

Sl. No.	Page No.	Section	RFP Clause	Clause/Technical Specification	Bidder's Query	Bank's Reply
1	6	LIST OF CONTENTS	SECTION D - BID PROCESS 7.1 Earnest Money Deposit (EMD) / Bank Gurantee in Lieu of EMD	The bidder shall furnish non-interest earning Earnest Money Deposit (EMD) of Rs. 10,00,000/- (Rupees Ten Lakhs Only) by way of Demand Draft drawn on any scheduled commercial Bank in India in favour of Canara Bank, payable at Bangaluru and should be kept along with the Part-A- Conformity to Eligibility Criteria.	Request Bank to change it to : The bidder shall furnish non-interest earning Earnest Money Deposit (EMD) of 5,00,000/- (Rupees Five Lakhs Only) by way of Demand Draft drawn on any scheduled commercial Bank in India in favour of Canara Bank, payable at Bangaluru and should be kept along with the Part-A- Conformity to Eligibility Criteria.	Bidder has to comply with the RFP Terms.
2	7	LIST OF CONTENTS	SECTION F - OWNERSHIP & AWARDING OF CONTRACT 8. Security Deposit / Performance Bank Gurantee	The sucessful bidder should submit a security deposit/ Performance Gurantee for 10% of total value of the contract within 15 days from the date of acceptance of the order or within 21days from the date of issue of purchase order	Request Bank to change it to : The sucessful bidder should submit a security deposit/ Performance Gurantee for 15% of total value of the contract within 15 days from the date of acceptance of the order or within 21days from the date of issue of purchase order. Bank has asked for total 20% BG in this tender. 10% PBG after receiving the PO and additional 10% Bank Gurantee for advance payment. Hence we request Bank to amend this term.	Bidder has to comply with the RFP Terms.
3	7	LIST OF CONTENTS	SECTION G - GENERAL CONDITIONS	7.Negligence	Bank to kindly confirm that any cancellation or termination of contract will be done only after giving 30 days written notice to the Bidder to cure or remedy the default and only upon failure of the Bidder to remedy or cure such default.	Bidder has to comply with the RFP Terms.
4	7	LIST OF CONTENTS	SECTION G - GENERAL CONDITIONS	10.Insurance	Bank to confirm that the Insurance provided for the Hardware would be transit insurance till the point of delivery.	Bidder has to comply with the RFP Terms.
5	7	LIST OF CONTENTS	SECTION G - GENERAL CONDITIONS	11.Guarantees	Bank to confirm that all hardware & software to be supplied comes with the OEM/Software Licensor gurantee.	Bidder has to comply with the RFP Terms.
6	7	LIST OF CONTENTS	SECTION G - GENERAL CONDITIONS	12.Intellectual Property Rights	We request that provisions related to Indemnity be restricted to Third party indemnification claims arising from infringement of IPR in respect of the Services provided by Bidder.	Bidder has to comply with the RFP Terms.
7	7	LIST OF CONTENTS	SECTION G - GENERAL CONDITIONS	14.Indemnity	We request the below modifications to Clause 14-Indemnity Clause from the General Terms & Conditions: 14.1 The Bidder shall keep the Bank indemnified against claims (including reasonable (legal costs) which may be caused to or suffer by or made or taken against the Bank arising out of: 14.1.1 Statutory and/or regulatory claims, suits, actions or proceedings against the Bank arising directly from Bidder's breach (or alleged breach) of applicable tax initiated by an appropriate governing body or authority. 14.2 The bidder shall keep the Bank indemnified against 3rd party IPR claims leading to court awarded damages against the Bank from infringement of any law pertaining to patents, trademarks, copyrights etc. in respect of the Services provided by the Bidder: 14.2.1 All indemnities shall survive notwithstanding expiry or termination of the contract. 14.2.2 the limits specified in above clause shall not apply to claims made by the Bank/third parties in case of infringement of Intellectual Property Rights. For claims relating to fraudulent misrepresentation, bodily injury or death arising from bidder's negligence, in these cases the liability will be unlimited. 14.2.3 All employees engaged by the Bidder shall be in employment of the bidder/or its subcontractor and the bidder/subcontractor shall be solely liable for their salaries, wages, statutory payments etc. the Bank may not be held liable for any payment or claim or compensation by any employee/personnel of the bidder except on account of Injury, bodily injury	Bidder has to comply with the RFP Terms.
8	10	B. INTRODUCTION	6. Requirement Details:	Item Details d. Red hat Enterrise Linux with 3 years standard subscription	Request Bank to change : Since SI has to pay for the entire period of subscription upfront to Redhat hence request Bank to amend the it to Redhat Enterrise Linux with 6 years standard subscription.	Bidder has to comply with the RFP Terms.



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9	11	<u>B. INTRODUCTION</u>	8 Scope of Work	8.8. The selected bidder needs to work and coordinate with Bank team in order to use the proposed hardware, software and other items optimally.	Please confirm on the model number of the existing SAN Switch (Model Number) to confirm the compatibility	The details will be provided to the selected bidder.
10	11	<u>B. INTRODUCTION</u>	8. Scope of Work:	8.4. The proposed server network interfaces ports should be compatible for connecting proposed CISCO switches for private zone connectivity and Bank existing CISCO Nexus 9000 series switches for public zone connectivity as per Oracle datasheets/documents for RAC.		This RFP Clause stands deleted.
11	11	<u>B. INTRODUCTION</u>	8. Scope of Work:	8.5. The proposed server FC HBA interface ports should be compatible for existing SAN Switch mentioned in this RFP.	Please furnish the existing SAN switch details like make/model/specs	The details will be provided to the selected bidder.
12	11	<u>A. INTRODUCTION</u>	8. Scope of Work:	8.6. The bank will responsible for the following: 8.6.2. The LAN Switch Connectivity however the cable laying, Labelling and Dressing is to be done by bidder.	Is the bank expected the bidder to do the labor activity or bidder to supply the cable as well?	Bidder has to comply with the RFP Terms.
13	12	<u>B. INTRODUCTION</u>	8. Scope of Work:	8.7.21. LDAP Integration of server management with Bank LDAP Server.	We suppose that the requisite credentials, support for current LDAP will be provided by bank. Please give details of current LDAP version	The details will be provided to the selected bidder.
14	12	<u>B. INTRODUCTION</u>	8. Scope of Work:	8.7.18. LAN connectivity to proposed and bank existing switch.	Please give details, is it only physical connectivity?	Yes
15	12	<u>B. INTRODUCTION</u>	8. Scope of Work:	8.7.20. Addition of supplied Server in to Bank directory services.	We suppose that the requisite credentials, support for current directory will be provided by bank. Please give version details of the current directory	The details will be provided to the selected bidder.
16	12	<u>B. INTRODUCTION</u>	8. Scope of Work:	8.7.12. OS Hardening	Please confirm, will bank provide the OS hardening document to bidder for OS hardening of supplied hardware.	Yes
17	12	<u>B. INTRODUCTION</u>	8. Scope of Work:	8.7.13. OS Patch Installation, Re-OS if required during complete project tenure.	Please share the patch management tool bank is having or do bidder need to factor as part of solution ?	The details will be provided to the selected bidder.
18	12	<u>B. INTRODUCTION</u>	8. Scope of Work:	8.7.15. NTP Server Integration	Please provide the NTP server details.	The details will be provided to the selected bidder.
19	12	<u>B. INTRODUCTION</u>	8. Scope of Work:	8.7.20. Addition of supplied Server in to Bank directory services.	Please help with details of directory services - name and version. Do this mean - domain joining of supplied hardware in bidder scope ?	The details will be provided to the selected bidder.
20	12	<u>A. INTRODUCTION</u>	8. Scope of Work:	8.9. The bidder need to coordinate with Bank and existing vendor for the purpose of installation and configuration of antivirus, server configuration management, server & DB monitoring, backup software, SIEM integration etc. the details will be provided to selected bidder.	Antivirus , back software implementation is part of the scope? Or bidder needs to do the server implementation and need to co-ordinate with those teams . Please clarify	Bidder has to comply with the RFP Terms.
21	13	<u>C. DELIVERABLES & SERVICE LEVEL AGREEMENTS (SLAS)</u>	1. Supply, Installation, Configuration, Implementation and Maintenance of Servers and Other related items in CANARA BANK	1.1. Bank shall provide the address and contact details for delivery of required Hardware/software & other items as mentioned in Technical Specifications (Details provided elsewhere in the document) while placing the order. Delivery of all hardware & Software should be within 6 weeks from the date of acceptance of the Purchase Order or 7 weeks from the date of Purchase Order whichever is earlier for all the locations. It will be the sole responsibility of the vendor to submit any form required for release of shipment from the check post.	Request bank to amend this as "Delivery of the hardware and software should be done within 8 weeks from the date of acceptance of PO.	Bidder has to comply with the RFP Terms.
22	13	<u>C. DELIVERABLES & SERVICE LEVEL AGREEMENTS (SLAS)</u>	1. Supply, Installation, Configuration, Implementation and Maintenance of Servers and Other related items in CANARA BANK	1.2. Bidder should ensure installation, configuration, integration, implementation and commissioning of the delivered Hardware & Software and complete all the works specified in the Scope of Work at the bank branch/office within 4 weeks from the date of delivery of all the materials for each ordered locations.	Request Bank to amend the clause as "Complete the implementation and configuration, integration should be completed within 6 weeks from the delivery of the hardware and software.	This RFP clause is amended as under: "1.2. Bidder should ensure installation, configuration, integration, implementation and commissioning of the delivered Hardware & Software and complete all the works specified in the Scope of Work at the bank branch/office within 6 weeks from the date of delivery of all the materials for each ordered locations."



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23	14	C. DELIVERABLES & SERVICE LEVEL AGREEMENTS (SLAs)	1. Supply, Installation, Configuration, Implementation and Maintenance of Servers and Other related items in CANARA BANK;	1.1. Bank shall provide the address and contact details for delivery of required Hardware/software & other items as mentioned in Technical Specifications (Details provided elsewhere in the document) while placing the order. Delivery of all hardware & Software should be within 6 weeks from the date of acceptance of the Purchase Order or 7 weeks from the date of Purchase Order whichever is earlier for all the locations. It will be the sole responsibility of the vendor to submit any form required for release of shipment from the check post.	Request Bank to change it to : Bank shall provide the address and contact details for delivery of required Hardware/software & other items as mentioned in Technical Specifications (Details provided elsewhere in the document) while placing the order. Delivery of all hardware & Software should be within 8 weeks from the date of acceptance of the Purchase Order or 9 weeks from the date of purchase order whichever is earlier for all the locations. It will be the sole responsibility of the vendor to submit any form required for release of shipment from the check post	Bidder has to comply with the RFP Terms.
24	14	C. DELIVERABLES & SERVICE LEVEL AGREEMENTS (SLAs)	1. Supply, Installation, Configuration, Implementation and Maintenance of Servers and Other related items in CANARA BANK;	1.2. Bidder should ensure installation, configuration, Integration, Implementation and commissioning of the delivered Hardware & Software and complete all the works specified in the Scope of Work at the bank branch/office within 4 weeks from the date of delivery of all the materials for each ordered locations.	Request Bank to change it to : Bidder should ensure installation, configuration, Integration, Implementation and commissioning of the delivered Hardware & Software and complete all the works specified in the Scope of Work at the bank branch/office within 6 weeks from the date of delivery of all the materials for each ordered locations.	This RFP clause is amended as under: "1.2. Bidder should ensure installation, configuration, Integration, Implementation and commissioning of the delivered Hardware & Software and complete all the works specified in the Scope of Work at the bank branch/office within <u>6 weeks</u> from the date of delivery of all the materials for each ordered locations."
25	14	C. DELIVERABLES & SERVICE LEVEL AGREEMENTS (SLAs)	1. Supply, Installation, Configuration, Implementation and Maintenance of Servers and Other related items in CANARA BANK	1.3. Bank reserves the right to change/modify locations for supply of the solution. In the event of any change/modification in the locations where the solution to be delivered, the bidder in such cases shall deliver, install and commission at the modified locations at no extra cost to the Bank. However, if the hardware, software and other items are already delivered, and if the modifications in locations are made after delivery, the bidder shall carry out installation and commissioning at the modified locations without any extra cost to the Bank. The Warranty/AMC (if contracted) should be applicable to the altered locations also.	If modifications are made after delivery, Bidder will charge a mutually discussed additional fee for installation at new location.	Bidder has to comply with the RFP Terms.
26	14	C. DELIVERABLES & SERVICE LEVEL AGREEMENTS (SLAs)	1. Supply, Installation, Configuration, Implementation and Maintenance of Servers and Other related items in CANARA BANK	1.3. Bank reserves the right to change/modify locations for supply of the solution. In the event of any change/modification in the locations where the solution to be delivered, the bidder in such cases shall deliver, install and commission at the modified locations at no extra cost to the Bank. However, if the hardware, software and other items are already delivered, and if the modifications in locations are made after delivery, the bidder shall carry out installation and commissioning at the modified locations without any extra cost to the Bank. The Warranty/AMC (if contracted) should be applicable to the altered locations also.	Please confirm that any delays in delivery due to this will not be penalised to NTT. Also, for all components already delivered, payment will be released and not unduly withheld.	Bidder has to comply with the RFP Terms.
27	14	C. DELIVERABLES & SERVICE LEVEL AGREEMENTS (SLAs)	1. Supply, Installation, Configuration, Implementation and Maintenance of Servers and Other related items in CANARA BANK	1.1. Bank shall provide the address and contact details for delivery of required Hardware/software & other items as mentioned in Technical Specifications (Details provided elsewhere in the document) while placing the order. Delivery of all hardware & Software should be within 6 weeks from the date of acceptance of the Purchase Order or 7 weeks from the date of Purchase Order whichever is earlier for all the locations. It will be the sole responsibility of the vendor to submit any form required for release of shipment from the check post.	Request to change the delivery timelines to 9 weeks from Date of PO	Bidder has to comply with the RFP Terms.



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28	14	C. DELIVERABLES & SERVICE LEVEL AGREEMENTS (SLAs)	1. Supply, Installation, Configuration, Implementation and Maintenance of Servers and Other related items in CANARA BANK	1.2. Bidder should ensure installation, configuration, integration, implementation and commissioning of the delivered Hardware & Software and complete all the works specified in the Scope of Work at the bank branch/office within 4 weeks from the date of delivery of all the materials for each ordered locations.	request to extend the implementation timelines to 6 weeks	<u>This RFP clause is amended as under:</u> "1.2. Bidder should ensure installation, configuration, integration, implementation and commissioning of the delivered Hardware & Software and complete all the works specified in the Scope of Work at the bank branch/office within <u>6 weeks</u> from the date of delivery of all the materials for each ordered locations."
29	15	C. DELIVERABLES & SERVICE LEVEL AGREEMENTS (SLAs)	3. Pre-Dispatch Inspection (PDI):	3.1. The Bank and/or its nominated officials/consultants may carry out pre-dispatch inspection of all ordered equipment or any part thereof before delivery. On account of PDI, there will not be any change in delivery terms and conditions. However, the bank will have the discretion to conduct PDI. 3.2. The selected bidder shall inform his readiness for pre-dispatch inspection at least 7 days in advance. Inspection of the ordered equipment to be supplied to the Bank shall be carried out at bidder's site/facility. There shall not be any additional charges payable by the Bank for such inspection. However, the Bank will have the discretion to recover the costs related to travel and stay of its staff/consultants from the bidders if the ordered equipment offered for inspection are not as per the Bank's order or if the vendor fails to comply with the test and inspection procedure.	What are the timelines of inspection from the date we inform the bank	The details will be provided to the selected bidder.
30	15	C. DELIVERABLES & SERVICE LEVEL AGREEMENTS (SLAs)	4. Acceptance:	4.2. After the Solution has been accepted by the Bank, the Vendor may submit an invoice for the Solution.	As per GST act we cant dispatch material on DC and has to be on invoice. Thus invoice has to be generated earlier, please suggest?	Bidder can generate and dispatch the invoice along with DC.
31	15	C. DELIVERABLES & SERVICE LEVEL AGREEMENTS (SLAs)	3. Pre-Dispatch Inspection (PDI)	3.1. The Bank and/or its nominated officials/consultants may carry out pre-dispatch inspection of all ordered equipment or any part thereof before delivery. On account of PDI, there will not be any change in delivery terms and conditions. However, the bank will have the discretion to conduct PDI. 3.2. The selected bidder shall inform his readiness for pre-dispatch inspection at least 7 days in advance. Inspection of the ordered equipment to be supplied to the Bank shall be carried out at bidder's site/facility. There shall not be any additional charges payable by the Bank for such inspection. However, the Bank will have the discretion to recover the costs related to travel and stay of its staff/consultants from the bidders if the ordered equipment offered for inspection are not as per the Bank's order or if the vendor fails to comply with the test and inspection procedure.	we request bank to let us know number of representatives from bank side for inspection. Some of the instances the OEM manufacturing may be out of India. Do let us know your comment on the same.	The details will be provided to the selected bidder.
32	16	C. DELIVERABLES & SERVICE LEVEL AGREEMENTS (SLAs)	5. Uptime:	5.1. The bidder shall guarantee a 24x7x365 availability with monthly uptime of 99.90% for the solution as specified in Annexure-7 and Annexure-8, during the period of the Contract and also during AMC/ATS, if contracted, which shall be calculated on monthly basis.	Uptime can be maintained on best effort basis with Pro support plus 6 hour call to resolution support Request to share the PIN code for delivery locations to confirm on part availability and timelines for delivery of the parts and engineer within 6 hours	Delivery locations will be Bengaluru & Mumbai. Bidder has to comply with the RFP terms.



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33	16	C. DELIVERABLES & SERVICE LEVEL AGREEMENTS (SLAs)	6. Penalties/Liquidated Damages: 6.1. Penalties/Liquidated damages for delay in Supply, Installation, Configuration, Implementation and Maintenance of Servers and Other related items would be as under:	6.1.1. Non-compliance of the Supply/delivery as per clause (1.1) will result in the Bank imposing penalty of 0.50% on delay in delivery per week or part thereof (Plus GST), on the invoice value of Servers & Other Items (exclusive of Taxes) location/office address wise.	Request Bank to change it to : Non-compliance of the Supply/delivery as per clause (1.1) will result in the Bank imposing penalty of 0.25% on delay in delivery per week or part thereof (Plus GST), on the invoice value (exclusive of Taxes)	Bidder has to comply with the RFP Terms.
34	16	C. DELIVERABLES & SERVICE LEVEL AGREEMENTS (SLAs)	6. Penalties/Liquidated Damages: 6.1. Penalties/Liquidated damages for delay in Supply, Installation, Configuration, Implementation and Maintenance of Servers and Other related items would be as under:	6.1.2. Non-Compliance of the Installation, configuration, implementation as per clause (1.2) will result in the Bank imposing penalty of 0.50% on delay in installation per week or part thereof (Plus GST), on the invoice value of Servers & Other Items (exclusive of Taxes) location/office address wise.	Non-Compliance of the Installation, configuration, implementation as per clause (1.2) will result in the Bank imposing penalty of 0.25% on delay on installation per week or part thereof (Plus GST), on the invoice value (exclusive of Taxes)	Bidder has to comply with the RFP Terms.
35	16	C. DELIVERABLES & SERVICE LEVEL AGREEMENTS (SLAs)	6. Penalties/Liquidated Damages: 6.1. Penalties/Liquidated damages for delay in Supply, Installation, Configuration, Implementation and Maintenance of Servers and Other related items would be as under:	6.1.3. However, the total Penalty/LD to be recovered under above clause 6.1.1 and 6.1.2 shall be restricted to 10% of the total value of the order Plus GST.	However, the total Penalty/LD to be recovered under above clause 6.1.1 and 6.1.2 shall be restricted to 5% of the total value of the order Plus GST (exclusive of Taxes).	Bidder has to comply with the RFP Terms.
36	16	C. DELIVERABLES & SERVICE LEVEL AGREEMENTS (SLAs)	6. Penalties/Liquidated Damages:	6.2. Penalties/Liquidated damages for not maintaining uptime: 6.2.2. The Maximum Penalty levied under the above clause shall not be more than 10% of the Order value during warranty period. The maximum penalty levied shall not be more than the 50% of AMC/ATS amount payable for one year (plus GST) after warranty period.	Requesting you to modify the clause as " The maximum penalty levied shall not be more than the 20% of AMC/ATS amount payable for one year (plus GST) after warranty period	Bidder has to comply with the RFP Terms.



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37	16	<u>C. DELIVERABLES & SERVICE LEVEL AGREEMENTS (SLAs)</u>	6. Penalties/Liquidated Damages	6.1. Penalties/Liquidated damages for delay in Supply, Installation, Configuration, Implementation and Maintenance of Servers and Other related items would be as under: 6.1.1. Non-compliance of the Supply/delivery as per clause (1.1) will result in the Bank imposing penalty of 0.50% on delay in delivery per week or part thereof (Plus GST), on the invoice value of Servers & Other Items (exclusive of Taxes) location/office address wise. 6.1.2. Non-Compliance of the Installation, configuration, implementation as per clause (1.2) will result in the Bank imposing penalty of 0.50% on delay in installation per week or part thereof (Plus GST), on the invoice value of Servers & Other Items (exclusive of Taxes) location/office address wise. 6.1.3. However, the total Penalty/LD to be recovered under above clause 6.1.1 and 6.1.2 shall be restricted to 10% of the total value of the order Plus GST.	We request this to be amended to 10% of the total value of the order. GST is an external component payable to the Government of India and should not be included in the Penalty computations	Bidder has to comply with the RFP Terms.
38	17	<u>C. DELIVERABLES & SERVICE LEVEL AGREEMENTS (SLAs)</u>	6. Penalties/Liquidated Damages: 6.2. Penalties/Liquidated damages for not maintaining uptime:	6.2.2. The Maximum Penalty levied under the above clause shall not be more than 10% of the Order value during warranty period. The maximum penalty levied shall not be more than the 50% of AMC/ATS amount payable for one year (plus GST) after warranty period.	The Maximum Penalty levied under the above clause shall not be more than 5% of the Order value during warranty period. The maximum penalty levied shall not be more than the 10% of AMC/ATS amount payable for one year (plus GST) after warranty period	Bidder has to comply with the RFP Terms.
39	17	<u>C. DELIVERABLES & SERVICE LEVEL AGREEMENTS (SLAs)</u>	6. Penalties/Liquidated Damages	6.5. If any act or failure by the bidder under the agreement results in failure or inoperability of systems and if the Bank has to take corrective actions, to ensure functionality of its property, the Bank reserves the right to impose penalty, which may be equal to the cost it incurs or the loss it suffers for such failures.	NTT LTD will always strive to provide the best possible service to the Bank. However, as we are not the OEMs we will need cure period of 60 days to amend the any issues arising in the system. Following this, any penalty imposed will be capped to 10% of the Warranty value of the system.	Bidder has to comply with the RFP Terms.
40	17	<u>C. DELIVERABLES & SERVICE LEVEL AGREEMENTS (SLAs)</u>	6. Penalties/Liquidated Damages	6.2.3. If monthly uptime is less than 95%, the Bank shall levy penalty as above and shall have full right to terminate the contract under this RFP or AMC/ATS, if contracted. The right of termination shall be in addition to the penalty. The above penalty shall be deducted from any payments due to the bidder (including AMC/ATS payments).	We request the Bank to provide 30 days notice to the Bidder to rectify the default before terminating the contract.	Bidder has to comply with the RFP Terms.
41	17	<u>C. DELIVERABLES & SERVICE LEVEL AGREEMENTS (SLAs)</u>	6. Penalties/Liquidated Damages	6.2.2. The Maximum Penalty levied under the above clause shall not be more than 10% of the Order value during warranty period. The maximum penalty levied shall not be more than the 50% of AMC/ATS amount payable for one year (plus GST) after warranty period.	Request to change the terms as The maximum penalty levied under the above clause shall not be more than 5 % of the order value during the warranty period. The maximum penalty levied shall not be more than the 20% of AMC/ATS amount payable for one year	Bidder has to comply with the RFP Terms.

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42	18	C. DELIVERABLES & SERVICE LEVEL AGREEMENTS (SLAs)	7. Payment Terms: 7.1. Payment will be released after execution of Contract Agreement and the schedule will be as under:	a. 50% - After complete delivery of Servers and other items on production of relevant documents like delivery signoff and invoice with product serial number of the items supplied. b. 40% - After successful installation, configuration and implementation of Servers & other items supplied as per Scope of Work and Technical requirements and after Acceptance of Project & Sign off. The invoice and installation report should contain the product serial number of the items supplied. c. After Completion of Warranty Period (i.e. three year). Warranty period will start from the date of acceptance of solution by the Bank. 10% of the Invoice Value of Server, OS & other Items. Or On submission of Bank Guarantee for equivalent to warranty payment d. AMC/ATS: Quarterly in Arrear	Request Bank to change it to : 80% - After complete delivery of Servers and other items on production of relevant documents like delivery signoff and invoice with product serial number of the items supplied. b. 20% - After successful installation, configuration and implementation of Servers & other items supplied as per Scope of Work and Technical requirements and after Acceptance of Project & Sign off. The invoice and installation report should contain the product serial number of the items supplied. c. AMC: Quarterly in Advance d. ATS: Yearly in Advance (Since SI has to pay upfront to the OEM hence request Bank for this amend)	Bidder has to comply with the RFP Terms.
43	18	C. DELIVERABLES & SERVICE LEVEL AGREEMENTS (SLAs)	7. Payment Terms: 7.1. Payment will be released after execution of Contract Agreement and the schedule will be as under:	a. 50% - After complete delivery of Servers and other items on production of relevant documents like delivery signoff and invoice with product serial number of the items supplied. b. 40% - After successful installation, configuration and implementation of Servers & other items supplied as per Scope of Work and Technical requirements and after Acceptance of Project & Sign off. The invoice and installation report should contain the product serial number of the items supplied. c. After Completion of Warranty Period (i.e. three year). Warranty period will start from the date of acceptance of solution by the Bank. 10% of the Invoice Value of Server, OS & other Items. Or On submission of Bank Guarantee for equivalent to warranty payment d. AMC/ATS: Quarterly in Arrear	As we need to pay to the OEMs, request to change the payment terms to 70%, 20% and 10%	Bidder has to comply with the RFP Terms.
44	18	C. DELIVERABLES & SERVICE LEVEL AGREEMENTS (SLAs)	8. Support:	8.2. Bidder will be responsible for attending complaints during all hours 24*7 basis of Contract Period.	Support will be offline/remote and online to change parts are as required	Bidder has to comply with the RFP Terms.
45	18	C. DELIVERABLES & SERVICE LEVEL AGREEMENTS (SLAs)	7. Payment Terms:	Payment Stages; Supply and Delivery of Hardware, Software & other items Percentage of Payment: 50% Condition/Remarks: After complete delivery of Servers and other items on production of relevant documents like delivery signoff and invoice with product serial number of the items supplied.	Requesting you to modify the clause as " 80% -Supply and Delivery of Hardware, Software& other items"	Bidder has to comply with the RFP Terms.



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46	18	C. DELIVERABLES & SERVICE LEVEL AGREEMENTS (SLAs)	7. Payment Terms:	<p>Payment Stages; Installation, configuration and implementation of Solution as per scope of work.</p> <p>Percentage of Payment: 40%</p> <p>Condition/Remarks: After successful installation, configuration and implementation of Servers & other items supplied as per Scope of Work and Technical requirements and after Acceptance of Project & Sign off. The invoice and installation report should contain the product serial number of the items supplied.</p>	Requesting you to modify the clause as " 10% Installation, configuration and implementation of Solution as per scope of work"	Bidder has to comply with the RFP Terms.
47	18	C. DELIVERABLES & SERVICE LEVEL AGREEMENTS (SLAs)	7. Payment Terms:	<p>7.1. Payment will be released after execution of Contract Agreement and the schedule will be as under:</p> <p>Payment Stages: AMC/ATS</p> <p>Condition/Remarks: Quarterly in Arrears</p>	Request to change the AMC payment to Yearly in Advance	Bidder has to comply with the RFP Terms.
48	18	C. DELIVERABLES & SERVICE LEVEL AGREEMENTS (SLAs)	7. Payment Terms:	<p>Payment Stages; Supply and Delivery of Hardware, Software & other items</p> <p>Percentage of Payment: 50%</p> <p>Condition/Remarks: After complete delivery of Servers and other items on production of relevant documents like delivery signoff and invoice with product serial number of the items supplied.</p>	We request this to be amended to industry standard of- 70% on delivery.	Bidder has to comply with the RFP Terms.
49	18	C. DELIVERABLES & SERVICE LEVEL AGREEMENTS (SLAs)	7. Payment Terms:	<p>Payment Stages; Installation, configuration and implementation of Solution as per scope of work.</p> <p>Percentage of Payment: 40%</p> <p>Condition/Remarks: After successful installation, configuration and implementation of Servers & other items supplied as per Scope of Work and Technical requirements and after Acceptance of Project & Sign off. The invoice and installation report should contain the product serial number of the items supplied.</p>	We request this to be amended to industry standard of- 20% on install.	Bidder has to comply with the RFP Terms.
50	18	C. DELIVERABLES & SERVICE LEVEL AGREEMENTS (SLAs)	7. Payment Terms:	<p>Payment Stages: After Completion of Warranty Period (i.e. three years). Warranty period will start from the date of acceptance of solution by the Bank.</p> <p>Percentage of Payment: 10%</p> <p>Condition/Remarks: 10% of the Invoice Value of Servers, OS & other Items. Or On submission of Bank Guarantee for equivalent to warranty payment.</p>	We request this to be amended to industry standard of- 10% on submission of BG for equivalent warranty payment	Bidder has to comply with the RFP Terms.
51	19	C. DELIVERABLES & SERVICE LEVEL AGREEMENTS (SLAs)	8. Support:	8.4. Support has to cover to solve day to day issue while using the proposed solution in our environment like resolving the issues related to incident, daily updates, product related issues and any other issues to the Bank as per SOW/SLA at no extra cost.	Please advise what are the controls which needs to be implemented	Bidder has to comply with the RFP Terms.



Sl. No.	Page No.	Section	RFP Clause	Clause/Technical Specification	Bidder's Query	Bank's Reply
52	21	A. INTRODUCTION	12. Annual Maintenance Contract (AMC) / Annual Technical Support (ATS) (if contracted)	12.2. The Bank, at its discretion may enter into Annual Maintenance Contract (AMC)/ Annual Technical Support (ATS) of hardware, software, License supplied with the bidder after completion of respective warranty periods.	NTT Ltd is not the Original Equipment Manufacturer of the Hardware/Software being supplied to the Bank. Thus, we will be dependant on getting a firm quote from our OEMs to provide the service. If we do not receive a commitment from the bank for the full 6 years, all ATS/AMC charges will be indicative and thus subject to revision, as our OEMs will expect us to place an order for full 6 years. Their quotes will be subject to change if we are unable to do so.	Bidder has to comply with the RFP Terms.
53	21	A. INTRODUCTION	12. Annual Maintenance Contract (AMC) / Annual Technical Support (ATS) (if contracted)	12.4. The Bank will pay AMC/ATS charges for Solution (including hardware, software OS and license) after the end of warranty period. Such payment shall be released quarterly in arrears after satisfactory completion of service during the period and submission of reports and invoices.	We request this to be amended to Industry standard of Yearly in advance, as the OEMs will request a similar payment from NTT Ltd.	Bidder has to comply with the RFP Terms.
54	22	C. DELIVERABLES & SERVICE LEVEL AGREEMENTS (SLAs)	14. Subcontracting	The Selected Bidder shall not subcontract or permit anyone other than its personnel and OEM Resources to perform any of the work, service or other performance required of the selected Bidder under the contract without the prior written consent of the Bank.	Bank to kindly confirm that such consent will not be unduly withheld.	Bidder has to comply with the RFP Terms.
55	22	C. DELIVERABLES & SERVICE LEVEL AGREEMENTS (SLAs)	15. Defect liability	In case any of the supplies and equipment delivered under the Contract are found to be defective as to material and workmanship and / or not in accordance with the requirement, and/or do not achieve the guaranteed performance as specified herein, within the warranty and AMC period (if contracted) of the contract, the Bidder shall forthwith replace/make good such defective supplies at no extra cost to the bank without prejudice to other remedies as may be available to the bank as per RFP terms.	All warranty/replacements is as per OEM warranty terms & conditions only. Kindly delete the same.	Bidder has to comply with the RFP Terms.
56	22	C. DELIVERABLES & SERVICE LEVEL AGREEMENTS (SLAs)	16. Access to Audit:	16.1. Periodically audit may be conducted either by Bank's internal auditors or by Bank's external auditors or by regulatory authorities in respect of security/network access and authorization controls and procedures, backup and recovery and other Deliverables/Services provided by Bidder. The Bank shall have the right to conduct Cyber security audit in the proposed solution on completion of the implementation. In order to conduct the Audit it may be necessary for the Auditors to access the servers and also to interact with their personnel. Bidder at request of the Bank shall provide access to the Bank's Auditors in this regard to the facilities/ installations/technical resources related to the project. 16.2. Whenever any Government or Regulatory Authority, including RBI or Securities & Exchange Board of India requests for information from the Bank's for any compliance, regulatory or legal purpose relating to the proposal, then upon the Bank's request, Bidder shall assist the Bank in responding to such a request, by providing the required information to the Bank, or such a government authority.	Please confirm that any audit shall be done with prior written notice to Bidder and should be restricted to the information and documents in relation to the services provided by the Bidder. Further, such audit shall be subject to the "Confidentiality" obligations upon the Bank, its auditors, employees making such audit. Also, we request confirmation that Bidder shall not be required to disclose its financial information, profits, books of accounts, costs breakups etc. and audit shall be strictly restricted to the services provided by the Bidder to the Bank.	Bidder has to comply with the RFP Terms.



Sl. No.	Page No.	Section	RFP Clause	Clause/Technical Specification	Bidder's Query	Bank's Reply
57	33	Annexure-2	Eligibility Criteria Declaration Criteria no.b	OEM Eligibility Criteria: Bidder shall be the Original Equipment Manufacturer (OEM)/Original Software Developers (OSD)/ Original Software Owner (OSO) of the Solution (OR) An authorized dealer If the applicant is a OEM/OSD/OSO, an Undertaking Letter has to submitted in this effect. Documents to be submitted for Eligibility Criteria Compliance If the bidder is an Authorized Dealer, an Authorization letter from their OEM & OSD/OSO to deal/market their product in India and it should be valid for a minimum period of Six (6) years from the date of submission of the Bid.	Need more clarification about OEM or Authorization letter	Bidder has to comply with the RFP Terms.
58	34	Annexure-2	Eligibility Criteria Declaration Criteria no.c	OEM: Eligibility Criteria: Minimum 50 Nos. of Servers of the proposed OEM (not necessarily the model) offered to Bank in this RFP should have been supplied (not necessarily by the bidder) to Scheduled Commercial Banks, Public or Private limited Companies, Government Organizations in India in last three years (i.e. from 01/08/2017 to 31/07/2020). Documents to be submitted for Eligibility Criteria Compliance The Bidders has to provide order copy/reference Letter in their name from Scheduled Commercial Banks, Public or Private Limited Companies, Government Organizations in India duly mentioning the server make and model.	As per this clause, Please confirm this condition should be met by the Lead Bidder or OEM credential will work as eligibility ?	Bidder has to comply with the RFP Terms.
59	34	Annexure-2	Eligibility Criteria Declaration Criteria no.f	BIDDER EXPERIENCE Eligibility Criteria: Bidder should have supplied and successfully installed 50 numbers of servers in Scheduled Commercial Banks, Public or Private limited Companies, Government Organizations in India in last three Years (i.e. from 01/0/2017 to 31/07/2020). Documents to be submitted for Eligibility Criteria Compliance The Bidders has to provide order copy/reference Letter in their name from Scheduled Commercial Banks, Public or Private Limited Companies, Government Organizations in India.	As per this clause, Please confirm this condition should be met by the Lead Bidder or System Integrator credential will work as eligibility ?	Bidder has to comply with the RFP Terms.



Sl. No.	Page No.	Section	RFP Clause	Clause/Technical Specification	Bidder's Query	Bank's Reply
60	34	<u>Annexure-2</u>	Eligibility Criteria Declaration Criteria no.d	FINANCIALS: Eligibility Criteria: The Bidder should have minimum turnover of Rs.15.00 Crore each year for the last three financial years (i.e. 2017-18, 2018-19 and 2019-20) from Indian Operations only. This must be the individual company turnover and not of any group of companies. Documents to be submitted for Eligibility Criteria Compliance: Bidder has to submit Balance Sheet for last 3 Years [i.e. 2017-18 (audited), 2018-19 (audited) and 2019-20 (audited/provisional)]. AND Bidder must produce a certificate from the Company's Chartered Accountant to this effect. The documents certified by Chartered Accountants should mandatorily contain Unique Document Identification Number.	2 Year old company can apply for this bid. In case if they have turnover near 10-15 Cr	Bidder has to comply with the RFP Terms.
61	34	<u>Annexure-2</u>	Eligibility Criteria Declaration Criteria no.f	BIDDER EXPERIENCE: Eligibility Criteria: Bidder should have supplied and successfully installed 50 numbers of servers in Scheduled Commercial Banks, Public or Private limited Companies, Government Organizations in India in last three Years (i.e. from 01/07/2017 to 31/07/2020). Documents to be submitted for Eligibility Criteria Compliance: The Bidders has to provide order copy/reference Letter in their name from Scheduled Commercial Banks, Public or Private Limited Companies, Government Organizations in India.	Requesting you to modify the clause as " Bidder should have supplied and successfully installed 50 numbers of servers in Scheduled Commercial Banks, Public or Private limited Companies, Government Organizations in India in last three Years (i.e. from 1/01/2017 to 31/07/2020)	Bidder has to comply with the RFP Terms.
62	34	<u>Annexure-2</u>	Eligibility Criteria Declaration Criteria no.d	FINANCIALS- Eligibility Criteria - The Bidder should have minimum turnover of Rs.15.00 Crore each year for the last three financial years (i.e. 2017-18, 2018-19 and 2019-20) from Indian Operations only. This must be the individual company turnover and not of any group of companies. Documents to be submitted for Eligibility Criteria Compliance- Bidder has to submit Balance Sheet for last 3 Years [i.e. 2017-18 (audited), 2018-19 (audited) and 2019-20 (audited/provisional)]. AND Bidder must produce a certificate from the Company's Chartered Accountant to this effect. The documents certified by Chartered Accountants should mandatorily contain Unique Document Identification Number.	We request bank to consider our request to allow us time till November End 2020 to submit audited balance sheet for financial year 2019 - 20 as still audit is pending for 2019 - 20 and NTT has no concept of provisional balance sheet. Or else bank can change the clause and make it 2016-17,2017-18 and 2018-19 audited balance sheet as it is there in resent tender released by Canara bank.	Bidder has to comply with the RFP Terms.



Sl. No.	Page No.	Section	RFP Clause	Clause/Technical Specification	Bidder's Query	Bank's Reply
63	36	Annexure 7	Functional and Technical Specifications /Requirements for Supply, Installation, Configuration, Implementation and Maintenance of Servers and Other Items in Canara Bank	A. Technical specifications for Application and Database servers(5 Nos. at DC and 5 Nos. at DR): 4. Processor • Socket: Minimum 2 • Type: 3rd Generation Intel Xeon Scalable Processor • Model: Intel® Xeon® Gold 6328H Processor • Quantity: Minimum 2 • Core: Minimum 16 Per Processor Unit • Frequency: Minimum 4.30 GHz Turbo • Cache: Minimum 22 MB • Ultra Path Interconnect (UPI): Minimum 3 • UPI Speed: minimum 10.4 GT/s • DRAM: Minimum DDR4 2666 MT/s • Advanced Vector Extension: minimum 2 FMA • PCIe: 3.0 with 48 Lanes	The proposed Processor in the tender is not yet launched and available. Request the bank to consider 2nd generation cascade lake.	Kindly refer Amendment-1 to this RFP.
64	36	Annexure 7	Functional and Technical Specifications /Requirements for Supply, Installation, Configuration, Implementation and Maintenance of Servers and Other Items in Canara Bank	A. Technical specifications for Application and Database servers(5 Nos. at DC and 5 Nos. at DR): 5. Platform Controller Hub Intel C629 Chipset or latest	The proposed chipset in the tender is not yet launched and needs to get changed to C260 series	Kindly refer Amendment-1 to this RFP.
65	36	Annexure 7	Functional and Technical Specifications /Requirements for Supply, Installation, Configuration, Implementation and Maintenance of Servers and Other Items in Canara Bank	A. Technical specifications for Application and Database servers(5 Nos. at DC and 5 Nos. at DR): 7. Other feature supported by Processor, Chipset & Main Board • Virtualization Technology (VT-x) • Quick Assist Technology (QAT) • Optane Persistent Memory • Volume Management device (VMD) • Node Manager 4.0 • Run Sure Technology for RAS • Key Protection Technology (KPT) • Optane SSD & QLC 3D NAND SSD • Turbo boost Technology 20 • AES New Instructions • Trusted Execution Technology • Hyper Threading technology (HTT)	Please change this to PCI Slot - 1 x 16X Gen 3 Slots per Server & 2 x 8X Gen 3 pci slots per server	Kindly refer Amendment-1 to this RFP.



Sl. No.	Page No.	Section	RFP Clause	Clause/Technical Specification	Bidder's Query	Bank's Reply
66	36	<u>Annexure 7</u>	Functional and Technical Specifications /Requirements for Supply, Installation, Configuration, Implementation and Maintenance of Servers and Other items in Canara Bank	A. Technical specifications for Application and Database servers(5 Nos. at DC and 5 Nos. at DR): 4. Processor • Socket: Minimum 2 • Type: 3rd Generation Intel Xeon Scalable Processor • Model: Intel® Xeon® Gold 6328H Processor • Quantity: Minimum 2 • Core: Minimum 16 Per Processor Unit • Frequency: Minimum 4.30 GHz Turbo • Cache: Minimum 22 MB • Ultra Path Interconnect (UPI): Minimum 3 • UPI Speed: minimum 10.4 GT//s • DRAM: Minimum DDR4 2666 MT/s • Advanced Vector Extension: minimum 2 FMA • PCIe: 3.0 with 48 Lanes	The proposed Processor in the tender is not yet launched and available.Request the bank to consider 2nd generation cascade lake.	Kindly refer Amendment-1 to this RFP.
67	36	<u>Annexure 7</u>	Functional and Technical Specifications /Requirements for Supply, Installation, Configuration, Implementation and Maintenance of Servers and Other items in Canara Bank	A. Technical specifications for Application and Database servers(5 Nos. at DC and 5 Nos. at DR): 5. Platform Controller Hub Intel C629 Chipset or latest	The proposed chipset in the tender is not yet launched and needs to get changed to C260 series	Kindly refer Amendment-1 to this RFP.
68	36	<u>Annexure 7</u>	Functional and Technical Specifications /Requirements for Supply, Installation, Configuration, Implementation and Maintenance of Servers and Other items in Canara Bank	A. Technical specifications for Application and Database servers(5 Nos. at DC and 5 Nos. at DR): 7. Other feature supported by Processor, Chipset & Main Board • Virtualization Technology (VT-x) • Quick Assist Technology (QAT) • Optane Persistent Memory • Volume Management device (VMD) • Node Manager 4.0 • Run Sure Technology for RAS • Key Protection Technology (KPT) • Optane SSD & QLC 3D NAND SSD • Turbo boost Technology 20 • AES New Instructions • Trusted Execution Technology • Hyper Threading technology (HTT)	Currently Intel Xeon Scalable 3rd generation processor is available in Superdome Class highend servers only and not on traditional 2U 2 Socket servers. Please change the specification to "intel 2nd Generation processor"	Kindly refer Amendment-1 to this RFP.



Sl. No.	Page No.	Section	RFP Clause	Clause/Technical Specification	Bidder's Query	Bank's Reply
69	36	Annexure 7	Functional and Technical Specifications /Requirements for Supply, Installation, Configuration, Implementation and Maintenance of Servers and Other items in Canara Bank	A. Technical specifications for Application and Database servers(5 Nos. at DC and 5 Nos. at DR): 4. Processor • Socket: Minimum 2 • Type: 3rd Generation Intel Xeon Scalable Processor • Model: Intel® Xeon® Gold 6328H Processor • Quantity: Minimum 2 • Core: Minimum 16 Per Processor Unit • Frequency: Minimum 4.30 GHz Turbo • Cache: Minimum 22 MB • Ultra Path Interconnect (UPI): Minimum 3 • UPI Speed: minimum 10.4 GT/s • DRAM: Minimum DDR4 2666 MT/s • Advanced Vector Extension: minimum 2 FMA • PCIe: 3.0 with 48 Lanes	The proposed Processor in the tender is not yet launched and available. Request the bank to consider 2nd generation cascade lake. Also. Request to mention the application used for the server	Kindly refer Amendment-1 to this RFP.
70	36	Annexure 7	Functional and Technical Specifications /Requirements for Supply, Installation, Configuration, Implementation and Maintenance of Servers and Other items in Canara Bank	A. Technical specifications for Application and Database servers(5 Nos. at DC and 5 Nos. at DR): 5. Platform Controller Hub Intel C629 Chipset or latest	The proposed chipset in the tender is not yet launched and needs to get changed to C260 series	Kindly refer Amendment-1 to this RFP.
71	36	Annexure 7	Functional and Technical Specifications /Requirements for Supply, Installation, Configuration, Implementation and Maintenance of Servers and Other items in Canara Bank	A. Technical specifications for Application and Database servers(5 Nos. at DC and 5 Nos. at DR): 7. Other feature supported by Processor, Chipset & Main Board • Virtualization Technology (VT-x) • Quick Assist Technology (QAT) • Optane Persistent Memory • Volume Management device (VMD) • Node Manager 4.0 • Run Sure Technology for RAS • Key Protection Technology (KPT) • Optane SSD & QLC 3D NAND SSD • Turbo boost Technology 20 • AES New Instructions • Trusted Execution Technology • Hyper Threading technology (HTT)	Please change this to PCI Slot - 1 x 16X Gen 3 Slots per Server & 2 x 8X Gen 3 pci slots per server	Kindly refer Amendment-1 to this RFP.



Sl. No.	Page No.	Section	RFP Clause	Clause/Technical Specification	Bidder's Query	Bank's Reply
72	36	Annexure 7	Functional and Technical Specifications /Requirements for Supply, Installation, Configuration, Implementation and Maintenance of Servers and Other items in Canara Bank	A. Technical specifications for Application and Database servers(5 Nos. at DC and 5 Nos. at DR): 4. Processor • Socket: Minimum 2 • Type: 3rd Generation Intel Xeon Scalable Processor • Model: Intel® Xeon® Gold 6328H Processor • Quantity: Minimum 2 • Core: Minimum 16 Per Processor Unit • Frequency: Minimum 4.30 GHz Turbo • Cache: Minimum 22 MB • Ultra Path Interconnect (UPI): Minimum 3 • UPI Speed: minimum 10.4 GT//s • DRAM: Minimum DDR4 2666 MT/s • Advanced Vector Extension: minimum 2 FMA • PCIe: 3.0 with 48 Lanes	Is 3rd Generation Intel Xeon Scalable Processor Gold 6328H mandatory or can it be supplemented with a 2nd Generation Intel Processors with similar Specifications	Kindly refer Amendment-1 to this RFP.
73	36	Annexure 7	Functional and Technical Specifications /Requirements for Supply, Installation, Configuration, Implementation and Maintenance of Servers and Other items in Canara Bank	A. Technical specifications for Application and Database servers(5 Nos. at DC and 5 Nos. at DR): 4. Processor • Socket: Minimum 2 • Type: 3rd Generation Intel Xeon Scalable Processor • Model: Intel® Xeon® Gold 6328H Processor • Quantity: Minimum 2 • Core: Minimum 16 Per Processor Unit • Frequency: Minimum 4.30 GHz Turbo • Cache: Minimum 22 MB • Ultra Path Interconnect (UPI): Minimum 3 • UPI Speed: minimum 10.4 GT//s • DRAM: Minimum DDR4 2666 MT/s • Advanced Vector Extension: minimum 2 FMA • PCIe: 3.0 with 48 Lanes	Please confirm on the minimum requirement , the Max turbo frequency of 3rd Gen Intel Processors are 4.30 GHz	Kindly refer Amendment-1 to this RFP.
74	36	Annexure 7	Functional and Technical Specifications /Requirements for Supply, Installation, Configuration, Implementation and Maintenance of Servers and Other items in Canara Bank	A. Technical specifications for Application and Database servers(5 Nos. at DC and 5 Nos. at DR): 4. Processor • Socket: Minimum 2 • Type: 3rd Generation Intel Xeon Scalable Processor • Model: Intel® Xeon® Gold 6328H Processor • Quantity: Minimum 2 • Core: Minimum 16 Per Processor Unit • Frequency: Minimum 4.30 GHz Turbo • Cache: Minimum 22 MB • Ultra Path Interconnect (UPI): Minimum 3 • UPI Speed: minimum 10.4 GT//s • DRAM: Minimum DDR4 2666 MT/s • Advanced Vector Extension: minimum 2 FMA • PCIe: 3.0 with 48 Lanes	Currently Intel Xeon Scalable 3rd generation processor is available in Superdome Class highend servers only and not on traditional 2U 2 Socket servers. Please change the specification to "Intel 2nd Generation processor"	Kindly refer Amendment-1 to this RFP.



Sl. No.	Page No.	Section	RFP Clause	Clause/Technical Specification	Bidder's Query	Bank's Reply
75	36	<u>Annexure 7</u>	Functional and Technical Specifications /Requirements for Supply, Installation, Configuration, Implementation and Maintenance of Servers and Other items in Canara Bank	A. Technical specifications for Application and Database servers(5 Nos. at DC and 5 Nos. at DR): 4. Processor • Socket: Minimum 2 • Type: 3rd Generation Intel Xeon Scalable Processor • Model: Intel® Xeon® Gold 6328H Processor • Quantity: Minimum 2 • Core: Minimum 16 Per Processor Unit • Frequency: Minimum 4.30 GHz Turbo • Cache: Minimum 22 MB • Ultra Path Interconnect (UPI): Minimum 3 • UPI Speed: minimum 10.4 GT/s • DRAM: Minimum DDR4 2666 MT/s • Advanced Vector Extension: minimum 2 FMA • PCIe: 3.0 with 48 Lanes	Please change the CPU Type to 6242R Gold Processor 3.1Ghz, 20 Cores	Kindly refer Amendment-1 to this RFP.
76	36	<u>Annexure 7</u>	Functional and Technical Specifications /Requirements for Supply, Installation, Configuration, Implementation and Maintenance of Servers and Other items in Canara Bank	A. Technical specifications for Application and Database servers(5 Nos. at DC and 5 Nos. at DR): 4. Processor • Socket: Minimum 2 • Type: 3rd Generation Intel Xeon Scalable Processor • Model: Intel® Xeon® Gold 6328H Processor • Quantity: Minimum 2 • Core: Minimum 16 Per Processor Unit • Frequency: Minimum 4.30 GHz Turbo • Cache: Minimum 22 MB • Ultra Path Interconnect (UPI): Minimum 3 • UPI Speed: minimum 10.4 GT/s • DRAM: Minimum DDR4 2666 MT/s • Advanced Vector Extension: minimum 2 FMA • PCIe: 3.0 with 48 Lanes	Please change this to Dual Port 16Gbps FC HBA	Kindly refer Amendment-1 to this RFP.
77	36	<u>Annexure 7</u>	Functional and Technical Specifications /Requirements for Supply, Installation, Configuration, Implementation and Maintenance of Servers and Other items in Canara Bank	A. Technical specifications for Application and Database servers(5 Nos. at DC and 5 Nos. at DR): 4. Processor • Socket: Minimum 2 • Type: 3rd Generation Intel Xeon Scalable Processor • Model: Intel® Xeon® Gold 6328H Processor • Quantity: Minimum 2 • Core: Minimum 16 Per Processor Unit • Frequency: Minimum 4.30 GHz Turbo • Cache: Minimum 22 MB • Ultra Path Interconnect (UPI): Minimum 3 • UPI Speed: minimum 10.4 GT/s • DRAM: Minimum DDR4 2666 MT/s • Advanced Vector Extension: minimum 2 FMA • PCIe: 3.0 with 48 Lanes	Please change this to PCI Slot - 1 x 16X Gen 3 Slots per Server & 2 x 8X Gen 3 pci slots per server	Kindly refer Amendment-1 to this RFP.
78	36	<u>Annexure 7</u>	Functional and Technical Specifications /Requirements for Supply, Installation, Configuration, Implementation and Maintenance of Servers and Other items in Canara Bank	A. Technical specifications for Application and Database servers(5 Nos. at DC and 5 Nos. at DR): 5. Platform Controller Hub Intel C629 Chipset or latest	Please change the Chipset to C621. This will be in line with the 2nd generation processor and 2U 2 Socket systems	Kindly refer Amendment-1 to this RFP.



Sl. No.	Page No.	Section	RFP Clause	Clause/Technical Specification	Bidder's Query	Bank's Reply
79	36	<u>Annexure-7</u>	Functional and Technical Specifications /Requirements for Supply, Installation, Configuration, Implementation and Maintenance of Servers and Other items in Canara Bank	A. Technical specifications for Application and Database servers(5 Nos. at DC and 5 Nos. at DR): Processor: • Socket: Minimum 2 • Type: 3rd Generation Intel Xeon Scalable Processor • Model: Intel® Xeon® Gold 6328H Processor • Quantity: Minimum 2 • Core: Minimum 16 Per Processor Unit • Frequency: Minimum 4.30 GHz Turbo • Cache: Minimum 22 MB • Ultra Path Interconnect (UPI): Minimum 3 • UPI Speed: minimum 10.4 GT/s • DRAM: Minimum DDR4 2666 MT/s • Advanced Vector Extension: minimum 2 FMA • PCIe: 3.0 with 48 Lanes	Currently Intel Xeon Scalable 3rd generation processor is available in Superdome Class highend servers only and not on traditional 2U 2 Socket servers. Please change the specification to "Intel 2nd Generation processor"	Kindly refer Amendment-1 to this RFP.
80	36	<u>Annexure-7</u>	Functional and Technical Specifications /Requirements for Supply, Installation, Configuration, Implementation and Maintenance of Servers and Other Items in Canara Bank	A. Technical specifications for Application and Database servers(5 Nos. at DC and 5 Nos. at DR): Platform Controller Hub : Intel C629 Chipset or latest	Please change the Chipset to C621. This will be in line with the 2nd generation processor and 2U 2 Socket systems	Kindly refer Amendment-1 to this RFP.
81	36	<u>Annexure-7</u>	Functional and Technical Specifications /Requirements for Supply, Installation, Configuration, Implementation and Maintenance of Servers and Other items in Canara Bank	A. Technical specifications for Application and Database servers(5 Nos. at DC and 5 Nos. at DR): Processor: • Socket: Minimum 2 • Type: 3rd Generation Intel Xeon Scalable Processor • Model: Intel® Xeon® Gold 6328H Processor • Quantity: Minimum 2 • Core: Minimum 16 Per Processor Unit • Frequency: Minimum 4.30 GHz Turbo • Cache: Minimum 22 MB • Ultra Path Interconnect (UPI): Minimum 3 • UPI Speed: minimum 10.4 GT/s • DRAM: Minimum DDR4 2666 MT/s • Advanced Vector Extension: minimum 2 FMA • PCIe: 3.0 with 48 Lanes	Please change the CPU Type to 6242R Gold Processor 3.1Ghz, 20 Cores	Kindly refer Amendment-1 to this RFP.
82	36	<u>Annexure-7</u>	Functional and Technical Specifications /Requirements for Supply, Installation, Configuration, Implementation and Maintenance of Servers and Other items in Canara Bank	B. Technical Specifications of Server (14 Nos. at DC and 10 Nos. at DR): Processor: • Socket: Minimum 2 • Type: 3rd Generation Intel Xeon Scalable Processor • Model: Intel® Xeon® Gold 6328H Processor • Quantity: Minimum 1 with Upgrade option • Core: Minimum 16 Per Processor Unit • Frequency: Minimum 4.30 GHz Turbo • Cache: Minimum 22 MB • Ultra Path Interconnect (UPI): Minimum 3 • UPI Speed: minimum 10.4 GT/s • DRAM: Minimum DDR4 2666 MT/s • Advanced Vector Extension: minimum 2 FMA • PCIe: 3.0 with 48 Lanes	Please confirm if the bidder has to quote base server with 1CPU and second CPU as upgrade ?	Yes. Kindly refer Amendment-1 to this RFP.



Sl. No.	Page No.	Section	RFP Clause	Clause/Technical Specification	Bidder's Query	Bank's Reply
83	36	Annexure-7	Functional and Technical Specifications /Requirements for Supply, Installation, Configuration, Implementation and Maintenance of Servers and Other items in Canara Bank	A. Technical specifications for Application and Database servers(5 Nos. at DC and 5 Nos. at DR): Processor: • Socket: Minimum 2 • Type: 3rd Generation Intel Xeon Scalable Processor • Model: Intel® Xeon® Gold 6328H Processor • Quantity: Minimum 2 • Core: Minimum 16 Per Processor Unit • Frequency: Minimum 4.30 GHz Turbo • Cache: Minimum 22 MB • Ultra Path Interconnect (UPI): Minimum 3 • UPI Speed: minimum 10.4 GT/s • DRAM: Minimum DDR4 2666 MT/s • Advanced Vector Extension: minimum 2 FMA • PCIe: 3.0 with 48 Lanes	Please change this to Dual Port 16Gbps FC HBA	Kindly refer Amendment-1 to this RFP.
84	36	Annexure-7	Functional and Technical Specifications /Requirements for Supply, Installation, Configuration, Implementation and Maintenance of Servers and Other items in Canara Bank	A. Technical specifications for Application and Database servers(5 Nos. at DC and 5 Nos. at DR): Processor: • Socket: Minimum 2 • Type: 3rd Generation Intel Xeon Scalable Processor • Model: Intel® Xeon® Gold 6328H Processor • Quantity: Minimum 2 • Core: Minimum 16 Per Processor Unit • Frequency: Minimum 4.30 GHz Turbo • Cache: Minimum 22 MB • Ultra Path Interconnect (UPI): Minimum 3 • UPI Speed: minimum 10.4 GT/s • DRAM: Minimum DDR4 2666 MT/s • Advanced Vector Extension: minimum 2 FMA • PCIe: 3.0 with 48 Lanes	Please change this to PCI Slot - 1 x 16X Gen 3 Slots per Server & 2 x 8X Gen 3 pci slots per server	Kindly refer Amendment-1 to this RFP.
85	36	Annexure-7	Functional and Technical Specifications /Requirements for Supply, Installation, Configuration, Implementation and Maintenance of Servers and Other items in Canara Bank	A. Technical specifications for Application and Database servers(5 Nos. at DC and 5 Nos. at DR): Processor: • Socket: Minimum 2 • Type: 3rd Generation Intel Xeon Scalable Processor • Model: Intel® Xeon® Gold 6328H Processor • Quantity: Minimum 2 • Core: Minimum 16 Per Processor Unit • Frequency: Minimum 4.30 GHz Turbo • Cache: Minimum 22 MB • Ultra Path Interconnect (UPI): Minimum 3 • UPI Speed: minimum 10.4 GT/s • DRAM: Minimum DDR4 2666 MT/s • Advanced Vector Extension: minimum 2 FMA • PCIe: 3.0 with 48 Lanes	Currently Intel Xeon Scalable 3rd generation processor is available in Superdome Class high-end servers only and not on traditional 2U 2 Socket servers. Please change the specification to "Intel 2nd Generation processor"	Kindly refer Amendment-1 to this RFP.
86	36	Annexure-7	Functional and Technical Specifications /Requirements for Supply, Installation, Configuration, Implementation and Maintenance of Servers and Other items in Canara Bank	A. Technical specifications for Application and Database servers(5 Nos. at DC and 5 Nos. at DR): Platform Controller Hub : Intel C629 Chipset or latest	Please change the Chipset to C621. This will be in line with the 2nd generation processor and 2U 2 Socket systems	Kindly refer Amendment-1 to this RFP.



Sl. No.	Page No.	Section	RFP Clause	Clause/Technical Specification	Bidder's Query	Bank's Reply
87	36	Annexure-7	Functional and Technical Specifications /Requirements for Supply, Installation, Configuration, Implementation and Maintenance of Servers and Other items in Canara Bank	A. Technical specifications for Application and Database servers(5 Nos. at DC and 5 Nos. at DR): Processor: • Socket: Minimum 2 • Type: 3rd Generation Intel Xeon Scalable Processor • Model: Intel® Xeon® Gold 6328H Processor • Quantity: Minimum 2 • Core: Minimum 16 Per Processor Unit • Frequency: Minimum 4.30 GHz Turbo • Cache: Minimum 22 MB • Ultra Path Interconnect (UPI): Minimum 3 • UPI Speed: minimum 10.4 GT//s • DRAM: Minimum DDR4 2666 MT/s • Advanced Vector Extension: minimum 2 FMA • PCIe: 3.0 with 48 Lanes	Please change the CPU Type to 6242R Gold Processor 3.1Ghz, 20 Cores	Kindly refer Amendment-1 to this RFP.
88	36	Annexure-7	Functional and Technical Specifications /Requirements for Supply, Installation, Configuration, Implementation and Maintenance of Servers and Other items in Canara Bank	A. Technical specifications for Application and Database servers(5 Nos. at DC and 5 Nos. at DR): Processor: • Socket: Minimum 2 • Type: 3rd Generation Intel Xeon Scalable Processor • Model: Intel® Xeon® Gold 6328H Processor • Quantity: Minimum 2 • Core: Minimum 16 Per Processor Unit • Frequency: Minimum 4.30 GHz Turbo • Cache: Minimum 22 MB • Ultra Path Interconnect (UPI): Minimum 3 • UPI Speed: minimum 10.4 GT//s • DRAM: Minimum DDR4 2666 MT/s • Advanced Vector Extension: minimum 2 FMA • PCIe: 3.0 with 48 Lanes	Please change this to Dual Port 16Gbps FC HBA	Kindly refer Amendment-1 to this RFP.
89	36	Annexure-7	Functional and Technical Specifications /Requirements for Supply, Installation, Configuration, Implementation and Maintenance of Servers and Other items in Canara Bank	A. Technical specifications for Application and Database servers(5 Nos. at DC and 5 Nos. at DR): Processor: • Socket: Minimum 2 • Type: 3rd Generation Intel Xeon Scalable Processor • Model: Intel® Xeon® Gold 6328H Processor • Quantity: Minimum 2 • Core: Minimum 16 Per Processor Unit • Frequency: Minimum 4.30 GHz Turbo • Cache: Minimum 22 MB • Ultra Path Interconnect (UPI): Minimum 3 • UPI Speed: minimum 10.4 GT//s • DRAM: Minimum DDR4 2666 MT/s • Advanced Vector Extension: minimum 2 FMA • PCIe: 3.0 with 48 Lanes	Please change this to PCI Slot - 1 x 16X Gen 3 Slots per Server & 2 x 8X Gen 3 pci slots per server	Kindly refer Amendment-1 to this RFP.



Sl. No.	Page No.	Section	RFP Clause	Clause/Technical Specification	Bidder's Query	Bank's Reply
90	36	Annexure-7	Functional and Technical Specifications /Requirements for Supply, Installation, Configuration, Implementation and Maintenance of Servers and Other items in Canara Bank	A. Technical specifications for Application and Database servers(5 Nos. at DC and 5 Nos. at DR): Processor: <ul style="list-style-type: none"> • Socket: Minimum 2 • Type: 3rd Generation Intel Xeon Scalable Processor • Model: Intel® Xeon® Gold 6328H Processor • Quantity: Minimum 2 • Core: Minimum 16 Per Processor Unit • Frequency: Minimum 4.30 GHz Turbo • Cache: Minimum 22 MB • Ultra Path Interconnect (UPI): Minimum 3 • UPI Speed: minimum 10.4 GT//s • DRAM: Minimum DDR4 2666 MT/s • Advanced Vector Extension: minimum 2 FMA • PCIe: 3.0 with 48 Lanes 	Please change the CPU to "Intel 6246R 3.4GHz/205W 16C/35.75MB DDR4 2933MHz or Higher". The particular processor number mentioned in the RFP is favouring one particular OEM and other can't comply with this model number as the processor model is not available with other OEMS. Please make it generic so that Other OEMS can also comply as they can give different processor model with same specs (base frequency, cores and cache) required. As we understand the performance is the key here	Kindly refer Amendment-1 to this RFP.
91	36	Annexure-7	Functional and Technical Specifications /Requirements for Supply, Installation, Configuration, Implementation and Maintenance of Servers and Other items in Canara Bank	A. Technical specifications for Application and Database servers(5 Nos. at DC and 5 Nos. at DR): Platform Controller Hub : Intel C629 Chipset or latest	Clause shll be modified as "Intel C620 Series or Equivalent". C229 is OEM specific	Kindly refer Amendment-1 to this RFP.
92	36	Annexure-7	Functional and Technical Specifications /Requirements for Supply, Installation, Configuration, Implementation and Maintenance of Servers and Other items in Canara Bank	A. Technical specifications for Application and Database servers(5 Nos. at DC and 5 Nos. at DR): 7. Other feature supported by Processor, Chipset & Main Board: <ul style="list-style-type: none"> • Virtualization Technology (VT-x) • Quick Assist Technology (QAT) • Optane Persistent Memory • Volume Management device (VMD) • Node Manager 4.0 • Run Sure Technology for RAS • Key Protection Technology (KPT) • Optane SSD & QLC 3D NAND SSD • Turbo boost Technology 20 • AES New Instructions • Trusted Execution Technology • Hyper Threading technology (HTT) 	Please remove as its specific to C629 Chipset	Kindly refer Amendment-1 to this RFP.
93	36	Annexure-7	Functional and Technical Specifications /Requirements for Supply, Installation, Configuration, Implementation and Maintenance of Servers and Other items in Canara Bank	A. Technical specifications for Application and Database servers(5 Nos. at DC and 5 Nos. at DR): 4. Processor: <ul style="list-style-type: none"> • Socket: Minimum 2 • Type: 3rd Generation Intel Xeon Scalable Processor • Model: Intel® Xeon® Gold 6328H Processor • Quantity: Minimum 2 • Core: Minimum 16 Per Processor Unit • Frequency: Minimum 4.30 GHz Turbo • Cache: Minimum 22 MB • Ultra Path Interconnect (UPI): Minimum 3 • UPI Speed: minimum 10.4 GT//s • DRAM: Minimum DDR4 2666 MT/s • Advanced Vector Extension: minimum 2 FMA • PCIe: 3.0 with 48 Lanes 	<ul style="list-style-type: none"> • Type: 3rd Generation Intel Xeon Scalable Processor or Latest AMD EPYC Processor Reason: AMD has got improved processors which performs better than Intel. The present clause limits OEMS to opt for only one particular processors which avoids competition in open RFP.	Kindly refer Amendment-1 to this RFP.



Sl. No.	Page No.	Section	RFP Clause	Clause/Technical Specification	Bidder's Query	Bank's Reply
94	36	Annexure-7	Functional and Technical Specifications /Requirements for Supply, Installation, Configuration, Implementation and Maintenance of Servers and Other items in Canara Bank	A. Technical specifications for Application and Database servers(5 Nos. at DC and 5 Nos. at DR): 4. Processor: • Socket: Minimum 2 • Type: 3rd Generation Intel Xeon Scalable Processor • Model: Intel® Xeon® Gold 6328H Processor • Quantity: Minimum 2 • Core: Minimum 16 Per Processor Unit • Frequency: Minimum 4.30 GHz Turbo • Cache: Minimum 22 MB • Ultra Path Interconnect (UPI): Minimum 3 • UPI Speed: minimum 10.4 GT/s • DRAM: Minimum DDR4 2666 MT/s • Advanced Vector Extension: minimum 2 FMA • PCIe: 3.0 with 48 Lanes	• Model: Intel® Xeon® Gold 6328H Processor or AMD EPYC 7282 Reason: Latest generation AMD EPYC Processor matching core and frequency is included.	Kindly refer Amendment-1 to this RFP.
95	36	Annexure-7	Functional and Technical Specifications /Requirements for Supply, Installation, Configuration, Implementation and Maintenance of Servers and Other items in Canara Bank	A. Technical specifications for Application and Database servers(5 Nos. at DC and 5 Nos. at DR): 4. Processor: • Socket: Minimum 2 • Type: 3rd Generation Intel Xeon Scalable Processor • Model: Intel® Xeon® Gold 6328H Processor • Quantity: Minimum 2 • Core: Minimum 16 Per Processor Unit • Frequency: Minimum 4.30 GHz Turbo • Cache: Minimum 22 MB • Ultra Path Interconnect (UPI): Minimum 3 • UPI Speed: minimum 10.4 GT/s • DRAM: Minimum DDR4 2666 MT/s • Advanced Vector Extension: minimum 2 FMA • PCIe: 3.0 with 48 Lanes	• Frequency: Minimum 2.8 GHz base clock Reason: Turbo Frequency is never used for general purpose computing. Also on running system with Turbo mode for 24x7 production if the processor fails , warranty is not covered. Turbo leads to unpredictable computation result.	Kindly refer Amendment-1 to this RFP.
96	36	Annexure-7	Functional and Technical Specifications /Requirements for Supply, Installation, Configuration, Implementation and Maintenance of Servers and Other items in Canara Bank	A. Technical specifications for Application and Database servers(5 Nos. at DC and 5 Nos. at DR): 4. Processor: • Socket: Minimum 2 • Type: 3rd Generation Intel Xeon Scalable Processor • Model: Intel® Xeon® Gold 6328H Processor • Quantity: Minimum 2 • Core: Minimum 16 Per Processor Unit • Frequency: Minimum 4.30 GHz Turbo • Cache: Minimum 22 MB • Ultra Path Interconnect (UPI): Minimum 3 • UPI Speed: minimum 10.4 GT/s • DRAM: Minimum DDR4 2666 MT/s • Advanced Vector Extension: minimum 2 FMA • PCIe: 3.0 with 48 Lanes	• Ultra Path Interconnect (UPI) or Inter-Chip Global Memory Interconnect(xGMI): Minimum 3 • UPI Speed or xGMI Speed: minimum 10.4 GT/s Reason: Inter-Chip Global Memory Interconnect(xGMI) is the equivalent of Intel UPI. xGMI operates at 16 GT/s compared to Intel UPI at 10.4 GT/s	Kindly refer Amendment-1 to this RFP.



Sl. No.	Page No.	Section	RFP Clause	Clause/Technical Specification	Bidder's Query	Bank's Reply
97	36	<u>Annexure-7</u>	Functional and Technical Specifications /Requirements for Supply, Installation, Configuration, Implementation and Maintenance of Servers and Other items in Canara Bank	A. Technical specifications for Application and Database servers(5 Nos. at DC and 5 Nos. at DR): 4. Processor: • Socket: Minimum 2 • Type: 3rd Generation Intel Xeon Scalable Processor • Model: Intel® Xeon® Gold 6328H Processor • Quantity: Minimum 2 • Core: Minimum 16 Per Processor Unit • Frequency: Minimum 4.30 GHz Turbo • Cache: Minimum 22 MB • Ultra Path Interconnect (UPI): Minimum 3 • UPI Speed: minimum 10.4 GT//s • DRAM: Minimum DDR4 2666 MT/s • Advanced Vector Extension: minimum 2 FMA • PCIe: 3.0 with 48 Lanes	• DRAM: Minimum DDR4 2933 MT/s Reason: RFP asks for latest processors but mentioned 2 generation old memory frequency. 3200 MT/s is the latest memory frequency. However, to accommodate both Intel and AMD with a fair chance, please include 2933 MHz.	Kindly refer Amendment-1 to this RFP.
98	36	<u>Annexure-7</u>	Functional and Technical Specifications /Requirements for Supply, Installation, Configuration, Implementation and Maintenance of Servers and Other items in Canara Bank	A. Technical specifications for Application and Database servers(5 Nos. at DC and 5 Nos. at DR): 4. Processor: • Socket: Minimum 2 • Type: 3rd Generation Intel Xeon Scalable Processor • Model: intel® Xeon® Gold 6328H Processor • Quantity: Minimum 2 • Core: Minimum 16 Per Processor Unit • Frequency: Minimum 4.30 GHz Turbo • Cache: Minimum 22 MB • Ultra Path Interconnect (UPI): Minimum 3 • UPI Speed: minimum 10.4 GT//s • DRAM: Minimum DDR4 2666 MT/s • Advanced Vector Extension: minimum 2 FMA • PCIe: 3.0 with 48 Lanes	• Advanced Vector Extension: minimum 1 FMA Reason: There is no banking application which can take advantage of 2 FMA. 2 FMA is only available with Intel Xeon processors	Kindly refer Amendment-1 to this RFP.
99	36	<u>Annexure-7</u>	Functional and Technical Specifications /Requirements for Supply, Installation, Configuration, Implementation and Maintenance of Servers and Other items in Canara Bank	A. Technical specifications for Application and Database servers(5 Nos. at DC and 5 Nos. at DR): 4. Processor: • Socket: Minimum 2 • Type: 3rd Generation Intel Xeon Scalable Processor • Model: Intel® Xeon® Gold 6328H Processor • Quantity: Minimum 2 • Core: Minimum 16 Per Processor Unit • Frequency: Minimum 4.30 GHz Turbo • Cache: Minimum 22 MB • Ultra Path Interconnect (UPI): Minimum 3 • UPI Speed: minimum 10.4 GT//s • DRAM: Minimum DDR4 2666 MT/s • Advanced Vector Extension: minimum 2 FMA • PCIe: 3.0 with 48 Lanes	• PCIe: 3.0 / 4.0 with 48 Lanes Reason: AMD EPYC supports 128 Lanes of PCIe Gen 4.0	Kindly refer Amendment-1 to this RFP.
100	36	<u>Annexure-7</u>	Functional and Technical Specifications /Requirements for Supply, Installation, Configuration, Implementation and Maintenance of Servers and Other items in Canara Bank	A. Technical specifications for Application and Database servers(5 Nos. at DC and 5 Nos. at DR): 5. Platform Controller Hub : Intel C629 Chipset or latest	Intel C629 Chipset or latest or equivalent SoC architecture Reason: AMD EPYC is a System on Chip and does not need a dedicated Chipset like Intel Xeon. Having a chipset limits you to pass through all communication outside system to go through Chipset.	Kindly refer Amendment-1 to this RFP.



Sl. No.	Page No.	Section	RFP Clause	Clause/Technical Specification	Bidder's Query	Bank's Reply
101	36	<u>Annexure-7</u>	Functional and Technical Specifications /Requirements for Supply, Installation, Configuration, Implementation and Maintenance of Servers and Other items in Canara Bank	A. Technical specifications for Application and Database servers(5 Nos. at DC and 5 Nos. at DR): Platform Controller Hub : 6. Main Board: Suitable Intel Main Board or equivalent	Suitable Intel Main Board or AMD equivalent	Kindly refer Amendment-1 to this RFP.
102	36	<u>Annexure-7</u>	Functional and Technical Specifications /Requirements for Supply, Installation, Configuration, Implementation and Maintenance of Servers and Other items in Canara Bank	A. Technical specifications for Application and Database servers(5 Nos. at DC and 5 Nos. at DR): 7. Other feature supported by Processor, Chipset & Main Board: • Virtualization Technology (VT-x) • Quick Assist Technology (QAT) • Optane Persistent Memory • Volume Management device (VMD) • Node Manager 4.0 • Run Sure Technology for RAS • Key Protection Technology (KPT) • Optane SSD & QLC 3D NAND SSD • Turbo boost Technology 20 • AES New Instructions • Trusted Execution Technology • Hyper Threading technology (HTT)	• Virtualization Technology (Intel VT-x or AMD-V)	Kindly refer Amendment-1 to this RFP.
103	36	<u>Annexure-7</u>	Functional and Technical Specifications /Requirements for Supply, Installation, Configuration, Implementation and Maintenance of Servers and Other items in Canara Bank	A. Technical specifications for Application and Database servers(5 Nos. at DC and 5 Nos. at DR): 7. Other feature supported by Processor, Chipset & Main Board: • Virtualization Technology (VT-x) • Quick Assist Technology (QAT) • Optane Persistent Memory • Volume Management device (VMD) • Node Manager 4.0 • Run Sure Technology for RAS • Key Protection Technology (KPT) • Optane SSD & QLC 3D NAND SSD • Turbo boost Technology 20 • AES New Instructions • Trusted Execution Technology • Hyper Threading technology (HTT)	• Quick Assist Technology (QAT) or dedicated secure processor Reason: AMD EPYC Processors includes a dedicated ARM A5 Cortex based processor in the SoC to take care of the necessary encryption and quick assist type features.	Kindly refer Amendment-1 to this RFP.



Sl. No.	Page No.	Section	RFP Clause	Clause/Technical Specification	Bidder's Query	Bank's Reply
104	36	<u>Annexure-7</u>	Functional and Technical Specifications /Requirements for Supply, Installation, Configuration, Implementation and Maintenance of Servers and Other items in Canara Bank	A. Technical specifications for Application and Database servers(5 Nos. at DC and 5 Nos. at DR): 7. Other feature supported by Processor, Chipset & Main Board: • Virtualization Technology (VT-x) • Quick Assist Technology (QAT) • Optane Persistent Memory • Volume Management device (VMD) • Node Manager 4.0 • Run Sure Technology for RAS • Key Protection Technology (KPT) • Optane SSD & QLC 3D NAND SSD • Turbo boost Technology 20 • AES New Instructions • Trusted Execution Technology • Hyper Threading technology (HTT)	• Optane Persistent Memory or equivalent technology support Reason: AMD partnered with Western Digital and ScaleMP to to provide functionality similar to Intel Optane	Kindly refer Amendment-1 to this RFP.
105	36	<u>Annexure-7</u>	Functional and Technical Specifications /Requirements for Supply, Installation, Configuration, Implementation and Maintenance of Servers and Other items in Canara Bank	A. Technical specifications for Application and Database servers(5 Nos. at DC and 5 Nos. at DR): 7. Other feature supported by Processor, Chipset & Main Board: • Virtualization Technology (VT-x) • Quick Assist Technology (QAT) • Optane Persistent Memory • Volume Management device (VMD) • Node Manager 4.0 • Run Sure Technology for RAS • Key Protection Technology (KPT) • Optane SSD & QLC 3D NAND SSD • Turbo boost Technology 20 • AES New Instructions • Trusted Execution Technology • Hyper Threading technology (HTT)	• Volume Management device (VMD) or equivalent Reason: VMD is a functionality to do RAID on Disk using CPU. This functionality is accomplished by having dedicated RAID controller. VMD has got over head on CPU which impacts computation.	Kindly refer Amendment-1 to this RFP.
106	36	<u>Annexure-7</u>	Functional and Technical Specifications /Requirements for Supply, Installation, Configuration, Implementation and Maintenance of Servers and Other items in Canara Bank	A. Technical specifications for Application and Database servers(5 Nos. at DC and 5 Nos. at DR): 7. Other feature supported by Processor, Chipset & Main Board: • Virtualization Technology (VT-x) • Quick Assist Technology (QAT) • Optane Persistent Memory • Volume Management device (VMD) • Node Manager 4.0 • Run Sure Technology for RAS • Key Protection Technology (KPT) • Optane SSD & QLC 3D NAND SSD • Turbo boost Technology 20 • AES New Instructions • Trusted Execution Technology • Hyper Threading technology (HTT)	• Node Manager 4.0 or equivalent power management utility Reason: Node Manager 4.0 is a specific term used by Intel. AMD EPYC has got it's own embedded power management controller and exposes necessary APIs to the BMC controller for effective power management.	Kindly refer Amendment-1 to this RFP.



Sl. No.	Page No.	Section	RFP Clause	Clause/Technical Specification	Bidder's Query	Bank's Reply
107	36	<u>Annexure-7</u>	Functional and Technical Specifications /Requirements for Supply, Installation, Configuration, Implementation and Maintenance of Servers and Other items in Canara Bank	A. Technical specifications for Application and Database servers(5 Nos. at DC and 5 Nos. at DR): 7. Other feature supported by Processor, Chipset & Main Board: • Virtualization Technology (VT-x) • Quick Assist Technology (QAT) • Optane Persistent Memory • Volume Management device (VMD) • Node Manager 4.0 • Run Sure Technology for RAS • Key Protection Technology (KPT) • Optane SSD & QLC 3D NAND SSD • Turbo boost Technology 20 • AES New Instructions • Trusted Execution Technology • Hyper Threading technology (HTT)	• Run Sure Technology for RAS or equivalent Machine Check Recovery Reason: Intel specific implementation terminology	Kindly refer Amendment-1 to this RFP.
108	36	<u>Annexure-7</u>	Functional and Technical Specifications /Requirements for Supply, Installation, Configuration, Implementation and Maintenance of Servers and Other items in Canara Bank	A. Technical specifications for Application and Database servers(5 Nos. at DC and 5 Nos. at DR): 7. Other feature supported by Processor, Chipset & Main Board: • Virtualization Technology (VT-x) • Quick Assist Technology (QAT) • Optane Persistent Memory • Volume Management device (VMD) • Node Manager 4.0 • Run Sure Technology for RAS • Key Protection Technology (KPT) • Optane SSD & QLC 3D NAND SSD • Turbo boost Technology 20 • AES New Instructions • Trusted Execution Technology • Hyper Threading technology (HTT)	• Key Protection Technology (KPT) or equivalent Reason: KPT is a Intel specific terminology. Upto 509 Keys can preserved by AMD EPYC processors internally.	Kindly refer Amendment-1 to this RFP.
109	36	<u>Annexure-7</u>	Functional and Technical Specifications /Requirements for Supply, Installation, Configuration, Implementation and Maintenance of Servers and Other items in Canara Bank	A. Technical specifications for Application and Database servers(5 Nos. at DC and 5 Nos. at DR): 7. Other feature supported by Processor, Chipset & Main Board: • Virtualization Technology (VT-x) • Quick Assist Technology (QAT) • Optane Persistent Memory • Volume Management device (VMD) • Node Manager 4.0 • Run Sure Technology for RAS • Key Protection Technology (KPT) • Optane SSD & QLC 3D NAND SSD • Turbo boost Technology 20 • AES New Instructions • Trusted Execution Technology • Hyper Threading technology (HTT)	• Optane SSD & QLC 3D NAND SSD or equivalent better SSD Reason: Optane is an Intel Terminology and is limited to Intel Xeon processor based environment. With AMD EPYC we have got better technology with a broad portfolio of market partners manufacturing SSDs	Kindly refer Amendment-1 to this RFP.



Sl. No.	Page No.	Section	RFP Clause	Clause/Technical Specification	Bidder's Query	Bank's Reply
110	36	Annexure-7	Functional and Technical Specifications /Requirements for Supply, Installation, Configuration, Implementation and Maintenance of Servers and Other Items in Canara Bank	A. Technical specifications for Application and Database servers(5 Nos. at DC and 5 Nos. at DR): 7. Other feature supported by Processor, Chipset & Main Board: • Virtualization Technology (VT-x) • Quick Assist Technology (QAT) • Optane Persistent Memory • Volume Management device (VMD) • Node Manager 4.0 • Run Sure Technology for RAS • Key Protection Technology (KPT) • Optane SSD & QLC 3D NAND SSD • Turbo boost Technology 20 • AES New Instructions • Trusted Execution Technology • Hyper Threading technology (HTT)	• Turbo boost Technology 20 or All core boost frequency Reason: Turbo boost Technology 20 is an Intel specific terminology.	Kindly refer Amendment-1 to this RFP.
111	36	Annexure-7	Functional and Technical Specifications /Requirements for Supply, Installation, Configuration, Implementation and Maintenance of Servers and Other Items in Canara Bank	A. Technical specifications for Application and Database servers(5 Nos. at DC and 5 Nos. at DR): 7. Other feature supported by Processor, Chipset & Main Board: • Virtualization Technology (VT-x) • Quick Assist Technology (QAT) • Optane Persistent Memory • Volume Management device (VMD) • Node Manager 4.0 • Run Sure Technology for RAS • Key Protection Technology (KPT) • Optane SSD & QLC 3D NAND SSD • Turbo boost Technology 20 • AES New Instructions • Trusted Execution Technology • Hyper Threading technology (HTT)	• AES New Instructions or AES 128 Encryption support Reason: AES New Instruction is a Intel Specific terminology	Kindly refer Amendment-1 to this RFP.
112	36	Annexure-7	Functional and Technical Specifications /Requirements for Supply, Installation, Configuration, Implementation and Maintenance of Servers and Other Items in Canara Bank	A. Technical specifications for Application and Database servers(5 Nos. at DC and 5 Nos. at DR): 7. Other feature supported by Processor, Chipset & Main Board: • Virtualization Technology (VT-x) • Quick Assist Technology (QAT) • Optane Persistent Memory • Volume Management device (VMD) • Node Manager 4.0 • Run Sure Technology for RAS • Key Protection Technology (KPT) • Optane SSD & QLC 3D NAND SSD • Turbo boost Technology 20 • AES New Instructions • Trusted Execution Technology • Hyper Threading technology (HTT)	• Trusted Execution Technology or equivalent Reason: TXT is a Intel Specific terminology. AMD EPYC has inbuilt security module which takes of the trusted execution without any change to user code.	Kindly refer Amendment-1 to this RFP.



Sl. No.	Page No.	Section	RFP Clause	Clause/Technical Specification	Bidder's Query	Bank's Reply
113	36	<u>Annexure 7</u>	Functional and Technical Specifications /Requirements for Supply, Installation, Configuration, Implementation and Maintenance of Servers and Other items in Canara Bank	A. Technical specifications for Application and Database servers(5 Nos. at DC and 5 Nos. at DR): 7. Other feature supported by Processor, Chipset & Main Board: • Virtualization Technology (VT-x) • Quick Assist Technology (QAT) • Optane Persistent Memory • Volume Management device (VMD) • Node Manager 4.0 • Run Sure Technology for RAS • Key Protection Technology (KPT) • Optane SSD & QLC 3D NAND SSD • Turbo boost Technology 20 • AES New Instructions • Trusted Execution Technology • Hyper Threading technology (HTT)	• Hyper Threading Technology (HTT) or Symetric Multi Threading (SMT) Reason: HTT is Intel Specific Terminology	Kindly refer Amendment-1 to this RFP.
114	37	<u>Annexure 7</u>	Functional and Technical Specifications /Requirements for Supply, Installation, Configuration, Implementation and Maintenance of Servers and Other items in Canara Bank	A. Technical specifications for Application and Database servers(5 Nos. at DC and 5 Nos. at DR): 9. Speculative execution Side Channel Mitigation by hardware & Software • V1, Spectre • V2, Spectre • V3, Meltdown • V3a • V4 • L1TF, Foreshadow • MFBDS, RIDL • MSBDS, Fallout • MLPDS • MDSUM • TAA	Kindly exaggerate on the following clause as to why this clause is required by the bank.	Bidder has to comply with the RFP Terms.
115	37	<u>Annexure 7</u>	Functional and Technical Specifications /Requirements for Supply, Installation, Configuration, Implementation and Maintenance of Servers and Other items in Canara Bank	A. Technical specifications for Application and Database servers(5 Nos. at DC and 5 Nos. at DR): 11. Memory •• Module Type: DDR4 DIMM • Capacity: Minimum 32 GB • Quantity: Minimum 16 • Speed: Minimum 2666 MT/s) • Advanced ECC (Error Correcting Code) type or similar technology • Registered ECC DIMMS	The memory speed support is till 3200 MTS. Request the bank to consider the latest feature.	Kindly refer Amendment-1 to this RFP.



Sl. No.	Page No.	Section	RFP Clause	Clause/Technical Specification	Bidder's Query	Bank's Reply
116	37	Annexure 7	Functional and Technical Specifications /Requirements for Supply, Installation, Configuration, Implementation and Maintenance of Servers and Other items in Canara Bank	A. Technical specifications for Application and Database servers(5 Nos. at DC and 5 Nos. at DR): 9. Speculative execution Side Channel Mitigation by hardware & Software • V1, Spectre • V2, Spectre • V3, Meltdown • V3a • V4 • L1TF, Foreshadow • MFBDS, RIDL • MSBDS, Fallout • MLPDS • MDSUM • TAA	Kindly exaggerate on the following clause as to why this clause is required by the bank.	Bidder has to comply with the RFP Terms.
117	37	Annexure 7	Functional and Technical Specifications /Requirements for Supply, Installation, Configuration, Implementation and Maintenance of Servers and Other Items in Canara Bank	A. Technical specifications for Application and Database servers(5 Nos. at DC and 5 Nos. at DR): 11. Memory • Module Type: DDR4 DIMM • Capacity: Minimum 32 GB • Quantity: Minimum 16 • Speed: Minimum 2666 MT/s) • Advanced ECC (Error Correcting Code) type or similar technology • Registered ECC DIMMs	The memory speed support is till 3200 MTS.Request the bank to consider the latest feature.	Kindly refer Amendment-1 to this RFP.
118	37	Annexure 7	Functional and Technical Specifications /Requirements for Supply, Installation, Configuration, Implementation and Maintenance of Servers and Other items in Canara Bank	A. Technical specifications for Application and Database servers(5 Nos. at DC and 5 Nos. at DR): 9. Speculative execution Side Channel Mitigation by hardware & Software • V1, Spectre • V2, Spectre • V3, Meltdown • V3a • V4 • L1TF, Foreshadow • MFBDS, RIDL • MSBDS, Fallout • MLPDS • MDSUM • TAA	Kindly exaggerate on the following clause as to why this clause is required by the bank.	Bidder has to comply with the RFP Terms.
119	37	Annexure 7	Functional and Technical Specifications /Requirements for Supply, Installation, Configuration, Implementation and Maintenance of Servers and Other items in Canara Bank	A. Technical specifications for Application and Database servers(5 Nos. at DC and 5 Nos. at DR): 11. Memory • Module Type: DDR4 DIMM • Capacity: Minimum 32 GB • Quantity: Minimum 16 • Speed: Minimum 2666 MT/s) • Advanced ECC (Error Correcting Code) type or similar technology • Registered ECC DIMMs	The memory speed support is till 3200 MTS.Request the bank to consider the latest feature.	Kindly refer Amendment-1 to this RFP.



Sl. No.	Page No.	Section	RFP Clause	Clause/Technical Specification	Bidder's Query	Bank's Reply
120	37	<u>Annexure-7</u>	Functional and Technical Specifications /Requirements for Supply, Installation, Configuration, Implementation and Maintenance of Servers and Other items in Canara Bank	A. Technical specifications for Application and Database servers(5 Nos. at DC and 5 Nos. at DR): 10. Reliability, Availability, and Serviceability (RAS) • Adaptive Double DRAM Device Correction (ADDDC) • Advanced Error Detection and Correction (AEDC) • Local Machine Check Exception (LMCE)	• Adaptive Double DRAM Device Correction (ADDDC) or Single Device Data Correction (SDDC) Reason: ADDDC is an Intel Specific Terminology.	Kindly refer Amendment-1 to this RFP.
121	37	<u>Annexure-7</u>	Functional and Technical Specifications /Requirements for Supply, Installation, Configuration, Implementation and Maintenance of Servers and Other items in Canara Bank	A. Technical specifications for Application and Database servers(5 Nos. at DC and 5 Nos. at DR): 10. Reliability, Availability, and Serviceability (RAS) • Adaptive Double DRAM Device Correction (ADDDC) • Advanced Error Detection and Correction (AEDC) • Local Machine Check Exception (LMCE)	• Advanced Error Detection and Correction (AEDC) or DRAM Address Command Parity with Replay Reason: AEDC is an Intel Specific Terminology.	Kindly refer Amendment-1 to this RFP.
122	37	<u>Annexure-7</u>	Functional and Technical Specifications /Requirements for Supply, Installation, Configuration, Implementation and Maintenance of Servers and Other items in Canara Bank	A. Technical specifications for Application and Database servers(5 Nos. at DC and 5 Nos. at DR): 10. Reliability, Availability, and Serviceability (RAS) • Adaptive Double DRAM Device Correction (ADDDC) • Advanced Error Detection and Correction (AEDC) • Local Machine Check Exception (LMCE)	• Local Machine Check Exception (LMCE) or Machine Check Recovery (MCR) Reason: LMCE is an Intel Specific Terminology.	Kindly refer Amendment-1 to this RFP.
123	37	<u>Annexure-7</u>	Functional and Technical Specifications /Requirements for Supply, Installation, Configuration, Implementation and Maintenance of Servers and Other items in Canara Bank	A. Technical specifications for Application and Database servers(5 Nos. at DC and 5 Nos. at DR): 11. Memory •• Module Type: DDR4 DIMM • Capacity: Minimum 32 GB • Quantity: Minimum 16 • Speed: Minimum 2666 MT/s) • Advanced ECC (Error Correcting Code) type or similar technology • Registered ECC DIMMs	• Speed: Minimum 2933 MT/s) Reason: RFP asks for latest processors but mentioned 2 generation old memory frequency. 3200 MT/s is the latest memory frequency. However, to accommodate both Intel and AMD with a fair chance, please include 2933 MHz.	Kindly refer Amendment-1 to this RFP.
124	38	<u>Annexure 7</u>	Functional and Technical Specifications /Requirements for Supply, Installation, Configuration, Implementation and Maintenance of Servers and Other Items in Canara Bank	A. Technical specifications for Application and Database servers(5 Nos. at DC and 5 Nos. at DR): 12. Raid Controller • Interface: 8x PCIe 3.0 x16 • Port/Channel: 8x Internal SAS port • Data Transfer Rate: 12Gbps per lane • Cache: 2GB • RAID 0, 1, 10 & Single-Disk • Cooling: Heat sink with intelligent Fan • Management: Browser based Tool, CLI (Command Line Interface-scriptable configuration tool) and API Package • SMTP Email Alert Notification • Alarm Buzzer • Storage Health Inspector • Automatic and configurable RAID Rebuilding Priority • Auto resume incomplete rebuilding after • Single-RAID or Multi-RAID Arrays per Controller • Cross-Sync RAID Solution across Controllers	The cross sync raid solution across controllers is specific for nvme and multiple storage arrays acting as a single pool whereas bank which is not required by the bank therefore request the bank to remove this clause .	Kindly refer Amendment-1 to this RFP.



Sl. No.	Page No.	Section	RFP Clause	Clause/Technical Specification	Bidder's Query	Bank's Reply
125	38	<u>Annexure 7</u>	Functional and Technical Specifications /Requirements for Supply, Installation, Configuration, Implementation and Maintenance of Servers and Other items in Canara Bank	A. Technical specifications for Application and Database servers(5 Nos. at DC and 5 Nos. at DR): 13. Disks • Data Center SSD for Enterprise • Interface: 12 Gb/s SAS Dual-port • Capacity: 1.6TB SSD or higher capacity • No of Disks: 5 • Form Factor: low profile • Service: Hot swappable • Throughput Sequential Read/Write: 2.2GBs/1.5GBs or more • IOPS 4K Read/Write: 200K/120K or more • Latency: read/write: <300 µs / <1 ms or less • Power Loss Protection • Static & Dynamic Wear Levelling • Reliability tracking, usage statistics, Wear Leveling, temperature, Life • Endurance: 3 DWPD/5yrs or more (Replacement warranty if endurance level is less than 95%).	Need clarity from bank on type of SSDs(MU/WI/RI)The following throughput/IOPS target is not doable on a single DC class HDD for mixed use therefore request the bank to remove the clause.	Kindly refer Amendment-1 to this RFP.
126	38	<u>Annexure 7</u>	Functional and Technical Specifications /Requirements for Supply, Installation, Configuration, Implementation and Maintenance of Servers and Other items in Canara Bank	A. Technical specifications for Application and Database servers(5 Nos. at DC and 5 Nos. at DR): 15. FC HBA Dual Port 10GB FC HBA PCIe with Supported transceivers and 2 Nos of minimum 30 Meter OM3 FC cable for SAN Connectivity to existing SAN Switches & Storage	The HBA can go upto 16/32 Gbps.Request the bank to fo with the latest feature	Kindly refer Amendment-1 to this RFP.
127	38	<u>Annexure 7</u>	Functional and Technical Specifications /Requirements for Supply, Installation, Configuration, Implementation and Maintenance of Servers and Other items in Canara Bank	A. Technical specifications for Application and Database servers(5 Nos. at DC and 5 Nos. at DR): 12. Raid Controller • Interface: 8x PCIe 3.0 x16 • Port/Channel: 8x Internal SAS port • Data Transfer Rate: 12Gbps per lane • Cache: 2GB • RAID 0, 1, 10 & Single-Disk • Cooling: Heat sink with intelligent Fan • Management: Browser based Tool, CLI (Command Line Interface-scriptable configuration tool) and API Package • SMTP Email Alert Notification • Alarm Buzzer • Storage Health Inspector • Automatic and configurable RAID Rebuilding Priority • Auto resume incomplete rebuilding after • Single-RAID or Multi-RAID Arrays per Controller • Cross-Sync RAID Solution across Controllers	The cross sync raid solution across controllers is specific for nvme and multiple storage arrays acting as a single pool whereas bank which is not required by the bank therefore request the bank to remove this clause .	Kindly refer Amendment-1 to this RFP.



Sl. No.	Page No.	Section	RFP Clause	Clause/Technical Specification	Bidder's Query	Bank's Reply
128	38	Annexure 7	Functional and Technical Specifications /Requirements for Supply, Installation, Configuration, Implementation and Maintenance of Servers and Other items in Canara Bank	A. Technical specifications for Application and Database servers(5 Nos. at DC and 5 Nos. at DR): 13. Disks • Data Center SSD for Enterprise • Interface: 12 Gb/s SAS Dual-port • Capacity: 1.6TB SSD or higher capacity • No of Disks: 5 • Form Factor: low profile • Service: Hot swappable • Throughput Sequential Read/Write: 2.2GBs/1.5GBs or more • IOPS 4K Read/Write: 200K/120K or more • Latency: read/write: <300 µs / <1 ms or less • Power Loss Protection • Static & Dynamic Wear Leveling • Reliability tracking, usage statistics, Wear Leveling, temperature, Life • Endurance: 3 DWPD/5yrs or more (Replacement warranty if endurance level is less than 95%).	Need clarity from bank on type of SSDs(ML/W/R)The following throughput/IOPS target is not doable on a single DC class HDD for mixed use therefore request the bank to remove the clause.	Kindly refer Amendment-1 to this RFP.
129	38	Annexure 7	Functional and Technical Specifications /Requirements for Supply, Installation, Configuration, Implementation and Maintenance of Servers and Other items in Canara Bank	A. Technical specifications for Application and Database servers(5 Nos. at DC and 5 Nos. at DR): 15. FC HBA Dual Port 10GB FC HBA PCIe with Supported transceivers and 2 Nos of minimum 30 Meter OM3 FC cable for SAN Connectivity to existing SAN Switches & Storage	The HBA can go upto 16/32 Gbps.Request the bank to fo with the latest feature	Kindly refer Amendment-1 to this RFP.
130	38	Annexure 7	Functional and Technical Specifications /Requirements for Supply, Installation, Configuration, Implementation and Maintenance of Servers and Other items in Canara Bank	A. Technical specifications for Application and Database servers(5 Nos. at DC and 5 Nos. at DR): 12. Raid Controller • Interface: 8x PCIe 3.0 x16 • Port/Channel: 8x Internal SAS port • Data Transfer Rate: 12Gbps per lane • Cache: 2GB • RAID 0, 1, 10 & Single-Disk • Cooling: Heat sink with intelligent Fan • Management: Browser based Tool, CLI (Command Line Interface-scriptable configuration tool) and API Package • SMTP Email Alert Notification • Alarm Buzzer • Storage Health Inspector • Automatic and configurable RAID Rebuilding Priority • Auto resume incomplete rebuilding after • Single-RAID or Multi-RAID Arrays per Controller • Cross-Sync RAID Solution across Controllers	The cross sync raid solution across controllers is specific for nvme and multiple storage arrays acting as a single pool whereas bank which is not required by the bank therefore request the bank to remove this clause .	Kindly refer Amendment-1 to this RFP.



Sl. No.	Page No.	Section	RFP Clause	Clause/Technical Specification	Bidder's Query	Bank's Reply
131	38	<u>Annexure 7</u>	Functional and Technical Specifications /Requirements for Supply, Installation, Configuration, Implementation and Maintenance of Servers and Other items in Canara Bank	A. Technical specifications for Application and Database servers(5 Nos. at DC and 5 Nos. at DR): 13. Disks • Data Center SSD for Enterprise • Interface: 12 Gb/s SAS Dual-port • Capacity: 1.6TB SSD or higher capacity • No of Disks: 5 • Form Factor: low profile • Service: Hot swappable • Throughput Sequential Read/Write: 2.2GBs/1.5GBs or more • IOPS 4K Read/Write: 200K/120K or more • Latency: read/write: <300 µs / <1 ms or less • Power Loss Protection • Static & Dynamic Wear Levelling • Reliability tracking, usage statistics, Wear Levelling, temperature, Life • Endurance: 3 DWPD/5yrs or more (Replacement warranty if endurance level is less than 95%).	Need clarity from bank on type of SSDs(MU/WI/RI)The following throughput/IOPS target is not doable on a single DC class HDD for mixed use therefore request the bank to remove the clause.	Kindly refer Amendment-1 to this RFP.
132	38	<u>Annexure 7</u>	Functional and Technical Specifications /Requirements for Supply, Installation, Configuration, Implementation and Maintenance of Servers and Other items in Canara Bank	A. Technical specifications for Application and Database servers(5 Nos. at DC and 5 Nos. at DR): 15. FC HBA Dual Port 10GB FC HBA PCIe with Supported transceivers and 2 Nos of minimum 30 Meter OM3 FC cable for SAN Connectivity to existing SAN Switches & Storage	The HBA can go upto 16/32 Gbps.Request the bank to fo with the latest feature	Kindly refer Amendment-1 to this RFP.
133	38	<u>Annexure 7</u>	Functional and Technical Specifications /Requirements for Supply, Installation, Configuration, Implementation and Maintenance of Servers and Other items in Canara Bank	A. Technical specifications for Application and Database servers(5 Nos. at DC and 5 Nos. at DR): 15. FC HBA Dual Port 10GB FC HBA PCIe with Supported transceivers and 2 Nos of minimum 30 Meter OM3 FC cable for SAN Connectivity to existing SAN Switches & Storage	Can the HBA cards be of higher speeds i.e 16GB. Please confirm the storage & SAN speeds	Kindly refer Amendment-1 to this RFP.
134	39	<u>Annexure 7</u>	Functional and Technical Specifications /Requirements for Supply, Installation, Configuration, Implementation and Maintenance of Servers and Other items in Canara Bank	A. Technical specifications for Application and Database servers(5 Nos. at DC and 5 Nos. at DR): 20. Power Supply Server should be provided with Redundant hot swappable Power supplies of maximum 750W. The Power supplies should be FCC class A certified and power cables to be IEC C13-14.	This clause would change based on the CPU Selection as the current CPU is not yet launched.	Kindly refer Amendment-1 to this RFP.



Sl. No.	Page No.	Section	RFP Clause	Clause/Technical Specification	Bidder's Query	Bank's Reply
135	39	<u>Annexure 7</u>	Functional and Technical Specifications /Requirements for Supply, Installation, Configuration, Implementation and Maintenance of Servers and Other items in Canara Bank	<p>B. Technical Specifications of Server (14 Nos. at DC and 10 Nos. at DR):</p> <p>4. Processor</p> <ul style="list-style-type: none"> • Socket: Minimum 2 • Type: 3rd Generation Intel Xeon Scalable Processor • Model: Intel® Xeon® Gold 6328H Processor • Quantity: Minimum 1 with Upgrade option • Core: Minimum 16 Per Processor Unit • Frequency: Minimum 4.30 GHz Turbo • Cache: Minimum 22 MB • Ultra Path Interconnect (UPI): Minimum 3 • UPI Speed: minimum 10.4 GT/s • DRAM: Minimum DDR4 2666 MT/s • Advanced Vector Extension: minimum 2 FMA • PCIe: 3.0 with 48 Lanes <p>Type: 3rd Gen intel Scalable</p>	The HBA can go upto 16/32 Gbps.Request the bank to fo with the latest feature	Kindly refer Amendment-1 to this RFP.
136	39	<u>Annexure 7</u>	Functional and Technical Specifications /Requirements for Supply, Installation, Configuration, Implementation and Maintenance of Servers and Other items in Canara Bank	<p>A. Technical specifications for Application and Database servers(5 Nos. at DC and 5 Nos. at DR):</p> <p>20. Power Supply</p> <p>Server should be provided with Redundant hot swappable Power supplies of maximum 750W. The Power supplies should be FCC class A certified and power cables to be IEC C13-14.</p>	This clause would change based on the CPU Selection as the current CPU is not yet launched.	Kindly refer Amendment-1 to this RFP.
137	39	<u>Annexure 7</u>	Functional and Technical Specifications /Requirements for Supply, Installation, Configuration, Implementation and Maintenance of Servers and Other items in Canara Bank	<p>B. Technical Specifications of Server (14 Nos. at DC and 10 Nos. at DR):</p> <p>4. Processor</p> <ul style="list-style-type: none"> • Socket: Minimum 2 • Type: 3rd Generation Intel Xeon Scalable Processor • Model: Intel® Xeon® Gold 6328H Processor • Quantity: Minimum 1 with Upgrade option • Core: Minimum 16 Per Processor Unit • Frequency: Minimum 4.30 GHz Turbo • Cache: Minimum 22 MB • Ultra Path Interconnect (UPI): Minimum 3 • UPI Speed: minimum 10.4 GT/s • DRAM: Minimum DDR4 2666 MT/s • Advanced Vector Extension: minimum 2 FMA • PCIe: 3.0 with 48 Lanes <p>Type: 3rd Gen intel Scalable</p>	Need clarity from bnak on type of SSDs(MU/WI/RI)The following throughput/IOPS target is not doable on a single DC class HDD for mixed use therefore request the bank to remove the clause.	Kindly refer Amendment-1 to this RFP.
138	39	<u>Annexure 7</u>	Functional and Technical Specifications /Requirements for Supply, Installation, Configuration, Implementation and Maintenance of Servers and Other items in Canara Bank	<p>A. Technical specifications for Application and Database servers(5 Nos. at DC and 5 Nos. at DR):</p> <p>20. Power Supply</p> <p>Server should be provided with Redundant hot swappable Power supplies of maximum 750W. The Power supplies should be FCC class A certified and power cables to be IEC C13-14.</p>	This clause would change based on the CPU Selection as the current CPU is not yet launched.	Kindly refer Amendment-1 to this RFP.



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139	39	<u>Annexure 7</u>	Functional and Technical Specifications /Requirements for Supply, Installation, Configuration, Implementation and Maintenance of Servers and Other Items in Canara Bank	B. Technical Specifications of Server (14 Nos. at DC and 10 Nos. at DRC): 4. Processor • Socket: Minimum 2 • Type: 3rd Generation Intel Xeon Scalable Processor • Model: Intel® Xeon® Gold 6328H Processor • Quantity: Minimum 1 with Upgrade option • Core: Minimum 16 Per Processor Unit • Frequency: Minimum 4.30 GHz Turbo • Cache: Minimum 22 MB • Ultra Path Interconnect (UPI): Minimum 3 • UPI Speed: minimum 10.4 GT//s • DRAM: Minimum DDR4 2666 MT/s • Advanced Vector Extension: minimum 2 FMA • PCIe: 3.0 with 48 Lanes Type: 3rd Gen intel Scalable	The cross sync raid solution across controllers is specific for nvme and multiple storage arrays acting as a single pool whereas bank which is not required by the bank therefore request the bank to remove this clause.	Kindly refer Amendment-1 to this RFP.
140	39	<u>Annexure 7</u>	Functional and Technical Specifications /Requirements for Supply, Installation, Configuration, Implementation and Maintenance of Servers and Other Items in Canara Bank	B. Technical Specifications of Server (14 Nos. at DC and 10 Nos. at DRC): 4. Processor • Socket: Minimum 2 • Type: 3rd Generation Intel Xeon Scalable Processor • Model: Intel® Xeon® Gold 6328H Processor • Quantity: Minimum 1 with Upgrade option • Core: Minimum 16 Per Processor Unit • Frequency: Minimum 4.30 GHz Turbo • Cache: Minimum 22 MB • Ultra Path Interconnect (UPI): Minimum 3 • UPI Speed: minimum 10.4 GT//s • DRAM: Minimum DDR4 2666 MT/s • Advanced Vector Extension: minimum 2 FMA • PCIe: 3.0 with 48 Lanes Type: 3rd Gen intel Scalable	Currently Intel Xeon Scalable 3rd generation processor is available in Superdome Class highend servers only and not on traditional 2U 2 Socket servers. Please change the specification to "Intel 2nd Generation processor"	Kindly refer Amendment-1 to this RFP.
141	39	<u>Annexure 7</u>	Functional and Technical Specifications /Requirements for Supply, Installation, Configuration, Implementation and Maintenance of Servers and Other Items in Canara Bank	B. Technical Specifications of Server (14 Nos. at DC and 10 Nos. at DRC): 4. Processor • Socket: Minimum 2 • Type: 3rd Generation Intel Xeon Scalable Processor • Model: Intel® Xeon® Gold 6328H Processor • Quantity: Minimum 1 with Upgrade option • Core: Minimum 16 Per Processor Unit • Frequency: Minimum 4.30 GHz Turbo • Cache: Minimum 22 MB • Ultra Path Interconnect (UPI): Minimum 3 • UPI Speed: minimum 10.4 GT//s • DRAM: Minimum DDR4 2666 MT/s • Advanced Vector Extension: minimum 2 FMA • PCIe: 3.0 with 48 Lanes Type: 3rd Gen intel Scalable	Please change the CPU Type to 6242R Gold Processor 3.1Ghz, 20 Cores	Kindly refer Amendment-1 to this RFP.



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142	39	<u>Annexure 7</u>	Functional and Technical Specifications /Requirements for Supply, Installation, Configuration, Implementation and Maintenance of Servers and Other items in Canara Bank	B. Technical Specifications of Server (14 Nos. at DC and 10 Nos. at DRC): 4. Processor • Socket: Minimum 2 • Type: 3rd Generation Intel Xeon Scalable Processor • Model: Intel® Xeon® Gold 6328H Processor • Quantity: Minimum 1 with Upgrade option • Core: Minimum 16 Per Processor Unit • Frequency: Minimum 4.30 GHz Turbo • Cache: Minimum 22 MB • Ultra Path Interconnect (UPI): Minimum 3 • UPI Speed: minimum 10.4 GT/s • DRAM: Minimum DDR4 2666 MT/s • Advanced Vector Extension: minimum 2 FMA • PCIe: 3.0 with 48 Lanes Type: 3rd Gen intel Scalable	Please confirm if the bidder has to quote base server with 1CPU and second CPU as upgrade ?	Kindly refer Amendment-1 to this RFP.
143	39	<u>Annexure 7</u>	Functional and Technical Specifications /Requirements for Supply, Installation, Configuration, Implementation and Maintenance of Servers and Other items in Canara Bank	B. Technical Specifications of Server (14 Nos. at DC and 10 Nos. at DRC): 4. Processor • Socket: Minimum 2 • Type: 3rd Generation Intel Xeon Scalable Processor • Model: Intel® Xeon® Gold 6328H Processor • Quantity: Minimum 1 with Upgrade option • Core: Minimum 16 Per Processor Unit • Frequency: Minimum 4.30 GHz Turbo • Cache: Minimum 22 MB • Ultra Path Interconnect (UPI): Minimum 3 • UPI Speed: minimum 10.4 GT/s • DRAM: Minimum DDR4 2666 MT/s • Advanced Vector Extension: minimum 2 FMA • PCIe: 3.0 with 48 Lanes Type: 3rd Gen intel Scalable	Please change this to Dual Port 16Gbps FC HBA	Kindly refer Amendment-1 to this RFP.
144	39	<u>Annexure 7</u>	Functional and Technical Specifications /Requirements for Supply, Installation, Configuration, Implementation and Maintenance of Servers and Other items in Canara Bank	B. Technical Specifications of Server (14 Nos. at DC and 10 Nos. at DRC): 4. Processor • Socket: Minimum 2 • Type: 3rd Generation Intel Xeon Scalable Processor • Model: Intel® Xeon® Gold 6328H Processor • Quantity: Minimum 1 with Upgrade option • Core: Minimum 16 Per Processor Unit • Frequency: Minimum 4.30 GHz Turbo • Cache: Minimum 22 MB • Ultra Path Interconnect (UPI): Minimum 3 • UPI Speed: minimum 10.4 GT/s • DRAM: Minimum DDR4 2666 MT/s • Advanced Vector Extension: minimum 2 FMA • PCIe: 3.0 with 48 Lanes Type: 3rd Gen intel Scalable	Please change this to PCI Slot - 1 x 16X Gen 3 Slots per Server & 2 x 8X Gen 3 pci slots per server	Kindly refer Amendment-1 to this RFP.



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145	39	<u>Annexure-7</u>	Functional and Technical Specifications /Requirements for Supply, Installation, Configuration, Implementation and Maintenance of Servers and Other items in Canara Bank	B. Technical Specifications of Server (14 Nos. at DC and 10 Nos. at DRC): Processor: • Socket: Minimum 2 • Type: 3rd Generation Intel Xeon Scalable Processor • Model: Intel® Xeon® Gold 6328H Processor • Quantity: Minimum 1 with Upgrade option • Core: Minimum 16 Per Processor Unit • Frequency: Minimum 4.30 GHz Turbo • Cache: Minimum 22 MB • Ultra Path Interconnect (UPI): Minimum 3 • UPI Speed: minimum 10.4 GT//s • DRAM: Minimum DDR4 2666 MT/s • Advanced Vector Extension: minimum 2 FMA • PCIe: 3.0 with 48 Lanes	Currently Intel Xeon Scalable 3rd generation processor is available in Superdome Class highend servers only and not on traditional 2U 2 Socket servers. Please change the specification to "Intel 2nd Generation processor"	Kindly refer Amendment-1 to this RFP.
146	39	<u>Annexure-7</u>	Functional and Technical Specifications /Requirements for Supply, Installation, Configuration, Implementation and Maintenance of Servers and Other items in Canara Bank	B. Technical Specifications of Server (14 Nos. at DC and 10 Nos. at DRC): Processor: • Socket: Minimum 2 • Type: 3rd Generation Intel Xeon Scalable Processor • Model: Intel® Xeon® Gold 6328H Processor • Quantity: Minimum 1 with Upgrade option • Core: Minimum 16 Per Processor Unit • Frequency: Minimum 4.30 GHz Turbo • Cache: Minimum 22 MB • Ultra Path Interconnect (UPI): Minimum 3 • UPI Speed: minimum 10.4 GT//s • DRAM: Minimum DDR4 2666 MT/s • Advanced Vector Extension: minimum 2 FMA • PCIe: 3.0 with 48 Lanes	Please change the CPU Type to 6242R Gold Processor 3.1Ghz, 20 Cores	Kindly refer Amendment-1 to this RFP.
147	39	<u>Annexure-7</u>	Functional and Technical Specifications /Requirements for Supply, Installation, Configuration, Implementation and Maintenance of Servers and Other items in Canara Bank	B. Technical Specifications of Server (14 Nos. at DC and 10 Nos. at DRC): Processor: • Socket: Minimum 2 • Type: 3rd Generation Intel Xeon Scalable Processor • Model: Intel® Xeon® Gold 6328H Processor • Quantity: Minimum 1 with Upgrade option • Core: Minimum 16 Per Processor Unit • Frequency: Minimum 4.30 GHz Turbo • Cache: Minimum 22 MB • Ultra Path Interconnect (UPI): Minimum 3 • UPI Speed: minimum 10.4 GT//s • DRAM: Minimum DDR4 2666 MT/s • Advanced Vector Extension: minimum 2 FMA • PCIe: 3.0 with 48 Lanes	Please change this to Dual Port 16Gbps FC HBA	Kindly refer Amendment-1 to this RFP.



Sl. No.	Page No.	Section	RFP Clause	Clause/Technical Specification	Bidder's Query	Bank's Reply
148	39	Annexure-7	Functional and Technical Specifications /Requirements for Supply, Installation, Configuration, Implementation and Maintenance of Servers and Other items in Canara Bank	<p>B. Technical Specifications of Server (14 Nos. at DC and 10 Nos. at DRC):</p> <p>Processor:</p> <ul style="list-style-type: none"> • Socket: Minimum 2 • Type: 3rd Generation Intel Xeon Scalable Processor • Model: Intel® Xeon® Gold 6328H Processor • Quantity: Minimum 1 with Upgrade option • Core: Minimum 16 Per Processor Unit • Frequency: Minimum 4.30 GHz Turbo • Cache: Minimum 22 MB • Ultra Path Interconnect (UPI): Minimum 3 • UPI Speed: minimum 10.4 GT/s • DRAM: Minimum DDR4 2666 MT/s • Advanced Vector Extension: minimum 2 FMA • PCIe: 3.0 with 48 Lanes 	Please change this to PCI Slot - 1 x 16X Gen 3 Slots per Server & 2 x 8X Gen 3 pci slots per server	Kindly refer Amendment-1 to this RFP.
149	39	Annexure-7	Functional and Technical Specifications /Requirements for Supply, Installation, Configuration, Implementation and Maintenance of Servers and Other items in Canara Bank	<p>B. Technical Specifications of Server (14 Nos. at DC and 10 Nos. at DRC):</p> <p>Processor:</p> <ul style="list-style-type: none"> • Socket: Minimum 2 • Type: 3rd Generation Intel Xeon Scalable Processor • Model: Intel® Xeon® Gold 6328H Processor • Quantity: Minimum 1 with Upgrade option • Core: Minimum 16 Per Processor Unit • Frequency: Minimum 4.30 GHz Turbo • Cache: Minimum 22 MB • Ultra Path Interconnect (UPI): Minimum 3 • UPI Speed: minimum 10.4 GT/s • DRAM: Minimum DDR4 2666 MT/s • Advanced Vector Extension: minimum 2 FMA • PCIe: 3.0 with 48 Lanes 	Currently Intel Xeon Scalable 3rd generation processor is available in Superdome Class high-end servers only and not on traditional 2U 2 Socket servers. Please change the specification to "Intel 2nd Generation processor"	Kindly refer Amendment-1 to this RFP.
150	39	Annexure-7	Functional and Technical Specifications /Requirements for Supply, Installation, Configuration, Implementation and Maintenance of Servers and Other items in Canara Bank	<p>B. Technical Specifications of Server (14 Nos. at DC and 10 Nos. at DRC):</p> <p>Processor:</p> <ul style="list-style-type: none"> • Socket: Minimum 2 • Type: 3rd Generation Intel Xeon Scalable Processor • Model: Intel® Xeon® Gold 6328H Processor • Quantity: Minimum 1 with Upgrade option • Core: Minimum 16 Per Processor Unit • Frequency: Minimum 4.30 GHz Turbo • Cache: Minimum 22 MB • Ultra Path Interconnect (UPI): Minimum 3 • UPI Speed: minimum 10.4 GT/s • DRAM: Minimum DDR4 2666 MT/s • Advanced Vector Extension: minimum 2 FMA • PCIe: 3.0 with 48 Lanes 	Please change the CPU Type to 6242R Gold Processor 3.1Ghz, 20 Cores	Kindly refer Amendment-1 to this RFP.



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151	39	<u>Annexure-7</u>	Functional and Technical Specifications /Requirements for Supply, Installation, Configuration, Implementation and Maintenance of Servers and Other items in Canara Bank	B. Technical Specifications of Server (14 Nos. at DC and 10 Nos. at DRC): Processor: <ul style="list-style-type: none"> • Socket: Minimum 2 • Type: 3rd Generation Intel Xeon Scalable Processor • Model: Intel® Xeon® Gold 6328H Processor • Quantity: Minimum 1 with Upgrade option • Core: Minimum 16 Per Processor Unit • Frequency: Minimum 4.30 GHz Turbo • Cache: Minimum 22 MB • Ultra Path Interconnect (UPI): Minimum 3 • UPI Speed: minimum 10.4 GT//s • DRAM: Minimum DDR4 2666 MT/s • Advanced Vector Extension: minimum 2 FMA • PCIe: 3.0 with 48 Lanes 	Please confirm if the bidder has to quote base server with 1CPU and second CPU as upgrade ?	Yes. Kindly refer Amendment-1 to this RFP.
152	39	<u>Annexure-7</u>	Functional and Technical Specifications /Requirements for Supply, Installation, Configuration, Implementation and Maintenance of Servers and Other Items in Canara Bank	B. Technical Specifications of Server (14 Nos. at DC and 10 Nos. at DRC): Processor: <ul style="list-style-type: none"> • Socket: Minimum 2 • Type: 3rd Generation Intel Xeon Scalable Processor • Model: Intel® Xeon® Gold 6328H Processor • Quantity: Minimum 1 with Upgrade option • Core: Minimum 16 Per Processor Unit • Frequency: Minimum 4.30 GHz Turbo • Cache: Minimum 22 MB • Ultra Path Interconnect (UPI): Minimum 3 • UPI Speed: minimum 10.4 GT//s • DRAM: Minimum DDR4 2666 MT/s • Advanced Vector Extension: minimum 2 FMA • PCIe: 3.0 with 48 Lanes 	Please change this to Dual Port 16Gbps FC HBA	Kindly refer Amendment-1 to this RFP.
153	39	<u>Annexure-7</u>	Functional and Technical Specifications /Requirements for Supply, Installation, Configuration, Implementation and Maintenance of Servers and Other items in Canara Bank	B. Technical Specifications of Server (14 Nos. at DC and 10 Nos. at DRC): Processor: <ul style="list-style-type: none"> • Socket: Minimum 2 • Type: 3rd Generation Intel Xeon Scalable Processor • Model: Intel® Xeon® Gold 6328H Processor • Quantity: Minimum 1 with Upgrade option • Core: Minimum 16 Per Processor Unit • Frequency: Minimum 4.30 GHz Turbo • Cache: Minimum 22 MB • Ultra Path Interconnect (UPI): Minimum 3 • UPI Speed: minimum 10.4 GT//s • DRAM: Minimum DDR4 2666 MT/s • Advanced Vector Extension: minimum 2 FMA • PCIe: 3.0 with 48 Lanes 	Please change this to PCI Slot - 1 x 16X Gen 3 Slots per Server & 2 x 8X Gen 3 pci slots per server	Kindly refer Amendment-1 to this RFP.



Sl. No.	Page No.	Section	RFP Clause	Clause/Technical Specification	Bidder's Query	Bank's Reply
154	39	Annexure-7	Functional and Technical Specifications /Requirements for Supply, Installation, Configuration, Implementation and Maintenance of Servers and Other items in Canara Bank	<p>B. Technical Specifications of Server (14 Nos. at DC and 10 Nos. at DRC):</p> <p>Processor:</p> <ul style="list-style-type: none"> • Socket: Minimum 2 • Type: 3rd Generation Intel Xeon Scalable Processor • Model: Intel® Xeon® Gold 6328H Processor • Quantity: Minimum 1 with Upgrade option • Core: Minimum 16 Per Processor Unit • Frequency: Minimum 4.30 GHz Turbo • Cache: Minimum 22 MB • Ultra Path Interconnect (UPI): Minimum 3 • UPI Speed: minimum 10.4 GT//s • DRAM: Minimum DDR4 2666 MT/s • Advanced Vector Extension: minimum 2 FMA • PCIe: 3.0 with 48 Lanes 	<p>Please change the CPU to "Intel 6246R 3.4GHz/205W 16C/35.75MB DDR4 2933MHz or Higher". The particular processor number mentioned in the RFP is favouring one particular OEM and other can't comply with this model number as the processor model is not available with other OEMS. Please make it generic so that Other OEMS can also comply as they can give different processor model with same specs (base frequency, cores and cache) required. As we understand the performance is the key here</p>	Kindly refer Amendment-1 to this RFP.
155	39	Annexure-7	Functional and Technical Specifications /Requirements for Supply, Installation, Configuration, Implementation and Maintenance of Servers and Other items in Canara Bank	<p>B. Technical Specifications of Server (14 Nos. at DC and 10 Nos. at DRC):</p> <p>4. Processor</p> <ul style="list-style-type: none"> • Socket: Minimum 2 • Type: 3rd Generation Intel Xeon Scalable Processor • Model: Intel® Xeon® Gold 6328H Processor • Quantity: Minimum 1 with Upgrade option • Core: Minimum 16 Per Processor Unit • Frequency: Minimum 4.30 GHz Turbo • Cache: Minimum 22 MB • Ultra Path Interconnect (UPI): Minimum 3 • UPI Speed: minimum 10.4 GT//s • DRAM: Minimum DDR4 2666 MT/s • Advanced Vector Extension: minimum 2 FMA • PCIe: 3.0 with 48 Lanes <p>Type: 3rd Gen Intel Scalable</p>	<p>• Type: 3rd Generation Intel Xeon Scalable Processor or Latest AMD EPYC Processor</p> <p>Reason: AMD has got improved processors which performs better than Intel. The present clause limits OEMs to opt for only one particular processors which avoids competition in open RFP.</p>	Kindly refer Amendment-1 to this RFP.
156	39	Annexure-7	Functional and Technical Specifications /Requirements for Supply, Installation, Configuration, Implementation and Maintenance of Servers and Other items in Canara Bank	<p>B. Technical Specifications of Server (14 Nos. at DC and 10 Nos. at DRC):</p> <p>4. Processor</p> <ul style="list-style-type: none"> • Socket: Minimum 2 • Type: 3rd Generation Intel Xeon Scalable Processor • Model: Intel® Xeon® Gold 6328H Processor • Quantity: Minimum 1 with Upgrade option • Core: Minimum 16 Per Processor Unit • Frequency: Minimum 4.30 GHz Turbo • Cache: Minimum 22 MB • Ultra Path Interconnect (UPI): Minimum 3 • UPI Speed: minimum 10.4 GT//s • DRAM: Minimum DDR4 2666 MT/s • Advanced Vector Extension: minimum 2 FMA • PCIe: 3.0 with 48 Lanes <p>Type: 3rd Gen Intel Scalable</p>	<p>• Type: 3rd Generation Intel Xeon Scalable Processor or Latest AMD EPYC Processor</p> <p>Reason: AMD has got improved processors which performs better than Intel. The present clause limits OEMs to opt for only one particular processors which avoids competition in open RFP.</p>	Kindly refer Amendment-1 to this RFP.



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157	39	<u>Annexure-7</u>	Functional and Technical Specifications /Requirements for Supply, Installation, Configuration, Implementation and Maintenance of Servers and Other items in Canara Bank	<p>B. Technical Specifications of Server (14 Nos. at DC and 10 Nos. at DRC):</p> <p>4. Processor</p> <ul style="list-style-type: none"> • Socket: Minimum 2 • Type: 3rd Generation Intel Xeon Scalable Processor • Model: Intel® Xeon® Gold 6328H Processor • Quantity: Minimum 1 with Upgrade option • Core: Minimum 16 Per Processor Unit • Frequency: Minimum 4.30 GHz Turbo • Cache: Minimum 22 MB • Ultra Path Interconnect (UPI): Minimum 3 • UPI Speed: minimum 10.4 GT//s • DRAM: Minimum DDR4 2666 MT/s • Advanced Vector Extension: minimum 2 FMA • PCIe: 3.0 with 48 Lanes <p>Type: 3rd Gen intel Scalabate</p>	<ul style="list-style-type: none"> • Ultra Path Interconnect (UPI) or Inter-Chip Global Memory Interconnect(xGMI): Minimum 3 <p>Reason: Inter-Chip Global Memory Interconnect(xGMI) is the equivalent of Intel UPI. xGMI operates at 16 GT/s compared to Intel UPI at 10.4 GT/s</p>	Kindly refer Amendment-1 to this RFP.
158	39	<u>Annexure-7</u>	Functional and Technical Specifications /Requirements for Supply, Installation, Configuration, Implementation and Maintenance of Servers and Other items in Canara Bank	<p>B. Technical Specifications of Server (14 Nos. at DC and 10 Nos. at DRC):</p> <p>4. Processor</p> <ul style="list-style-type: none"> • Socket: Minimum 2 • Type: 3rd Generation Intel Xeon Scalable Processor • Model: Intel® Xeon® Gold 6328H Processor • Quantity: Minimum 1 with Upgrade option • Core: Minimum 16 Per Processor Unit • Frequency: Minimum 4.30 GHz Turbo • Cache: Minimum 22 MB • Ultra Path Interconnect (UPI): Minimum 3 • UPI Speed: minimum 10.4 GT//s • DRAM: Minimum DDR4 2666 MT/s • Advanced Vector Extension: minimum 2 FMA • PCIe: 3.0 with 48 Lanes <p>Type: 3rd Gen intel Scalabate</p>	<ul style="list-style-type: none"> • UPI Speed or xGMI Speed: minimum 10.4 GT/ ts 	Kindly refer Amendment-1 to this RFP.
159	39	<u>Annexure-7</u>	Functional and Technical Specifications /Requirements for Supply, Installation, Configuration, Implementation and Maintenance of Servers and Other items in Canara Bank	<p>B. Technical Specifications of Server (14 Nos. at DC and 10 Nos. at DRC):</p> <p>4. Processor</p> <ul style="list-style-type: none"> • Socket: Minimum 2 • Type: 3rd Generation Intel Xeon Scalable Processor • Model: Intel® Xeon® Gold 6328H Processor • Quantity: Minimum 1 with Upgrade option • Core: Minimum 16 Per Processor Unit • Frequency: Minimum 4.30 GHz Turbo • Cache: Minimum 22 MB • Ultra Path Interconnect (UPI): Minimum 3 • UPI Speed: minimum 10.4 GT//s • DRAM: Minimum DDR4 2666 MT/s • Advanced Vector Extension: minimum 2 FMA • PCIe: 3.0 with 48 Lanes <p>Type: 3rd Gen intel Scalabate</p>	<ul style="list-style-type: none"> • DRAM: Minimum DDR4 2933 MT/s <p>Reason: RFP asks for latest processors but mentioned 2 generation old memory frequency. 3200 MT/s is the latest memory frequency. However, to accommodate both Intel and AMD with a fair chance, please include 2933 MHz.</p>	Kindly refer Amendment-1 to this RFP.



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160	39	<u>Annexure-7</u>	Functional and Technical Specifications /Requirements for Supply, Installation, Configuration, Implementation and Maintenance of Servers and Other items in Canara Bank	B. Technical Specifications of Server (14 Nos. at DC and 10 Nos. at DRC): 4. Processor • Socket: Minimum 2 • Type: 3rd Generation Intel Xeon Scalable Processor • Model: Intel® Xeon® Gold 6328H Processor • Quantity: Minimum 1 with Upgrade option • Core: Minimum 16 Per Processor Unit • Frequency: Minimum 4.30 GHz Turbo • Cache: Minimum 22 MB • Ultra Path Interconnect (UPI): Minimum 3 • UPI Speed: minimum 10.4 GT/s • DRAM: Minimum DDR4 2666 MT/s • Advanced Vector Extension: minimum 2 FMA • PCIe: 3.0 with 48 Lanes Type: 3rd Gen intel Scalable	• Advanced Vector Extension: minimum 1 FMA Reason: There is no banking application which can take advantage of 2 FMA. 2 FMA is only available with Intel Xeon processors	Kindly refer Amendment-1 to this RFP.
161	39	<u>Annexure-7</u>	Functional and Technical Specifications /Requirements for Supply, Installation, Configuration, Implementation and Maintenance of Servers and Other items in Canara Bank	B. Technical Specifications of Server (14 Nos. at DC and 10 Nos. at DRC): 4. Processor • Socket: Minimum 2 • Type: 3rd Generation Intel Xeon Scalable Processor • Model: Intel® Xeon® Gold 6328H Processor • Quantity: Minimum 1 with Upgrade option • Core: Minimum 16 Per Processor Unit • Frequency: Minimum 4.30 GHz Turbo • Cache: Minimum 22 MB • Ultra Path Interconnect (UPI): Minimum 3 • UPI Speed: minimum 10.4 GT/s • DRAM: Minimum DDR4 2666 MT/s • Advanced Vector Extension: minimum 2 FMA • PCIe: 3.0 with 48 Lanes Type: 3rd Gen intel Scalable	• PCIe: 3.0 / 4.0 with 48 Lanes Reason: AMD EPYC supports 128 Lanes of PCIe Gen 4.0	Kindly refer Amendment-1 to this RFP.
162	40	<u>Annexure 7</u>	Functional and Technical Specifications /Requirements for Supply, Installation, Configuration, Implementation and Maintenance of Servers and Other items in Canara Bank	B. Technical Specifications of Server (14 Nos. at DC and 10 Nos. at DRC): 5. Platform Controller Hub Intel C629 Chipset or latest	Please change this to PCI Slot - 1 x 16X Gen 3 Slots per Server & 2 x 8X Gen 3 pci slots per server	Kindly refer Amendment-1 to this RFP.



Sl. No.	Page No.	Section	RFP Clause	Clause/Technical Specification	Bidder's Query	Bank's Reply
163	40	Annexure 7	Functional and Technical Specifications /Requirements for Supply, Installation, Configuration, Implementation and Maintenance of Servers and Other items in Canara Bank	B. Technical Specifications of Server (14 Nos. at DC and 10 Nos. at DRC): 7. Other Processor feature • Virtualization Technology (VT-x) • Quick Assist Technology (QAT) • Optane Persistent Memory • Volume Management device (VMD) • Node Manager 4.0 • Run Sure Technology for RAS • Key Protection Technology (KPT) • Optane SSD & QLC 3D NAND SSD • Turbo boost Technology 20 • AES New Instructions • Trusted Execution Technology • Hyper Threading technology (HTT)	Please change the CPU to "Intel 6246R 3.4GHz/205W 16C/35.75MB DDR4 2933MHz or Higher". The particular processor number mentioned in the RFP is favouring one particular OEM and other can't comply with this model number as the processor model is not available with other OEMS. Please make it generic so that Other OEMS can also comply as they can give different processor model with same specs (base frequency, cores and cache) required. As we understand the performance is the key here	Kindly refer Amendment-1 to this RFP.
164	40	Annexure 7	Functional and Technical Specifications /Requirements for Supply, Installation, Configuration, Implementation and Maintenance of Servers and Other Items in Canara Bank	B. Technical Specifications of Server (14 Nos. at DC and 10 Nos. at DRC): 9. Speculative execution Side Channel Mitigation by hardware & Software • V1, Spectre • V2, Spectre • V3, Meltdown • V3a • V4 • L1TF, Foreshadow • MFBDS, RIDL • MSBDS, Fallout • MLPDS • MDSUM • TAA	• Type: 3rd Generation Intel Xeon Scalable Processor or Latest AMD EPYC Processor Reason: AMD has got improved processors which performs better than Intel. The present clause limits OEMs to opt for only one particular processors which avoids competition in open RFP.	Kindly refer Amendment-1 to this RFP.
165	40	Annexure 7	Functional and Technical Specifications /Requirements for Supply, Installation, Configuration, Implementation and Maintenance of Servers and Other items in Canara Bank	B. Technical Specifications of Server (14 Nos. at DC and 10 Nos. at DRC): 11. Memory • Module Type: DDR4 DIMM • Capacity: Minimum 32 GB • Quantity: Minimum 4 • Speed: Minimum 2666 MT/s) • Advanced ECC (Error Correcting Code) type or similar technology • Registered ECC DIMMs	• Type: 3rd Generation Intel Xeon Scalable Processor or Latest AMD EPYC Processor Reason: AMD has got improved processors which performs better than Intel. The present clause limits OEMs to opt for only one particular processors which avoids competition in open RFP.	Kindly refer Amendment-1 to this RFP.
166	40	Annexure 7	Functional and Technical Specifications /Requirements for Supply, Installation, Configuration, Implementation and Maintenance of Servers and Other items in Canara Bank	B. Technical Specifications of Server (14 Nos. at DC and 10 Nos. at DRC): 5. Platform Controller Hub Intel C629 Chipset or latest	• Ultra Path Interconnect (UPI) or Inter-Chip Global Memory Interconnect(xGMI): Minimum 3 Reason: Inter-Chip Global Memory Interconnect(xGMI) is the equivalent of Intel UPI. xGMI operates at 16 GT/s compared to Intel UPI at 10.4 GT/s	Kindly refer Amendment-1 to this RFP.



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167	40	<u>Annexure 7</u>	Functional and Technical Specifications /Requirements for Supply, Installation, Configuration, Implementation and Maintenance of Servers and Other items in Canara Bank	B. Technical Specifications of Server (14 Nos. at DC and 10 Nos. at DRC): 7. Other Processor feature • Virtualization Technology (VT-x) • Quick Assist Technology (QAT) • Optane Persistent Memory • Volume Management device (VMD) • Node Manager 4.0 • Run Sure Technology for RAS • Key Protection Technology (KPT) • Optane SSD & QLC 3D NAND SSD • Turbo boost Technology 2.0 • AES New Instructions • Trusted Execution Technology • Hyper Threading technology (HTT)	• UPI Speed or xGMI Speed: minimum 10.4 GT/s	Kindly refer Amendment-1 to this RFP.
168	40	<u>Annexure 7</u>	Functional and Technical Specifications /Requirements for Supply, Installation, Configuration, Implementation and Maintenance of Servers and Other items in Canara Bank	B. Technical Specifications of Server (14 Nos. at DC and 10 Nos. at DRC): 9. Speculative execution Side Channel Mitigation by hardware & Software • V1, Spectre • V2, Spectre • V3, Meltdown • V3a • V4 • L1TF, Foreshadow • MFBDS, RIDL • MSBDS, Fallout • MLPDS • MDSUM • TAA	• DRAM: Minimum DDR4 2933 MT/s Reason: RFP asks for latest processors but mentioned 2 generation old memory frequency. 3200 MT/s is the latest memory frequency. However, to accommodate both Intel and AMD with a fair chance, please include 2933 MHz.	Kindly refer Amendment-1 to this RFP.
169	40	<u>Annexure 7</u>	Functional and Technical Specifications /Requirements for Supply, Installation, Configuration, Implementation and Maintenance of Servers and Other items in Canara Bank	B. Technical Specifications of Server (14 Nos. at DC and 10 Nos. at DRC): 11. Memory • Module Type: DDR4 DIMM • Capacity: Minimum 32 GB • Quantity: Minimum 4 • Speed: Minimum 2666 MT/s) • Advanced ECC (Error Correcting Code) type or similar technology • Registered ECC DIMMS	• Advanced Vector Extension: minimum 1 FMA Reason: There is no banking application which can take advantage of 2 FMA. 2 FMA is only available with Intel Xeon processors	Kindly refer Amendment-1 to this RFP.
170	40	<u>Annexure 7</u>	Functional and Technical Specifications /Requirements for Supply, Installation, Configuration, Implementation and Maintenance of Servers and Other items in Canara Bank	B. Technical Specifications of Server (14 Nos. at DC and 10 Nos. at DRC): 5. Platform Controller Hub Intel C629 Chipset or latest	• PCIe: 3.0 / 4.0 with 48 Lanes Reason: AMD EPYC supports 128 Lanes of PCIe Gen 4.0	Kindly refer Amendment-1 to this RFP.



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171	40	Annexure 7	Functional and Technical Specifications /Requirements for Supply, Installation, Configuration, Implementation and Maintenance of Servers and Other Items in Canara Bank	B. Technical Specifications of Server (14 Nos. at DC and 10 Nos. at DRC): 7. Other Processor feature • Virtualization Technology (VT-x) • Quick Assist Technology (QAT) • Optane Persistent Memory • Volume Management device (VMD) • Node Manager 4.0 • Run Sure Technology for RAS • Key Protection Technology (KPT) • Optane SSD & QLC 3D NAND SSD • Turbo boost Technology 20 • AES New Instructions • Trusted Execution Technology • Hyper Threading technology (HTT)	Please change this to PCI Slot - 1 x 16X Gen 3 Slots per Server & 2 x 8X Gen 3 pci slots per server	Kindly refer Amendment-1 to this RFP.
172	40	Annexure 7	Functional and Technical Specifications /Requirements for Supply, Installation, Configuration, Implementation and Maintenance of Servers and Other items in Canara Bank	B. Technical Specifications of Server (14 Nos. at DC and 10 Nos. at DRC): 9. Speculative execution Side Channel Mitigation by hardware & Software • V1, Spectre • V2, Spectre • V3, Meltdown • V3a • V4 • L1TF, Foreshadow • MFBDS, RIDL • MSBDS, Fallout • MLPDS • MDSUM • TAA	Please change the CPU to "intel 6246R 3.4GHz/205W 16C/35.75MB DDR4 2933MHz or Higher". The particular processor number mentioned in the RFP is favouring one particular OEM and other can't comply with this model number as the processor model is not available with other OEMS. Please make it generic so that Other OEMS can also comply as they can give different processor model with same specs (base frequency, cores and cache) required. As we understand the performance is the key here	Kindly refer Amendment-1 to this RFP.
173	40	Annexure 7	Functional and Technical Specifications /Requirements for Supply, Installation, Configuration, Implementation and Maintenance of Servers and Other Items in Canara Bank	B. Technical Specifications of Server (14 Nos. at DC and 10 Nos. at DRC): 11. Memory • Module Type: DDR4 DIMM • Capacity: Minimum 32 GB • Quantity: Minimum 4 • Speed: Minimum 2666 MT/s) • Advanced ECC (Error Correcting Code) type or similar technology • Registered ECC DIMMs	Type: 3rd Generation Intel Xeon Scalable Processor or Latest AMD EPYC Processor Reason: AMD has got improved processors which performs better than Intel. The present clause limits OEMS to opt for only one particular processors which avoids competition in open RFP.	Kindly refer Amendment-1 to this RFP.
174	40	Annexure 7	Functional and Technical Specifications /Requirements for Supply, Installation, Configuration, Implementation and Maintenance of Servers and Other items in Canara Bank	B. Technical Specifications of Server (14 Nos. at DC and 10 Nos. at DRC): 5. Platform Controller Hub Intel C629 Chipset or latest	Please change the Chipset to C621. This will be in line with the 2nd generation processor and 2U 2 Socket systems	Kindly refer Amendment-1 to this RFP.



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175	40	<u>Annexure-7</u>	Functional and Technical Specifications /Requirements for Supply, Installation, Configuration, Implementation and Maintenance of Servers and Other items in Canara Bank	B. Technical Specifications of Server (14 Nos. at DC and 10 Nos. at DRC): Platform Controller Hub : Intel C629 Chipset or latest	Please change the Chipset to C621. This will be in line with the 2nd generation processor and ZU 2 Socket systems	Kindly refer Amendment-1 to this RFP.
176	40	<u>Annexure-7</u>	Functional and Technical Specifications /Requirements for Supply, Installation, Configuration, Implementation and Maintenance of Servers and Other items in Canara Bank	B. Technical Specifications of Server (14 Nos. at DC and 10 Nos. at DRC): Platform Controller Hub : Intel C629 Chipset or latest	Please change the Chipset to C621. This will be in line with the 2nd generation processor and ZU 2 Socket systems	Kindly refer Amendment-1 to this RFP.
177	40	<u>Annexure-7</u>	Functional and Technical Specifications /Requirements for Supply, Installation, Configuration, Implementation and Maintenance of Servers and Other items in Canara Bank	B. Technical Specifications of Server (14 Nos. at DC and 10 Nos. at DRC): Platform Controller Hub : Intel C629 Chipset or latest	Clause shli be modified as "Intel C620 Series or Equivalent". C229 is OEM specific	Kindly refer Amendment-1 to this RFP.
178	40	<u>Annexure-7</u>	Functional and Technical Specifications /Requirements for Supply, Installation, Configuration, Implementation and Maintenance of Servers and Other items in Canara Bank	B. Technical Specifications of Server (14 Nos. at DC and 10 Nos. at DRC): 5. Platform Controller Hub Intel C629 Chipset or latest	Intel C629 Chipset or latest or equivalent SoC architecture Reason: AMD EPYC is a System on Chip and does not need a dedicated Chipset like Intel Xeon. Having a chipset limits you to pass through all communication outside system to go through Chipset.	Kindly refer Amendment-1 to this RFP.
179	40	<u>Annexure-7</u>	Functional and Technical Specifications /Requirements for Supply, Installation, Configuration, Implementation and Maintenance of Servers and Other items in Canara Bank	B. Technical Specifications of Server (14 Nos. at DC and 10 Nos. at DRC): 6. Main Board: Suitable Intel Main Board or equivalent	Suitable Intel Main Board or AMD equivalent	Kindly refer Amendment-1 to this RFP.



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180	40	Annexure-7	Functional and Technical Specifications /Requirements for Supply, Installation, Configuration, Implementation and Maintenance of Servers and Other items in Canara Bank	<p>B. Technical Specifications of Server (14 Nos. at DC and 10 Nos. at DRC):</p> <p>7. Other feature supported by Processor, Chipset & Main Board:</p> <ul style="list-style-type: none"> • Virtualization Technology (VT-x) • Quick Assist Technology (QAT) • Optane Persistent Memory • Volume Management device (VMD) • Node Manager 4.0 • Run Sure Technology for RAS • Key Protection Technology (KPT) • Optane SSD & QLC 3D NAND SSD • Turbo boost Technology 20 • AES New Instructions • Trusted Execution Technology • Hyper Threading technology (HTT) 	<ul style="list-style-type: none"> • Virtualization Technology (Intel VT-x or AMD-V) 	Kindly refer Amendment-1 to this RFP.
181	40	Annexure-7	Functional and Technical Specifications /Requirements for Supply, Installation, Configuration, Implementation and Maintenance of Servers and Other items in Canara Bank	<p>B. Technical Specifications of Server (14 Nos. at DC and 10 Nos. at DRC):</p> <p>7. Other feature supported by Processor, Chipset & Main Board:</p> <ul style="list-style-type: none"> • Virtualization Technology (VT-x) • Quick Assist Technology (QAT) • Optane Persistent Memory • Volume Management device (VMD) • Node Manager 4.0 • Run Sure Technology for RAS • Key Protection Technology (KPT) • Optane SSD & QLC 3D-NAND SSD • Turbo boost Technology 20 • AES New Instructions • Trusted Execution Technology • Hyper Threading technology (HTT) 	<ul style="list-style-type: none"> • Quick Assist Technology (QAT) or dedicated secure processor <p>Reason: AMD EPYC Processors includes a dedicated ARM A5 Cortex based processor in the SoC to take care of the necessary encryption and quick assist type features.</p>	Kindly refer Amendment-1 to this RFP.
182	40	Annexure-7	Functional and Technical Specifications /Requirements for Supply, Installation, Configuration, Implementation and Maintenance of Servers and Other Items in Canara Bank	<p>B. Technical Specifications of Server (14 Nos. at DC and 10 Nos. at DRC):</p> <p>7. Other feature supported by Processor, Chipset & Main Board:</p> <ul style="list-style-type: none"> • Virtualization Technology (VT-x) • Quick Assist Technology (QAT) • Optane Persistent Memory • Volume Management device (VMD) • Node Manager 4.0 • Run Sure Technology for RAS • Key Protection Technology (KPT) • Optane SSD & QLC 3D NAND SSD • Turbo boost Technology 20 • AES New Instructions • Trusted Execution Technology • Hyper Threading technology (HTT) 	<ul style="list-style-type: none"> • Optane Persistent Memory or equivalent technology support <p>Reason: AMD partnered with Western Digital and ScaleMP to provide functionality similar to Intel Optane</p>	Kindly refer Amendment-1 to this RFP.



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184	40	<u>Annexure-7</u>	Functional and Technical Specifications /Requirements for Supply, Installation, Configuration, Implementation and Maintenance of Servers and Other items in Canara Bank	<p>B. Technical Specifications of Server (14 Nos. at DC and 10 Nos. at DRC):</p> <p>7. Other feature supported by Processor, Chipset & Main Board:</p> <ul style="list-style-type: none"> • Virtualization Technology (VT-x) • Quick Assist Technology (QAT) • Optane Persistent Memory • Volume Management device (VMD) • Node Manager 4.0 • Run Sure Technology for RAS • Key Protection Technology (KPT) • Optane SSD & QLC 3D NAND SSD • Turbo boost Technology 20 • AES New Instructions • Trusted Execution Technology • Hyper Threading technology (HTT) 	<ul style="list-style-type: none"> • Node Manager 4.0 or equivalent power management utility <p>Reason: Node Manager 4.0 is a specific term used by Intel. AMD EPYC has got it's own embedded power management controller and exposes necessary APIs to the BMC controller for effective power management.</p>	Kindly refer Amendment-1 to this RFP.
185	40	<u>Annexure-7</u>	Functional and Technical Specifications /Requirements for Supply, Installation, Configuration, Implementation and Maintenance of Servers and Other items in Canara Bank	<p>B. Technical Specifications of Server (14 Nos. at DC and 10 Nos. at DRC):</p> <p>7. Other feature supported by Processor, Chipset & Main Board:</p> <ul style="list-style-type: none"> • Virtualization Technology (VT-x) • Quick Assist Technology (QAT) • Optane Persistent Memory • Volume Management device (VMD) • Node Manager 4.0 • Run Sure Technology for RAS • Key Protection Technology (KPT) • Optane SSD & QLC 3D NAND SSD • Turbo boost Technology 20 • AES New Instructions • Trusted Execution Technology • Hyper Threading technology (HTT) 	<ul style="list-style-type: none"> • Run Sure Technology for RAS or equivalent Machine Check Recovery <p>Reason: Intel specific implementation terminology</p>	Kindly refer Amendment-1 to this RFP.



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187	40	<u>Annexure-7</u>	Functional and Technical Specifications /Requirements for Supply, Installation, Configuration, Implementation and Maintenance of Servers and Other items in Canara Bank	<p>B. Technical Specifications of Server (14 Nos. at DC and 10 Nos. at DRC):</p> <p>7. Other feature supported by Processor, Chipset & Main Board:</p> <ul style="list-style-type: none"> • Virtualization Technology (VT-x) • Quick Assist Technology (QAT) • Optane Persistent Memory • Volume Management device (VMD) • Node Manager 4.0 • Run Sure Technology for RAS • Key Protection Technology (KPT) • Optane SSD & QLC 3D NAND SSD • Turbo boost Technology 20 • AES New Instructions • Trusted Execution Technology • Hyper Threading technology (HTT) 	<ul style="list-style-type: none"> • Optane SSD & QLC 3D NAND SSD or equivalent better SSD <p>Reason: Optane is an Intel Terminology and is limited to Intel Xeon processor based environment. With AMD EPYC we have got better technology with a broad portfolio of market partners manufacturing SSDs</p>	Kindly refer Amendment-1 to this RFP.
188	40	<u>Annexure-7</u>	Functional and Technical Specifications /Requirements for Supply, Installation, Configuration, Implementation and Maintenance of Servers and Other items in Canara Bank	<p>B. Technical Specifications of Server (14 Nos. at DC and 10 Nos. at DRC):</p> <p>7. Other feature supported by Processor, Chipset & Main Board:</p> <ul style="list-style-type: none"> • Virtualization Technology (VT-x) • Quick Assist Technology (QAT) • Optane Persistent Memory • Volume Management device (VMD) • Node Manager 4.0 • Run Sure Technology for RAS • Key Protection Technology (KPT) • Optane SSD & QLC 3D NAND SSD • Turbo boost Technology 20 • AES New Instructions • Trusted Execution Technology • Hyper Threading technology (HTT) 	<ul style="list-style-type: none"> • Turbo boost Technology 20 or All core boost frequency <p>Reason: Turbo boost Technology 20 is an Intel specific terminology.</p>	Kindly refer Amendment-1 to this RFP.



Sl. No.	Page No.	Section	RFP Clause	Clause/Technical Specification	Bidder's Query	Bank's Reply
189	40	<u>Annexure-7</u>	Functional and Technical Specifications /Requirements for Supply, Installation, Configuration, Implementation and Maintenance of Servers and Other items in Canara Bank	<p>B. Technical Specifications of Server (14 Nos. at DC and 10 Nos. at DRC):</p> <p>7. Other feature supported by Processor, Chipset & Main Board:</p> <ul style="list-style-type: none"> • Virtualization Technology (VT-x) • Quick Assist Technology (QAT) • Optane Persistent Memory • Volume Management device (VMD) • Node Manager 4.0 • Run Sure Technology for RAS • Key Protection Technology (KPT) • Optane SSD & QLC 3D NAND SSD • Turbo boost Technology 20 • AES New Instructions • Trusted Execution Technology • Hyper Threading technology (HTT) 	<ul style="list-style-type: none"> • AES New Instructions or AES 128 Encryption support <p>Reason: AES New Instruction is a Intel Specific terminology</p>	Kindly refer Amendment-1 to this RFP.
190	40	<u>Annexure-7</u>	Functional and Technical Specifications /Requirements for Supply, Installation, Configuration, Implementation and Maintenance of Servers and Other items in Canara Bank	<p>B. Technical Specifications of Server (14 Nos. at DC and 10 Nos. at DRC):</p> <p>7. Other feature supported by Processor, Chipset & Main Board:</p> <ul style="list-style-type: none"> • Virtualization Technology (VT-x) • Quick Assist Technology (QAT) • Optane Persistent Memory • Volume Management device (VMD) • Node Manager 4.0 • Run Sure Technology for RAS • Key Protection Technology (KPT) • Optane SSD & QLC 3D NAND SSD • Turbo boost Technology 20 • AES New Instructions • Trusted Execution Technology • Hyper Threading technology (HTT) 	<ul style="list-style-type: none"> • Trusted Execution Technology or equivalent <p>Reason: TXT is a Intel Specific terminology. AMD EPYC has inbuilt security module which takes of the trusted execution without any change to user code.</p>	Kindly refer Amendment-1 to this RFP.
191	40	<u>Annexure-7</u>	Functional and Technical Specifications /Requirements for Supply, Installation, Configuration, Implementation and Maintenance of Servers and Other items in Canara Bank	<p>B. Technical Specifications of Server (14 Nos. at DC and 10 Nos. at DRC):</p> <p>7. Other feature supported by Processor, Chipset & Main Board:</p> <ul style="list-style-type: none"> • Virtualization Technology (VT-x) • Quick Assist Technology (QAT) • Optane Persistent Memory • Volume Management device (VMD) • Node Manager 4.0 • Run Sure Technology for RAS • Key Protection Technology (KPT) • Optane SSD & QLC 3D NAND SSD • Turbo boost Technology 20 • AES New Instructions • Trusted Execution Technology • Hyper Threading technology (HTT) 	<ul style="list-style-type: none"> • Hyper Threading technology (HTT) or Symetric Multi Threading (SMT) <p>Reason: HTT is Intel Specific Terminology</p>	Kindly refer Amendment-1 to this RFP.



Sl. No.	Page No.	Section	RFP Clause	Clause/Technical Specification	Bidder's Query	Bank's Reply
192	40	<u>Annexure-7</u>	Functional and Technical Specifications /Requirements for Supply, Installation, Configuration, Implementation and Maintenance of Servers and Other items in Canara Bank	B. Technical Specifications of Server (14 Nos. at DC and 10 Nos. at DR): 10. Reliability, Availability, and Serviceability (RAS) • Adaptive Double DRAM Device Correction (ADDDC) • Advanced Error Detection and Correction (AEDC) • Local Machine Check Exception (LMCE)	• Adaptive Double DRAM Device Correction (ADDDC) or Single Device Data Correction (SDDC) Reason: ADDDC is an Intel Specific Terminology.	Kindly refer Amendment-1 to this RFP.
193	40	<u>Annexure-7</u>	Functional and Technical Specifications /Requirements for Supply, Installation, Configuration, Implementation and Maintenance of Servers and Other items in Canara Bank	B. Technical Specifications of Server (14 Nos. at DC and 10 Nos. at DR): 10. Reliability, Availability, and Serviceability (RAS) • Adaptive Double DRAM Device Correction (ADDDC) • Advanced Error Detection and Correction (AEDC) • Local Machine Check Exception (LMCE)	• Advanced Error Detection and Correction (AEDC) or DRAM Address Command Parity with Replay Reason: AEDC is an Intel Specific Terminology.	Kindly refer Amendment-1 to this RFP.
194	40	<u>Annexure-7</u>	Functional and Technical Specifications /Requirements for Supply, Installation, Configuration, Implementation and Maintenance of Servers and Other items in Canara Bank	B. Technical Specifications of Server (14 Nos. at DC and 10 Nos. at DR): 10. Reliability, Availability, and Serviceability (RAS) • Adaptive Double DRAM Device Correction (ADDDC) • Advanced Error Detection and Correction (AEDC) • Local Machine Check Exception (LMCE)	• Local Machine Check Exception (LMCE) or Machine Check Recovery (MCR) Reason: LMCE is an Intel Specific Terminology.	Kindly refer Amendment-1 to this RFP.
195	40	<u>Annexure-7</u>	Functional and Technical Specifications /Requirements for Supply, Installation, Configuration, Implementation and Maintenance of Servers and Other items in Canara Bank	B. Technical Specifications of Server (14 Nos. at DC and 10 Nos. at DR): 11. Memory • Module Type: DDR4 DIMM • Capacity: Minimum 32 GB • Quantity: Minimum 4 • Speed: Minimum 2666 MT/s) • Advanced ECC (Error Correcting Code) type or similar technology • Registered ECC DIMMs	• Speed: Minimum 2933 MT/s) Reason: RFP asks for latest processors but mentioned 2 generation old memory frequency. 3200 MT/s is the latest memory frequency. However, to accommodate both Intel and AMD with a fair chance, please include 2933 MHz.	Kindly refer Amendment-1 to this RFP.



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196	41	<u>Annexure 7</u>	Functional and Technical Specifications /Requirements for Supply, Installation, Configuration, Implementation and Maintenance of Servers and Other items in Canara Bank	<p>B. Technical Specifications of Server (14 Nos. at DC and 10 Nos. at DRC):</p> <p>12. Raid Controller</p> <ul style="list-style-type: none"> • Interface: 8x PCIe 3.0 x16 • Port/Channel: 8x Internal SAS port • Data Transfer Rate: 12Gbps per lane • Cache: 2GB • RAID 0, 1, 10 & Single-Disk • Cooling: Heat sink with intelligent Fan • Management: Browser based Tool, CLI (Command Line Interface-scriptable configuration tool) and API Package • SMTP Email Alert Notification • Alarm Buzzer • Storage Health Inspector • Automatic and configurable RAID Rebuilding Priority • Auto resume incomplete rebuilding after • Single-RAID or Multi-RAID Arrays per Controller • Cross-Sync RAID Solution across Controllers 	<ul style="list-style-type: none"> • Optane SSD & QLC 3D NAND SSD or equivalent better SSD <p>Reason: Optane is an Intel Terminology and is limited to Intel Xeon processor based environment. With AMD EPYC we have got better technology with a broad portfolio of market partners manufacturing SSDs</p>	Kindly refer Amendment-1 to this RFP.
197	41	<u>Annexure 7</u>	Functional and Technical Specifications /Requirements for Supply, Installation, Configuration, Implementation and Maintenance of Servers and Other items in Canara Bank	<p>B. Technical Specifications of Server (14 Nos. at DC and 10 Nos. at DRC):</p> <p>13. Disks</p> <ul style="list-style-type: none"> • Data Center SSD for Enterprise • Interface: 12 Gb/s SAS Dual-port • Capacity: 960 SSD or higher capacity • No of Disks: 2 • Form Factor: low profile • Service: Hot swappable • Throughput Sequential Read/Write: 2.2GBs/1.5GBs or more • IOPS 4K Read/Write: 200K/120K or more • Latency: read/write: <300 µs / <1 ms or less • Power Loss Protection • Static & Dynamic Wear Levelling • Reliability tracking, usage statistics, Wear Leveling, temperature, Life • Endurance: 3 DWPD/5yrs or more (Replacement warranty if endurance level is less than 95%). 	<ul style="list-style-type: none"> • Turbo boost Technology 20 or All core boost frequency <p>Reason: Turbo boost Technology 20 is an Intel specific terminology.</p>	Kindly refer Amendment-1 to this RFP.
198	41	<u>Annexure 7</u>	Functional and Technical Specifications /Requirements for Supply, Installation, Configuration, Implementation and Maintenance of Servers and Other items in Canara Bank	<p>B. Technical Specifications of Server (14 Nos. at DC and 10 Nos. at DRC):</p> <p>15. FC HBA</p> <p>Dual Port 10GB FC HBA PCIe with Supported transceivers and 2 Nos of minimum 30 Meter OM3 FC cable for SAN Connectivity to existing SAN Switches & Storage</p>	<ul style="list-style-type: none"> • AES New Instructions or AES 128 Encryption support <p>Reason: AES New Instruction is a Intel Specific terminology</p>	Kindly refer Amendment-1 to this RFP.



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199	41	<u>Annexure 7</u>	Functional and Technical Specifications /Requirements for Supply, Installation, Configuration, Implementation and Maintenance of Servers and Other items in Canara Bank	<p>B. Technical Specifications of Server (14 Nos. at DC and 10 Nos. at DRC):</p> <p>12. Raid Controller</p> <ul style="list-style-type: none"> • Interface: 8x PCIe 3.0 x16 • Port/Channel: 8x Internal SAS port • Data Transfer Rate: 12Gbps per lane • Cache: 2GB • RAID 0, 1, 10 & Single-Disk • Cooling: Heat sink with intelligent Fan • Management: Browser based Tool, CLI (Command Line Interface-scriptable configuration tool) and API Package • SMTP Email Alert Notification • Alarm Buzzer • Storage Health Inspector • Automatic and configurable RAID Rebuilding Priority • Auto resume incomplete rebuilding after • Single-RAID or Multi-RAID Arrays per Controller • Cross-Sync RAID Solution across Controllers 	<ul style="list-style-type: none"> • Trusted Execution Technology or equivalent <p>Reason: TXT is a Intel Specific terminology. AMD EPYC has inbuilt security module which takes of the trusted execution without any change to user code.</p>	Kindly refer Amendment-1 to this RFP.
200	41	<u>Annexure 7</u>	Functional and Technical Specifications /Requirements for Supply, Installation, Configuration, Implementation and Maintenance of Servers and Other Items in Canara Bank	<p>B. Technical Specifications of Server (14 Nos. at DC and 10 Nos. at DRC):</p> <p>13. Disks</p> <ul style="list-style-type: none"> • Data Center SSD for Enterprise • Interface: 12 Gb/s SAS Dual-port • Capacity: 960 SSD or higher capacity • No of Disks: 2 • Form Factor: low profile • Service: Hot swappable • Throughput Sequential Read/Write: 2.2GBs/1.5GBs or more • IOPS 4K Read/Write: 200K/120K or more • Latency: read/write: <300 µs / <1 ms or less • Power Loss Protection • Static & Dynamic Wear Levelling • Reliability tracking, usage statistics, Wear Leveling, temperature, Life • Endurance: 3 DWPD/5yrs or more (Replacement warranty if endurance level is less than 95%). 	<ul style="list-style-type: none"> • Hyper Threading technology (HTT) or Symetric Multi Threading (SMT) <p>Reason: HTT is Intel Specific Terminology</p>	Kindly refer Amendment-1 to this RFP.
201	41	<u>Annexure 7</u>	Functional and Technical Specifications /Requirements for Supply, Installation, Configuration, Implementation and Maintenance of Servers and Other items in Canara Bank	<p>B. Technical Specifications of Server (14 Nos. at DC and 10 Nos. at DRC):</p> <p>15. FC HBA</p> <p>Dual Port 10GB FC HBA PCIe with Supported transceivers and 2 Nos of minimum 30 Meter OM3 FC cable for SAN Connectivity to existing SAN Switches & Storage</p>	<ul style="list-style-type: none"> • Adaptive Double DRAM Device Correction (ADDDC) or Single Device Data Correction (SDDC) <p>Reason: ADDDC is an Intel Specific Terminology.</p>	Kindly refer Amendment-1 to this RFP.



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202	41	<u>Annexure 7</u>	Functional and Technical Specifications /Requirements for Supply, Installation, Configuration, Implementation and Maintenance of Servers and Other items in Canara Bank	<p>B. Technical Specifications of Server (14 Nos. at DC and 10 Nos. at ORC):</p> <p>12. Raid Controller</p> <ul style="list-style-type: none"> • Interface: 8x PCIe 3.0 x16 • Port/Channel: 8x Internal SAS port • Data Transfer Rate: 12Gbps per lane • Cache: 2GB • RAID 0, 1, 10 & Single-Disk • Cooling: Heat sink with intelligent Fan • Management: Browser based Tool, CLI (Command Line Interface-scriptable configuration tool) and API Package • SMTP Email Alert Notification • Alarm Buzzer • Storage Health Inspector • Automatic and configurable RAID Rebuilding Priority • Auto resume incomplete rebuilding after • Single-RAID or Multi-RAID Arrays per Controller • Cross-Sync RAID Solution across Controllers 	<ul style="list-style-type: none"> • Advanced Error Detection and Correction (AEDC) or DRAM Address Command Parity with Replay <p>Reason: AEDC is an Intel Specific Terminology.</p>	Kindly refer Amendment-1 to this RFP.
203	41	<u>Annexure 7</u>	Functional and Technical Specifications /Requirements for Supply, Installation, Configuration, Implementation and Maintenance of Servers and Other items in Canara Bank	<p>B. Technical Specifications of Server (14 Nos. at DC and 10 Nos. at ORC):</p> <p>13. Disks</p> <ul style="list-style-type: none"> • Data Center SSD for Enterprise • Interface: 12 Gb/s SAS Dual-port • Capacity: 960 SSD or higher capacity • No of Disks: 2 • Form Factor: low profile • Service: Hot swappable • Throughput Sequential Read/Write: 2.2GBs/1.5GBs or more • IOPS 4K Read/Write: 200K/120K or more • Latency: read/write: <300 µs / <1 ms or less • Power Loss Protection • Static & Dynamic Wear Levelling • Reliability tracking, usage statistics, Wear Levelling, temperature, Life • Endurance: 3 DDPD/5yrs or more (Replacement warranty if endurance level is less than 95%). 	<ul style="list-style-type: none"> • Local Machine Check Exception (LMCE) or Machine Check Recovery (MCR) <p>Reason: LMCE is an Intel Specific Terminology.</p>	Kindly refer Amendment-1 to this RFP.
204	41	<u>Annexure 7</u>	Functional and Technical Specifications /Requirements for Supply, Installation, Configuration, Implementation and Maintenance of Servers and Other items in Canara Bank	<p>B. Technical Specifications of Server (14 Nos. at DC and 10 Nos. at ORC):</p> <p>15. FC HBA</p> <p>Dual Port 10GB FC HBA PCIe with Supported transceivers and 2 Nos of minimum 30 Meter OM3 FC cable for SAN Connectivity to existing SAN Switches & Storage</p>	<ul style="list-style-type: none"> • Speed: Minimum 2933 MT/s) <p>Reason: RFP asks for latest processors but mentioned 2 generation old memory frequency. 3200 MT/s is the latest memory frequency. However, to accommodate both Intel and AMD with a fair chance, please include 2933 MHz.</p>	Kindly refer Amendment-1 to this RFP.



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205	42	<u>Annexure 7</u>	Functional and Technical Specifications /Requirements for Supply, Installation, Configuration, Implementation and Maintenance of Servers and Other items in Canara Bank	B. Technical Specifications of Server (14 Nos. at DC and 10 Nos. at DRC): 20. Power Supply Server should be provided with Redundant hot swappable Power supplies of maximum 750W. The Power supplies should be FCC class A certified and power cables to be IEC C13-14.	<ul style="list-style-type: none"> Optane SSD & QLC 3D NAND SSD or equivalent better SSD Reason: Optane is an Intel Terminology and is limited to Intel Xeon processor based environment. With AMD EPYC we have got better technology with a broad portfolio of market partners manufacturing SSDs	Kindly refer Amendment-1 to this RFP.
206	42	<u>Annexure 7</u>	Functional and Technical Specifications /Requirements for Supply, Installation, Configuration, Implementation and Maintenance of Servers and Other items in Canara Bank	C. Technical Specifications of Server (5 Nos. at DC and 5 Nos. at DRC): 4. Processor <ul style="list-style-type: none"> Socket: Minimum 2 Type: 3rd Generation Intel Xeon Scalable Processor Model: Intel® Xeon® Gold 6330H Processor Quantity: Minimum 2 Core: Minimum 24 Per Processor Unit Frequency: Minimum 3.7 GHz Turbo Cache: Minimum 35 MB Ultra Path Interconnect (UPI): Minimum 3 UPI Speed: minimum 10.4 GT//s DRAM: Minimum DDR4 2666 MT/s Advanced Vector Extension: minimum 2 FMA PCIe: 3.0 with 48 Lanes 	<ul style="list-style-type: none"> Turbo boost Technology 20 or All core boost frequency Reason: Turbo boost Technology 20 is an Intel specific terminology.	Kindly refer Amendment-1 to this RFP.
207	42	<u>Annexure 7</u>	Functional and Technical Specifications /Requirements for Supply, Installation, Configuration, Implementation and Maintenance of Servers and Other Items in Canara Bank	B. Technical Specifications of Server (14 Nos. at DC and 10 Nos. at DRC): 20. Power Supply Server should be provided with Redundant hot swappable Power supplies of maximum 750W. The Power supplies should be FCC class A certified and power cables to be IEC C13-14.	<ul style="list-style-type: none"> AES New Instructions or AES 128 Encryption support Reason: AES New Instruction is a Intel Specific terminology	Kindly refer Amendment-1 to this RFP.
208	42	<u>Annexure 7</u>	Functional and Technical Specifications /Requirements for Supply, Installation, Configuration, Implementation and Maintenance of Servers and Other items in Canara Bank	C. Technical Specifications of Server (5 Nos. at DC and 5 Nos. at DRC): 4. Processor <ul style="list-style-type: none"> Socket: Minimum 2 Type: 3rd Generation Intel Xeon Scalable Processor Model: Intel® Xeon® Gold 6330H Processor Quantity: Minimum 2 Core: Minimum 24 Per Processor Unit Frequency: Minimum 3.7 GHz Turbo Cache: Minimum 35 MB Ultra Path Interconnect (UPI): Minimum 3 UPI Speed: minimum 10.4 GT//s DRAM: Minimum DDR4 2666 MT/s Advanced Vector Extension: minimum 2 FMA PCIe: 3.0 with 48 Lanes 	<ul style="list-style-type: none"> Trusted Execution Technology or equivalent Reason: TXT is a Intel Specific terminology. AMD EPYC has inbuilt security module which takes of the trusted execution without any change to user code.	Kindly refer Amendment-1 to this RFP.



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209	42	<u>Annexure 7</u>	Functional and Technical Specifications /Requirements for Supply, Installation, Configuration, Implementation and Maintenance of Servers and Other items in Canara Bank	B. Technical Specifications of Server (14 Nos. at DC and 10 Nos. at DRC): 20. Power Supply Server should be provided with Redundant hot swappable Power supplies of maximum 750W. The Power supplies should be FCC class A certified and power cables to be IEC C13-14.	• Hyper Threading technology (HTT) or Symetric Multi Threading (SMT) Reason: HTT is Intel Specific Terminology	Kindly refer Amendment-1 to this RFP.
210	42	<u>Annexure 7</u>	Functional and Technical Specifications /Requirements for Supply, Installation, Configuration, Implementation and Maintenance of Servers and Other items in Canara Bank	C. Technical Specifications of Server (5 Nos. at DC and 5 Nos. at DRC): 4. Processor • Socket: Minimum 2 • Type: 3rd Generation Intel Xeon Scalable Processor • Model: Intel® Xeon® Gold 6330H Processor • Quantity: Minimum 2 • Core: Minimum 24 Per Processor Unit • Frequency: Minimum 3.7 GHz Turbo • Cache: Minimum 35 MB • Ultra Path Interconnect (UPI): Minimum 3 • UPI Speed: minimum 10.4 GT//s • DRAM: Minimum DDR4 2666 MT/s • Advanced Vector Extension: minimum 2 FMA • PCIe: 3.0 with 48 Lanes	• Adaptive Double DRAM Device Correction (ADDDC) or Single Device Data Correction (SDDC) Reason: ADDDC is an Intel Specific Terminology.	Kindly refer Amendment-1 to this RFP.
211	42	<u>Annexure 7</u>	Functional and Technical Specifications /Requirements for Supply, Installation, Configuration, Implementation and Maintenance of Servers and Other Items in Canara Bank	C. Technical Specifications of Server (5 Nos. at DC and 5 Nos. at DRC): 4. Processor • Socket: Minimum 2 • Type: 3rd Generation Intel Xeon Scalable Processor • Model: Intel® Xeon® Gold 6330H Processor • Quantity: Minimum 2 • Core: Minimum 24 Per Processor Unit • Frequency: Minimum 3.7 GHz Turbo • Cache: Minimum 35 MB • Ultra Path Interconnect (UPI): Minimum 3 • UPI Speed: minimum 10.4 GT//s • DRAM: Minimum DDR4 2666 MT/s • Advanced Vector Extension: minimum 2 FMA • PCIe: 3.0 with 48 Lanes	Is 3rd Generation Intel Xeon Scalable Processor mandatory or can it be supplimented with a 2nd Generation Intel Processors with similar Specifications . Also confirm on the Processor model specified 6330H Remark	Kindly refer Amendment-1 to this RFP.



Sl. No.	Page No.	Section	RFP Clause	Clause/Technical Specification	Bidder's Query	Bank's Reply
212	42	<u>Annexure 7</u>	Functional and Technical Specifications /Requirements for Supply, Installation, Configuration, Implementation and Maintenance of Servers and Other items in Canara Bank	C. Technical Specifications of Server (5 Nos. at DC and 5 Nos. at DRC): 4. Processor <ul style="list-style-type: none"> • Socket: Minimum 2 • Type: 3rd Generation Intel Xeon Scalable Processor • Model: Intel® Xeon® Gold 6330H Processor • Quantity: Minimum 2 • Core: Minimum 24 Per Processor Unit • Frequency: Minimum 3.7 GHz Turbo • Cache: Minimum 35 MB • Ultra Path Interconnect (UPI): Minimum 3 • UPI Speed: minimum 10.4 GT//s • DRAM: Minimum DDR4 2666 MT/s • Advanced Vector Extension: minimum 2 FMA • PCIe: 3.0 with 48 Lanes 	Please change the CPU Type to 6252 Gold Processor 2.1Ghz, 24 Cores	Kindly refer Amendment-1 to this RFP.
213	42	<u>Annexure 7</u>	Functional and Technical Specifications /Requirements for Supply, Installation, Configuration, Implementation and Maintenance of Servers and Other Items in Canara Bank	C. Technical Specifications of Server (5 Nos. at DC and 5 Nos. at DRC): 4. Processor <ul style="list-style-type: none"> • Socket: Minimum 2 • Type: 3rd Generation Intel Xeon Scalable Processor • Model: Intel® Xeon® Gold 6330H Processor • Quantity: Minimum 2 • Core: Minimum 24 Per Processor Unit • Frequency: Minimum 3.7 GHz Turbo • Cache: Minimum 35 MB • Ultra Path Interconnect (UPI): Minimum 3 • UPI Speed: minimum 10.4 GT//s • DRAM: Minimum DDR4 2666 MT/s • Advanced Vector Extension: minimum 2 FMA • PCIe: 3.0 with 48 Lanes 	Please change this to Dual Port 16Gbps FC HBA	Kindly refer Amendment-1 to this RFP.
214	42	<u>Annexure 7</u>	Functional and Technical Specifications /Requirements for Supply, Installation, Configuration, Implementation and Maintenance of Servers and Other Items in Canara Bank	C. Technical Specifications of Server (5 Nos. at DC and 5 Nos. at DRC): 4. Processor <ul style="list-style-type: none"> • Socket: Minimum 2 • Type: 3rd Generation Intel Xeon Scalable Processor • Model: Intel® Xeon® Gold 6330H Processor • Quantity: Minimum 2 • Core: Minimum 24 Per Processor Unit • Frequency: Minimum 3.7 GHz Turbo • Cache: Minimum 35 MB • Ultra Path Interconnect (UPI): Minimum 3 • UPI Speed: minimum 10.4 GT//s • DRAM: Minimum DDR4 2666 MT/s • Advanced Vector Extension: minimum 2 FMA • PCIe: 3.0 with 48 Lanes 	Please change this to PCI Slot - 1 x 16X Gen 3 Slots per Server & 2 x 8X Gen 3 pci slots per server	Kindly refer Amendment-1 to this RFP.



Sl. No.	Page No.	Section	RFP Clause	Clause/Technical Specification	Bidder's Query	Bank's Reply
215	42	<u>Annexure 7</u>	Functional and Technical Specifications /Requirements for Supply, Installation, Configuration, Implementation and Maintenance of Servers and Other items in Canara Bank	C. Technical Specifications of Server (5 Nos. at DC and 5 Nos. at DRC): 4. Processor <ul style="list-style-type: none"> • Socket: Minimum 2 • Type: 3rd Generation Intel Xeon Scalable Processor • Model: Intel® Xeon® Gold 6330H Processor • Quantity: Minimum 2 • Core: Minimum 24 Per Processor Unit • Frequency: Minimum 3.7 GHz Turbo • Cache: Minimum 35 MB • Ultra Path Interconnect (UPI): Minimum 3 • UPI Speed: minimum 10.4 GT/s • DRAM: Minimum DDR4 2666 MT/s • Advanced Vector Extension: minimum 2 FMA • PCIe: 3.0 with 48 Lanes 	Please remove this clause and change it " RAID Controller with 2Gb Cache"	Kindly refer Amendment-1 to this RFP.
216	42	<u>Annexure 7</u>	Functional and Technical Specifications /Requirements for Supply, Installation, Configuration, Implementation and Maintenance of Servers and Other items in Canara Bank	C. Technical Specifications of Server (5 Nos. at DC and 5 Nos. at DRC): 4. Processor <ul style="list-style-type: none"> • Socket: Minimum 2 • Type: 3rd Generation Intel Xeon Scalable Processor • Model: Intel® Xeon® Gold 6330H Processor • Quantity: Minimum 2 • Core: Minimum 24 Per Processor Unit • Frequency: Minimum 3.7 GHz Turbo • Cache: Minimum 35 MB • Ultra Path Interconnect (UPI): Minimum 3 • UPI Speed: minimum 10.4 GT/s • DRAM: Minimum DDR4 2666 MT/s • Advanced Vector Extension: minimum 2 FMA • PCIe: 3.0 with 48 Lanes 	Please remove this clause and change it " RAID Controller with 2Gb Cache"	Kindly refer Amendment-1 to this RFP.
217	42	<u>Annexure-7</u>	Functional and Technical Specifications /Requirements for Supply, Installation, Configuration, Implementation and Maintenance of Servers and Other items in Canara Bank	C. Technical Specifications of Server (5 Nos. at DC and 5 Nos. at DRC): Processor : <ul style="list-style-type: none"> • Socket: Minimum 2 • Type: 3rd Generation Intel Xeon Scalable Processor • Model: Intel® Xeon® Gold 6330H Processor • Quantity: Minimum 2 • Core: Minimum 24 Per Processor Unit • Frequency: Minimum 3.7 GHz Turbo • Cache: Minimum 35 MB • Ultra Path Interconnect (UPI): Minimum 3 • UPI Speed: minimum 10.4 GT/s • DRAM: Minimum DDR4 2666 MT/s • Advanced Vector Extension: minimum 2 FMA • PCIe: 3.0 with 48 Lanes 	Please change the CPU Type to 6252 Gold Processor 2.1Ghz, 24 Cores	Kindly refer Amendment-1 to this RFP.



Sl. No.	Page No.	Section	RFP Clause	Clause/Technical Specification	Bidder's Query	Bank's Reply
218	42	<u>Annexure-7</u>	Functional and Technical Specifications /Requirements for Supply, Installation, Configuration, Implementation and Maintenance of Servers and Other items in Canara Bank	C. Technical Specifications of Server (5 Nos. at DC and 5 Nos. at DRC): Processor : • Socket: Minimum 2 • Type: 3rd Generation Intel Xeon Scalable Processor • Model: Intel® Xeon® Gold 6330H Processor • Quantity: Minimum 2 • Core: Minimum 24 Per Processor Unit • Frequency: Minimum 3.7 GHz Turbo • Cache: Minimum 35 MB • Ultra Path Interconnect (UPI): Minimum 3 • UPI Speed: minimum 10.4 GT//s • DRAM: Minimum DDR4 2666 MT/s • Advanced Vector Extension: minimum 2 FMA • PCIe: 3.0 with 48 Lanes	Please change this to Dual Port 16Gbps FC HBA	Kindly refer Amendment-1 to this RFP.
219	42	<u>Annexure-7</u>	Functional and Technical Specifications /Requirements for Supply, Installation, Configuration, Implementation and Maintenance of Servers and Other items in Canara Bank	C. Technical Specifications of Server (5 Nos. at DC and 5 Nos. at DRC): Processor : • Socket: Minimum 2 • Type: 3rd Generation Intel Xeon Scalable Processor • Model: Intel® Xeon® Gold 6330H Processor • Quantity: Minimum 2 • Core: Minimum 24 Per Processor Unit • Frequency: Minimum 3.7 GHz Turbo • Cache: Minimum 35 MB • Ultra Path Interconnect (UPI): Minimum 3 • UPI Speed: minimum 10.4 GT//s • DRAM: Minimum DDR4 2666 MT/s • Advanced Vector Extension: minimum 2 FMA • PCIe: 3.0 with 48 Lanes	Please change this to PCI Slot - 1 x 16X Gen 3 Slots per Server & 2 x 8X Gen 3 pci slots per server	Kindly refer Amendment-1 to this RFP.
220	42	<u>Annexure-7</u>	Functional and Technical Specifications /Requirements for Supply, Installation, Configuration, Implementation and Maintenance of Servers and Other items in Canara Bank	C. Technical Specifications of Server (5 Nos. at DC and 5 Nos. at DRC): Processor : • Socket: Minimum 2 • Type: 3rd Generation Intel Xeon Scalable Processor • Model: Intel® Xeon® Gold 6330H Processor • Quantity: Minimum 2 • Core: Minimum 24 Per Processor Unit • Frequency: Minimum 3.7 GHz Turbo • Cache: Minimum 35 MB • Ultra Path Interconnect (UPI): Minimum 3 • UPI Speed: minimum 10.4 GT//s • DRAM: Minimum DDR4 2666 MT/s • Advanced Vector Extension: minimum 2 FMA • PCIe: 3.0 with 48 Lanes	Please change the CPU Type to 6252 Gold Processor 2.1Ghz, 24 Cores	Kindly refer Amendment-1 to this RFP.



Sl. No.	Page No.	Section	RFP Clause	Clause/Technical Specification	Bidder's Query	Bank's Reply
221	42	Annexure-7	Functional and Technical Specifications /Requirements for Supply, Installation, Configuration, Implementation and Maintenance of Servers and Other items in Canara Bank	C. Technical Specifications of Server (5 Nos. at DC and 5 Nos. at DRC): Processor : • Socket: Minimum 2 • Type: 3rd Generation Intel Xeon Scalable Processor • Model: Intel® Xeon® Gold 6330H Processor • Quantity: Minimum 2 • Core: Minimum 24 Per Processor Unit • Frequency: Minimum 3.7 GHz Turbo • Cache: Minimum 35 MB • Ultra Path Interconnect (UPI): Minimum 3 • UPI Speed: minimum 10.4 GT//s • DRAM: Minimum DDR4 2666 MT/s • Advanced Vector Extension: minimum 2 FMA • PCIe: 3.0 with 48 Lanes	Please change this to Dual Port 16Gbps FC HBA	Kindly refer Amendment-1 to this RFP.
222	42	Annexure-7	Functional and Technical Specifications /Requirements for Supply, Installation, Configuration, Implementation and Maintenance of Servers and Other items in Canara Bank	C. Technical Specifications of Server (5 Nos. at DC and 5 Nos. at DRC): Processor : • Socket: Minimum 2 • Type: 3rd Generation Intel Xeon Scalable Processor • Model: Intel® Xeon® Gold 6330H Processor • Quantity: Minimum 2 • Core: Minimum 24 Per Processor Unit • Frequency: Minimum 3.7 GHz Turbo • Cache: Minimum 35 MB • Ultra Path Interconnect (UPI): Minimum 3 • UPI Speed: minimum 10.4 GT//s • DRAM: Minimum DDR4 2666 MT/s • Advanced Vector Extension: minimum 2 FMA • PCIe: 3.0 with 48 Lanes	Please change this to PCI Slot - 1 x 16X Gen 3 Slots per Server & 2 x 8X Gen 3 pci slots per server	Kindly refer Amendment-1 to this RFP.
223	42	Annexure-7	Functional and Technical Specifications /Requirements for Supply, Installation, Configuration, Implementation and Maintenance of Servers and Other items in Canara Bank	C. Technical Specifications of Server (5 Nos. at DC and 5 Nos. at DRC): Processor : • Socket: Minimum 2 • Type: 3rd Generation Intel Xeon Scalable Processor • Model: Intel® Xeon® Gold 6330H Processor • Quantity: Minimum 2 • Core: Minimum 24 Per Processor Unit • Frequency: Minimum 3.7 GHz Turbo • Cache: Minimum 35 MB • Ultra Path Interconnect (UPI): Minimum 3 • UPI Speed: minimum 10.4 GT//s • DRAM: Minimum DDR4 2666 MT/s • Advanced Vector Extension: minimum 2 FMA • PCIe: 3.0 with 48 Lanes	Please change the CPU to "Intel 6248R 3GHz/205W 24C/35.75MB DDR4 2933MHz or Higher). The particular processor number mentioned in the RFP is favouring one particular OEM and other can't comply with this model number as the processor model is not available with other OEMS. Please make it generic so that Other OEMS can also comply as they can give different processor model with same specs (base frequency, cores and cache) required. As we understand the performance is the key here	Kindly refer Amendment-1 to this RFP.



Sl. No.	Page No.	Section	RFP Clause	Clause/Technical Specification	Bidder's Query	Bank's Reply
224	42	<u>Annexure-7</u>	Functional and Technical Specifications /Requirements for Supply, Installation, Configuration, Implementation and Maintenance of Servers and Other items in Canara Bank	<p>C. Technical Specifications of Server (5 Nos. at DC and 5 Nos. at DRC):</p> <p>4. Processor</p> <ul style="list-style-type: none"> • Socket: Minimum 2 • Type: 3rd Generation Intel Xeon Scalable Processor • Model: Intel® Xeon® Gold 6330H Processor • Quantity: Minimum 2 • Core: Minimum 24 Per Processor Unit • Frequency: Minimum 3.7 GHz Turbo • Cache: Minimum 35 MB • Ultra Path Interconnect (UPI): Minimum 3 • UPI Speed: minimum 10.4 GT//s • DRAM: Minimum DDR4 2666 MT/s • Advanced Vector Extension: minimum 2 FMA • PCIe: 3.0 with 48 Lanes 	<ul style="list-style-type: none"> • Type: 3rd Generation Intel Xeon Scalable Processor or Latest AMD EPYC Processor <p>Reason: AMD has got improved processors which performs better than Intel. The present clause limits OEMs to opt for only one particular processors which avoids competition in open RFP.</p>	Kindly refer Amendment-1 to this RFP.
225	42	<u>Annexure-7</u>	Functional and Technical Specifications /Requirements for Supply, Installation, Configuration, Implementation and Maintenance of Servers and Other Items in Canara Bank	<p>C. Technical Specifications of Server (5 Nos. at DC and 5 Nos. at DRC):</p> <p>4. Processor</p> <ul style="list-style-type: none"> • Socket: Minimum 2 • Type: 3rd Generation Intel Xeon Scalable Processor • Model: Intel® Xeon® Gold 6330H Processor • Quantity: Minimum 2 • Core: Minimum 24 Per Processor Unit • Frequency: Minimum 3.7 GHz Turbo • Cache: Minimum 35 MB • Ultra Path Interconnect (UPI): Minimum 3 • UPI Speed: minimum 10.4 GT//s • DRAM: Minimum DDR4 2666 MT/s • Advanced Vector Extension: minimum 2 FMA • PCIe: 3.0 with 48 Lanes 	<ul style="list-style-type: none"> • Model: Intel® Xeon® Gold 6328H Processor or AMD EPYC 7282 <p>Reason: Latest generation AMD EPYC Processor matching core and frequency is included.</p>	Kindly refer Amendment-1 to this RFP.
226	42	<u>Annexure-7</u>	Functional and Technical Specifications /Requirements for Supply, Installation, Configuration, Implementation and Maintenance of Servers and Other items in Canara Bank	<p>C. Technical Specifications of Server (5 Nos. at DC and 5 Nos. at DRC):</p> <p>4. Processor</p> <ul style="list-style-type: none"> • Socket: Minimum 2 • Type: 3rd Generation Intel Xeon Scalable Processor • Model: Intel® Xeon® Gold 6330H Processor • Quantity: Minimum 2 • Core: Minimum 24 Per Processor Unit • Frequency: Minimum 3.7 GHz Turbo • Cache: Minimum 35 MB • Ultra Path Interconnect (UPI): Minimum 3 • UPI Speed: minimum 10.4 GT//s • DRAM: Minimum DDR4 2666 MT/s • Advanced Vector Extension: minimum 2 FMA • PCIe: 3.0 with 48 Lanes 	<ul style="list-style-type: none"> • Frequency: Minimum 2.8 GHz base clock <p>Reason: Turbo Frequency is never used for general purpose computing. Also on running system with Turbo mode for 24x7 production if the processor fails, warranty is not covered. Turbo leads to unpredictable computation result.</p>	Kindly refer Amendment-1 to this RFP.



Sl. No.	Page No.	Section	RFP Clause	Clause/Technical Specification	Bidder's Query	Bank's Reply
227	42	<u>Annexure-7</u>	Functional and Technical Specifications /Requirements for Supply, Installation, Configuration, Implementation and Maintenance of Servers and Other items in Canara Bank	<p>C. Technical Specifications of Server (5 Nos. at DC and 5 Nos. at DRC):</p> <p>4. Processor</p> <ul style="list-style-type: none"> • Socket: Minimum 2 • Type: 3rd Generation Intel Xeon Scalable Processor • Model: Intel® Xeon® Gold 6330H Processor • Quantity: Minimum 2 • Core: Minimum 24 Per Processor Unit • Frequency: Minimum 3.7 GHz Turbo • Cache: Minimum 35 MB • Ultra Path Interconnect (UPI): Minimum 3 • UPI Speed: minimum 10.4 GT/s • DRAM: Minimum DDR4 2666 MT/s • Advanced Vector Extension: minimum 2 FMA • PCIe: 3.0 with 48 Lanes 	<ul style="list-style-type: none"> • Ultra Path Interconnect (UPI) or Inter-Chip Global Memory Interconnect(xGMI): Minimum 3 • UPI Speed or xGMI Speed: minimum 10.4 GT/s <p>Reason: Inter-Chip Global Memory Interconnect(xGMI) is the equivalent of Intel UPI. xGMI operates at 16 GT/s compared to Intel UPI at 10.4 GT/s</p>	Kindly refer Amendment-1 to this RFP.
228	42	<u>Annexure-7</u>	Functional and Technical Specifications /Requirements for Supply, Installation, Configuration, Implementation and Maintenance of Servers and Other items in Canara Bank	<p>C. Technical Specifications of Server (5 Nos. at DC and 5 Nos. at DRC):</p> <p>4. Processor</p> <ul style="list-style-type: none"> • Socket: Minimum 2 • Type: 3rd Generation Intel Xeon Scalable Processor • Model: Intel® Xeon® Gold 6330H Processor • Quantity: Minimum 2 • Core: Minimum 24 Per Processor Unit • Frequency: Minimum 3.7 GHz Turbo • Cache: Minimum 35 MB • Ultra Path Interconnect (UPI): Minimum 3 • UPI Speed: minimum 10.4 GT/s • DRAM: Minimum DDR4 2666 MT/s • Advanced Vector Extension: minimum 2 FMA • PCIe: 3.0 with 48 Lanes 	<ul style="list-style-type: none"> • DRAM: Minimum DDR4 2933 MT/s <p>Reason: RFP asks for latest processors but mentioned 2 generation old memory frequency. 3200 MT/s is the latest memory frequency. However, to accommodate both Intel and AMD with a fair chance, please include 2933 MHz.</p>	Kindly refer Amendment-1 to this RFP.
229	42	<u>Annexure-7</u>	Functional and Technical Specifications /Requirements for Supply, Installation, Configuration, Implementation and Maintenance of Servers and Other items in Canara Bank	<p>C. Technical Specifications of Server (5 Nos. at DC and 5 Nos. at DRC):</p> <p>4. Processor</p> <ul style="list-style-type: none"> • Socket: Minimum 2 • Type: 3rd Generation Intel Xeon Scalable Processor • Model: Intel® Xeon® Gold 6330H Processor • Quantity: Minimum 2 • Core: Minimum 24 Per Processor Unit • Frequency: Minimum 3.7 GHz Turbo • Cache: Minimum 35 MB • Ultra Path Interconnect (UPI): Minimum 3 • UPI Speed: minimum 10.4 GT/s • DRAM: Minimum DDR4 2666 MT/s • Advanced Vector Extension: minimum 2 FMA • PCIe: 3.0 with 48 Lanes 	<ul style="list-style-type: none"> • Advanced Vector Extension: minimum 1 FMA <p>Reason: There is no banking application which can take advantage of 2 FMA. 2 FMA is only available with Intel Xeon processors</p>	Kindly refer Amendment-1 to this RFP.



Sl. No.	Page No.	Section	RFP Clause	Clause/Technical Specification	Bidder's Query	Bank's Reply
230	42	<u>Annexure-7</u>	Functional and Technical Specifications /Requirements for Supply, Installation, Configuration, Implementation and Maintenance of Servers and Other items in Canara Bank	C. Technical Specifications of Server (5 Nos. at DC and 5 Nos. at DRC): 4. Processor <ul style="list-style-type: none"> • Socket: Minimum 2 • Type: 3rd Generation Intel Xeon Scalable Processor • Model: Intel® Xeon® Gold 6330H Processor • Quantity: Minimum 2 • Core: Minimum 24 Per Processor Unit • Frequency: Minimum 3.7 GHz Turbo • Cache: Minimum 35 MB • Ultra Path Interconnect (UPI): Minimum 3 • UPI Speed: minimum 10.4 GT/s • DRAM: Minimum DDR4 2666 MT/s • Advanced Vector Extension: minimum 2 FMA • PCIe: 3.0 with 48 Lanes 	<ul style="list-style-type: none"> • PCIe: 3.0 / 4.0 with 48 Lanes Reason: AMD EPYC supports 128 Lanes of PCIe Gen 4.0	Kindly refer Amendment-1 to this RFP.
231	43	<u>Annexure 7</u>	Functional and Technical Specifications /Requirements for Supply, Installation, Configuration, Implementation and Maintenance of Servers and Other items in Canara Bank	C. Technical Specifications of Server (5 Nos. at DC and 5 Nos. at DRC): 5. Platform Controller Hub Platform Controller Hub Intel C629 Chipset or latest/equivalent	Please change this to Dual Port 16Gbps FC HBA	Kindly refer Amendment-1 to this RFP.
232	43	<u>Annexure 7</u>	Functional and Technical Specifications /Requirements for Supply, Installation, Configuration, Implementation and Maintenance of Servers and Other items in Canara Bank	C. Technical Specifications of Server (5 Nos. at DC and 5 Nos. at DRC): 7. Other Processor feature <ul style="list-style-type: none"> • Virtualization Technology (VT-x) • Quick Assist Technology (QAT) • Optane Persistent Memory • Volume Management device (VMD) • Node Manager 4.0 • Run Sure Technology for RAS • Key Protection Technology (KPT) • Optane SSD & QLC 3D NAND SSD • Turbo boost Technology 20 • AES New Instructions • Trusted Execution Technology • Hyper Threading technology (HTT) 	Please change this to PCI Slot - 1 x 16X Gen 3 Slots per Server & 2 x 8X Gen 3 pci slots per server	Kindly refer Amendment-1 to this RFP.



Sl. No.	Page No.	Section	RFP Clause	Clause/Technical Specification	Bidder's Query	Bank's Reply
233	43	<u>Annexure 7</u>	Functional and Technical Specifications /Requirements for Supply, Installation, Configuration, Implementation and Maintenance of Servers and Other items in Canara Bank	C. Technical Specifications of Server (5 Nos. at DC and 5 Nos. at DRC): 9. Speculative executive sid channel mitigation • V1, Spectre • V2, Spectre • V3, Meltdown • V3a • V4 • L1TF, Foreshadow • MFBDS, RIDL • MSBDS, Fallout • MLPDS • MDSUM • TAA	Please remove this clause and change it " RAID Controller with 2Gb Cache"	Kindly refer Amendment-1 to this RFP.
234	43	<u>Annexure 7</u>	Functional and Technical Specifications /Requirements for Supply, Installation, Configuration, Implementation and Maintenance of Servers and Other items in Canara Bank	C. Technical Specifications of Server (5 Nos. at DC and 5 Nos. at DRC): 11. Memory • First Module Type: DDR4 DIMM • Capacity: 32 GB • Quantity: 12 • Speed: 2666 MT/s • Second Module Type: DCPMM/PMEs • Capacity: 256 GB • Quantity: 8 • Speed: 2666 MT/s • DCPMM Modes: Memory/App Direct/Mixed Memory • Advanced ECC (Error Correcting Code) type or similar technology • Registered ECC DIMMs	Please remove this clause and change it " RAID Controller with 2Gb Cache"	Kindly refer Amendment-1 to this RFP.
235	43	<u>Annexure 7</u>	Functional and Technical Specifications /Requirements for Supply, Installation, Configuration, Implementation and Maintenance of Servers and Other items in Canara Bank	C. Technical Specifications of Server (5 Nos. at DC and 5 Nos. at DRC): 11. Memory • First Module Type: DDR4 DIMM • Capacity: 32 GB • Quantity: 12 • Speed: 2666 MT/s • Second Module Type: DCPMM/PMEs • Capacity: 256 GB • Quantity: 8 • Speed: 2666 MT/s • DCPMM Modes: Memory/App Direct/Mixed Memory • Advanced ECC (Error Correcting Code) type or similar technology • Registered ECC DIMMs	Request the bank to include Ratio to RDRAM along with the DCPMM Point which shall give best possible performance to the bank.	Kindly refer Amendment-1 to this RFP.



Sl. No.	Page No.	Section	RFP Clause	Clause/Technical Specification	Bidder's Query	Bank's Reply
236	43	<u>Annexure 7</u>	Functional and Technical Specifications /Requirements for Supply, Installation, Configuration, Implementation and Maintenance of Servers and Other items in Canara Bank	C. Technical Specifications of Server (5 Nos. at DC and 5 Nos. at DRC): 5. Platform Controller Hub Platform Controller Hub Intel C629 Chipset or latest/equivalent	Please change this to Dual Port 16Gbps FC HBA	Kindly refer Amendment-1 to this RFP.
237	43	<u>Annexure 7</u>	Functional and Technical Specifications /Requirements for Supply, Installation, Configuration, Implementation and Maintenance of Servers and Other items in Canara Bank	C. Technical Specifications of Server (5 Nos. at DC and 5 Nos. at DRC): 7. Other Processor feature <ul style="list-style-type: none"> • Virtualization Technology (VT-x) • Quick Assist Technology (QAT) • Optane Persistent Memory • Volume Management device (VMD) • Node Manager 4.0 • Run Sure Technology for RAS • Key Protection Technology (KPT) • Optane SSD & QLC 3D NAND SSD • Turbo boost Technology 20 • AES New Instructions • Trusted Execution Technology • Hyper Threading technology (HTT) 	Please change this to PCI Slot - 1 x 16X Gen 3 Slots per Server & 2 x 8X Gen 3 pci slots per server	Kindly refer Amendment-1 to this RFP.
238	43	<u>Annexure 7</u>	Functional and Technical Specifications /Requirements for Supply, Installation, Configuration, Implementation and Maintenance of Servers and Other items in Canara Bank	C. Technical Specifications of Server (5 Nos. at DC and 5 Nos. at DRC): 9. Speculative executive sid channel mitigation <ul style="list-style-type: none"> • V1, Spectre • V2, Spectre • V3, Meltdown • V3a • V4 • L1TF, Foreshadow • MFBDS, RIDL • MSBDS, Fallout • MLPDS • MDSUM • TAA 	Please change the CPU Type to 6252 Gold Processor 2.1Ghz, 24 Cores	Kindly refer Amendment-1 to this RFP.



Sl. No.	Page No.	Section	RFP Clause	Clause/Technical Specification	Bidder's Query	Bank's Reply
239	43	<u>Annexure 7</u>	Functional and Technical Specifications /Requirements for Supply, Installation, Configuration, Implementation and Maintenance of Servers and Other Items in Canara Bank	C. Technical Specifications of Server (5 Nos. at DC and 5 Nos. at DRC): 11. Memory • First Module Type: DDR4 DIMM • Capacity: 32 GB • Quantity: 12 • Speed: 2666 MT/s • Second Module Type: DCPMM/PMEMS • Capacity: 256 GB • Quantity: 8 • Speed: 2666 MT/s • DCPMM Modes: Memory/App Direct/Mixed Memory • Advanced ECC (Error Correcting Code) type or similar technology • Registered ECC DIMMs	Please change this to Dual Port 16Gbps FC HBA	Kindly refer Amendment-1 to this RFP.
240	43	<u>Annexure 7</u>	Functional and Technical Specifications /Requirements for Supply, Installation, Configuration, Implementation and Maintenance of Servers and Other Items in Canara Bank	C. Technical Specifications of Server (5 Nos. at DC and 5 Nos. at DRC): 11. Memory • First Module Type: DDR4 DIMM • Capacity: 32 GB • Quantity: 12 • Speed: 2666 MT/s • Second Module Type: DCPMM/PMEMS • Capacity: 256 GB • Quantity: 8 • Speed: 2666 MT/s • DCPMM Modes: Memory/App Direct/Mixed Memory • Advanced ECC (Error Correcting Code) type or similar technology • Registered ECC DIMMs	Request the bank to include Ratio to RDIMM along with the DCPMM Point which shall give best possible performance to the bank.	Kindly refer Amendment-1 to this RFP.
241	43	<u>Annexure 7</u>	Functional and Technical Specifications /Requirements for Supply, Installation, Configuration, Implementation and Maintenance of Servers and Other Items in Canara Bank	C. Technical Specifications of Server (5 Nos. at DC and 5 Nos. at DRC): 5. Platform Controller Hub Platform Controller Hub Intel C629 Chipset or latest/equivalent	Please change the CPU to Intel 6248R 3GHz/205W 24C/35.75MB DDR4 2933MHz or Higher). The particular processor number mentioned in the RFP is favouring one particular OEM and other can't comply with this model number as the processor model is not available with other OEMS. Please make it generic so that Other OEMS can also comply as they can give different processor model with same specs (base frequency, cores and cache) required. As we understand the performance is the key here	Kindly refer Amendment-1 to this RFP.



Sl. No.	Page No.	Section	RFP Clause	Clause/Technical Specification	Bidder's Query	Bank's Reply
242	43	<u>Annexure 7</u>	Functional and Technical Specifications /Requirements for Supply, Installation, Configuration, Implementation and Maintenance of Servers and Other items in Canara Bank	<p>C. Technical Specifications of Server (5 Nos. at DC and 5 Nos. at DRC):</p> <p>7. Other Processor feature</p> <ul style="list-style-type: none"> • Virtualization Technology (VT-x) • Quick Assist Technology (QAT) • Optane Persistent Memory • Volume Management device (VMD) • Node Manager 4.0 • Run Sure Technology for RAS • Key Protection Technology (KPT) • Optane SSD & QLC 3D NAND SSD • Turbo boost Technology 20 • AES New Instructions • Trusted Execution Technology • Hyper Threading technology (HTT) 	<ul style="list-style-type: none"> • Type: 3rd Generation Intel Xeon Scalable Processor or Latest AMD EPYC Processor <p>Reason: AMD has got improved processors which performs better than intel. The present clause limits OEMs to opt for only one particular processors which avoids competition in open RFP.</p>	Kindly refer Amendment-1 to this RFP.
243	43	<u>Annexure 7</u>	Functional and Technical Specifications /Requirements for Supply, Installation, Configuration, Implementation and Maintenance of Servers and Other items in Canara Bank	<p>C. Technical Specifications of Server (5 Nos. at DC and 5 Nos. at DRC):</p> <p>9. Speculative executive sid channel mitigation</p> <ul style="list-style-type: none"> • V1, Spectre • V2, Spectre • V3, Meltdown • V3a • V4 • L1TF, Foreshadow • MFBDS, RIDL • MSBDS, Fallout • MLPDS • MDSUM • TAA 	<ul style="list-style-type: none"> • Model: Intel® Xeon® Gold 6328H Processor or AMD EPYC 7282 <p>Reason: Latest generation AMD EPYC Processor matching core and frequency is included.</p>	Kindly refer Amendment-1 to this RFP.
244	43	<u>Annexure 7</u>	Functional and Technical Specifications /Requirements for Supply, Installation, Configuration, Implementation and Maintenance of Servers and Other items in Canara Bank	<p>C. Technical Specifications of Server (5 Nos. at DC and 5 Nos. at DRC):</p> <p>11. Memory</p> <ul style="list-style-type: none"> • First Module Type: DDR4 DIMM • Capacity: 32 GB • Quantity: 12 • Speed: 2666 MT/s • Second Module Type: DCPMM/PMEMs • Capacity: 256 GB • Quantity: 8 • Speed: 2666 MT/s • DCPMM Modes: Memory/App Direct/Mixed Memory • Advanced ECC (Error Correcting Code) type or similar technology • Registered ECC DIMMs 	<ul style="list-style-type: none"> • Frequency: Minimum 2.8 GHz base clock <p>Reason: Turbo Frequency is never used for general purpose computing. Also on running system with Turbo mode for 24x7 production if the processor fails, warranty is not covered. Turbo leads to un predicatable computation result.</p>	Kindly refer Amendment-1 to this RFP.



Sl. No.	Page No.	Section	RFP Clause	Clause/Technical Specification	Bidder's Query	Bank's Reply
245	43	<u>Annexure 7</u>	Functional and Technical Specifications /Requirements for Supply, Installation, Configuration, Implementation and Maintenance of Servers and Other items in Canara Bank	C. Technical Specifications of Server (5 Nos. at DC and 5 Nos. at DRC): 11. Memory • First Module Type: DDR4 DIMM • Capacity: 32 GB • Quantity: 12 • Speed: 2666 MT/s • Second Module Type: DCPMM/PMEMs • Capacity: 256 GB • Quantity: 8 • Speed: 2666 MT/s • DCPMM Modes: Memory/App Direct/Mixed Memory • Advanced ECC (Error Correcting Code) type or similar technology • Registered ECC DIMMs	Request the bank to include Ratio to RDIMM along with the DCPMM Point which shall give best possible performance to the bank.	Kindly refer Amendment-1 to this RFP.
246	43	<u>Annexure 7</u>	Functional and Technical Specifications /Requirements for Supply, Installation, Configuration, Implementation and Maintenance of Servers and Other items in Canara Bank	C. Technical Specifications of Server (5 Nos. at DC and 5 Nos. at DRC): 5. Platform Controller Hub Platform Controller Hub Intel C629 Chipset or latest/equivalent	Please change the Chipset to C621. This will be in line with the 2nd generation processor and 2U 2 Socket systems	Kindly refer Amendment-1 to this RFP.
247	43	<u>Annexure-7</u>	Functional and Technical Specifications /Requirements for Supply, Installation, Configuration, Implementation and Maintenance of Servers and Other items in Canara Bank	C. Technical Specifications of Server (5 Nos. at DC and 5 Nos. at DRC): Platform Controller Hub : Intel C629 Chipset or latest/equivalent	Please change the Chipset to C621. This will be in line with the 2nd generation processor and 2U 2 Socket systems	Kindly refer Amendment-1 to this RFP.
248	43	<u>Annexure-7</u>	Functional and Technical Specifications /Requirements for Supply, Installation, Configuration, Implementation and Maintenance of Servers and Other items in Canara Bank	C. Technical Specifications of Server (5 Nos. at DC and 5 Nos. at DRC): Platform Controller Hub : Intel C629 Chipset or latest/equivalent	Please change the Chipset to C621. This will be in line with the 2nd generation processor and 2U 2 Socket systems	Kindly refer Amendment-1 to this RFP.
249	43	<u>Annexure-7</u>	Functional and Technical Specifications /Requirements for Supply, Installation, Configuration, Implementation and Maintenance of Servers and Other items in Canara Bank	C. Technical Specifications of Server (5 Nos. at DC and 5 Nos. at DRC): Platform Controller Hub : Intel C629 Chipset or latest/equivalent	Clause shall be modified as "Intel C620 Series or Equivalent". C229 is OEM specific	Kindly refer Amendment-1 to this RFP.



Sl. No.	Page No.	Section	RFP Clause	Clause/Technical Specification	Bidder's Query	Bank's Reply
250	43	<u>Annexure-7</u>	Functional and Technical Specifications /Requirements for Supply, Installation, Configuration, Implementation and Maintenance of Servers and Other items in Canara Bank	C. Technical Specifications of Server (5 Nos. at DC and 5 Nos. at DRC): 1. Memory • First Module Type: DDR4 DIMM • Capacity: 32 GB • Quantity: 12 • Speed: 2666 MT/s • Second Module Type: DCPMM/PMEMs • Capacity: 256 GB • Quantity: 8 • Speed: 2666 MT/s • DCPMM Modes: Memory/App Direct/Mixed Memory • Advanced ECC (Error Correcting Code) type or similar technology • Registered ECC DIMMs	Please specify the exact amount of memory required.	Kindly refer Amendment-1 to this RFP.
251	43	<u>Annexure-7</u>	Functional and Technical Specifications /Requirements for Supply, Installation, Configuration, Implementation and Maintenance of Servers and Other items in Canara Bank	C. Technical Specifications of Server (5 Nos. at DC and 5 Nos. at DRC): 5. Platform Controller Hub: Intel C629 Chipset or latest/equivalent	Intel C629 Chipset or latest or equivalent SoC architecture Reason: AMD EPYC is a System on Chip and does not need a dedicated Chipset like Intel Xeon. Having a chipset limits you to pass through all communication outside system to go through Chipset.	Kindly refer Amendment-1 to this RFP.
252	43	<u>Annexure-7</u>	Functional and Technical Specifications /Requirements for Supply, Installation, Configuration, Implementation and Maintenance of Servers and Other items in Canara Bank	C. Technical Specifications of Server (5 Nos. at DC and 5 Nos. at DRC): 6. Main Board: Suitable Intel Main Board or equivalent	Suitable Intel Main Board or AMD equivalent	Kindly refer Amendment-1 to this RFP.
253	43	<u>Annexure-7</u>	Functional and Technical Specifications /Requirements for Supply, Installation, Configuration, Implementation and Maintenance of Servers and Other items in Canara Bank	C. Technical Specifications of Server (5 Nos. at DC and 5 Nos. at DRC): 7. Other feature supported by Processor, Chipset & Main Board • Virtualization Technology (VT-x) • Quick Assist Technology (QAT) • Optane Persistent Memory • Volume Management device (VMD) • Node Manager 4.0 • Run Sure Technology for RAS • Key Protection Technology (KPT) • Optane SSD & QLC 3D NAND SSD • Turbo boost Technology 2.0 • AES New Instructions • Trusted Execution Technology • Hyper Threading technology (HTT)	• Virtualization Technology (Intel VT-x or AMD-V)	Kindly refer Amendment-1 to this RFP.



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254	43	<u>Annexure-7</u>	Functional and Technical Specifications /Requirements for Supply, Installation, Configuration, Implementation and Maintenance of Servers and Other items in Canara Bank	C. Technical Specifications of Server (5 Nos. at DC and 5 Nos. at DRC): 7.Other feature supported by Processor, Chipset & Main Board <ul style="list-style-type: none"> • Virtualization Technology (VT-x) • Quick Assist Technology (QAT) • Optane Persistent Memory • Volume Management device (VMD) • Node Manager 4.0 • Run Sure Technology for RAS • Key Protection Technology (KPT) • Optane SSD & QLC 3D NAND SSD • Turbo boost Technology 20 • AES New Instructions • Trusted Execution Technology • Hyper Threading technology (HTT) 	<ul style="list-style-type: none"> • Quick Assist Technology (QAT) or dedicated secure processor <p>Reason: AMD EPYC Processors includes a dedicated ARM A5 Cortex based processor in the SoC to take care of the necessary encryption and quick assist type features.</p>	Kindly refer Amendment-1 to this RFP.
255	43	<u>Annexure-7</u>	Functional and Technical Specifications /Requirements for Supply, Installation, Configuration, Implementation and Maintenance of Servers and Other items in Canara Bank	C. Technical Specifications of Server (5 Nos. at DC and 5 Nos. at DRC): 7.Other feature supported by Processor, Chipset & Main Board <ul style="list-style-type: none"> • Virtualization Technology (VT-x) • Quick Assist Technology (QAT) • Optane Persistent Memory • Volume Management device (VMD) • Node Manager 4.0 • Run Sure Technology for RAS • Key Protection Technology (KPT) • Optane SSD & QLC 3D NAND SSD • Turbo boost Technology 20 • AES New Instructions • Trusted Execution Technology • Hyper Threading technology (HTT) 	<ul style="list-style-type: none"> • Optane Persistent Memory or equivalent technology support <p>Reason: AMD partnered with Western Digital and ScaleMP to provide functionality similar to Intel Optane</p>	Kindly refer Amendment-1 to this RFP.
256	43	<u>Annexure-7</u>	Functional and Technical Specifications /Requirements for Supply, Installation, Configuration, Implementation and Maintenance of Servers and Other items in Canara Bank	C. Technical Specifications of Server (5 Nos. at DC and 5 Nos. at DRC): 7.Other feature supported by Processor, Chipset & Main Board <ul style="list-style-type: none"> • Virtualization Technology (VT-x) • Quick Assist Technology (QAT) • Optane Persistent Memory • Volume Management device (VMD) • Node Manager 4.0 • Run Sure Technology for RAS • Key Protection Technology (KPT) • Optane SSD & QLC 3D NAND SSD • Turbo boost Technology 20 • AES New Instructions • Trusted Execution Technology • Hyper Threading technology (HTT) 	<ul style="list-style-type: none"> • Volume Management device (VMD) or equivalent <p>Reason: VMD is a functionality to do RAID on Disk using CPU. This functionality is accomplished by having dedicated RAID controller. VMD has got over head on CPU which impacts computation.</p>	Kindly refer Amendment-1 to this RFP.



Sl. No.	Page No.	Section	RFP Clause	Clause/Technical Specification	Bidder's Query	Bank's Reply
257	43	<u>Annexure-7</u>	Functional and Technical Specifications /Requirements for Supply, Installation, Configuration, Implementation and Maintenance of Servers and Other items in Canara Bank	<p>C. Technical Specifications of Server (5 Nos. at DC and 5 Nos. at DRC):</p> <p>7.Other feature supported by Processor, Chipset & Main Board</p> <ul style="list-style-type: none"> • Virtualization Technology (VT-x) • Quick Assist Technology (QAT) • Optane Persistent Memory • Volume Management device (VMD) • Node Manager 4.0 • Run Sure Technology for RAS • Key Protection Technology (KPT) • Optane SSD & QLC 3D NAND SSD • Turbo boost Technology 20 • AES New Instructions • Trusted Execution Technology • Hyper Threading technology (HTT) 	<ul style="list-style-type: none"> • Node Manager 4.0 or equivalent power management utility <p>Reason: Node Manager 4.0 is a specific term used by Intel. AMD EPYC has got its own embedded power management controller and exposes necessary APIs to the BMC controller for effective power management.</p>	Kindly refer Amendment-1 to this RFP.
258	43	<u>Annexure-7</u>	Functional and Technical Specifications /Requirements for Supply, Installation, Configuration, Implementation and Maintenance of Servers and Other items in Canara Bank	<p>C. Technical Specifications of Server (5 Nos. at DC and 5 Nos. at DRC):</p> <p>7.Other feature supported by Processor, Chipset & Main Board</p> <ul style="list-style-type: none"> • Virtualization Technology (VT-x) • Quick Assist Technology (QAT) • Optane Persistent Memory • Volume Management device (VMD) • Node Manager 4.0 • Run Sure Technology for RAS • Key Protection Technology (KPT) • Optane SSD & QLC 3D NAND SSD • Turbo boost Technology 20 • AES New Instructions • Trusted Execution Technology • Hyper Threading technology (HTT) 	<ul style="list-style-type: none"> • Run Sure Technology for RAS or equivalent Machine Check Recovery <p>Reason: Intel specific implementation terminology</p>	Kindly refer Amendment-1 to this RFP.
259	43	<u>Annexure-7</u>	Functional and Technical Specifications /Requirements for Supply, Installation, Configuration, Implementation and Maintenance of Servers and Other items in Canara Bank	<p>C. Technical Specifications of Server (5 Nos. at DC and 5 Nos. at DRC):</p> <p>7.Other feature supported by Processor, Chipset & Main Board</p> <ul style="list-style-type: none"> • Virtualization Technology (VT-x) • Quick Assist Technology (QAT) • Optane Persistent Memory • Volume Management device (VMD) • Node Manager 4.0 • Run Sure Technology for RAS • Key Protection Technology (KPT) • Optane SSD & QLC 3D NAND SSD • Turbo boost Technology 20 • AES New Instructions • Trusted Execution Technology • Hyper Threading technology (HTT) 	<ul style="list-style-type: none"> • Key Protection Technology (KPT) or equivalent <p>Reason: KPT is a Intel specific terminology. Upto 509 Keys can preserved by AMD EPYC processors internally.</p>	Kindly refer Amendment-1 to this RFP.



Sl. No.	Page No.	Section	RFP Clause	Clause/Technical Specification	Bidder's Query	Bank's Reply
260	43	Annexure-7	Functional and Technical Specifications /Requirements for Supply, Installation, Configuration, Implementation and Maintenance of Servers and Other Items in Canara Bank	<p>C. Technical Specifications of Server (5 Nos. at DC and 5 Nos. at DRC):</p> <p>7.Other feature supported by Processor, Chipset & Main Board</p> <ul style="list-style-type: none"> • Virtualization Technology (VT-x) • Quick Assist Technology (QAT) • Optane Persistent Memory • Volume Management device (VMD) • Node Manager 4.0 • Run Sure Technology for RAS • Key Protection Technology (KPT) • Optane SSD & QLC 3D NAND SSD • Turbo boost Technology 20 • AES New Instructions • Trusted Execution Technology • Hyper Threading technology (HTT) 	<ul style="list-style-type: none"> • Optane SSD & QLC 3D NAND SSD or equivalent better SSD <p>Reason: Optane is an Intel Terminology and is limited to Intel Xeon processor based environment. With AMD EPYC we have got better technology with a broad portfolio of market partners manufacturing SSDs</p>	Kindly refer Amendment-1 to this RFP.
261	43	Annexure-7	Functional and Technical Specifications /Requirements for Supply, Installation, Configuration, Implementation and Maintenance of Servers and Other items in Canara Bank	<p>C. Technical Specifications of Server (5 Nos. at DC and 5 Nos. at DRC):</p> <p>7.Other feature supported by Processor, Chipset & Main Board</p> <ul style="list-style-type: none"> • Virtualization Technology (VT-x) • Quick Assist Technology (QAT) • Optane Persistent Memory • Volume Management device (VMD) • Node Manager 4.0 • Run Sure Technology for RAS • Key Protection Technology (KPT) • Optane SSD & QLC 3D NAND SSD • Turbo boost Technology 20 • AES New Instructions • Trusted Execution Technology • Hyper Threading technology (HTT) 	<ul style="list-style-type: none"> • Turbo boost Technology 20 or All core boost frequency <p>Reason:Turbo boost Technology 20 is an Intel specific terminology.</p>	Kindly refer Amendment-1 to this RFP.
262	43	Annexure-7	Functional and Technical Specifications /Requirements for Supply, Installation, Configuration, Implementation and Maintenance of Servers and Other items in Canara Bank	<p>C. Technical Specifications of Server (5 Nos. at DC and 5 Nos. at DRC):</p> <p>7.Other feature supported by Processor, Chipset & Main Board</p> <ul style="list-style-type: none"> • Virtualization Technology (VT-x) • Quick Assist Technology (QAT) • Optane Persistent Memory • Volume Management device (VMD) • Node Manager 4.0 • Run Sure Technology for RAS • Key Protection Technology (KPT) • Optane SSD & QLC 3D NAND SSD • Turbo boost Technology 20 • AES New Instructions • Trusted Execution Technology • Hyper Threading technology (HTT) 	<ul style="list-style-type: none"> • AES New Instructions or AES 128 Encryption support <p>Reason:AES New Instruction is a Intel Specific terminology</p>	Kindly refer Amendment-1 to this RFP.



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263	43	<u>Annexure-7</u>	Functional and Technical Specifications /Requirements for Supply, Installation, Configuration, Implementation and Maintenance of Servers and Other items in Canara Bank	C. Technical Specifications of Server (5 Nos. at DC and 5 Nos. at DRC): 7. Other feature supported by Processor, Chipset & Main Board <ul style="list-style-type: none"> Virtualization Technology (VT-x) Quick Assist Technology (QAT) Optane Persistent Memory Volume Management device (VMD) Node Manager 4.0 Run Sure Technology for RAS Key Protection Technology (KPT) Optane SSD & QLC 3D NAND SSD Turbo boost Technology 20 AES New Instructions Trusted Execution Technology Hyper Threading technology (HTT) 	<ul style="list-style-type: none"> Trusted Execution Technology or equivalent <p>Reason: TXT is a Intel Specific terminology. AMD EPYC has inbuilt security module which takes of the trusted execution without any change to user code.</p>	Kindly refer Amendment-1 to this RFP.
264	43	<u>Annexure-7</u>	Functional and Technical Specifications /Requirements for Supply, Installation, Configuration, Implementation and Maintenance of Servers and Other items in Canara Bank	C. Technical Specifications of Server (5 Nos. at DC and 5 Nos. at DRC): 7. Other feature supported by Processor, Chipset & Main Board <ul style="list-style-type: none"> Virtualization Technology (VT-x) Quick Assist Technology (QAT) Optane Persistent Memory Volume Management device (VMD) Node Manager 4.0 Run Sure Technology for RAS Key Protection Technology (KPT) Optane SSD & QLC 3D NAND SSD Turbo boost Technology 20 AES New Instructions Trusted Execution Technology Hyper Threading technology (HTT) 	<ul style="list-style-type: none"> Hyper Threading technology (HTT) or Symetric Multi Threading (SMT) <p>Reason: HTT is Intel Specific Terminology</p>	Kindly refer Amendment-1 to this RFP.
265	43	<u>Annexure-7</u>	Functional and Technical Specifications /Requirements for Supply, Installation, Configuration, Implementation and Maintenance of Servers and Other items in Canara Bank	C. Technical Specifications of Server (5 Nos. at DC and 5 Nos. at DRC): 10. Reliability, Availability, and Serviceability (RAS) <ul style="list-style-type: none"> Adaptive Double DRAM Device Correction (ADDDC) Advanced Error Detection and Correction (AEDC) Local Machine Check Exception (LMCE) 	<ul style="list-style-type: none"> Adaptive Double DRAM Device Correction (ADDDC) or Single Device Data Correction (SDDC) <p>Reason: ADDDC is an Intel Specific Terminology.</p>	Kindly refer Amendment-1 to this RFP.
266	43	<u>Annexure-7</u>	Functional and Technical Specifications /Requirements for Supply, Installation, Configuration, Implementation and Maintenance of Servers and Other items in Canara Bank	C. Technical Specifications of Server (5 Nos. at DC and 5 Nos. at DRC): 10. Reliability, Availability, and Serviceability (RAS) <ul style="list-style-type: none"> Adaptive Double DRAM Device Correction (ADDDC) Advanced Error Detection and Correction (AEDC) Local Machine Check Exception (LMCE) 	<ul style="list-style-type: none"> Advanced Error Detection and Correction (AEDC) or DRAM Address Command Parity with Replay <p>Reason: AEDC is an Intel Specific Terminology.</p>	Kindly refer Amendment-1 to this RFP.



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267	43	Annexure-7	Functional and Technical Specifications /Requirements for Supply, Installation, Configuration, Implementation and Maintenance of Servers and Other items in Canara Bank	C. Technical Specifications of Server (5 Nos. at DC and 5 Nos. at DRC): 10. Reliability, Availability, and Serviceability (RAS) • Adaptive Double DRAM Device Correction (ADDDC) • Advanced Error Detection and Correction (AEDC) • Local Machine Check Exception (LMCE)	• Local Machine Check Exception (LMCE) or Machine Check Recovery (MCR) Reason: LMCE is an Intel Specific Terminology.	Kindly refer Amendment-1 to this RFP.
268	43	Annexure-7	Functional and Technical Specifications /Requirements for Supply, Installation, Configuration, Implementation and Maintenance of Servers and Other items in Canara Bank	C. Technical Specifications of Server (5 Nos. at DC and 5 Nos. at DRC): 11. Memory • First Module Type: DDR4 DIMM • Capacity: 32 GB • Quantity: 12 • Speed: 2666 MT/s • Second Module Type: DCPMM/PMEMs • Capacity: 256 GB • Quantity: 8 • Speed: 2666 MT/s • DCPMM Modes: Memory/App Direct/Mixed Memory • Advanced ECC (Error Correcting Code) type or similar technology • Registered ECC DIMMs	• Speed: Minimum 2933 MT/s) Reason: RFP asks for latest processors but mentioned 2 generation old memory frequency. 3200 MT/s is the latest memory frequency. However, to accommodate both Intel and AMD with a fair chance, please include 2933 MHz.	Kindly refer Amendment-1 to this RFP.
269	44	Annexure 7	Functional and Technical Specifications /Requirements for Supply, Installation, Configuration, Implementation and Maintenance of Servers and Other items in Canara Bank	C. Technical Specifications of Server (5 Nos. at DC and 5 Nos. at DRC): 12. NVMe Raid Controller • Interface: 8x PCIe 3.0 x16 • Port/Channel: 8x Internal U.2 NVMe port • Data Transfer Rate: 8GT per lane / 8Gbps per lane • RAID 0, 1, 10 & Single-Disk • Cooling: Heat sink with intelligent Fan • Management: Browser based Tool, CLI ((Command Line Interface-scriptable configuration tool)and API Package • SMTP Email Alert Notification • Alarm Buzzer • Storage Health Inspector • NVMe SMART status • Automatic and configurable RAID Rebuilding Priority • Auto resume incomplete rebuilding after • Single-RAID or Multi-RAID Arrays per Controller • Cross-Sync RAID Solution Across Controllers	• Key Protection Technology (KPT) or equivalent Reason: KPT is a Intel specific terminology. Upto 509 Keys can preserved by AMD EPYC processors internally.	Kindly refer Amendment-1 to this RFP.



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270	44	<u>Annexure 7</u>	Functional and Technical Specifications /Requirements for Supply, Installation, Configuration, Implementation and Maintenance of Servers and Other items in Canara Bank	C. Technical Specifications of Server (5 Nos. at DC and 5 Nos. at DRC): 13. NVMe SSD <ul style="list-style-type: none"> • Data Center SSD for Enterprise • Interface: PCIe NVMe Gen3 x4 • Capacity: 3.84 TB SSD or higher capacity • No of Disks: 8x U.2 NVMe SSD's • Form Factor: low profile • Service: Hot swappable • Throughput Sequential Read/Write: 3GBs/2.5GBs or more • IOPS 4K Read/Write: 500K/200K or more • Latency: read/write: <300 µs / <1 ms or less • Power Loss Protection • Static & Dynamic Wear Levelling • Reliability tracking, usage statistics, Wear Leveling, temperature, Life • Endurance: 6KTBW (1 DWPD/5yrs) or more (Replacement warranty if endurance level is less than 95%). 	Request the bank to provide the details of nvme drive type.Nvme capacity would be either 3.2 or 6.4 TB.	Kindly refer Amendment-1 to this RFP.
271	44	<u>Annexure 7</u>	Functional and Technical Specifications /Requirements for Supply, Installation, Configuration, Implementation and Maintenance of Servers and Other items in Canara Bank	C. Technical Specifications of Server (5 Nos. at DC and 5 Nos. at DRC): 15. FC HBA Dual Port 10GB FC HBA PCIe with Supported transceivers and 2 Nos of minimum 30 Meter OM3 FC cable for SAN Connectivity to existing SAN Switches & Storage	Suitable Intel Main Board or AMD equivalent	Kindly refer Amendment-1 to this RFP.
272	44	<u>Annexure 7</u>	Functional and Technical Specifications /Requirements for Supply, Installation, Configuration, Implementation and Maintenance of Servers and Other items in Canara Bank	C. Technical Specifications of Server (5 Nos. at DC and 5 Nos. at DRC): 20. Power Supply Server should be provided with Redundant hot swappable Power supplies of maximum 750W. The Power supplies should be FCC class A certified and power cables to be IEC C13-14.	• Virtualization Technology (Intel VT-x or AMD-V)	Kindly refer Amendment-1 to this RFP.



Sl. No.	Page No.	Section	RFP Clause	Clause/Technical Specification	Bidder's Query	Bank's Reply
273	44	<u>Annexure 7</u>	Functional and Technical Specifications /Requirements for Supply, Installation, Configuration, Implementation and Maintenance of Servers and Other items in Canara Bank	C. Technical Specifications of Server (5 Nos. at DC and 5 Nos. at DRC): 12. NVMe Raid Controller <ul style="list-style-type: none"> Interface: 8x PCIe 3.0 x16 Port/Channel: 8x Internal U.2 NVMe port Data Transfer Rate: 8GT per lane / 8Gbps per lane RAID 0, 1, 10 & Single-Disk Cooling: Heat sink with intelligent Fan Management: Browser based Tool, CLI ((Command Line Interface-scriptable configuration tool)and API Package SMTP Email Alert Notification Alarm Buzzer Storage Health Inspector NVMe SMART status Automatic and configurable RAID Rebuilding Priority Auto resume incomplete rebuilding after Single-RAID or Multi-RAID Arrays per Controller Cross-Sync RAID Solution Across Controllers 	<ul style="list-style-type: none"> Trusted Execution Technology or equivalent <p>Reason: TXT is a Intel Specific terminology. AMD EPYC has inbuilt security modute which takes of the trusted execution without any change to user code.</p>	Kindly refer Amendment-1 to this RFP.
274	44	<u>Annexure 7</u>	Functional and Technical Specifications /Requirements for Supply, Installation, Configuration, Implementation and Maintenance of Servers and Other items in Canara Bank	C. Technical Specifications of Server (5 Nos. at DC and 5 Nos. at DRC): 13. NVMe SSD <ul style="list-style-type: none"> Data Center SSD for Enterprise Interface: PCIe NVMe Gen3 x4 Capacity: 3.84 TB SSD or higher capacity No of Disks: 8x U.2 NVMe SSD's Form Factor: low profile Service: Hot swappable Throughput Sequential Read/Write: 3GBs/2.5GBs or more IOPS 4K Read/Write: 500K/200K or more Latency: read/write: <300 µs / <1 ms or less Power Loss Protection Static & Dynamic Wear Levelling Reliability tracking, usage statistics, Wear Leveling, temperature, Life Endurance: 6KTBW (1 DWPD/5yrs) or more (Replacement warranty if endurance level is less than 95%). 	Request the bank to provide the details of nvme drive type. Nvme capacity would be either 3.2 or 6.4 TB.	Kindly refer Amendment-1 to this RFP.
275	44	<u>Annexure 7</u>	Functional and Technical Specifications /Requirements for Supply, Installation, Configuration, Implementation and Maintenance of Servers and Other items in Canara Bank	C. Technical Specifications of Server (5 Nos. at DC and 5 Nos. at DRC): 15. FC HBA Dual Port 10GB FC HBA PCIe with Supported transceivers and 2 Nos of minimum 30 Meter OM3 FC cable for SAN Connectivity to existing SAN Switches & Storage	<ul style="list-style-type: none"> Volume Management device (VMD) or equivalent <p>Reason: VMD is a functionality to do RAID on Disk using CPU. This functionality is accomplished by having dedicated RAID controller. VMD has got over head on CPU which impacts computation.</p>	Kindly refer Amendment-1 to this RFP.



Sl. No.	Page No.	Section	RFP Clause	Clause/Technical Specification	Bidder's Query	Bank's Reply
276	44	<u>Annexure 7</u>	Functional and Technical Specifications /Requirements for Supply, Installation, Configuration, Implementation and Maintenance of Servers and Other items in Canara Bank	C. Technical Specifications of Server (5 Nos. at DC and 5 Nos. at DRC): 20. Power Supply Server should be provided with Redundant hot swappable Power supplies of maximum 750W. The Power supplies should be FCC class A certified and power cables to be IEC C13-14.	- Node Manager 4.0 or equivalent power management utility Reason: Node Manager 4.0 is a specific term used by Intel. AMD EPYC has got it's own embedded power management controller and exposes necessary APIs to the BMC controller for effective power management.	Kindly refer Amendment-1 to this RFP.
277	44	<u>Annexure 7</u>	Functional and Technical Specifications /Requirements for Supply, Installation, Configuration, Implementation and Maintenance of Servers and Other items in Canara Bank	C. Technical Specifications of Server (5 Nos. at DC and 5 Nos. at DRC): 12. NVMe Raid Controller • Interface: 8x PCIe 3.0 x16 • Port/Channel: 8x Internal U.2 NVMe port • Data Transfer Rate: 8GT per lane / 8Gbps per lane • RAID 0, 1, 10 & Single-Disk • Cooling: Heat sink with intelligent Fan • Management: Browser based Tool, CLI ((Command Line interface-scriptable configuration tool)and API Package • SMTP Email Alert Notification • Alarm Buzzer • Storage Health Inspector • NVMe SMART status • Automatic and configurable RAID Rebuilding Priority • Auto resume incomplete rebuilding after • Single-RAID or Multi-RAID Arrays per Controller • Cross-Sync RAID Solution Across Controllers	• Local Machine Check Exception (LMCE) or Machine Check Recovery (MCR) Reason: LMCE is an Intel Specific Terminology.	Kindly refer Amendment-1 to this RFP.
278	44	<u>Annexure 7</u>	Functional and Technical Specifications /Requirements for Supply, Installation, Configuration, Implementation and Maintenance of Servers and Other items in Canara Bank	C. Technical Specifications of Server (5 Nos. at DC and 5 Nos. at DRC): 13. NVMe SSD • Data Center SSD for Enterprise • Interface: PCIe NVMe Gen3 x4 • Capacity: 3.84 TB SSD or higher capacity • No of Disks: 8x U.2 NVMe SSD's • Form Factor: low profile • Service: Hot swappable • Throughput Sequential Read/Write: 3GBs/2.5GBs or more • IOPS 4K Read/Write: 500K/200K or more • Latency: read/write: <300 µs / <1 ms or less • Power Loss Protection • Static & Dynamic Wear Levelling • Reliability tracking, usage statistics, Wear Levelling, temperature, Life • Endurance: 6KTBW (1 DWPD/5yrs) or more (Replacement warranty if endurance level is less than 95%).	Request the bank to provide the details of nvme drive type. Nvme capacity would be either 3.2 or 6.4 TB. Or Why not lower disk drives and lower connectors can be cosidered instead of U.2?	Kindly refer Amendment-1 to this RFP.



Sl. No.	Page No.	Section	RFP Clause	Clause/Technical Specification	Bidder's Query	Bank's Reply
279	44	<u>Annexure 7</u>	Functional and Technical Specifications /Requirements for Supply, Installation, Configuration, Implementation and Maintenance of Servers and Other items in Canara Bank	C. Technical Specifications of Server (5 Nos. at DC and 5 Nos. at DRC): 14. Ethernet • Dual Port 1Gbase-T On-Board LOM with supported minimum 10 meter Cat6 UTP Cable • Dual Port 10GbE Base T LOM with Supported minimum 30 Meter Cat6 UTP Cable • Dedicate 1Gbase-T management port chassis card with minimum 10 meter Cat6 UTP Cable	Network card with 40Gig would be a good bet with 10gig backward compatibility	Kindly refer Amendment-1 to this RFP.
280	44	<u>Annexure 7</u>	Functional and Technical Specifications /Requirements for Supply, Installation, Configuration, Implementation and Maintenance of Servers and Other items in Canara Bank	C. Technical Specifications of Server (5 Nos. at DC and 5 Nos. at DRC): 15. FC HBA Dual Port 10GB FC HBA PCIe with Supported transceivers and 2 Nos of minimum 30 Meter OM3 FC cable for SAN Connectivity to existing SAN Switches & Storage	• Optane SSD & QLC 3D NAND SSD or equivalent better SSD Reason: Optane is an Intel Terminology and is limited to Intel Xeon processor based environment. With AMD EPYC we have got better technology with a broad portfolio of market partners manufacturing SSDs	Kindly refer Amendment-1 to this RFP.
281	44	<u>Annexure 7</u>	Functional and Technical Specifications /Requirements for Supply, Installation, Configuration, Implementation and Maintenance of Servers and Other items in Canara Bank	C. Technical Specifications of Server (5 Nos. at DC and 5 Nos. at DRC): 20. Power Supply Server should be provided with Redundant hot swappable Power supplies of maximum 750W. The Power supplies should be FCC class A certified and power cables to be IEC C13-14.	• Turbo boost Technology 20 or All core boost frequency Reason: Turbo boost Technology 20 is an Intel specific terminology.	Kindly refer Amendment-1 to this RFP.
282	44	<u>Annexure-7</u>	Functional and Technical Specifications /Requirements for Supply, Installation, Configuration, Implementation and Maintenance of Servers and Other items in Canara Bank	NVMe Raid Controller • Interface: 8x PCIe 3.0 x16 • Port/Channel: 8x Internal U.2 NVMe port • Data Transfer Rate: 8GT per lane / 8Gbps per lane • RAID 0, 1, 10 & Single-Disk • Cooling: Heat sink with intelligent Fan • Management: Browser based Tool, CLI ((Command Line Interface-scriptable configuration tool)and API Package • SMTP Email Alert Notification • Alarm Buzzer • Storage Health Inspector • NVMe SMART status • Automatic and configurable RAID Rebuilding Priority • Auto resume incomplete rebuilding after • Single-RAID or Multi-RAID Arrays per Controller • Cross-Sync RAID Solution Across Controllers	Please remove this clause and change it " RAID Controller with 2Gb Cache"	Kindly refer Amendment-1 to this RFP.



Sl. No.	Page No.	Section	RFP Clause	Clause/Technical Specification	Bidder's Query	Bank's Reply
283	44	<u>Annexure-7</u>	Functional and Technical Specifications /Requirements for Supply, Installation, Configuration, Implementation and Maintenance of Servers and Other items in Canara Bank	NVMe Raid Controller <ul style="list-style-type: none"> • Interface: 8x PCIe 3.0 x16 • Port/Channel: 8x Internal U.2 NVMe port • Data Transfer Rate: 8GT per lane / 8Gbps per lane • RAID 0, 1, 10 & Single-Disk • Cooling: Heat sink with intelligent Fan • Management: Browser based Tool, CLI ((Command Line Interface-scriptable configuration tool)and API Package • SMTP Email Alert Notification • Alarm Buzzer • Storage Health Inspector • NVMe SMART status • Automatic and configurable RAID Rebuilding Priority • Auto resume incomplete rebuilding after • Single-RAID or Multi-RAID Arrays per Controller • Cross-Sync RAID Solution Across Controllers 	Please remove this clause and change it " RAID Controller with 2Gb Cache"	Kindly refer Amendment-1 to this RFP.
284	44	<u>Annexure-7</u>	Functional and Technical Specifications /Requirements for Supply, Installation, Configuration, Implementation and Maintenance of Servers and Other items in Canara Bank	NVMe Raid Controller <ul style="list-style-type: none"> • Interface: 8x PCIe 3.0 x16 • Port/Channel: 8x Internal U.2 NVMe port • Data Transfer Rate: 8GT per lane / 8Gbps per lane • RAID 0, 1, 10 & Single-Disk • Cooling: Heat sink with intelligent Fan • Management: Browser based Tool, CLI ((Command Line Interface-scriptable configuration tool)and API Package • SMTP Email Alert Notification • Alarm Buzzer • Storage Health Inspector • NVMe SMART status • Automatic and configurable RAID Rebuilding Priority • Auto resume incomplete rebuilding after • Single-RAID or Multi-RAID Arrays per Controller • Cross-Sync RAID Solution Across Controllers 	Please remove this clause and change it " RAID Controller with 2Gb Cache"	Kindly refer Amendment-1 to this RFP.
285	44	<u>Annexure-7</u>	Functional and Technical Specifications /Requirements for Supply, Installation, Configuration, Implementation and Maintenance of Servers and Other Items in Canara Bank	NVMe Raid Controller <ul style="list-style-type: none"> • Interface: 8x PCIe 3.0 x16 • Port/Channel: 8x Internal U.2 NVMe port • Data Transfer Rate: 8GT per lane / 8Gbps per lane • RAID 0, 1, 10 & Single-Disk • Cooling: Heat sink with intelligent Fan • Management: Browser based Tool, CLI ((Command Line Interface-scriptable configuration tool)and API Package • SMTP Email Alert Notification • Alarm Buzzer • Storage Health Inspector • NVMe SMART status • Automatic and configurable RAID Rebuilding Priority • Auto resume incomplete rebuilding after • Single-RAID or Multi-RAID Arrays per Controller • Cross-Sync RAID Solution Across Controllers 	Please remove this clause and change it " RAID Controller with 2Gb Cache"	Kindly refer Amendment-1 to this RFP.



Sl. No.	Page No.	Section	RFP Clause	Clause/Technical Specification	Bidder's Query	Bank's Reply
286	45	<u>Annexure-7</u>	Functional and Technical Specifications /Requirements for Supply, Installation, Configuration, Implementation and Maintenance of Servers and Other items in Canara Bank	D. Technical Specifications of Software: Software/Operating System: 1. Microsoft Windows Server Standard Select Plus (2 Core Pack) Quantity: 592	Please change the licenses to Open License	Kindly refer Amendment-1 to this RFP.
287	46	<u>Annexure-8</u>	Scope of work	1. The scope of services and maintenance is to be provided for a period of 5 years from date of acceptance by the bank.(3 years warranty and 3 years AMC.)	The period of contract is 6 years therefore request the bank to change the following statement as below-"The scope of services and maintenance is to be provided for a period of 6 years from date of acceptance by the bank(3 years warranty and 3 years AMC)".	<u>This RFP clause is amended as under:</u> "1. The scope of the Services and Maintenance is to be provided for a period of Six years from the date of acceptance by the bank (i.e. 3 years warranty and 3 years ATS/AMC)."
288	46	<u>Annexure-8,SL No. 1</u>	Scope of work	1. The scope of services and maintenance is to be provided for a period of 5 years from date of acceptance by the bank.(3 years warranty and 3 years AMC.)	The period of contract is 6 years therefore request the bank to change the following statement as below-"The scope of services and maintenance is to be provided for a period of 6 years from date of acceptance by the bank(3 years warranty and 3 years AMC)".	<u>This RFP clause is amended as under:</u> "1. The scope of the Services and Maintenance is to be provided for a period of Six years from the date of acceptance by the bank (i.e. 3 years warranty and 3 years ATS/AMC)."
289	46	<u>Annexure-8,SL No. 1</u>	Scope of work	1. The scope of services and maintenance is to be provided for a period of 5 years from date of acceptance by the bank.(3 years warranty and 3 years AMC.)	The period of contract is 6 years therefore request the bank to change the following statement as below-"The scope of services and maintenance is to be provided for a period of 6 years from date of acceptance by the bank(3 years warranty and 3 years AMC)".	<u>This RFP clause is amended as under:</u> "1. The scope of the Services and Maintenance is to be provided for a period of Six years from the date of acceptance by the bank (i.e. 3 years warranty and 3 years ATS/AMC)."
290	46	<u>Annexure-8</u>	Scope of Work	2. During the warranty period and AMC period, the Bidder is bound to do all hardware spares replacement and upgrade/update of proposed solution to next or required version without extra cost to the Bank covering all parts & labour from the date of acceptance of the systems by the Bank at the respective locations i.e. on-site comprehensive warranty. The Bank, however, reserves the right to enter into Annual Maintenance Contract (AMC) agreement either location-wise or from a single centralized location.	I need more clarification- Bidder need to take over all responsibility under maintainace Like (CAMC) or only AMC we need to provide.	Bidder has to comply with the RFP Terms.
291	46	<u>Annexure-8</u>	Scope of Work	3. Bidder has to supply all hardware with redundant power supply only.	I need more clarification- Bidder need to take over all responsibility under maintainace Like (CAMC) or only AMC we need to provide.	Bidder has to comply with the RFP Terms.
292	46	<u>Annexure-8</u>	Scope of Work	4. The warranty of proposed solution will be applicable from the date of Solution acceptance given by Bank.	I need more clarification- Bidder need to take over all responsibility under maintainace Like (CAMC) or only AMC we need to provide.	Bidder has to comply with the RFP Terms.
293	46	<u>Annexure-8</u>	Scope of Work	1. The scope of services and maintenance is to be provided for a period of 5 years from date of acceptance by the bank.(3 years warranty and 3 years AMC.)	Please clarify on contract period - The scope of the Services and Maintenance is to be provided for a period of Five years from the date of acceptance by the bank (i.e. 3 years warranty and 3 years ATS/AMC).	<u>This RFP clause is amended as under:</u> "1. The scope of the Services and Maintenance is to be provided for a period of Six years from the date of acceptance by the bank (i.e. 3 years warranty and 3 years ATS/AMC)."
294	46	<u>Annexure-8</u>	Scope of Work	1. The scope of services and maintenance is to be provided for a period of 5 years from date of acceptance by the bank.(3 years warranty and 3 years AMC.)	Do bidder need to factor Onsite resource cost as well in the commercial bid format ?	Bidder has to comply with the RFP Terms.
295	48	<u>Annexure-13</u>	Manufacturer Authorisation Form	We hereby extend our full guarantee and warranty	Request the bank to remove the clause " full guarantee" from the MAF Clause as we are aware the servers assembled has different components and these components doesn't come with guarantee instead they have warranty attached against it therefore request the bank to change the clause as "We hereby extend our warranty".	Bidder has to comply with the RFP Terms.
296	48	<u>Annexure-13</u>	Manufacturer Authorisation Form	We also confirm that all the equipment offered are not "End of Life" and "End of Support" for a minimum of six year.	Request the bank to change the clause as "We also confirm that all the equipment offered will not be End of Life in the next 1 year and End of Support will be for a minimum of six years The changes is required as any product launched or available in the market can give a commitment on EOL only for one year.	Bidder has to comply with the RFP Terms.

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297	48	<u>Annexure-13</u>	Manufacturer Authorisation Form	We hereby extend our full guarantee and warranty	Request the bank to remove the clause "full guarantee" from the MAF Clause as we are aware the servers assembled has different components and these components doesn't come with guarantee instead they have warranty attached against it therefore request the bank to change the clause as "We hereby extend our warranty".	Bidder has to comply with the RFP Terms.
298	48	<u>Annexure-13</u>	Manufacturer Authorisation Form	We also confirm that all the equipment offered are not "End of Life" and "End of Support" for a minimum of six year.	Request the bank to change the clause as "We also confirm that all the equipment offered will not be End of Life in the next 1 year and End of Support will be for a minimum of six years" The changes is required as any product launched or available in the market can give a commitment on EOL only for one year.	Bidder has to comply with the RFP Terms.
299	48	<u>Annexure-13</u>	Manufacturer Authorisation Form	We hereby extend our full guarantee and warranty	Request the bank to remove the clause "full guarantee" from the MAF Clause as we are aware the servers assembled has different components and these components doesn't come with guarantee instead they have warranty attached against it therefore request the bank to change the clause as "We hereby extend our warranty".	Bidder has to comply with the RFP Terms.
300	48	<u>Annexure-13</u>	Manufacturer Authorisation Form	We also confirm that all the equipment offered are not "End of Life" and "End of Support" for a minimum of six year.	Request the bank to change the clause as "We also confirm that all the equipment offered will not be End of Life in the next 1 year and End of Support will be for a minimum of six years" The changes is required as any product launched or available in the market can give a commitment on EOL only for one year.	Bidder has to comply with the RFP Terms.
301	50	<u>Annexure-14</u> BDM	Table B Price details of Operating Systems Software	Item Details Microsoft Windows server standard select Plus (2 Core Pack)	Request Bank to clarify the number of Microsoft license we have to quote under Annexure-14 Table B. Kindly clarify if bidder has to quote for software Assurance for Microsoft Licenses. If yes then please confirm for the number of years.	Kindly refer Amendment-1 to this RFP.
302	50	<u>Annexure-14</u>	Bill of Material	Table-B Price details of Operating Systems Software: Item Details: Microsoft Windows Server Standard Select Plus (2 Core Pack)	1. Windows Server OS licenses are require with Software Assurance or without Software Assurance ? 2. What type of support require for Windows Server OS ?	Bidder has to comply with the RFP Terms.
303	19-22	<u>C. DELIVERABLES & SERVICE LEVEL AGREEMENTS (SLAs)</u>	DELIVERABLES & SERVICE LEVEL AGREEMENTS (SLAs)	8. Support 9. Software, Drivers and Manuals 10. Warranty 11. Scope Involved During Warranty and AMC/ATS Period (if contracted) 12. Annual Maintenance Contract (AMC) / Annual Technical Support (ATS) (if contracted) 13. Mean Time Between Failures (MTBF)	Bank to kindly confirm that warranty, support, AMC/ATS conditions in respect of products/software supplied will be as per the OEM/OSD warranty terms and conditions and Bidder being an authorized reseller, will pass on such warranties "as-is", to the Bank."	Bidder has to comply with the RFP Terms.
304	NA	General	NA	NA	Please confirm the consortium is allowed?	Kindly refer Clause no.7 under Section B- Introduction for details. Bidder has to comply with the RFP terms.



Sl. No.	Page No.	Section	RFP Clause	Clause/Technical Specification	Bidder's Query	Bank's Reply
305	NA	Appendix I	Appendix I	Integrity pact	<p>Integrity Pact</p> <p>We agree to execute the Integrity Pact given by Canara Bank, provided that there is no Fall Clause in it. Please note that prices quoted are based on several factors, including quantity, location of delivery, dollar rates, discounts received from OEMs and other contractual risks. For all practical purposes, we request deletion of the Fall Clause from the Integrity Pact.</p> <p>We also wish to bring to your notice, that by way of Office Order dated 4/12/2007, the Central Vigilance Commission (CVC) even circulated copy of an Integrity Pact, drafted by SAIL and vetted by the Additional Solicitor General, for reference of individual organizations. The same does not contain any Fall Clause.</p> <p>Additionally, CVC issued a Circular dated 13.01.2017, formulating standard operating procedure for adoption of Integrity Pact and the same does not include Fall Clause as an essential ingredient of the Pact.</p> <p>Please refer to the enclosed Office Order and Circular, issued by the Central Vigilance Commission, for your information.</p>	Bidder has to comply with the RFP Terms.
306					We are assuming that there is no data migration	Bidder has to comply with the RFP Terms.

Date: 06/10/2020
Place: Bengaluru


Deputy General Manager
9/2

