditions remains same
NETC ON Te chnolo gies	29	5		2. The bidder should have successfully completed supply, installation and commissioning of IT Hardware's	The bidder should have successfully completed or Ongoing project for supply, installation and com	Request to accept Ongoing Projects for wider participation	Tender conditions remains the same

				for Datacenter/NOC including routers, switches, firewalls, servers etc. in a single project with a contract value of at least ₹20 crores to State / Central Government / BharatNet Projects/ Telecom Operators in India in the last five years as on Date of Bid submission. Marks based on Single project value: > 20 Cr to 25 Cr – 20 Marks > 25 Cr to 30 Cr – 30 Marks > 30 Cr – 40 Marks	missioning of IT Hardware's for Datacenter/NOC including routers, switches, firewalls, servers etc. in a single project with a contract value of at least ₹20 crores to State / Central Government / BharatNet Projects/ Telecom Operators / Large Enterprises in India in the last five years as on Date of Bid submission. Marks based on Single project value: > 20 Cr to 25 Cr – 20 Marks > 25 Cr to 30 Cr – 30 Marks > 30 Cr – 40 Marks		
NETC ON Technologies	30	5		2. The bidder should have successfully completed supply, installation and commissioning of IT Hardware's for Datacenter/NOC including routers, switches, firewalls, servers etc. in a single project with a contract value of at least ₹20 crores to State / Central Government / BharatNet Projects/ Telecom Operators in India in the last five years as on Date of Bid submission. Marks based on Single project value: > 20 Cr to 25 Cr – 20 Marks > 25 Cr to 30 Cr – 30 Marks > 30 Cr – 40 Marks	Kindly consider projects undertaken under consortium.	Kindly accept this for healthy competition	Tender conditions remains the same
NETC ON Te	31	6		3. The bidder should have success	The bidder should have succe	Kindly accept this for healthy	Tender conditions rem

chnologies				fully completed implementation of NGFW Firewall solution, OSS/BSS/AAA Applications and 150 MPLS Nodes in a single project for a State / Central Government / BharatNet Projects / Telecom Operators in India in the last five years as on Date of Bid submission. Marks based on Number of Nodes: 150 MPLS Nodes – 5 Marks 151-250 MPLS Node – 7 Marks 251-500 MPLS Node – 10 Marks	successfully completed implementation of NGFW Firewall solution, OSS/BSS/AAA Applications and 150 MPLS Node in a single project for a State / Central Government / BharatNet Projects / Telecom Operators in India in the last five years as on Date of Bid submission. Marks based on Number of Nodes: 150 MPLS Nodes – 5 Marks 151-200 MPLS Node – 7 Marks 200-500 MPLS Node – 10 Marks	competition	ains the same
GTPL Hathway	32	3	Clause 3(c)	The bidder should have successfully completed supply, installation and commissioning of IT Hardware's for Datacenter/NOC including routers, switches, firewalls, servers etc. in a single project with a contract value of at least ₹20 crores to State / Central Government / BharatNet Projects/ Telecom Operators in India in the last five years as on Date of Bid submission.	Request for allow Group company and parent company project experience for the same.		Tender conditions remains the same
GTPL Hathway	33	3	Clause 3(c)	Work order and Completion Certificates / Go-Live certificate issued by Client	Request for consider Work order copies for running/ongoing projects		Tender conditions remains the same
GTPL Hathway	34	3	Clause 3(d)	The bidder should have successfully completed implementation of NGFW Firewall solutions, OSS/BSS/AAA Applications and 150 MPLS Nodes in a single project for a State / Central Government / BharatNet Pro	Kindly allow for MPLS/LAN-WAN/Wi-Fi nodes instead of only MPLS nodes (150 MPLS / LAN-WAN / Wi-Fi Nodes in a single project)		Tender Conditions remains the same

				jects / Telecom Operators in India in the last five years as on Date of Bid submission.			
GTPL Hathway	35	6		The bidder should have successfully completed implementation of NGFW Firewall solutions, OSS/BSS/AAA Applications and 150 MPLS Nodes in a single project for a State / Central Government / BharatNet Projects / Telecom Operators in India in the last five years as on Date of Bid submission. Marks based on Number of Nodes: 150 MPLS Nodes – 5 Marks 151-250 MPLS Node – 7 Marks 251-500 MPLS Node – 10 Marks	Kindly allow for MPLS/LAN-WAN/Wi-Fi nodes instead of only MPLS nodes (150 MPLS / LAN-WAN / Wi-Fi Nodes in a single project)		Tender Conditions remains the same
Sterlite Technologies Limited	36	21	Section 2.6	The supply, installation, integration, testing and commissioning of all the headend systems as per the scope of work shall be completed within 120 days from the date of issue of Work Order.	Considering the supply chain scenario on Material delivery, request the timeline to be modified to 10 Months from the present 4 Months. Kindly confirm		Tender Conditions remains the same
Sterlite Technologies Limited	37	47	Section 4.3	Integrate with the existing enterprise management solutions and helpdesk solutions etc. Integrate Coimbatore location with Central NOC for Authentications, Compliance and other Services etc	Understand that APIs of existing solutions required for integration will be provided by Purchaser. Any hardware procurement, software development, API development of existing equipments will be responsibility of Purchaser. Kindly confirm.		APIs of existing solutions required for integration will be provided by TANFINET. Bidder to propose suitable solution as per the current existing APIs.
Sterlite Technologies Limited	38	48	Section 4.4	Integrate with the existing enterprise management solutions and helpdesk solutions etc	Understand that APIs of existing systems and external systems (required by USOF, BBNL, DoT etc.) which are		APIs of existing solutions required for integration will be provided

				Integrate the systems as required by US OF, BBNL, DoT and other Govt requirements etc	required for integration will be provided by Purchaser. Any hardware procurement, software development, API development of existing equipments will be responsibility of Purchaser. Kindly confirm.		by TANFINET. Bidder to propose suitable solution as per the current existing APIs.
Sterlite Technologies Limited	39	49	Section 4.6	Conduct training sessions to familiarize TANFINET teams with the internet service, roaming features, Subscriber device configuration and billing processes.	Kindly confirm Location, number of batches and participants for training.		Bidder should recommend the adequate training days to cover the entire scope. Bidder should provide training to minimum 25 resources at three batches. Each batch training should be planned for minimum two days. Also one week admin training also should be provided.
Sterlite Technologies Limited	40	23	Section 29	The advance will be recovered in the payments to be made for the bills. In other words, payments for the bills will be made only after recovering the advance in full.	Request you to kindly adjust the advance @ 10% from every bill submitted instead of complete adjustment from single bill.		Tender conditions remain the same
Sterlite Technologies Limited	41	22	Section 28	PERFORMANCE BANK GUARANTEE:-1. A performance bank guarantee equivalent to 10% of the contract value with a validity period of 3 years and 6 months from any Indian Nationalized bank has to be submitted	Request you to kindly reduce the performance bank guarantee upto 3% of contract value		Refer Corrigendum
Sterlite Technologies Limited	42	22	Section 29	90% of the cost for Supply, Installation, Integration, Testing and	Request to provide the below payment terms for smooth f		Tender Conditions remain same

ies Li imited				Commissioning of Head End Systems (i.e. Part A) will be made after successful completion of Acceptance Testing and acceptance by TANFINET	unctioning of operations:- 1. 60% on delivery of material as per BOQ supplied items. 2.30% on Installation and commissioning of respective NOC and regional sites on pro rata basis. 3.10% on acceptance testing of the project.		e
Sterlite Technologies Limited	43	13	Section 13	TANFINET reserves the right to vary the Scope of Work at any time during the contract period, by giving a written order. If any such change causes an increase or decrease in the cost of or the time required for the Bidder's performance of any part of the work under the Agreement, an equitable adjustment shall be made in the Agreement Value or time schedule, or both, and the Agreement shall accordingly be amended. Any claims by the Bidder for adjustment under this Clause must be asserted within one (1) week from date of the Bidder's receipt of TANFINET's order for change. The unit rate of each item quoted/ accepted by the selected Bidder shall however not change.	1.Request to update that acceptance of further increase in scope will be on discretion of bidder. 2.Any item which is not part of BOQ, the prices for that item will be mutually decided by both bidder and Tanfinet.		Tender Conditions remains same. Any additional items required to deliver the complete functionality should be quoted as misc solution component in the price bid. Bidder has to submit sub item wise break up cost for the items covered in line item 1.8 & 2.7 as part of financial bid in pdf format.
Polycab	44	43	Section 3.2	MPLS Router (Existing Routers can be utilized with IBGP)	As per the Given Solution in Year one Solution should handle 5,00,000 users, with the understanding from the Tanfinet Existing Architecture, the MPLS Router should handle all the L2 Traffic		L2 Traffic termination will be done at BNG side

					c from the Field as the GP Router will act as a L2 Node for the End Users all the end user traffic should be forwarded to the Core Layer to Access the AAA Solutions then only they will be onboarded as a Subscriber, Request You to please clarify whether the L2 Traffic will be terminated at MPLS Router or BNG Solutions		
Polycab	45	43	Section 3.2	3.2 Proposed Architecture at Chennai NOC	If L2 Traffic will be terminated at MPLS Router we need minimum of 120000 L2VPN tunnels at the MPLS Router		L2 Traffic termination will be done at BNG side
Polycab	46	43	Section 3.2	MPLS Router (Existing Routers can be utilized with IBGP)	If L2 Tunnels are Terminated at MPLS Router at NoC Please clarify that whether existing router capable of Handling 120000 L2VPN Tunnels for handling the subscribers		Tender Conditions remains same
Polycab	47	60	Section 3.4	Should support L2TP, SSTP, OpenVPN, IPSEC VPN	With the Reference to the Existing Deployment and the capability ONT devices the L2 Circuit have to be used for onboarding the subscribers and that requires Tunneling features at the BNG Gateway, Kindly Confirm how the L2 Traffic Termination is planned		L2 Traffic termination will be done at BNG side
Polycab	48	60	Section 3.4	Should support L2TP, SSTP, OpenVPN, IPSEC VPN	If the L2 Traffic from subscriber is planned to Terminate at the BNG as shown in Architecture, Please Clarify How many L2 VPN Tunnels required at the Centralized BNG Solution		Tender Conditions remains same
Polycab	49	1	Section 2	URL Filtering solution	The Scope of Work		URL Filtering

ab				ns	calls for the URL Filtering Functionality but the technical specifications haven't called for this feature, request you to kindly clarify how to achieve this functionality		ing solutions should be part of DD Solution
Polycab	50	45	Section 3.3	Proposed Architecture at Coimbatore	The Architecture shows MPLS Router but the BoQ does not have any MPLS BoQ at the Coimbatore Location. Please clarify does any existing router is available at Coimbatore		Any additional items required to deliver the complete functionality should be quoted under 1.8 & 2.7 of the price bid. Bidder has to submit sub item wise break up cost for the items covered in line item 1.8 & 2.7 as part of financial bid in pdf format.
Polycab	51	45	Section 3.3	Proposed Architecture at Coimbatore	If yes, Please let us know the Supported L2 Tunnels for Handling the 120000 L2 Traffic tunnels from the ONT devices, Throughput supported of existing router		Tender Conditions remains same
Polycab	52	45	Section 3.3	Proposed Architecture at Coimbatore	MPLS routers should handle all the end user traffic during the Course of SNOC Failure, Request you to Provide the Detailed Technical Specification for the MPLS Router		Pls consider internet router specifications as MPLS router specifications at Coimbatore. Bidder can propose suitable solution.
Polycab	53	59	Section 6.3	System must support 1G, 10G, 40G and 100G interface. Provided solutions should have	System must support 10G, 40G and 100G interface. Provided solutions should have	Request to remove 1G interfaces, as RFP talking about	Tender Conditions remains same

				ave 100G Interfaces	ould have 100G Int erfaces	100G throug hput. 1G is no t relavant	
Polyc ab	54	2	Section 2	The bidder should submit Standard Operation Procedure (SOP) for the O & M period at the time of execution of the Agreement.	As this requirement need to be fulfilled during execution period, this clause should be modified as - The successful bidder should submit Standard Operation Procedure (SOP) for the O & M period at the time of execution of the Agreement.		Refer Corrigendum
Polyc ab	55	2	Section 2	Training: The bidder should also provide hands-on training on the operation and maintenance and regular operations of the installed system to the personnel of TANFINET with training materials on operation and maintenance of the system.	As this requirement need to be fulfilled during execution period, this clause should be modified as - The successful bidder should also provide hands-on training on the operation and maintenance and regular operations of the installed system to the personnel of TANFINET with training materials on operation and maintenance of the system. 2) As per our understanding, bidder need not to submit any training proposal with their Technical Bid. Please confirm.		Refer Corrigendum
Polyc ab	56	3	Section 3	Qualification Criteria The bidder should have successfully completed supply, installation and commissioning of IT Hardware's for Datacenter/NOC including routers, switches, firewalls, servers etc. in a single project with a contract value of at least ₹20 crores to State / Central Government / Bharat	We understand that any prospective bidder who have executed similar project for TANFINET (fulfilling the requisite experience criteria) need not to submit any client /completion certificate. Submission of copy of Work Order by such bidder will suffice the purpose.		Tender Conditions remains same.

				Net Projects/ Telecom Operators in India in the last five years as on Date of Bid submission. Supporting Documents/Remarks Work order and Completion Certificates / Go-Live certificate is issued by Client	Please confirm.		
Polycab	57	3	Section 3	Qualification Criteria The bidder should have successfully completed implementation of NGFW Firewall solutions, OSS/BSS/AAA Applications and 150 MPLS Nodes in a single project for a State / Central Government / BharatNet Projects / Telecom Operators in India in the last five years as on Date of Bid submission. Supporting Documents/Remarks Work order and Completion Certificates / Go-Live certificate by the Client	We understand that any prospective bidder who have executed similar project for TANFINET (fulfilling the requisite experience criteria) need not to submit any client /completion certificate. Submission of copy of Work Order by such bidder will suffice the purpose. Please confirm.		Tender Conditions remains same.
Polycab	58	4	Section 3	Qualification Criteria The bidder shall submit Manufacturer Authorization Form (MAF) from Original Equipment Manufacturer (OEM) for all the active components. Supporting Documents/Remarks (i) Manufacturers Authorization Form (MAF) as per Annexure V for each component should be enclosed. (ii) The bidders shall submit MAF from a maximum of 3 OEMs for a particular product. Bidders will be permitted to execute the contract through ap	Our understanding to this clause is as follows - a) The bidders are allowed to submit MAF from minimum one or maximum of 3 OEMs for a particular product. b) Bidders will be permitted to execute the contract through any or all of three approved OEMs for which MAF was submitted. Please confirm if our understanding is correct.		The bidder shall submit MAF from a maximum of 3 OEMs for a particular product. Bidders will be permitted to execute the through OEMs for which MAF was submitted.

				proved OEMs for which MAF was submitted.			
Polycab	59	5	Section 3	Qualification Criteria and marks breakup The bidder should have successfully completed supply, installation and commissioning of IT Hardware's for Datacenter/NOC including routers, switches, firewalls, servers etc. in a single project with a contract value of at least ₹20 crores to State / Central Government / BharatNet Projects/ Telecom Operators in India in the last five years as on Date of Bid submission. Maximum marks: 40 Marks based on Single project value: > 20 Cr to 25 Cr – 20 Marks > 25 Cr to 30 Cr – 30 Marks > 30 Cr – 40 Marks Documents to be submitted Work order and Completion Certificates / Go-Live certificate issued by Client	We understand that any prospective bidder who have executed similar project for TANFINET (fulfilling the requisite experience criteria) need not to submit any client /completion certificate. Submission of copy of Work Order by such bidder will suffice the purpose. Please confirm.		Tender Conditions remains same
Polycab	60	6	Section 3	Qualification Criteria and marks breakup The bidder should have successfully completed implementation of NGFW Firewall solutions, OSS/BSS/AAA Applications and 150 MPLS Nodes in a single project for a State / Central Government / BharatNet Projects / Telecom Operators in India in the last five years as on Date of Bid submission.	We understand that any prospective bidder who have executed similar project for TANFINET (fulfilling the requisite experience criteria) need not to submit any client /completion certificate. Submission of copy of Work Order by such bidder will suffice the purpose. Please confirm.		Tender Conditions remains same

				Maximum marks: 10 Marks based on Number of Nodes: 150 MPLS Nodes – 5 Marks 151-250 MPLS Node – 7 Marks 251-500 MPLS Node – 10 Marks Documents to be submitted Work order and Completion Certificates / Go-Live certificate issued by Client			
Polycab	61	16	Section 17	The bidders who are qualified in the technical bids and successfully <i>complete the testing</i> with existing TANFINET network will be informed the date of opening of Price bid.	We understand that POC/Testing is not part of this Tender, hence the clause should be modified as - The bidders who are qualified in the technical bids will be informed the date of opening of Price bid.		Tender Conditions remains same
Polycab	62	17	Section 19	The price bid will be evaluated in accordance with the Tamil Nadu Transparency in Tenders Act 1998 read with the Tamil Nadu Transparency in Tenders Rules 2000. The bidder who has quoted the lowest rate for executing the contract as per the scope of work (i.e. Part A + Part B) will be adjudged as H1.	These two clauses are contradicting. One says that bidder who has quoted lowest rate will be adjudged as H1 after applying QCBS method/formula. Whereas another says - the bidder who adjudges as L1 will be invited for negotiation for further reduction of rates. As per our understanding the bidder who is adjudged as H1 after QCBS formula will be invited for negotiation and upon finalization of negotiated rate awarded the LOA. Please confirm if our understanding is correct.		H1 will be considered for negotiations

Polycab	63	17	Section 20	The bidder who is adjudged as L1 will be invited for price negotiations for further reduction of rates.	These two clauses are contradicting. One says that bidder who has quoted lowest rate will be adjudged as H1 after applying QCBS method/formula. Whereas another says - the bidder who adjudges as L1 will be invited for negotiation for further reduction of rates. As per our understanding the bidder who is adjudged as H1 after QCBS formula will be invited for negotiation and upon finalization of negotiated rate awarded the LOA. Please confirm if our understanding is correct.	H1 will be considered for negotiations
Polycab	64	24	Section 30	Failure to complete the work within the stipulated timeline (as per clause 26) will attract a penalty ₹2,500 per day up to a maximum of ₹25,000. Delay beyond that period will result in cancellation of the order besides forfeiture of SD. Delays not attributable to the bidder would be exempted in calculation of penalty.	As LD is also linked with the non-completion of the work within the stipulated timeline, we understand only one out of these two clauses should be applicable. Request you to please review and clarify.	LD for 10% of Part-A and Part-B can be considered as maximum penalty. However, penalty calculation would be based on lapse of days in completing the works.
Polycab	65	24	Section 31	Liquidated Damages shall be capped to a maximum 10% of Part-A for implementation activities and 10% of Part-B for O&M activities. Beyond the maximum penalty, TANFINET has the right to terminate the contract or a portion or part of the work thereof....	As LD is also linked with the non-completion of the work within the stipulated timeline, we understand only one out of these two clauses should be applicable. Request you to please review and clarify.	LD for 10% of Part-A and Part-B can be considered as maximum penalty. However, penalty calculation would be based on lapse of days in c

Polycab	66	49	Section 4.6	Training • Provide 3rd level technical support services to address user queries, troubleshoot connectivity issues etc. • Conduct training sessions to familiarize TANFINET teams with the internet service, roaming features, Subscriber device configuration and billing processes.	This clause related to 'Training' should be elaborated as details such as man-hour/days, training contents, locations etc. are not provided. As this will have impact on Price Bid, request you please re-draft this clause explaining exact requirement.	Completing the network works. Bidder should recommend the adequate training days to cover the entire scope. Bidder should provide training to minimum 25 resources at three batches. Each batch training should be planned for minimum two days. Also one week admin training also should be provided.
Polycab	67	72	Annexure II	The bidder shall prepare an operation & maintenance manual and submit to TANFINET for approval. It shall cover the following, but not limited to: a) The details of the manpower deployment for maintenance. b) The process/procedure for the periodical maintenance, problem resolution, fault rectification.	As this requirement need to be fulfilled during execution/O&M period, we understand only successful bidder need to comply this requirement and submit the required documents before start of O&M phase. Please confirm.	Yes, Details of manpower can be shared during starting of O&M period for TANFINET approval. However process, procedure, incident handling procedure, periodical maintenance procedure should be shared along with BID.
Polycab	68	72	Annexure II	The bidder shall submit periodical reports (monthly, quarterly, and annual) against the SLA as per clause 29(a)	This requirement also need to be fulfilled during execution of the project. Hence, bidder need not to submit any such reports with the Bid. Please confirm.	Yes. Clause applicable for Successful bidder.

Polycab	69	55	Section 6.1	BSS, AAA, IPDR Solutions Component- BSS The system must have integration with multiple vendors for SMS, Email, WhatsApp notifications to subscribers.	We understand that the integration of the BSS systems with WhatsApp will be in the scope of the bidder, however, cost of procuring services (if any) from WhatsApp will be borne by TANFINET. Please confirm	Yes
Polycab	70	1	Section 2	Payment Gateway Portal Solutions	Please provide the total number of payment gateways to be integrated with solution. Please provide the API type (REST, SOAP etc.,)	Will be shared with Successful bidder
Polycab	71	57	Section 6.1	BSS, AAA, IPDR Solutions Component- Self Service Portal for Customers Self-Register for Services with UIDAI based KYC	We understand that TANFINET will coordinate with UIDAI to provide the API for integration for UIDAI based KYC. Cost (if any) to be paid to UIDAI will be borne by TANFINET. Please confirm	Yes
Polycab	72	53	Section 6.1	Different components of the Solution. For e.g., BSS, Self service portal etc.,	We understand that the following external integrations will be required. 1. Payment gateway 2. WhatsApp for business 3. UIDAI Please suggest if any additional external integrations are required	Bidder should go through BSS, Self service portal specifications and should comply for all type of mentioned integrations
Polycab	73	53	Section 6.1	Different components of the Solution. For e.g., BSS, Self service portal etc.,	We understand that the bidder shall propose a COTS product fulfilling the technical criteria and make necessary customization depending on the requirement of the product. Please confirm	Yes
Polycab	74	53	Section 6.1	Different components of the Solution. For e	We understand that all the componen	Yes should be deploye

				.g., BSS, Self service portal etc.,	ts / software / applications will be hosted on premise and none of the components shall be deployed on cloud. Please confirm	ed in On-Premises
Polycab	75	53	Section 6.1	Different components of the Solution. For e.g., BSS, Self service portal etc.,	We understand that IT infrastructure (servers / storage / compute etc.,) shall be provided by TANFINET. Bidder shall only provide the infrastructure requirements. Please confirm	Hardware cost should be included in the respective line items by bidder
Polycab	76	53	Section 6.1	BSS, AAA, IPDR Solutions '- The system should be deployed in High availability mode with in Datacentre. The system shall be offered in DC-DR mode. - The system should support DC-DR mode during DR Site implementation. The DC-DR site shall work in Active-Active mode.	We understand that IT infrastructure (servers / storage / compute etc.,) at DC and DR shall be provided by TANFINET. Please confirm	All the IT infrastructure (servers / storage / compute etc.,) required at Chennai & Coimbatore is in scope of Bidder and should be part of Bid (All inclusive). Proposed solutions should support DC-DR implementation. DR related implementation and associated costing will be taken up separately
Polycab	77	53	Section 6.1	BSS, AAA, IPDR Solutions '- The system should be deployed in High availability mode with in Datacentre. The system shall be offered in DC-DR mode. - The system should support DC-DR mode during DR Site implementation. The DC-DR site shall work in Active-Active mode.	We understand that secured bandwidth between DC-DR shall be provided by TANFINET.	All the IT infrastructure (servers / storage / compute etc.,) required at Chennai & Coimbatore is in scope of Bidder and should be part of Bid. Proposed solutions

							ions should support DC-DR implementation. DR related implementation and associated costing will be taken up separately
Polycab	78	53	Section 6.1	BSS, AAA, IPDR Solutions '- The system should be deployed in High availability mode with in Datacentre. The system shall be offered in DC-DR mode. - The system should support DC-DR mode during DR Site implementation. The DC-DR site shall work in Active-Active mode.	Is the bidder expected to provide a replication software for DC-DR site to work in Active-active mode?		All the IT infrastructure (servers / storage / compute etc.,) required at Chennai & Coimbatore is in scope of Bidder and should be part of Bif. Proposed solutions should support DC-DR implementation. DR related implementation and associated costing will be taken up separately
Polycab	79	71	Section 6.6	Smart Rack Cooling Environment Network / Server Rack (ID), 42U , 800 W x 1100 D , Front Glass Door & Rear Plain Split Door with side panels and rack accessories -2 Racks	We understand that the bidder shall provide two 42 U racks. During execution, there arises a need of additional racks, please suggest on how the billing of additional racks will be done		Any additional items required to deliver the complete functionality should be quoted under 1.8 & 2.7 of the price bid. Bidder has to submit sub item wise break up cost for the items covered in line item 1.8 & 2.7 as part of

							financial bid in pdf format.
Polycab	80	71	Section 6.6	Smart Rack Cooling Environment 2Nos of 6Kva UPS Rack mounted – Batteries for 30Mins Load each – Externally placed	Is the bidder expected to provide the two 6KVA UPS along with additional rack to install UPS & Batteries?		Yes
Polycab	81	43	Section 3.2	Internal Firewall (Existing Firewalls can be utilized)	We assume that TANFINET will allow bidders to use existing internal firewall for Headend system requirements. Kindly clarify		Yes
Polycab	82	43	Section 3.2	Internal Firewall (Existing Firewalls can be utilized)	We assume that TANFINET will provide firewall at Coimbatore location. Kindly clarify OR if not then kindly add the same line item in Bills of Material and Financial Bid.		Firewalls are not required in Coimbatore
Polycab	83	67	Section 6.6	6.6 HA Switches at Coimbatore 6.6 Smart Rack Cooling Environment	Both compliance having same serial number reference. We assume that it would be as per below. 6.4 HA Switches at Coimbatore 6.6 Smart Rack Cooling Environment Kindly confirm and if it different than clarify.		Yes
Polycab	84	71	Section 6.6	Smart Rack Cooling Environment Network / Server Rack (ID), 42U , 800 W x 1100 D , Front Glass Door & Rear Plain Split Door with side panels and rack accessories -2 Racks	We assume that total two rack solution required. Kindly clarify.		Yes
Polycab	85	71	Section 6.6	Smart Rack Cooling Environment Two 19" Rack Mount Cooling Unit , 7000 Watt, (2Tr.) for HA	We assume that total two cooling Unit required for two rack solution Kindly clarify.		Yes
Polycab	86	88	PRICE BID – PART B	PRICE BID – PART B	is Bidder has to consider 1 Year O&M		Part-B: Requirement (

			T B	Operation & Maintenance cost for 3 Years Sr No -2. O&M Resources – (3 x L1 for 24x7 Support, 1 x L2 General shift) at Coimbatore- 4 Qtrs	for Coimbatore location (4 Quarters are mentioned in BoM and Financial Bid) Please clarify		O&M at Coimbatore) is for 3 years. Rates discovered for S.No.2 of Part-B is for 4 Qtrs. However, work order would be issued for 12 Qtrs based on the rates quoted by the bidder.
Polycab	87	89	PRICE BID – PART C	PRICE BID – PART C Operation & Maintenance cost for additional 2 years (4th and 5th Year) (To be submitted in PDF format as part of Financial Bid) Sr. No.2 O&M Resources - Consumer helpdesk and Support Team (3xL1, 1xL2 for 24 x7 Support, 1 x L3 general Shift) - 12 Qtrs	Kindly change Quarters as per requirement is for two years (Eight Quarters) Kindly change accordingly. Kindly clarify		Part-C: Requirement (O&M at Chennai & Coimbatore) is for 2 years. Rates discovered for 12 Qtrs and 4 Qtrs. However, work order would be issued for 8 Qtrs.
Polycab	88	89	PRICE BID – PART C	PRICE BID – PART C Operation & Maintenance cost for additional 2 years (4th and 5th Year) (To be submitted in PDF format as part of Financial Bid) Sr. No. 2 O&M Resources – (3 x L1 for 24 x7 Support, 1 x L2 General shift) at Coimbatore 4 Qtrs	is Bidder has to consider 1 Year O&M for Coimbatore location (4 Quarters are mentioned in BoM and Financial Bid) Please clarify		Part-C: Requirement (O&M at Chennai & Coimbatore) is for 2 years. Rates discovered for 12 Qtrs and 4 Qtrs. However, work order would be issued for 8 Qtrs.
Adopt	89			Generic	DO we need to support Microservices/Dockerized environment.		As per bidder solutions
Adopt	90			Generic	Do we need to support IPv6 DR		Yes. Solution should s

							support both IPv4 and IPv6 deployments
Adopt	91	61		Multi-RADIUS failover or load balancing	Do we need to support Load Balancing on both UDP and TCP traffic.		Yes. Radius and BSS application should support load balancing on both UDP and TCP traffic
Adopt	92	53		The system should be deployed in High availability mode within Datacentre. The system shall be offered in DC-DR mode.	Need more clarity on "The system shall be offered in DC-DR mode." As we understand there is no DR to be proposed as per BoQ		Proposed solution should have HA functionality from day 1. Also solution should have DC-DR capability in future.
Adopt	93	57		Should support Triple Play services and other services	Kindly elaborate on other services.		Other services - meant BSS Solutions should handle customized services offering to customers like managed firewall, safe search.
Ascend	94	3	3. QUALIFICATION CRITERIA	The bidder should have successfully completed supply, installation and commissioning of IT Hardware's for Datacenter/NOC including routers, switches, firewalls, servers etc. in a single project with a contract value of at least ₹20 crores to State / Central Government / BharatNet Projects/ Telecom Operators in India in the last five years as on Date of Bid submission	The bidder or OEM should have successfully completed supply, installation and commissioning of IT Hardware's for Datacenter/NOC including routers, switches, firewalls, servers etc. in a single project with a contract value of at least ₹20 crores to State / Central Government / BharatNet Projects/ Telecom Operators in India in the last five years as on Date of Bid submission		Tender Conditions remains same

				on.	he last five years a s on Date of Bid submis sion.		
Ascen t	95	3	3. QUALIFI CATION CRITERI A d.	The bidder should have successfully completed implem entation of NGFW F irewall solu tions, OSS/BSS/AAA Applications and 15 0 MPLS Nodes in a single project for a State / Central Go vernment / Bharat Net Projects / Telecom Operators i n India in the last five years as on Date of Bid submission.	The bidder or OE M should have s uccessfully co mpleted implement ation of NGFW Fi rewall solu tions, OSS/BSS/A AA Applications a nd 150 MPLS No des in a single pr oject for a State / Central Govern ment / BharatNe t Projects / T elecom Operators i n India in the last fi ve years as on Dat e of Bid submissio n.		Tender Co nditions re mains sam e
Ascen t	96	4	3. QUALIFI CATION CRITERI A f.	The bidder shall ensure that OEM c omplies with restrict ions on p rocurement under rule 144 (xi) vide order no: 06/18/201 9-PPD dated 23r d July 2020 insert ing Rule 144(xi) in GFRs 2017.	The bidder or OE M shall ensure t hat OEM compli es with restriction s on pr ocurement under rule 144 (xi) vide or der no: 06/18/201 9-PPD dated 2 3rd July 2020 i nserting Rule 144(xi) in GF Rs 2017.		Tender Co nditions re mains sam e
Ascen t	97	5	Technica l Evaluati on Criteri a (TEC) S.No.1	The bidder shou ld have reported an Average Annua l Turnover* of at le ast Rs.100 Crores in the last three consecutive financial years i.e. FY2020-21 , FY2021-22 and FY2022-23. Marks based on Average Turnover in the past thre e financial years (in Crores): > 100 Cr to 150 Cr – 10 Marks > 150 Cr to 200 Cr – 15 Marks > 200 Cr – 25 Marks	The bidder sh ould have report ed an Average Annual Turnover* of at least Rs.10 0 Crores in the last three cons ecutive financial ye ars i.e. FY2020-21, FY2021-22 a nd FY2022-23. Marks based on Average Tur nover in the pa st three financial years (in Crores): > 80 Cr to 100 Cr – 10 Marks > 100 Cr to 130 Cr – 15 Marks > 130 Cr – 25 Mar		Tender Co nditions re mains sam e

Ascend t	98	5	Technical Evaluation Criteria (TEC) S.No.2	The bidder should have successfully completed supply, installation and commissioning of IT Hardware's for Datacenter/NOC including routers, switches, firewalls, servers etc. in a single project with a contract value of at least ₹20 crores to State / Central Government / BharatNet Projects/ Telecom Operators in India in the last five years as on Date of Bid submission. Marks based on Single project value: > 20 Cr to 25 Cr – 20 Marks > 25 Cr to 30 Cr – 30 Marks > 30 Cr – 40 Marks	ks The bidder or OEM should have successfully completed supply, installation and commissioning of IT Hardware's for Datacenter/NOC including routers, switches, firewalls, servers etc. in a single project with a contract value of at least ₹20 crores to State / Central Government / BharatNet Projects/ Telecom Operators / PSU Banks in India in the last five years as on Date of Bid submission. Marks based on Single project value: > 20 Cr to 25 Cr – 20 Marks > 25 Cr to 30 Cr – 30 Marks > 30 Cr – 40 Marks		Tender Conditions remains same
Ascend t	99	5	Technical Evaluation Criteria (TEC) S.No.3	The bidder should have successfully completed implementation of NGFW Firewall solutions, OSS/BSS/AAA Applications and 150 MPLS Nodes in a single project for a State / Central Government / BharatNet Projects / Telecom Operators in India in the last five years as on Date of Bid submission. Marks based on Number of Nodes: 150 MPLS Nodes – 5 Marks 151-250 MPLS Nodes – 7 Marks 251-500 MPLS Nodes – 10 Marks	The bidder or OEM should have successfully completed implementation of NGFW Firewall solution, OSS/BSS/AAA Applications and 150 MPLS Nodes in a single project for a State / Central Government / BharatNet Projects / Telecom Operators in India in the last five years as on Date of Bid submission. Marks based on Number of Nodes: 150 MPLS Nodes – 5 Marks 151-250 MPLS Nodes – 7 Marks		Tender Conditions remains same

					251-500 MPLS No		
					de – 10 Marks		

RAMANASARASWATHI P IAS
Managing Director

Signed by

Maithily Lakshmanasamy

Date: 03-01-2024.19:01:59
for Managing Director

[General Manager (Projects 2)]

Note: This is an electronically generated document in the e-office and no ink signature is required.

Selection of a System Integrator For Supply, Installation, Integration, Testing, and Commissioning of Headend Systems, Including Operation & Maintenance					
NIT_TANFINET_023_Broadband_NOC dated: 30.11.2023					
Corrigendum No. 3 dated 03-01-2024					
Sl.No	Reference(s) (Section, Page)	Page No.	Clause no.	Tender Clause Description	To be read as
1	6.3 . BNG, CGNAT, DNS, DHCP & IPDR Solution , Page No.59	59	6.3	BNG Solutions should be software-based solution and should be implemented in any industry standard server hardware	BNG Solutions can be Software or Hardware based and if it's a software-based solution, it should be implemented in any industry standard server hardware
2	6.3 . BNG, CGNAT, DNS, DHCP & IPDR Solution , Page No.59	59	6.3	Bidder should provide and should provide open northbound interfaces for OSS/BSS integration.	Bidder should provide northbound interfaces for OSS/BSS integration
3	6.3 . BNG, CGNAT, DNS, DHCP & IPDR Solution , Page No.59	59	6.3	System should support Bare Metal or Virtualization functionality	System should support Bare Metal or Virtualization functionality if it is a software based solution and should be quoted with required licenses & hardware (all inclusive).
4		22	Section 28	PERFORMANCE BANK GUARANTEE:- 1.A performance bank guarantee equivalent to 10% of the contract value with a validity period of 3 years and 6 months from any Indian Nationalized bank has to be submitted	PERFORMANCE BANK GUARANTEE:- 1.A Performance Bank Guarantee equivalent to 5% of the contract value with a validity period of 3 years and 6 months from any Indian Nationalized Bank has to be submitted
5		2	Section 2e	Training: The bidder should also provide hands-on training on the operation and maintenance and regular operations of the installed system to the personnel of TANFINET with training materials on	Training: The successful bidder should also provide hands-on training on the operation and maintenance and regular operations of the installed system to the personnel of TANFINET with training

				operation and maintenance of the system.	materials on operation and maintenance of the system.
6		2	Section 2 d	The bidder should submit Standard Operation Procedure (SOP) for the O & M period at the time of execution of the Agreement.	The successful bidder should submit Standard Operation Procedure (SOP) for the O & M period at the time of execution of the Agreement.

Sd/-
Managing Director

Note: This is an electronically generated document in the e-office and no ink signature is required.

Selection of a System Integrator For Supply, Installation, Integration, Testing, And Commissioning Of Headend Systems, Including Operation & Maintenance

TANFINET E-TENDER REFERENCE NO. NIT TANFINET 023 Broadband NOC dated: 30.11.2023

Corrigendum No.07 Dated:29.01.2024

Sl. No	Pg No	Clause No	Title of the Clause	Existing Clause	To be read as
1	2-3	3.	Qualification Criteria b	The bidder should have reported an Average Annual Turnover* of at least Rs.100 Crores in the last three consecutive financial years i.e. FY2020-21, FY2021-22 and FY2022-23. *For the purpose of evaluation, only the Turnover from ICT / IT / Telecom business shall be considered.	The bidder should have reported an Average Annual Turnover* of at least Rs.35 Crores in the last three consecutive financial years i.e. FY2020-21, FY2021-22 and FY2022-23. *For the purpose of evaluation, only the Turnover from ICT / IT / Telecom business shall be considered.
2	3	3.	Qualification Criteria c	The bidder should have successfully completed supply, installation and commissioning of IT Hardware's for Datacenter/NOC including routers, switches, firewalls, servers etc. in a single project with a contract value of at least ₹20 crores to State / Central Government / BharatNet Projects/ Telecom Operators in India in the last five years as on Date of Bid submission.	The bidder should have successfully completed supply, installation and commissioning of IT Hardware's for Datacenter/NOC including routers, switches, firewalls, servers etc. in a single project with a contract value of at least ₹15 crores to State / Central Government / BharatNet Projects/ Telecom Operators in India in the last seven years as on Date of Bid submission.
3	3	3	Qualification Criteria d	The bidder should have successfully completed implementation of NGFW Firewall solutions, OSS/BSS/AAA Applications and 150 MPLS Nodes in a single project for a State / Central Government / BharatNet Projects / Telecom Operators in India in the last five years as on Date of Bid submission.	Clause deleted
4.	4	3.	Qualification Criteria d	New Clause added	The bidder should have successfully completed implementation of NGFW Firewall solutions for Clean Internet Service and IT hardware infrastructure for a State / Central

Sl. No	Pg No	Clause No	Title of the Clause	Existing Clause	To be read as
					Government / BharatNet Projects / Telecom Operators in India in the last 7 years as on 31st March 2023. Supporting Documents/Remarks: Work order and Completion Certificates / Go-Live certificate issued by Client.
5.	4	3.	Qualification Criteria i	New Clause added	Proposed OEMs should have experience in CGNAT Solution, BNG Solution/ OSS/BSS/AAA applications for a State / Central Government / BharatNet Projects / Telecom Operators in India in the last 7 years as on 31st March 2023. Supporting Documents/Remarks: Bidder shall furnish a declaration stating that the qualification of OEM as mentioned in clause i Qualification Criteria for OEMs are met.
6	69	6.5	Internet Router	Router should have support for 4x100GE, at least 24 x 10GE ports. Optical Modules should be made available on demand"	Internet Router should be Populated with 4 x 100G SR (Core Switch Connectivity), 20 x 10 G SFP+ 10 Kms (WAN and peering Connectivity) and 4 x 1 G SFP 10 kms Populated from day 1
7				Additional clause to be added in BNG specs	Proposed BNG Solution should have the following performance parameters: 1.20,00,000 MAC Addresses 2.20,00,000 IPv4 Routes 3.20,00,000 IPv6 Routes 4.2,00,00 Multicast routes 5.1,28,000 L2 VPNs/EOMPLS Terminations 6.16000 L3 VPNs 7. 5,00,000 Queues
8				Additional clause to be added in BNG specs	Proposed hardware based BNG solutions should have 80 x 10G, 8 x 100G interfaces distributed across multiple line cards loaded with SR Modules.

Sl. No	Pg No	Clause No	Title of the Clause	Existing Clause	To be read as
9	61	6.3	BNG, CGNAT, DNS, DHCP & IPDR Solution	Should support external RADIUS and Local AAA	Should support external RADIUS and AAA
10			Internet Router	Additional clause to be added in Internet Router	The proposed Internet router should support the following performance parameters: a.250,000 MAC Addresses b.20,00,000 IPv4 unicast routes c.20,00,000 IPv6 routes d.10,000 multicast routes
11	40	2	Annexure-I Project requirement	Please refer table Tentative distributions of End users at each location	The solution should have minimum 1,25,000 subscribers license at day one. And should be scalable up to 500K subscribers per location.

Clause No.3: Technical Evaluation Criteria (TEC) at Pg. No. 5 & 6 of RFP

S. No	Existing RFP Clause			Amended Clause		
	Qualification Criteria and marks breakup	Max marks	Documents to be submitted	Qualification Criteria and marks breakup	Max marks	Documents to be submitted
1	The bidder should have reported an Average Annual Turnover* of at least Rs.100 Crores in the last three consecutive financial years i.e. FY2020-21, FY2021-22 and FY2022-23. Marks based on Average Turnover in the past three financial years (in Crores): 100 Cr to 150 Cr – 10 Marks 150 Cr to 200 Cr – 15 Marks 200 Cr – 25 Marks	25	The average annual turnover statement duly certified by Chartered Accountant with UDIN as per Annexure VI (Certificates without UDIN will not be considered)	The bidder should have reported an Average Annual Turnover of at least Rs. 35 Crores in the last three consecutive financial years i.e. FY 2020-21, FY 2021-22 and FY 2022-23. Marks based on Average Turnover in the past three financial years (in Crores): >35 Cr to 40 Cr - 10 Marks >40 Cr to 50 Cr - 15 Marks >50 Cr - 25 Marks	25	The average annual turnover statement duly certified by Chartered Accountant with UDIN as per Annexure VI (Certificates without UDIN will not be considered)
2	The bidder should have successfully completed supply, installation and commissioning of IT Hardware's for	40	Work order and Completion Certificates / Go-Live certificate issued by Client	The bidder should have successfully completed supply, installation and commissioning of IT Hardware's for Datacenter/NOC including routers, switches,	25	Work order and Completion Certificates / Go-Live certificate issued by Client

S. No	Existing RFP Clause			Amended Clause		
	Qualification Criteria and marks breakup	Max marks	Documents to be submitted	Qualification Criteria and marks breakup	Max marks	Documents to be submitted
	Datacenter/NOC including routers, switches, firewalls, servers etc. in a single project with a contract value of at least ₹20 crores to State / Central Government / BharatNet Projects/ Telecom Operators in India in the last five years as on Date of Bid submission. Marks based on Single project value: 20 Cr to 25 Cr – 20 Marks 25 Cr to 30 Cr – 30 Marks 30 Cr – 40 Marks			firewalls, servers etc. in a single project with a contract value of at least ₹15 crores to State / Central Government / BharatNet Projects/ Telecom Operators in India in the last seven years as on Date of Bid submission. Marks based on Single project value: > 15 Cr to 25 Cr – 15 Marks > 25 Cr to 30 Cr – 20 Marks > 30 Cr – 25 Marks		
3	Newly added clause			The bidder should have successfully completed implementation of NGFW, NMS/EMS experience for a State / Central Government / BharatNet Projects / Telecom Operators in India in the last 7 years as on Date of Bid Submission Order related to NGFW - 5 Marks Order related to NGFW and NMS/EMS - 10 Marks	10	Work order and Completion Certificates / Go-Live certificate issued by Client
4	Newly added clause			Proposed OEMs should have experience in CGNAT Solution, BNG Solution/ OSS/BSS/AAA applications for a State / Central Government / BharatNet Projects / Telecom Operators in India in the last 7 years as on 31st March 2023.	15	Bidder shall furnish a declaration stating that the qualification of OEM as mentioned in clause i Qualification Criteria for OEMs are met.

S. No	Existing RFP Clause			Amended Clause		
	Qualification Criteria and marks breakup	Max marks	Documents to be submitted	Qualification Criteria and marks breakup	Max marks	Documents to be submitted
				Orders related to CGNAT – 5 marks Orders related to BNG – 5 marks Orders related to OSS/BSS/AAA – 5 marks.		
5	Presentation by the Bidder on the projects handled	25	Detailed presentation by the bidder to evaluation committee, on the solution to be provided as part of the tender	Presentation by the Bidder on the projects handled in Tamil Nadu Government	25	Detailed presentation by the bidder to evaluation committee, about the projects handled in TamilNadu Government and on the solution to be provided as part of the tender
	Total Marks	100		Total Marks	100	

**Sd/-
Managing Director**