Request for Proposal & Quote

For the Supply & Implementation
of
Core Switch Revamping
For
Disaster Recovery Site
of

The South Indian Bank Ltd
Information Technology Operations Department,
SIB Building, Info park Road,
Rajagiri Valley, Kakkanad,
Ernakulam – 682 039.
Kerala.

Ref	SIB/ITOD/NW/ 002 /2021-22
Version	1.0
Date of issue of RFPQ	25-Aug-2021
Type of Contract	Supply & Warranty Service
Purchaser Location	PAN India
Last date for Receipt of Proposal	06-Sep-2021

DISCLAIMER

The information contained in this RFP document or any information provided subsequently to bidder(s) whether verbally or in documentary form by or on behalf of the Bank is provided to the bidder(s) on the terms and conditions set out in this RFP document and all other terms and conditions subject to which such information is provided.

This RFP is neither an agreement nor an offer and is only an invitation by Bank to the interested parties for submission of bids. The purpose of this RFP is to provide the bidder(s) with information to assist the formulation of their proposals. While effort has been made to include all information and requirements of the Bank with respect to the solution requested, this RFP does not claim to include all the information each bidder may require. Each bidder should conduct its own investigation and analysis and should check the accuracy, reliability and completeness of the information in this RFP and wherever necessary obtain independent advice. The Bank makes no representation or warranty and shall incur no liability under any law, statute, rules or regulations as to the accuracy, reliability or completeness of this RFP. The Bank may in its absolute discretion, but without being under any obligation to do so, update, amend or supplement the information in this RFP.

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1. ABOUT OUR BANK

The South Indian Bank Ltd, a Banking Corporate constituted under the Companies Act 1913, having its head office at SIB House, T.B. Road, Mission Quarters, Thrissur - 680 001 and having Branches / Offices all over the country and in UAE (hereinafter referred to as "Bank", which expression shall, unless repugnant to the context or meaning thereof, include its successors and permitted assigns). The bank started its journey on 29th January 1929 in Thrissur, the cultural capital of Kerala. We are one among the pioneers in the technology driven banking arena, known for its consistent growth and unparalleled customer service. The South Indian Bank Ltd. is first among the private sector banks in Kerala to become a Scheduled Bank in 1946 under the RBI Act. With a pan India presence of 875 branches, 53 Extension Counters and 1333 ATMs supported by a committed & skilled workforce together with robust technology platform, we are well equipped to grow as a customer oriented repository of savings. From the inception, the Bank has been a trend setter in the technological advancements among Private Sector players, the implementation of Core Banking Solution (CBS) being the first example. We are currently running on Finacle10. The employees of the Bank with an average age of 32 years have been relentlessly innovative and their ideas have set the Bank at the forefront of technological progression. Our widely accepted array of online services like Internet Banking, Mobile Banking, Online shopping etc. make any time banking a reality. The Bank is moving ahead with well set targets, clearly defined priorities, redrawn road maps fueled with an aroma of optimism, to fulfill the vision of converting itself into a 'Retail Banking Powerhouse'

The South Indian Bank Limited offers various customer services such as Anywhere-Any Time Banking supported with online ATMs, Internet Banking, International ATM-Cum-Debit Cards, Mobile Banking, online payment, on line trading etc. The Bank has already adopted significant technological advancements and uses them to leverage business operations such as NDS-PDO, RTGS, NEFT, Domestic ATM sharing, NPS, SWIFT, Treasury, Forex, POS, etc.

The Bank is using 'Finacle' (from M/s. Infosys Technologies Ltd) as the Core Banking Solution (CBS). The Bank presently uses Core Banking Software – Finacle 10. Bank has been awarded with ISO 27001:2013 Certification for Information Security Management Systems (ISMS).

2. OBJECTIVE:

Objective of this RFPQ is to undertake tendering (separate technical & commercial) for empanelment of vendors for the purchase of new switches for bank's Data Center & DR location. Bidders who are interested in participating in the RFPQ must fulfill the eligibility criteria mentioned in the document.

3. TERMS & ABBREVIATIONS USED IN THIS DOCUMENT:

1) **'Bid'** shall mean the set of Bid/Request For Proposal and Quote (RFPQ) documents provided by Vendor to the bank for submitting a competitive quotation for the execution of 'Works' in accordance with the terms specified in this document.
2) **'SIB/Bank'** means The South Indian Bank Ltd.
3) **'Data Center (DC)'** means to the Bank's Data Center at Kochi, Kerala, where the server are installed.
4) **'Disaster Recovery site (DR)'** means to the Bank's Disaster Recovery Center at Bangalore, Karnataka.
5) **'Vendor/Provider'** means the entity who has submitted the Bid documents for the said ''Works' with the intention of submitting a competitive quotation for the execution of Works in accordance with terms specified in this document.
6) **'Service Level Agreement'** shall mean the Contract entered into between Bank and the successful Vendor on award of Contract for Works.
7) **'Successful Vendor'** means the Vendor whose Bid is accepted by the Bank and been awarded the Contract of Works.
8) **'CBS'** – Finacle Core banking solution installed at our Data Center Kochi.
9) **'RFPQ'** – This Request for Proposal & Quote
10) **'Full Acceptance'** means the solution has been 'fully implemented' and has passed the acceptance test as per the acceptance test plan.

4. EXISTING NETWORK DESIGN AND ARCHITECTURE:

SIB is having anywhere banking solution through a centralized Data Centre concept with the branches getting networked over Wide Area Network (WAN) to the Primary DC and DR Site. The DC comprises of server farms running various banking applications from different vendors and other critical applications developed by in-house team. Our DC is implemented with new leaf spine architecture through Software Defined Networking (SDN).
As per the new architecture most of the branches have two MPLS links from two different Service Providers. SIB is having connectivity links from all major services providers like BSNL, AIRTEL, RELIANCE, TATA, VODAFONE IDEA, RELIANCE JIO, SIFY and RAILTEL. BGP is the routing protocol in SIB WAN network.

5. SCOPE OF WORK:

The bidder's scope of work also following activities and deliverables:

1) The vendor will supply Switches with 5 year onsite comprehensive warranty. Bidder shall be responsible for the supply of all necessary hardware and software products.

2) The Bidder will be responsible for implementing/installing the SDN technology in the DR site (currently it is in Bangalore).
3) The Bidder must ensure that the offered devices are Ipv4 and Ipv6 compliant from the day one.
4) All Switches should be from the same Original Equipment Manufacturer (OEM) for better interoperability and ease of management.
5) In order to ensure Business Continuity, vendor shall ensure the continuous support arrangement with OEM for the equipment's under warranty for period of 5 years.
6) The bidder must be genuine dealer of the product positioned and a letter of authority to this effect must be accompanied with the response.
7) Any devices which are not working due to any hardware complaint under warranty/ AMC should be resolved on the next day. RMA replacement have to be received at banks DC & DR location where DC is in Kakkanad, Kerala & DR is in Bangalore, Karnataka. Also if bank changes its DC & DR locations the same support have to be aligned for those locations also.
8) RMA resolution/replacement time is next business day.
9) All the devices have to be back aligned with OEM support and bank will be logging the ticket for hardware complaint with OEM.
10) If bank is facing any challenges with the OEM support for RMA replacements and TAC support with OEM, service integrator/vendor have to align the same during the warranty period.
11) Service Level Agreement to be signed.

6. TECHNICAL REQUIREMENTS:

The Bank is in requirement of network switches for bank's Data Centre and DR location to meet its project requirement. Detailed technical specifications have been provided in Annexure I.

1) **Copper Switches – 6 nos**
2) **Fiber Switches- 2 nos**

The Vendor is requested to submit the checklist/supporting documents for all the functionalities described in **Annexure I** along with the response. The compliance response is mandatory without which we won't be considering for the tender. The compliance sheet is for evaluating the product and if any non-compliance or partial compliance is there the vendor has to mention it and also can mention any alternate to meet the compliance.

Also please note that, after submitting the technical & commercial bids for the RFPQ, there will be one level of technical evaluation followed by commercial negotiations.

We prefer only single vendor per OEM. However, if there are multiple vendors with same OEM we will be only shortlisting the two lowest quoted vendors per OEMs for the first level of commercial negotiation based on the technical evaluation and vendor/OEM criteria. And only one vendor per OEM to the final level of commercial negotiation.

7. SERVICE LEVEL:

This section describes the service levels that have been established for the Services offered by Vendor to the Bank. Vendor shall maintain the stated service levels to provide quality customer service to the Bank.

1) Response should be onsite.
2) Typically, the response and resolution time will be applicable for DC & DR locations are 2 Hrs and 4 Hrs respectively. RMA resolution time is next business day.
3) The vendor must offer onsite comprehensive warranty (premium OEM support) to the network equipment's and all the related components for a period of **five years** from the date of full delivery to the Bank.
4) Products positioned must have a roadmap and life span of minimum 5 years. The Vendor shall not quote any product that is End of Life or due for End of Life in the next 5 years or declared as end of sale. If any of the devices is being declared as End of life during the contract period, it should be replaced by the equivalent or higher version without any conditional cost to the bank.
5) During the warranty period, it is the responsibility of the vendor to raise complaints/tickets with OEM for the replacement of faulty items with OEM.
6) Faulty items under warranty should be replaced with equivalent or higher model without any additional cost to bank.
7) Any devices which are not working due to any hardware complaint under warranty/ AMC should be resolved on the same day. RMA replacement have to be received at banks DC & DR location where DC is in Kakkanad, Kerala & DR is in Bangalore, Karnataka. Also if bank changes its DC & DR locations the same support have to be aligned for those locations also.
8) All the devices have to be back aligned with OEM support and bank will be logging the ticket for hardware complaint with OEM.
9) If bank is facing any challenges with the OEM support for RMA replacements and TAC support with OEM, service integrator/vendor have to align the same during the warranty period.

8. SUPPLY, DELIVERY AND ACCEPTANCE:

The selected vendor will be adhered to the Time duration and acceptance test as follows

1) **Delivery:** The selected vendor shall be responsible for delivery of the ordered item(s) at the bank's specified location at no extra charge within 4- 6 weeks from the date of purchase order.
    a. The Road Permit and other necessary documents are to be arranged by the vendor within delivery period of without any additional cost to Bank.
    b. Appropriate insurance to cover the ordered item(s) for the transit period and till the time of its acceptance by the Bank at the respective site is to be take care by the vendor. The cost of the insurance will be borne by the Bidder.
    a. **Penalty Computation:** For delayed delivery/delayed performance/delayed service/delayed response/ delayed support, the penalty amount should be 18% p.an on the entire purchase order value mentioned in the purchase order concerned for the delayed number of days from date of delivery stipulated / arrived at/accepted by the vendor. For non-delivery/ non-performance/ non-service/non-response/non-support, minimum 5% or appropriate amount/ rate may be fixed.
    c. No switches will be accepted as complete if any parts of switch are not delivered. In such an event, the supply will be termed incomplete and will not be accepted and warranty period will not commence besides Bank's right to invoke the penalties which will be prescribed in the contract.
    d. The warranty for the supplied equipment (including software and hardware provided by the Bidder pursuant to this Agreement) will commence after 100% delivery.

2) **Supply:** The Corporate Office of the Bank is floating this RFPQ. However, the Bidder(s) getting the contracts shall deliver, and operationalize the equipment, procured through this RFPQ, at the Bank's locations or at such centers as the Bank may deem fit and the changes, if any, in the locations will be intimated to the Bidder.
    a. Bidder should ensure that the Switches and its associated components delivered to the Bank including all components and attachments are brand new. In case of software supplied with the system, the Bidder should ensure that the same is licensed and legally obtained with valid documentation made available to the Bank.

9. TERMS & CONDITIONS

1) SIB reserves the right to either not to implement the devices/solution or to partially implement the devices/solution.
2) SIB reserves the right to split the orders for different products among the quoting vendors.

3) SIB reserves the right to open the quotations soon after their receipt from all the vendors without waiting till the last date specified.
4) Bid should strictly conform to the specifications. Bids not conforming to the specifications will be rejected summarily.
5) Any incomplete or ambiguous terms/ conditions/ quotes will disqualify the offer.
6) Any set of terms and conditions from the Vendors are not acceptable to the Bank.
7) The Bank reserves the right to cancel the contract placed on the select vendor if the Vendor commits a breach of any of the terms and conditions of the bid Vendor goes into liquidation voluntarily or otherwise Progress made by the selected vendor is found to be unsatisfactory.
8) SIB reserves the right to accept or reject any bids without assigning any reason thereof and SIB's decision in this regard is final.
9) The Bank reserves the right to stop the RFPQ process at any stage and go in for fresh RFPQ without assigning any reasons or to modify the requirements in RFPQ during the process of evaluation at any time.
10) SIB is not responsible for non-receipt of quotations within the specified date and time due to any reason including postal holidays, delays or approaching SIB.
11) Any response to the RFPQ that do not meet the set timelines or incomplete in any aspect, will be summarily rejected at the whole discretion of the bank.
12) SIB is not bound to place on the order on the lowest price Vendor or the best technical Vendor.
13) The Bank reserves the right to order individual items, if required at the prices quoted by the vendor(s).
14) SIB reserves the right to re-negotiate the prices in the event of change in the market prices/situations of both the hardware and software.
15) SIB reserves right to call for a post bid meeting for clarifying its queries at the banks premises.
16) In case the selected vendor fails to deliver the items of hardware/software and all other related peripherals stipulated in the delivery schedule, the Bank reserves the right to procure the same or similar materials from alternate sources at the risk, cost and responsibility of the selected vendor.
17) SIB reserves the right to cancel the Purchase Order if the items are not delivered within the agreed period from the date of purchase order unless extended in writing by SIB.
18) SIB can disqualify any Vendor who fails to sign the Service Level Agreement with bank.
19) The vendor shall keep the offer valid for one calendar month from the last date of submission of RFPQ.
20) SIB is very much interested in long-term association with the potential Vendor and hence Vendor shall adapt to changes in SIB requirements and provide superior Products and Services and not by mere fulfillment of contractual commitments set here forth.

21) All inquiries, communications and requests for clarification shall be submitted in hard copies/e-mail to SIB and response for the same shall be obtained in writing. Only such documents shall be considered as authoritative.
22) All intellectual property related to the project shall be the property of SIB and SIB reserves the right from its sole discretion to implement the same at other centers in future with/without involving successful Vendor.
23) Product should be free from known bugs at the time of supply.
24) Product should be able to comply with network baseline requirements.
25) Technical discussion will be held directly with OEM, if more than one bidder partners with same OEM. OEM will communicate with the bidder about the technical discussion post completion of the same.
26) If Bank is not satisfied with the Price Discovery in this process, bank reserves the right to initiate the tendering process again through Limited or Open tender for any Equipment which is part of the scope of work.

10. VENDOR RESPONSIBILITIES

1) Vendors shall share its technology strategies, direction, and product path and research & development efforts with SIB.
2) Vendors shall adhere to the procedure and processes laid down in this document.
3) Vendors shall alert SIB and its own personnel about the risks either anticipated or faced either prior and/ or during and / or after the execution of the project and provide all the possible solutions either to totally eliminate or to minimize such risks.
4) Vendors shall extend all the services and ensure that SIB benefit on the basis of Most Favored Customer Pricing Mechanism.
5) Vendors shall ensure all possible efforts in continuous improvement in processes, tools and procedures and practice the world-class methodologies in delivering Products and Services.
6) Successful Vendor shall protect and fully indemnify the SIB from any claims for infringement of patents, copyright, trademark or the like.
7) Vendor shall not sub-contract all or any part of the scope of proposal or any other services which includes maintenance etc., to any 3rd party. Any services which need to be rendered to Bank should be done by on-roll employee of the Vendor organization.
8) Vendor shall provide the escalation matrix & centralized help desk number for call logging to the Bank.
9) The vendor shall explicitly absolve the Bank of any responsibility/ liability for the use of system software, with regard to copyright/ license violations, if any.
10) Vendor should ensure that all points in the RFPQ document are taken into account before submitting the Bid Documents.

11) If any particular point mentioned in the RFPQ are not able to adhere by the vendor should mention separately along with the proposal.
12) Vendor should provide the list of banks/financial institutions/corporates in India to which they are currently offered and delivered the proposed product/solutions.
13) Vendor shall provide all the latest upgrades released by OEM on time to time basis, for all the devices without any extra cost to the Bank during the period of Contract.
14) The Vendor's representative is the contact point for the Bank. The delivery status of equipment should be reported on a weekly basis.

11. LITIGATION:

1) The bidder shall indemnify the Bank and be liable for any loss due to malfunctioning of the devices and all its related components under the project as it is supplied and installed by them.
2) If it comes to the notice of the Bank that the Vendor has suppressed any information either intentionally or otherwise, or furnished misleading or inaccurate information, the Bank reserves the right to disqualify the Vendor. If such information comes to the knowledge of the Bank after the award of work, SIB reserves the right to terminate the Contract unilaterally at the total cost and risk of the Vendor. The Bank also reserves the right to recover any dues payable by the selected vendor from any amount outstanding to the credit of the selected bidder, including the pending bills etc., if any. The Bank will also reserve the right to recover any Advance paid.
3) Work under the Contract shall be continued by the selected vendor during the arbitration proceedings unless otherwise directed in writing by the Bank unless the matter is such that the works cannot possibly be continued until the decision of the arbitrator or of the umpire, as the case may be, is obtained and save as those which are otherwise explicitly provided in the Contract, no payment due or payable by the Bank, to the vendor shall be withheld on account of the ongoing arbitration proceedings, if any, unless it is the subject matter or one of the subject matter thereof. The venue of the arbitration shall be at Thrissur, Kerala State, India.

12. SELECTION CRITERIA

1) The Vendor is expected to submit the proposal with favorable and competitive price and service capabilities. SIB will select the Vendor, product/solution, which it believes offers the proposal, which is in SIB's best overall interest. SIB will select proposals with which to negotiate and reserves the right to enter into a contract with a Vendor that may not be lowest in fees charged. In determining the successful Vendor, SIB will consider, but not be limited to, the following selection criteria:

a. **Ability to Execute**→ Implementation Methodology, Client Feedback, History of product migration/ upgrades.
b. **Service and Support**→ Implementation Planning, Implementation, Migration, and Post Implementation/ Migration.
c. **Costs**→ All-Inclusive Costs.
d. **Functionality**→ Delivered Functionality, Interface Capabilities and Training capabilities
e. **Technology**→ Architecture, Process for Modifications or Customization, Operational Impact, and Toolset
f. **Vendor's Vision**→ Short- and long-term goals, Development Philosophy, and Track Record for Implementing Past Vision, Financial Stability.
g. **Deployment of proposed devices**→Whether the vendor has deployed the proposed version of the equipment's/hardware/software in any Bank/financial institution/data center in India.

13. COMMERCIALS

1) The Bidder is requested to quote in Indian Rupees ('INR'). Bid in currencies other than INR will be rejected and Bidder will be disqualified. The prices quoted for the Switches in the commercial bid should be valid during the warranty period.
2) In case of there is decrease in the prices of the Switches during the tenure of the contract; the cost benefit should be passed to the bank.
3) The prices should be exclusive of all local/central taxes, octroi and entry taxes. The price should be inclusive of other charges, as applicable, like excise, custom duties, packing/ forwarding/ freight/ transit insurance, etc., A clear price break-up should be indicated for all the components supplied/installed.
4) The prices quoted by the vendor shall be in Indian Rupees, firm and not subject to any price escalation. All payments made will also be in Indian Rupees only.
5) All the associated hardware/software/third party tools etc required if any for implementation, should be clearly given in the commercial offer.
6) Further, subsequent to the orders being placed/agreement executed, the Vendor shall pass on to bank all fiscal benefits arising out of reductions in Government levies viz. sales tax, excise duty, custom duty, etc.

14. TERMS OF PAYMENT:

Following will be the terms of Payment for the Hardware and other infrastructure supplied.

1) **100 % after successful delivery, implementation and testing.**

2) Payments will be made only on submission of invoice and other documents necessary as per the terms agreed upon.

15. AMENDMENT TO RFPQ:

The Bank also reserves the right to change any terms and conditions of the RFPQ and its subsequent addendums as it deems necessary at its sole discretion. The bank will inform the Bidder about changes, if any before the commercial bids are opened.

1) The Bank may revise any part of the RFPQ, by providing an addendum to the Bidder at any stage till commercial bids are opened. The Bank reserves the right to extend the dates for submission of responses to this document.
2) Bidder shall have the opportunity to clarify doubts pertaining to the RFPQ in order to clarify any issues they may have, prior to finalizing their responses. Responses to inquiries and any other corrections and amendments will be distributed to the Bidder by fax or in electronic mail format or hardcopy letter or at Bank's website, at the sole discretion of the Bank.
3) Preliminary Scrutiny – The Bank will study the offer to determine whether it is complete, whether any errors have been made in the offer, whether required technical documentation has been furnished, whether the documents have been properly signed, and whether items are quoted as per the schedule. The Bank may, at its discretion, waive any minor non-conformity or any minor deficiency in an offer. This shall be binding on the Bidder and the Bank reserves the right for such waivers and the Bank's decision in the matter will be final.
4) Clarification of offer – To assist in the study, evaluation and comparison of offer, the Bank may, at its discretion, ask the Bidder for clarification of their offer. The Bank has the right to disqualify the Bidder whose clarification is found not suitable to the proposed project.
5) Right to Alter Quantities – The Bank reserves the right to alter the requirements specified in the tender. The Bank also reserves the right to delete or increase one or more items from the list of items specified in the tender. The bank will inform the Bidder about changes, if any. In the event of any alteration in the quantities the price quoted by the Bidder against the item would be considered for such alteration. The Bidder agrees that the prices quoted for each line item & component is valid for period of contract and can be used by Bank for alteration in quantities. Bidder agrees that there is no limit on the quantities that can be altered under this contract.

16. RESPONSE TO RFPQ AND CONTACT DETAILS:

The time is the essence of the project. It is mandatory for vendors who respond to this RFP to meet these expectations as they are tightly linked to SIB's plans of offering quality services to its customers at the earliest. Following are the timeframe defined for the activities.

ACTIVITY	DATE
Address any clarifications on RFPQ (Clarifications may be addressed by e-Mail and can be obtained by sending a mail to→network@sib.co.in with subject line ***"RFPQ FOR Supply & Implementation of Core Switch Revamping for Disaster Recovery Site"***)	30-Aug-2021
Bid submission-Last Date	**06-Sep-2021**

Note: There will not be any extension after the bid submission last date. The bids can be submitted through online/offline before 7 PM, 6th Sep 2021. The bid submitted after the time line will not be considered.

However, the Bank reserves the right to extend the last date of submission, at its sole discretion.

1) Bidders are required to direct all communications for any clarification related to this RFPQ, to the Designated Bank officials. All queries relating to the RFPQ, technical or otherwise, must be in writing only i.e. either via physical or electronic mail. The Bank will try to reply, without any obligation in respect thereof, every reasonable query raised by the Bidder in the manner specified.
2) Response to the RFPQ should be submitted by two separate bids 1) Functional plus Technical Bid (BID-I) and 2) Commercial Bid (BID-II). The commercial bid (BID-II) should include only the commercials; all other information (including the Mandatory Response Sheet and all documents/materials mentioned in the same) should be included in the Functional plus Technical Bid (BID-I).
3) Vendors should submit Functional plus Technical (BID-I) and Commercial (BID-II) bids separately in sealed covers. Each bid should be submitted in two sets (i.e. in hardcopy and softcopy) duly sealed and super scribed with
    a. BID-I Functional plus Technical Bid for Network
    b. BID-II Commercial Bid for Network respectively
4) Each of the bids BID-I & BID-II as mentioned above shall be placed in another sealed envelope and super scribed with 'Quotations for Supply & Implementation of Core Switch Revamping for Disaster Recovery Site'.
5) Vendor should ensure that hardcopies & softcopies of both the bids are properly numbered as Page __ (current page) of __ (total pages). Further the authorized

signatories of the vendor should initial on all pages of the hardcopies of both the bids (BID-I & BID-II).

6) Bids with erasure / overwriting / cutting are liable to be rejected. If required, the corrections can be made by scoring out and writing afresh. The corrections shall be authenticated with authorized signature.
7) Bids once submitted shall be final and no amendment shall be permitted. A Vendor shall submit only one set of proposals. Compact disk (CD) containing the soft copy of both the bids should be provided in PDF & Microsoft word formats. The vendor should certify that the contents of the CD's are the same as that provided by way of hard copy. In the event of a discrepancy the offer will be rejected.
8) Vendor should ensure that the bid document reaches the following address on or before to:

IT Operations Department
The South Indian Bank Ltd
SIB Building (3rd Floor), Infopark Road
Rajagiri Valley, Kakkanad
Ernakulam – 682 039, Kerala State
Telephone: 0484 – 23939393
E-mail: network@sib.co.in
SPOC: Vineesh A V (Mob: 9995615030)

9) The South Indian Bank Limited reserves the right to accept or reject any or all the bids without assigning any reason whatsoever. Any decision of The South Indian Bank Limited in this regard shall be final, conclusive and binding on the bidder.

17. Termination:

Termination for Default: The Bank, without prejudice to any other remedy for breach of contract, by written notice of default sent to the successful vendor, may terminate this contract in whole or in part:

1) If the Successful Vendor fails to perform obligation(s) under the contract.
2) If the Successful Vendor, in the judgment of the Bank has engaged in corrupt or fraudulent practices in competing for or in executing the Contract. Corrupt practice means the offering, giving, receiving or soliciting of anything of value or influence the action of an official in the bank in procurement process or in contract execution; and "fraudulent practice" means a misrepresentation of facts in order to influence a procurement process or the execution of a contract to the detriment of the Bank, and includes collusive practice among Vendors (prior to or after bid submission) designed to

establish bid prices at artificial non-competitive levels and to deprive the Bank of the benefits of free and open competition.

Apart from the general grounds of default mentioned above, the Bank reserves its right to cancel the order in the event of, but not limited to, one or more of the following specific situations:

3) Unnecessary or unwarranted delay in execution of the work allotted.
4) Delay in submission of reports beyond the stipulated periods.
5) Breach of trust is noticed during any stage of the consultancy assignment.
6) The selected Vendor commits a breach of any of the terms and conditions of the bid.
7) If it is found at any stage that the Vendor has concealed any important information or has submitted any false information or declaration particularly regarding any pending legal action or blacklisting status.

18. MANDATORY RESPONSE SHEET:

This is a Mandatory response expected from the Vendor, bidding for the RFPQ of South Indian Bank Ltd. Kindly provide appropriate response to the particulars asked for:

No	Particulars	Your Response
Contact Details(Solution Provider/OEM)		
1	Name of Solution Provider/OEM	
2	Postal Address	
3	e-mail	
4	Phone	
6	Contact Person	
7	Contact Person Designation	
8	Date of Incorporation	
Contact Details(Implementation Partner)		
1	Name of Implementation Partner	
2	Postal Address	
3	e-mail	
4	Phone	
5	Fax	
6	Contact Person	
7	Contact Person Designation	

19. FUNCTIONALITY/ TECHNICAL RESPONSE DOCUMENT

Vendor is requested to reproduce all the points in the annexure and furnish the appropriate response to the particulars asked by giving the compliance level as explained below. Explanations/suggestions for each point can be provided in a Remarks column.

Compliance	Description
YES	Already Available Fully In The Product.
NO	Not Feasible in the product due to architecture or structural limitations.

20. Commercial Bid Details:

With 3-year Warranty and 2 year AMC

SNo.	Item Description	Quantity	Unit Cost INR	Total Cost INR
1	Copper Switch	6		
2	Fiber Switch	2		

Note: Implementation costs, other components like Controllers, Core switches (Spine) etc have to be quoted separately.

4th Year AMC

SNo.	Item Description	Quantity	Unit Cost INR	Total Cost INR
1	Copper Switch	6		
2	Fiber Switch	2		

5th Year AMC:

SNo.	Item Description	Quantity	Unit Cost INR	Total Cost INR
1	Copper Switch	6		
2	Fiber Switch	2		

Notes:→

a. **Price must be in Indian Rupees including 5-year warranty.**
b. Wherever license/subscriptions are involved, it must be unambiguously mentioned.
c. The cost must be exclusive of taxes and separate tax % prevailing at the time of quote may be mentioned.

d. The price to be freeze for the next three years for any additional purchases for the switches.

e. Quote must be firm for a minimum of 30 days from date of closure of bid.

----------[End of Main Document] ----------

21. Annexure I

22. Software Defined Networking Architecture		
S. No.	**Feature Set**	**Compliance (Y/N)**
A	**SDN capabilities of the Physical fabric**	
1	**Fabric Definition**	
1.1	Proposed fabric must be the CLOS network topology architecture defined using Spine, Leaf switches with VXLAN overlay using 100Gbps Backbone between leaf and spine switches.	
1.2	Fabric should have following functionalities:	
1.3	Resiliency : The proposed fabric should be able to sustain multiple link and device (Leaf & Spine), Controller failures	
1.4	Performance: The proposed fabric should be able with use full cross sectional bandwidth (any-to-any) across all provisioned uplink ports using equal cost multi pathing (ECMP)	
2	**Hardware and Interface Requirement**	
2.1	Fabric Connectivity should have the following properties:	
2.2	Leaf switches to Spine connectivity should use uplink port using line rate 100G	
2.3	In the fabric, the leaf and spine switches quoted should be non-oversubscribed and should perform at line rate	
2.4	All switches including Spine and leafs should be of line rate including access and uplink ports non-blocking	
2.5	All switches & proposed Fabric must support for 1000 VRF/Private network without any additional component upgrade or design change	
3	**Fabric Features**	
3.1	Fabric must support various Hypervisor encapsulation including VXLAN and 802.1q natively without any additional hardware/software or design change.	
3.2	Fabric must auto discover all the hardware and auto provision the fabric based on the policy.	
3.3	The fabric architecture must be based on hardware VXLAN/Geneve or equivalent overlays to provide logical topologies that are abstracted from the physical infrastructure with no performance degradation. Fabric must support VXLAN/Geneve or equivalent Switching/Bridging	

	and VXLAN Routing.	
3.4	Fabric must support Role Based Access Control in order to support Multi - Tenant environment.	
3.5	Fabric must provide deeper visibility into the fabric in terms of latency and packet drop between any two endpoints on the fabric	
4	**Integration with Existing infrastructure at DR site**	
4.1	Proposed SDN Fabric must integrate with various L4 - L7 Physical and virtual appliances. It must integrate with SIB's existing Firewall << Fortigate, Checkpoint, Cisco ACI DC Fabric>>	
5	**Fabric Security Features**	
5.1	Security: DR network (between leaf and spine) should be capable of supporting MAC Sec (IEEE 802.1AE) in hardware to secure traffic within DR. If any licenses are involved to enable this feature, Bank should be able to procure the same later separately and apply on this hardware to get the functionality turned on.	
5.2	Bank intend to implement MAC Sec (IEEE 802.1AE) / Equivalent line rate encryption technology between DC and DR to secure traffic. As specified in the preferred feature list.	
5.3	Fabric must have zero trust policy model for connected systems or hosts to help in protecting against any kind of attacks like Unauthorized Access, Man - in - the - middle - attack, Replay Attack, Data Disclosure, Denial of Service	
5.4	Fabric must provide RBAC policies and support AAA using Local User authentication, External RADIUS, External TACACS+, External LDAP, External AD	
6	**Fabric management**	
6.1	Fabric must provide Centralised Management Appliance - Single pane of glass for managing, monitoring and provisioning the entire Fabric.	
6.2	Fabric must Auto discover all the Spine and Leaf switches and auto provision them based on the Fabric policy using Centralised Management appliance.	
6.5	Centralised management appliance must provide necessary report for compliance and audit.	
6.6	Centralised management appliance must communicate to south bound devices using open standard protocol i.e. OPFLEX / OPENFLOW / OVSDB etc. or using Device APIs.	
6.7	Centralised management appliance must run in "N + 1" redundancy to provide availability as well as function during the split brain scenario	
6.8	In Event of all Centralised management appliances fails, the fabric must function without any performance degradation and with the current configuration.	

6.9	Centralized management appliance provide dynamic device inventory of the Fabric as well as current network topology of the fabric. It must also validate the cabling connectivity and generate alarms in case of wrong or faulty connectivity.	
6.10	Centralised management appliance must support multi tenancy from management perspective and also provide Role Based Access Control per tenant for the tenant management.	
6.11	All infrastructure required by fabric controllers to support the listed features and scale, should be provided by the bidder	
B	**Additional SDN capabilities needed**	
1	It is proposed to have an SDN solution piloted in the virtual environment in DR. The solution would provide all necessary Security and Networking services in software.	
2	The proposed SDN solution should be a purely software-based solution and should not be dependent on any hardware make and model	
3	The SDN solution should offer to deploy virtualized network functions like switching, routing, firewalling and in future should also support server load-balancing. Administrators can build virtual networks for Virtual Machines or Virtual Desktop Infrastructure without the need for complex VLANs, ACLs or hardware configuration syntax on underlay physical network	
4	The SDN solution should support Micro segmentation Stateful firewalling , embedded in the hypervisor kernel, distributed across entire environment with centralized policy and management without the need of any third -party agents	
5	The SDN solution should support security policies for virtual machines and can be defined based on grouping construct with dynamic or static membership criteria based on VM name, tags, logical switch, logical port, IPSets, computer OS Name, computer name, Active Directory	
6	The security policies in the virtualization layer must be tied to the application, which means whenever any application is moved from one virtualized server to another, even between different VLANs, the security policies should follow the application and there should be no need to redefine the security policies for the application at the new location. Also, when the application is deleted, all the security policies related to the application should also be remove	
7	The SDN solution should provide for automated delivery of virtual networking (micro segmentation), virtual Switching, virtual routing, virtual security services such as firewalling (E/W & N/S) and being software manageable.	
8	The SDN solution should support Layer-2 VPN allows you to extend your datacenter by allowing virtual machines to retain network	

	connectivity across geographical boundaries	
9	The proposed SDN solution should support Ability to provide micro-segmentation rules and policies for workloads connected to DC fabric for east-west traffic. Security policies for a diverse workload environment containing on premises multi-hypervisor, containers, bare-metal/Non hypervisor Servers from a single console.	
10	The proposed SDN solution should be able to bridge Overlay networks (VXLAN/Geneve) to Physical VLAN back networks. So that both can share the same IP subnet.	
11	The solution should also provide Gateway services like NAT, Layer 7 firewalling, and gateway routing.	
12	The solution should be extensible to support additional services like IDPS and server load balancing in the future.	
13	The solution should also provide flow level visibility and should be able to auto suggest micro segmentation rules thus reducing human effort.	
14	As part of the SDN pilot, the bank also is looking to have a single solution that can provide visibility across virtual and physical environment	
15	The proposed solution should be able to provide network and flow visibility across virtual and physical environment. Including components like switches, routers, firewalls etc.	
16	The same solution should be capable of providing visibility across WAN also in the future.	

C	**Core Switch - 2 Nos**	
Sr. No.	**Feature Set**	**Compliance (Y/N)**
1	**General Requirement**	
1.1	The Switch should support non-blocking architecture, all proposed ports must provide wire speed line rate performance	
1.2	Switch should support the complete STACK of IP V4 and IP V6 services.	
1.3	Security: Switch hardware should be capable of supporting MAC Sec (IEEE 802.1AE) in hardware to secure traffic within DR. If any licenses are involved to enable this feature, Bank should be able to procure the same later separately and apply on this hardware to get the functionality turned on.	
1.3	The proposed switches should be part of Gartner Leader Quadrant for DC Networking for last 2 years	
1.4	Switch should support all required SDN features.	
1.5	All relevant licenses for all the features and scale should be quoted along with switch	
2	**Hardware and Interface Requirement**	
2.1	Switch should have the following interfaces:	

2.2	Min of 30 non-blocking interfaces need to be populated with modules based on number of Switches.	
2.3	Switch should have console port for local management & management interface for Out of band management	
2.4	Switch should have adequate power supplies for the complete system usage and providing N+1 power supply redundancy	
3	**Performance Requirement**	
3.1	Switch should support minimum 1000 VRF instances with route leaking functionality	
3.2	The switch should support minimum 260K IPv4 LPM routes	
3.4	The switch should support 8k multicast routes	
3.5	Switch should support a minimum of 6 Tbps of bandwidth	
4	**Network Virtualization Features**	
4.1	Switch should support Network Virtualisation using Virtual Over Lay Network using VXLAN	
4.2	Switch should support VXLAN and EVPN symmetric IRB for supporting Spine - Leaf architecture to optimise the east - west traffic flow inside the data center	
5	**Layer2 Features**	
5.1	Spanning Tree Protocol (IEEE 802.1D, 802.1W, 802.1S)	
5.2	Switch should support VLAN Trunking (802.1q)	
5.3	Switch should support minimum 90K no. of MAC addresses	
5.4	Switch should support VLAN tagging (IEEE 802.1q)	
5.5	Switch should support IEEE Link Aggregation and Ethernet Bonding functionality (IEEE 802.3ad) to group multiple ports for redundancy	
5.6	The switch should support BGP EVPN Route Type 2, Type 4 and Route Type 5 for the overlay control plane	
6	**Layer3 Features**	
6.1	Switch should support static and dynamic routing	
6.2	Switch should provide multicast traffic reachable using:	
	a. PIM-SM	
	b. PIM-SSM	
	d. Support Multicast Source Discovery Protocol (MSDP)	
6.3	Switch should support Multicast routing	
7	**Quality of Service**	
7.1	Switch system should support 802.1P classification and marking of packet using:	
	a. CoS (Class of Service)	
	b. DSCP (Differentiated Services Code Point)	
7.2	Switch should support for different type of QoS features for ream time traffic differential treatment using	
	a. Weighted Random Early Detection	

	b. Strict Priority Queuing	
7.3	Switch should support to trust the QoS marking/priority settings of the end points as per the defined policy	
8	**Security**	
8.1	Switch should support control plane Protection from unnecessary or DoS traffic by control plane protection policy	
8.2	Switch should support for external database for AAA using: TACACS+	
8.3	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	
8.4	Switch hardware should be capable of supporting MAC Sec (802.1AE) in hardware to secure traffic within DR. If any licenses are involved to enable this feature.	
8.5	Switch should support for Role Based access control (RBAC) for restricting host level network access as per policy defined	
9	**Manageability**	
9.1	Switch should support for sending logs to multiple centralised syslog server for monitoring and audit trail	
9.2	Switch should provide remote login for administration using:	
	a. Telnet	
	b. SSHv2	
9.3	Switch should support Streaming of ASIC statistics at rapid cadence based on user config without involving switch CPU: >Interface counters (packets/bytes/drops) >Ingress/Egress queue depth >Ingress/Egress queue drops >Egress queue microbursts >Buffer depth	
9.4	Should support software telemetry - >Utilization of Operational like MAC/Route & Hardware resources like port utilization/ BW >Switch environmental like (CPU/memory/FAN/Power Supply) > Interface statistics like CRC error	
9.5	Switch should support for management and monitoring status using different type of Industry standard NMS using:	
	a. SNMP v3 with Encryption	
9.6	Switch should provide different privilege for login in to the system for monitoring and management	

D	**Access Switch- Fiber - 2Nos**	
	Feature Set	**Compliance (Y/N)**
1	**Solution Requirement**	

1.1	The Switch should support non-blocking Layer 2 switching and Layer 3 routing	
1.2	Switch should support the complete STACK of IPv4 and IPv6 services.	
1.3	Security: Switch hardware should be capable of supporting MAC Sec (IEEE 802.1AE) in hardware to secure traffic within DR. If any licenses are involved to enable this feature, Bank should be able to procure the same later separately and apply on this hardware to get the functionality turned on.	
1.4	Security: Switch hardware should be capable of supporting MAC Sec (802.1AE) in hardware to secure traffic within DR. If any licenses are involved to enable this feature, Bank should be able to procure the same later separately and apply on this hardware to get the functionality turned on.	
1.5	The Switch used have the capability to function in line rate for all ports.	
1.6	Switch should support all required SDN features.	
2	**Hardware and Interface Requirement**	
2.1	Switch should have the following interfaces:	
2.1.1	Minimum 48 ports support 1/10/25 Gbps SFP ports for host connectivity and 4*100G ports for Fabric/Spine connectivity. The proposed switch should support native 25G and should be populated with 25*10G Multimode fiber transceivers along with 5*10G/25G Multimode fiber transceivers for downlink connectivity & 4*100G ports with multimode 100G Transceivers, for uplink connectivity .	
2.1.2	Switch should have console port for local management & management interface for Out of band management	
2.2	1/2 RU fixed form factor	
2.3	Switch should be rack mountable and support side rails if required	
2.4	Switch should be provided with power redundancy	
3	**Performance Requirement**	
3.1	Modular OS with dedicated process for each routing protocol	
3.2	Switch should re-converge all dynamic routing protocol at the time of routing update changes i.e. Graceful restart for fast re-convergence of routing protocols (OSPF, IS-IS, BGP)	
3.4	Switch should support minimum 1000 VRF instances with route leaking functionality	
3.5	The switch should support 400k IPv4 LPM routes	
3.6	The Switch should support intelligent buffer management with a minimum buffer of 40MB.	
3.7	The switch should have MAC Address table size of 90k	
3.8	The switch should support 8K multicast routes	
3.9	Switch should support 4000 VLANs	
3.10	Switch should support minimum 2 Tbps of switching capacity	
4	**Network Virtualization Features**	

4.1	Switch should support Network Virtualisation using Virtual Over Lay Network using VXLAN	
4.2	Switch should support VXLAN and EVPN symmetric IRB for supporting Spine - Leaf architecture to optimise the east - west traffic flow inside the data center	
5	**Layer2 Features**	
5.1	Spanning Tree Protocol (IEEE 802.1D, 802.1W, 802.1S)	
5.2	Switch should support VLAN Trunking (802.1q)	
5.3	Switch should support minimum 90k of MAC addresses	
5.4	Switch should support VLAN tagging (IEEE 802.1q)	
5.5	Switch should support IEEE Link Aggregation and Ethernet Bonding functionality (IEEE 802.3ad) to group multiple ports for redundancy	
5.6	Switch should support Link Layer Discovery Protocol as per IEEE 802.1AB for finding media level failures	
5.7	Switch should support layer 2 extension over VXLAN across all Datacenter to enable VM mobility & availability	
5.9	The Switch should support DC Bridging i.e. IEEE 802.1Qbb Priority Flow Control (PFC), Data Center Bridging Exchange (DCBX), IEEE 802.1Qaz Enhanced Transmission Selection (ETS), Explicit Congestion Notification (ECN).	
5.10	Maximum number of port channels should be 48	
5.11	Maximum no of ports in the port channel should be 32	
5.12	The switch should support BGP EVPN Route Type 2, Type 4 and Route Type 5 for the overlay control plane	
6	**Layer3 Features**	
6.1	Switch should support static and dynamic routing	
6.4	Switch should support multi instance routing using VRF/ VRF Edge/ Virtual Router routing and should support VRF Route leaking functionality	
6.3	Switch should provide multicast traffic reachable using:	
6.3.1	a. PIM-SM	
6.3.2	b. PIM-SSM	
6.4	Support Multicast Source Discovery Protocol (MSDP)	
6.5	IGMP v1, v2 and v3	
7	**Quality of Service**	
7.1	Switch system should support 802.1P classification and marking of packet using:	
7.2	a. CoS (Class of Service)	
7.3	b. DSCP (Differentiated Services Code Point)	
7.4	Switch should support for different type of QoS features for reaL time traffic differential treatment using	
7.4.1	a. Weighted Random Early Detection	

7.4.2	b. Strict Priority Queuing	
7.5	Switch should support Rate Limiting - Policing and/or Shaping	
7.6	Switch should support to trust the QoS marking/priority settings of the end points as per the defined policy	
8	**Security**	
8.1	Switch should support control plane Protection from unnecessary or DoS traffic by control plane protection policy	
8.2	Switch should support for external database for AAA using: TACACS+	
8.3	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	
8.5	VXLAN and other tunnel encapsulation/decapsulation should be performed in **single pass in Hardware**	
8.6	Switch should support for Role Based access control (RBAC) for restricting host level network access as per policy defined	
8.7	Switch should support DHCP Snooping	
8.8	Switch should support Dynamic ARP Inspection to ensure host integrity by preventing malicious users from exploiting the insecure nature of the ARP protocol	
8.9	Switch should support IP Source Guard to prevents a malicious hosts from spoofing or taking over another host's IP address by creating a binding table between the client's IP and MAC address, port, and VLAN	
8.10	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	
8.11	Support for broadcast, multicast and unknown unicast storm control to prevent degradation of switch performance from storm due to network attacks and vulnerabilities	
8.12	The Switch should support LLDP.	
8.13	Switch should support Spanning tree BPDU protection	
9	**Manageability**	
9.1	Switch should support for sending logs to multiple centralised syslog server for monitoring and audit trail	
9.2	Switch should provide remote login for administration using:	
9.3	a. Telnet	
9.4	b. SSHv2	
9.5	Switch should support for capturing packets for identifying application performance using local and remote port mirroring for packet captures	
9.6	Switch should support for management and monitoring status using different type of Industry standard NMS using:	
9.7	a. SNMP v1 and v2, SNMP v3 with Encryption	
9.8	Switch should provide different privilege for login in to the system for	

	monitoring and management	
9.9	Should have Open APIs to manage the switch through remote-procedure calls (JavaScript Object Notation [JSON] or XML) over HTTPS after secure authentication for management and automation purpose.	
9.10	The Switch Should support monitor events and take corrective action like a script when the monitored events occurs.	
9.11	Should support hardware telemetry from ASIC- • Flow path trace (ingress to egress switch) • Per Flow Hop by Hop packet drop with reason of drop • Per Flow latency (per switch and end to end)	
10	**AVAILABILITY**	
10.1	Switch should have provisioning for connecting to 1:1/N+1 power supply for usage and redundancy	
10.2	Switch should provide gateway level of redundancy Ip V.4 and IP V.6 using HSRP/VRRP	
10.3	Switch should support for BFD For Fast Failure Detection	
11	**MISCELLANEOUS POINTS**	
11.1	Console cable and power cable (As per Indian standards) as per customer requirement to be provided. All Cables shall be factory-terminated.	
11.2	All Functionalities of Switch shall be IPv6 compliant and it should work on IPv6 Platform without any additional hardware/ software.	
11.3	All the components should be from same OEM.	

E	**Access Switch- Copper - 6 Nos**	
Sr.No.	**Feature Set**	**Compliance (Y/N)**
1	**Solution Requirement**	
1.1	The Switch should support non-blocking Layer 2 switching and Layer 3 routing	
1.2	Switch should support the complete STACK of IPv4 and IPv6 services.	
	Security: Switch hardware should be capable of supporting MAC Sec (802.1AE) in hardware to secure traffic within DR.	
1.3	Switch should support all required SDN features.	
1.4	The Switch used have the capability to function in line rate for all ports.	
2	**Hardware and Interface Requirement**	
2.1	Switch should have the following interfaces:	
2.1.1	Minimum 48 (copper RJ 45) ports support 100M/1G/10GBASE-T ports for host connectivity and 4*100G ports for Fabric/Spine connectivity.	
2.1.2	Switch should have console port for local management &	

	management interface for Out of band management	
2.2	1/2 RU fixed form factor	
2.3	Switch should be rack mountable and support side rails if required	
2.4	Switch should be provided with power redundancy	
3	**Performance Requirement**	
3.1	Modular OS with dedicated process for each routing protocol	
3.2	Switch should re-converge all dynamic routing protocol at the time of routing update changes i.e. Graceful restart for fast re-convergence of routing protocols (OSPF, IS-IS, BGP)	
3.4	Switch should support minimum 1000 VRF instances with route leaking functionality	
3.5	The switch should support 400k IPv4 LPM routes	
3.6	The Switch should support intelligent buffer management with a minimum buffer of 40MB.	
3.7	The switch should have MAC Address table size of 90K	
3.8	The switch should support 5K multicast routes	
3.9	Switch should support 4000 VLANs	
3.10	Switch should support 64 nos of ECMP paths	
3.11	Switch should support minimum 2 Tbps of switching capacity (or as per specifications of the switch if quantity of switches are more, but should be non-blocking capacity)	
4	**Network Virtualization Features**	
4.1	Switch should support Network Virtualisation using Virtual Over Lay Network using VXLAN	
4.2	Switch should support VXLAN and EVPN symmetric IRB for supporting Spine - Leaf architecture to optimise the east - west traffic flow inside the data center	
5	**Layer2 Features**	
5.1	Spanning Tree Protocol (IEEE 802.1D, 802.1W, 802.1S)	
5.2	Switch should support VLAN Trunking (802.1q)	
5.3	Switch should support minimum 90k no. of MAC addresses	
5.4	Switch should support VLAN tagging (IEEE 802.1q)	
5.5	Switch should support IEEE Link Aggregation and Ethernet Bonding functionality (IEEE 802.3ad) to group multiple ports for redundancy	
5.6	Switch should support Link Layer Discovery Protocol as per IEEE 802.1AB for finding media level failures	
5.7	Switch should support layer 2 extension over VXLAN across all Datacenter to enable VM mobility & availability	
5.8	The Switch should support DC Bridging i.e. IEEE 802.1Qbb Priority Flow Control (PFC), Data Center Bridging Exchange (DCBX), IEEE 802.1Qaz Enhanced Transmission Selection (ETS), Explicit Congestion Notification (ECN).	

5.9	Minimum number of port channels should be 50	
5.10	Minimum no of ports in the port channel should be 8	
6	**Layer3 Features**	
6.1	Switch should support static and dynamic routing	
6.4	Switch should support multi instance routing using VRF/ VRF Edge/ Virtual Router routing and should support VRF Route leaking functionality	
6.3	Switch should provide multicast traffic reachable using:	
6.3.1	a. PIM-SM	
6.3.2	b. PIM-SSM	
6.4	Support Multicast Source Discovery Protocol (MSDP)	
6.5	IGMP v1, v2 and v3	
7	**Quality of Service**	
7.1	Switch system should support 802.1P classification and marking of packet using:	
7.2	a. CoS (Class of Service)	
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7.4	Switch should support for different type of QoS features for reaL time traffic differential treatment using	
7.4.1	a. Weighted Random Early Detection	
7.4.2	b. Strict Priority Queuing	
7.5	Switch should support Rate Limiting - Policing and/or Shaping	
7.6	Switch should support to trust the QoS marking/priority settings of the end points as per the defined policy	
8	**Security**	
8.1	Switch should support control plane Protection from unnecessary or DoS traffic by control plane protection policy	
8.2	Switch should support for external database for AAA using: TACACS+	
8.3	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	
8.5	VXLAN and other tunnel encapsulation/decapsulation should be performed in **single pass in Hardware**	
8.6	Switch should support for Role Based access control (RBAC) for restricting host level network access as per policy defined	
8.7	Switch should support DHCP Snooping	
8.8	Switch should support Dynamic ARP Inspection to ensure host integrity by preventing malicious users from exploiting the insecure nature of the ARP protocol	

8.9	Switch should support IP Source Guard to prevents a malicious hosts from spoofing or taking over another host's IP address by creating a binding table between the client's IP and MAC address, port, and VLAN	
8.10	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	
8.11	Support for broadcast, multicast and unknown unicast storm control to prevent degradation of switch performance from storm due to network attacks and vulnerabilities	
8.12	The Switch should support LLDP.	
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9	**Manageability**	
9.1	Switch should support for sending logs to multiple centralised syslog server for monitoring and audit trail	
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9.4	b. SSHv2	
9.5	Switch should support for capturing packets for identifying application performance using local and remote port mirroring for packet captures	
9.6	Switch should support for management and monitoring status using different type of Industry standard NMS using:	
9.7	a. SNMP v1 and v2, SNMP v3 with Encryption	
9.8	Switch should provide different privilege for login in to the system for monitoring and management	
9.9	Should have Open APIs to manage the switch through remote-procedure calls (JavaScript Object Notation [JSON] or XML) over HTTPS after secure authentication for management and automation purpose.	
9.10	The Switch Should support monitor events and take corrective action like a script when the monitored events occurs.	
9.11	Should support hardware telemetry from ASIC- • Flow path trace (ingress to egress switch) • Per Flow Hop by Hop packet drop with reason of drop • Per Flow latency (per switch and end to end)	
10	**AVAILABILITY**	
10.1	Switch should have provisioning for connecting to 1:1/N+1 power supply for usage and redundancy	
10.2	Switch should provide gateway level of redundancy Ip V.4 and IP V.6 using HSRP/VRRP	
10.3	Switch should support for BFD For Fast Failure Detection	
11	**MISCELLANEOUS POINTS**	

11.1	Console cable and power cable (As per Indian standards) as per customer requirement to be provided. All Cables shall be factory-terminated.	
11.2	All Functionalities of Switch shall be IPv6 compliant and it should work on IPv6 Platform without any additional hardware/ software.	
11.3	All the components should be from same OEM.	

23. Key Guidelines

1) Bidder's proposal should strictly conform to the specifications of this RFPQ. Proposals not conforming to the specifications will be rejected subject to the bank's discretion. Any incomplete or ambiguous terms/ conditions/ quotes may result in disqualification of the offer at bank's discretion. The bidder has to offer specific remarks for technical requirements and clearly confirm compliance. Any deviations on technical requirements should be clearly informed in remarks column.
2) Deviation/ comments on other terms prescribed by the bank are to be provided in a separate section in Technical Bid. The bank is not bound to evaluate the deviations mentioned at any other section of the bid.
3) Technical and Commersial bid documents are to be properly hard bound and signed by the authorized signatory under the company seal.

END OF DOCUMENT#