

Corrigendum-9 to GeM Bid ref. no GEM/2024/B/4915191 dated 04/05/2024 for Selection of vendor for Supply, Installation, Configuration, Implementation and Maintenance of 500 Nos. of Servers and other IT Infra Components in Canara Bank.

It is decided to amend the following in respect of the above RFP:

a. GeM bid document (Bid End date/ Bid Opening Date, Page no. 1 of 8):

Description	Existing details	Amended details
Bid End Date/Time	25/07/2024, 15:00:00	<u>26/07/2024</u> , 15:00:00
Bid opening Date/Time	25/07/2024, 15:30:00	<u>26/07/2024</u> , 15:30:00

b.

Sl. No	Section/Annexure/Appendix of GeM Bid	Clause No.	Existing Clause	Amended Clause
1.	Annexure-9 Technical Specifications Table-H Storage Technical Specifications: (Enterprise Block Storage 2.0PB Usable Space: DC -2, DRC -2)	11. Scalability	Each storage up to 4PB (Scale UP) and 4 Controllers (Scale Out) DIP (data in-place) upgrade capability. All disks should be accessible to the corresponding node/controller pairs within the storage/array.	Each storage up to 4PB (Scale UP) and 4 Controllers (Scale Out) DIP (data in-place) upgrade capability. <u>All disks should be accessible to all the nodes/controllers within the storage array.</u>

All the other instructions and terms & conditions of the above RFP shall remain unchanged.

Please take note of the above amendments while submitting your response to the subject RFP

Date: 19/07/2024

Place: Bengaluru

**-Sd-
Deputy General Manager**

Corrigendum-8 to GeM Bid ref. no GEM/2024/B/4915191 dated 04/05/2024 for Selection of vendor for Supply, Installation, Configuration, Implementation and Maintenance of 500 Nos. of Servers and other IT Infra Components in Canara Bank.

It is decided to amend the following in respect of the above RFP:

b. GeM bid document (Bid End date/ Bid Opening Date, Page no. 1 of 8):

Description	Existing details	Amended details
Bid End Date/Time	15/07/2024, 15:00:00	<u>25/07/2024</u> , 15:00:00
Bid opening Date/Time	15/07/2024, 15:30:00	<u>25/07/2024</u> , 15:30:00

b.

Sl. No	Section/Annexure/Appendix of GeM Bid	Clause No.	Existing Clause	Amended Clause
1.	GeM bid document GEM/2024/B/4915191 dated 04/05/2024	EMD Detail	EMD Amount- Rs.7,50,00,000/-	EMD Amount- <u>Rs.5,00,00,000/-</u>
2.	Annexure-2 Pre-Qualification Criteria	Sl.no 6.	Pre-Qualification Criteria: The bidder should have yearly average turnover of 300 Crores in India for the last three financial years 2020-2021, 2021-2022, 2022-2023 from their Indian operation as per the audited Financial Statements. This must be the individual company turnover and not of any group of companies.	Pre-Qualification Criteria: The bidder should have yearly average turnover of <u>250</u> Crores in India for the last three financial years 2020-2021, 2021-2022, 2022-2023 from their Indian operation as per the audited Financial Statements. This must be the individual company turnover and not of any group of companies.
3.	Annexure-9 Technical Specifications Table-G Storage Technical Specifications: (Object Storage 2.5PB Usable Space: DC -1, DRC -1)	27. Remote Replication	2-way replication. (It should support both synchronous and Asynchronous replication without any data loss)	<u>2-way replication. (It should support Asynchronous replication without any data loss)</u>
4.	Annexure-9 Technical Specifications Table-G	34. Multi-cloud	1. Offered storage shall provide the following features:	<u>1. Offered storage shall provide the following features:</u>

Sl. No	Section/Annexure/Appendix of GeM Bid	Clause No.	Existing Clause	Amended Clause
1.	GeM bid document GEM/2024/B/4915191 dated 04/05/2024	EMD Detail	EMD Amount- Rs.7,50,00,000/-	EMD Amount- <u>Rs.5,00,00,000/-</u>
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	Storage Technical Specifications: (Object Storage 2.5PB Usable Space: DC -1, DRC -1)		• Shall Support writing data to any Cloud (Amazon S3, Google Cloud Storage, Microsoft Azure, Wasabi) via a single S3 API. • Shall have Open-Source interface allows developers to quickly test compatibility. • Shall Preserves native format of the data on any Cloud for providing the ability to read data directly on the public Clouds. • Shall support Replicating one to many so that a given bucket can be replicated/copied to several private and public Cloud targets. • Shall support Lifecycle data to any Cloud for automatic transition and expiration of data based on criteria. • Shall have GUI Web	• <u>Shall Support writing data to any Cloud (Amazon S3, Google Cloud Storage, Microsoft Azure, Wasabi) via a single S3 API.</u> • <u>Shall have Open-Source interface allows developers to quickly test compatibility.</u> • <u>Shall Preserves native format of the data on any Cloud for providing the ability to read data directly on the public Clouds.</u> • <u>Shall support Replicating one to many so that a given bucket can be replicated/copied to several private and public Cloud targets.</u>

Sl. No	Section/Annexure/Appendix of GeM Bid	Clause No.	Existing Clause	Amended Clause
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			interface to manage multi-cloud environment. 2. In case vendor doesn't support above features natively then vendor shall provision the complete cloud automation suite in their bid and shall provide the complete documentation in the bid.	
5.	Annexure-9 Technical Specifications Table-H Storage Technical Specifications: (Enterprise Block Storage 2.0PB Usable Space: DC -2, DRC -2)	7. Memory & Cache	Minimum 512 GB Cache per controller, Cache should be dynamically allocated for reads and writes without any fixed allocation.	<u>Minimum 2 TB of Cache across storage.</u> Cache should be dynamically allocated for reads and writes without any fixed allocation.
6.	Annexure-9 Technical Specifications Table-H Storage Technical	31. Capacity Efficiency features	Offered storage array should support thin provisioning It should also support inline data reduction	Offered storage array should support thin provisioning It should also support inline data reduction

Sl. No	Section/Annexure/Appendix of GeM Bid	Clause No.	Existing Clause	Amended Clause
1.	GeM bid document GEM/2024/B/4915191 dated 04/05/2024	EMD Detail	EMD Amount- Rs.7,50,00,000/-	EMD Amount- <u>Rs.5,00,00,000/-</u>
2.	Annexure-2 Pre-Qualification Criteria	Sl.no 6.	Pre-Qualification Criteria: The bidder should have yearly average turnover of 300 Crores in India for the last three financial years 2020-2021, 2021-2022, 2022-2023 from their Indian operation as per the audited Financial Statements. This must be the individual company turnover and not of any group of companies.	Pre-Qualification Criteria: The bidder should have yearly average turnover of <u>250</u> Crores in India for the last three financial years 2020-2021, 2021-2022, 2022-2023 from their Indian operation as per the audited Financial Statements. This must be the individual company turnover and not of any group of companies.
	Specifications: (Enterprise Block Storage 2.0PB Usable Space: DC -2, DRC -2)		(deduplication & compression) for maximizing flash storage capacity The array should offer the flexibility to enable / disable the data reduction on Global level or any other granular.	(deduplication & compression) for maximizing flash storage capacity <u>The array should offer the capability to enable the data reduction on Global level or any other granular.</u>
7.	Annexure-9 Technical Specifications Table-H Storage Technical Specifications: (Enterprise Block Storage 2.0PB Usable Space: DC -2, DRC -2)	11. Scalability	Each storage up to 4PB (Scale UP) and 4 Controllers (Scale Out) DIP (data in-place) upgrade capability. All disk should be accessible to all the controllers.	Each storage up to 4PB (Scale UP) and 4 Controllers (Scale Out) DIP (data in-place) upgrade capability. <u>All disks should be accessible to the corresponding node/controller pairs within the storage/array.</u>
8.	Annexure-16 Bill of Material	Entire Annexure	Existing Annexure	Amended Annexure-16 Bill of Material attached to this Corrigendum.

All the other instructions and terms & conditions of the above RFP shall remain unchanged.

Please take note of the above amendments while submitting your response to the subject RFP

Date: 15/07/2024

Place: Bengaluru

Deputy General Manager

Amended Annexure-16
Bill of Material

SUB: Supply, Installation, Configuration, Implementation and Maintenance of 500 Nos. of Servers and other IT Infra Components in Canara Bank

Ref: GEM/2024/B/4915191 dated 04/05/2024.

Notes

1. These details should be on the letter head of Bidder and each & every page should be signed by an Authorized Signatory with Name and Seal of the Company.
2. Please be guided by RFP terms, subsequent amendments and replies to pre-bid queries (if any) while quoting.
3. Do not change the structure of the format nor add any extra items.
4. No counter condition/assumption in response to commercial bid will be accepted. Bank has a right to reject such bid.

Table - A
Price details of Hardware Items

[Amount in Indian Rupees]

Sl. No.	Item Details	Unit Price with Three years Comprehensive onsite warranty and support (Excl. of Taxes)	Qty.	Total Cost Price with Three years Comprehensive onsite warranty and support (Excl. of Taxes)	Tax for Column c		Total Cost Price with Three years Comprehensive onsite warranty and support (Incl. of Taxes)
					% of Tax	Tax Amt.	
		a	b	c=a*b	d	e	f=c+e
1.	Servers With 64 core and approx. 2 TB Memory and Minimum 3.5 TB SSD usable space Local Disk with RAID 10 and minimum 900GB SSD usable space local Disk with RAID1 as mentioned in Tech Spec (Amended Annexure-9)		80				

Sl. No.	Item Details	Unit Price with Three years Comprehensive onsite warranty and support (Excl. of Taxes)	Qty.	Total Cost Price with Three years Comprehensive onsite warranty and support (Excl. of Taxes)	Tax for Column c		Total Cost Price with Three years Comprehensive onsite warranty and support (Incl. of Taxes)
		a		c=a*b	% of Tax	Tax Amt.	f=c+e
2.	Servers With 64 core and 512 GB Memory and 3.5 TB SSD usable space Local Disk with RAID 10 as and minimum 900GB SSD usable space local Disk with RAID1 as mentioned in Tech Spec (Amended Annexure-9)		28				
3.	Servers With 32 core and 1 TB Memory and 3.5 TB SSD usable space Local Disk with RAID 10 and minimum 900GB SSD usable sace local Disk with RAID1 as mentioned in Tech Spec (Amended Annexure-9)		100				
4.	Servers With 32 core and 256GB Memory and 3.5 TB SSD Local Disk with RAID 10 and minimum 900GB SSD usable space local Disk with RAID1 as mentioned in Tech Spec (Amended Annexure-9)		54				
5.	Servers with 16 core and 512GB Memory and 3.5 TB SSD usable space Local Disk with RAID 10 and minimum 900GB SSD usable space local Disk with RAID1 as mentioned in Tech Spec (Amended Annexure-9)		226				

Sl. No.	Item Details	Unit Price with Three years Comprehensive onsite warranty and support (Excl. of Taxes)	Qty.	Total Cost Price with Three years Comprehensive onsite warranty and support (Excl. of Taxes)	Tax for Column c		Total Cost Price with Three years Comprehensive onsite warranty and support (Incl. of Taxes)
		a		c=a*b	% of Tax	Tax Amt.	f=c+e
6.	Servers With 16 core and 256GB Memory and 3.5 TB SSD usable space Local Disk with RAID 10 and minimum 900GB SSD usable space local Disk with RAID1 as mentioned in Tech Spec (Amended Annexure-9)		4				
7.	Servers With 32 core and 1 TB Memory and 7.5 TB NVME SSD usable Local Disk with RAID 10 and minimum 900GB SSD usable space local Disk with RAID1 as mentioned in Tech Spec (Amended Annexure-9)		4				
8.	Servers With 32 core and 1 TB Memory and 34 TB NVME SSD usable Local Disk with RAID 10 and minimum 900GB SSD usable space local Disk with RAID1 as mentioned in Tech Spec (Amended Annexure-9)		4				
9.	Server Rack for placing Servers, storage, Library and SAN and Network switches and as per Technical Specification (Amended Annexure-9)		50				

Sl. No.	Item Details	Unit Price with Three years Comprehensive onsite warranty and support (Excl. of Taxes)	Qty.	Total Cost Price with Three years Comprehensive onsite warranty and support (Excl. of Taxes)	Tax for Column c		Total Cost Price with Three years Comprehensive onsite warranty and support (Incl. of Taxes)
		a		c=a*b	% of Tax	Tax Amt.	f=c+e
10.	PDU for the supplied RACKS and as per Technical Specification (Amended Annexure-9)		100				
11.	SAN Director (48*3=144 FC SAN ports with 16&32Gbps SFP) and as per Technical Specification (Amended Annexure-9)		4				
12.	SAN Switches (32G SAN with 96 port) Switch and as per Technical Specification (Amended Annexure-9)		8				
13.	SAN Switches (32G SAN with 48 port) Switch and as per Technical Specification (Amended Annexure-9)		2				
14.	Object Storage of 2.5PB Usable Space and as per Technical Specification (Amended Annexure-9)		2				
15.	Enterprise Block Storage of 2.0PB Usable Space and as per Technical Specification (Amended Annexure-9)		4				
16.	Tape Library with 40 Tape Drives and 250 Free slots and as per Technical Specification (Amended Annexure-9)		2				

Sl. No.	Item Details	Unit Price with Three years Comprehensive onsite warranty and support (Excl. of Taxes)	Qty.	Total Cost Price with Three years Comprehensive onsite warranty and support (Excl. of Taxes)	Tax for Column c		Total Cost Price with Three years Comprehensive onsite warranty and support (Incl. of Taxes)
		a		c=a*b	% of Tax	Tax Amt.	f=c+e
17.	LTO-9 Stand Alone Tape Drive and as per Technical Specification (Amended Annexure-9)		2				
18.	48 Gig Ethernet ports and 2 x 10G SFP+ for uplink on single chassis TOR Switch as per Technical Specification (Amended Annexure-9)		14				
19.	48 fixed 10-G BASE-T ports and 6 fixed 40/100-Gbps QSFP+ ports for uplink with fully populated transceivers connectivity on single chassis TOR switch as per Technical Specification (Amended Annexure-9)		24				
20.	48 x 25-Gbps fiber downlink ports and 6 x 100-Gbps Quad Small Form-Factor Pluggable 28 (QSFP28) uplink ports with fully populated transceivers on single chassis TOR Switch as per Technical Specification (Amended Annexure-9)		4				
21.	Distribution Switches in High availability with required capacity to connect all supplied access switches with dual uplink		8				

Sl. No.	Item Details	Unit Price with Three years Comprehensive onsite warranty and support (Excl. of Taxes)	Qty.	Total Cost Price with Three years Comprehensive onsite warranty and support (Excl. of Taxes)	Tax for Column c		Total Cost Price with Three years Comprehensive onsite warranty and support (Incl. of Taxes)
		a		c=a*b	% of Tax	Tax Amt.	f=c+e
	of 10/40/100 Gbps in active-active mode for redundancy and load sharing as per Technical Specification (Amended Annexure-9)						
22.	Total Cost for Hardware (Sum of Sl. No. 1 to 21)						

Table - B
Price details of Software/License Items (Perpetual)

[Amount in Indian Rupees]

Sl. No.	Item Details	Unit Cost with lifetime support (Excl. of Tax)	Qty.	Total Cost with lifetime support (Excl. of Tax)	Tax for Column c		Total Cost with lifetime support (Incl. of Tax)
		a		c=a*b	% of Tax	Tax Amt.	f=c+e
1.	Windows 2022 Data Centre Edition 16 Corepack with standard support		160				
2.	Windows 2022 Standard Centre Edition 16 Core pack with standard support		187				
3.	Microsoft SQL 2022 standard edition two core pack with standard support		156				

Sl. No.	Item Details	Unit Cost with first year support (Excl. of Tax)	Qty.	Total Cost with first year support (Excl. of Tax)	Tax for Column c		Total Cost with first year support (Incl. of Tax)
		a	b	c=a*b	% of Tax d	Tax Amt. e	f=c+e
4.	IBM WebSphere ND 9.5 PVU.		17920				
5.	Total Cost for Software/Licenses (Sum of Sl. No. 1 to 4)						

Table - C
Price details of Software/License Items (Subscription based Licenses)

[Amount in Indian Rupees]

Sl. No.	Item Details	Unit Price with support for 5 Years (Excl. of Tax)	Qty.	Total Cost with support for 5 Years (Excl. of Tax)	Tax for Column c		Total Cost with support for 5 Years (Incl. of Tax)
		a	B	c=a*b	% of Tax d	Tax Amt. e	f=c+e
1.	RHEL 9 Virtual DataCentre with premium support		20				
2.	RHEL 9 with premium support		150				
3.	RHEL 9 High Availability with premium support - X86 machines		30				
4.	RedHat OpenShift Container Platform Plus- RHCOS latest version subscription with premium support		3				
5.	RedHat OpenShift Container Platform Plus- RHCOS latest version subscription with standard support		3				
6.	Apache Tomcat Enterprise Edition with support - instance base		5				
7.	Managed File Transfer Solution core based		16				

8.	File Sync Software instance base with support		50				
9.	Backup Software instance based with support		500				
10.	Jboss Enterprise Application Platform (16 core Pack) with premium support		2				
11.	Jboss Enterprise Application Platform (16 core Pack) with standard support		1				
12.	Jboss web server (16 core Pack) with premium support		2				
13.	Jboss web server (16 core Pack) with standard support		1				
14.	Total Cost (Sum of Sl. No. 1 to 13)						

Table - D
Price details of Linear Tape Open Cartridges (5000 nos.)

[Amount in Indian Rupees]

Sl. No.	Requirement Details	Unit Price (Excl. of Tax)	Quantity	Total Cost Price (Excl. of Tax)	Tax for Column C		Total Price (Incl. of Tax)
		a			% of Tax	Tax Amt.	
			b	c=a*b	d	e	f=c+e
1.	LTO-7 standard tapes with customized barcodes		200				
2.	LTO-8 standard tapes with customized barcodes		3800				
3.	LTO-9 standard tapes with customized barcodes		800				
4.	LTO-9 Cleaning Cartridges with customized barcodes		200				

5.	Total cost for 5000 Linear Tape Open Cartridges (Sum of Sl. No. 1 to 4)	

Table - E
AMC /ATS Cost for Hardware/Software/Licenses for 2 Years on post warranty

[Amount in Indian Rupees]

Sl. No.	Item Details	Cost for AMC for 2 years (Excl. of Tax)		Qty.	Total AMC Cost (Excl. of Tax)	Tax for Column d		Total AMC Cost (Incl. of Tax)
		4 th Year	5 th Year			% of Tax	Tax Amt.	
		a	b			C	d=(a+b)*c	
A.	Hardware							
1.	Servers With 64 core and approx. 2 TB Memory and Minimum 3.5 TB SSD usable space Local Disk with RAID 10 and minimum 900GB SSD usable space local Disk with RAID1 as mentioned in Tech Spec (Amended Annexure-9)			80				
2.	Servers With 64 core and 512 GB Memory and 3.5 TB SSD usable space Local Disk with RAID 10 and minimum 900GB SSD usable space local Disk with RAID1 as mentioned in Tech Spec (Amended Annexure-9)			28				

Sl. No.	Item Details	Cost for AMC for 2 years (Excl. of Tax)		Qty.	Total AMC Cost (Excl. of Tax)	Tax for Column d		Total AMC Cost (Incl. of Tax)
		4 th Year	5 th Year			% of Tax	Tax Amt.	
		a	b			e	f	
3.	Servers With 32 core and 1 TB Memory and 3.5 TB SSD usable space Local Disk with RAID 10 and minimum 900GB SSD usable space local Disk with RAID1 as mentioned in Tech Spec (Amended Annexure-9)			100				
4.	Servers with 16 core and 512GB Memory and 3.5 TB SSD usable space Local Disk with RAID 10 and minimum 900GB SSD usable space local Disk with RAID1 as mentioned in Tech Spec (Amended Annexure-9)			226				
5.	Servers With 32 core and 256GB Memory and 3.5 TB SSD Local Disk with RAID 10 and minimum 900GB SSD usable space local Disk with RAID1 as mentioned in Tech Spec (Amended Annexure-9)			54				

Sl. No.	Item Details	Cost for AMC for 2 years (Excl. of Tax)		Qty.	Total AMC Cost (Excl. of Tax)	Tax for Column d		Total AMC Cost (Incl. of Tax)
		4 th Year	5 th Year			% of Tax	Tax Amt.	
		a	b			e	f	
6.	Servers With 16 core and 256GB Memory and 3.5 TB SSD usable space Local Disk with RAID 10 and minimum 900GB SSD usable space local Disk with RAID1 as mentioned in Tech Spec (Amended Annexure-9)			4				
7.	Servers With 32 core and 1 TB Memory and 7.5 TB NVME SSD usable Local Disk with RAID 10 and minimum 900GB SSD usable space local Disk with RAID1 as mentioned in Tech Spec (Amended Annexure-9)			4				
8.	Servers With 32 core and 1 TB Memory and 34 TB NVME SSD usable Local Disk with RAID 10 and minimum 900GB SSD usable space local Disk with RAID1 as mentioned in Tech Spec (Amended Annexure-9)			4				
9.	Server Rack for placing Servers, storage, Library and SAN and Network switches and as per Technical Specification (Amended Annexure-9)			50				

Sl. No.	Item Details	Cost for AMC for 2 years (Excl. of Tax)		Qty.	Total AMC Cost (Excl. of Tax)	Tax for Column d		Total AMC Cost (Incl. of Tax)
		4 th Year	5 th Year			% of Tax	Tax Amt.	
		a	b			e	f	
10.	PDU for the supplied RACKS and as per Technical Specification (Amended Annexure-9)			100				
11.	SAN Director (48*3=144 FC SAN ports with 16*32Gbps SFP) and as per Technical Specification (Amended Annexure-9)			4				
12.	SAN Switches (32G SAN with 96 port) Switch and as per Technical Specification (Amended Annexure-9)			8				
13.	SAN Switches (32G SAN with 48 port) Switch and as per Technical Specification (Amended Annexure-9)			2				
14.	Object Storage of 2.5PB Usable Space and as per Technical Specification (Amended Annexure-9)			2				
15.	Enterprise Block Storage of 2.0PB Usable Space and as per Technical Specification (Amended Annexure-9)			4				

Sl. No.	Item Details	Cost for AMC for 2 years (Excl. of Tax)		Qty.	Total AMC Cost (Excl. of Tax)	Tax for Column d		Total AMC Cost (Incl. of Tax)
		4 th Year	5 th Year			% of Tax	Tax Amt.	
		a	b			e	f	
16.	Tape Library with 40 Tape Drives and 250 Free slots and as per Technical Specification (Amended Annexure-9)			2				
17.	LTO-9 Stand Alone Tape Drive and as per Technical Specification (Amended Annexure-9)			2				
18.	48 Gig Ethernet ports and 2 x 10G SFP+ for uplink on single chassis TOR Switch as per Technical Specification (Amended Annexure-9)			14				
19.	48 fixed 10-G BASE-T ports and 6 fixed 40/100-Gbps QSFP+ ports for uplink with fully populated transceivers connectivity on single chassis TOR switch as per Technical Specification (Amended Annexure-9)			24				

Sl. No.	Item Details	Cost for AMC for 2 years (Excl. of Tax)		Qty.	Total AMC Cost (Excl. of Tax)	Tax for Column d		Total AMC Cost (Incl. of Tax)
		4 th Year	5 th Year			% of Tax	Tax Amt.	
		a	b			e	f	
20.	48 x 25-Gbps fiber downlink ports and 6 x 100-Gbps Quad Small Form-Factor Pluggable 28 (QSFP28) uplink ports with fully populated transceivers on single chassis TOR Switch as per Technical Specification (Amended Annexure-9)			4				
21.	Distribution Switches in High availability with required capacity to connect all supplied access switches with dual uplink of 10/40/100 Gbps in active-active mode for redundancy and load sharing as per Technical Specification (Amended Annexure-9)			8				
B.	Software							
Sl. No.	Item Details	ATS cost for 4 years (Excl. of Tax)		Qty.	Total AMC Cost (Excl. of Tax)	Tax for Column c		Total AMC Cost (Incl. of Tax)
		a	b			% of Tax	Tax Amt.	
					c= (a*b)	d	e	f=c+e
22.	Support charge for IBM WebSphere ND 9.5 PVU			17920				
23.	Total Cost for AMC for Hardware/Software/Licenses (Sum of Sl. No. 1 to 22)							

Table - F
One-time Implementation charges

[Amount in Indian Rupees]

Sl. No.	Item Details		Unit Price (Excl. of Tax)	No. of Units	Total Price (Excl. of Tax)	Tax for Column c		Total Price (Incl. of Tax)
			a			% of Tax	Tax Amt.	
				b	c=a*b	d	e	f=c+e
1.	Servers Installation and Configurations with OS	Per Server		500				
2.	Managed file transfer solution Implementation	Per Site		2				
3.	Backup Software implementation	Per server		500				
4.	Jboss server implementation	Per Server		3				
5.	Apache Tomcate server implementation	Per Server		5				
6.	MSSQL Setup installation per server with cluster configuration (for 24 Servers - in 2 node cluster)	Per server		24				
7.	RHCOS Setup installation and configuration for three cluster (Three nodes in one Cluster)	Per Cluster		3				
8.	Installation of TOR switches	Per Switch		42				
9.	Installation of Distribution Switches	Per Switch		8				
10.	Implementation charges for SAN Director with ISL	Per Director		4				
11.	Implementation charges for SAN switch with ISL	Per Switch		10				
12.	Object Storage implementation Cost	Per storage		2				
13.	Block Storage Implementation Cost	Per storage		4				

Sl. No.	Item Details		Unit Price (Excl. of Tax)	No. of Units	Total Price (Excl. of Tax)	Tax for Column c		Total Price (Incl. of Tax)
			a			% of Tax	Tax Amt.	
				b	c=a*b	d	e	f=c+e
14.	Rack and PDU implementation	Per Rack		50				
15.	Tape Library implementation cost	Per Library		2				
16.	Total Cost for Optional Items (Sum of Sl. No. 1 to 15)							

Table - G (Optional)
Price details of Optional Items for 5 Years

[Amount in Indian Rupees]

Sl. No.	Item Details <u>(All items should be compatible with the proposed hardware of this project)</u>	Unit Price (Excl. of Tax)	Tax for Column a		Total Price (Incl. of Tax)
			% of Tax	Tax Amt.	
		a	b	C	d=a+c
1.	<u>One 1.92 TB SSD</u>				
2.	<u>One 960 GB SSD</u>				
3.	<u>One CPU of 8 core with 2.7Ghz or above and 22 MB L3 Cache or higher</u>				
4.	<u>One CPU of 16 core with 2.7Ghz or above and 32 MB L3 Cache or higher</u>				
5.	<u>One CPU of 32 core with 2.7Ghz or above and 32 MB L3 Cache or higher</u>				
6.	<u>One CPU of 64 core with 2 Ghz or above and 32 MB L3 Cache or higher</u>				
7.	<u>One Memory Stick of 32 GB DDR5 DIMM with Minimum 2933 MHz or higher</u>				
8.	<u>One Memory Stick of 64 GB DDR5 DIMM with Minimum 2933 MHz or higher</u>				
9.	<u>One Memory Stick of 96 GB DDR5 DIMM with Minimum 2933 MHz or higher</u>				
10.	<u>One Memory Stick of 128 GB DDR5 DIMM with Minimum 2933 MHz or higher</u>				
11.	Object Storage per TB Cost				

Sl. No.	Item Details <u>(All items should be compatible with the proposed hardware of this project)</u>	Unit Price (Excl. of Tax)	Tax for Column a		Total Price (Incl. of Tax)
			% of Tax	Tax Amt.	
		a	b	C	d=a+c
12.	Block Storage per TB Cost				
13.	Block Storage per controller cost				
14.	Object Storage per controller cost				
15.	One FC Card with minimum 1 number of 32 Gbps FC ports in each card				
16.	One Network Cards, each equipped with at least two 10-gigabit network ports				
17.	One Network Cards, each equipped with at least two 1-gigabit network ports				
18.	<u>San Director- One unit of 32G SFP Module</u>				
19.	<u>San Director- One unit of 64G SFP Module</u>				
20.	<u>San Switch- One unit of 32G SFP Module</u>				
21.	<u>San Switch- One unit of 64G SFP Module</u>				
22.	<u>San Switch- One unit of Long Wave 32G SFP Module</u>				
23.	<u>San Switch- One unit of Long Wave 64G SFP Module</u>				
24.	SAN Director per Blade Cost				
25.	SAN Director Blade Cost with fully populate SFP				
26.	CAT 6 UTP Copper Cable length of 3 mtrs				
27.	CAT 6 UTP Copper Cable length of 5 mtrs				
28.	CAT 6 UTP Copper Cable length of 7 mtrs				
29.	CAT 6 UTP Copper Cable length of 10 mtrs				
30.	CAT 6 UTP Copper Cable length of 15 mtrs				
31.	CAT 7 UTP Copper Cable length of 3 mtrs				
32.	CAT 7 UTP Copper Cable length of 5 mtrs				
33.	CAT 7 UTP Copper Cable length of 7 mtrs				

Sl. No.	Item Details <u>(All items should be compatible with the proposed hardware of this project)</u>	Unit Price (Excl. of Tax)	Tax for Column a		Total Price (Incl. of Tax)
			% of Tax	Tax Amt.	
		a	b	C	d=a+c
34.	CAT 7 UTP Copper Cable length of 10 mtrs				
35.	CAT 7 UTP Copper Cable length of 15 mtrs				
36.	CAT 7 UTP Copper Cable length of 25 mtrs				
37.	Fiber cables Cable length OM4 of 5 mtrs				
38.	Fiber cables Cable length OM4 of 10 mtrs				
39.	Fiber cables Cable length OM4 of 15 mtrs				
40.	Fiber cables Cable length OM4 of 20 mtrs				
41.	Fiber cables Cable length OM4 of 25 mtrs				
42.	Fiber cables Cable length OM4 of 30 mtrs				
43.	Total Cost for Optional Items (Sum of Sl. No. 1 to 42)				

The cost mentioned in column “a” of Table-F will be the fixed price for 5 years (i.e., Unit Price mentioned will be fixed for the entire contract period). Bank may procure the above items mentioned in Table-F with the same cost for the entire contract period.

The items brought during the contract period should be co-terminus with the base hardware.

Bank may issue Purchase order(s) to procure items mention in Table-G as per the necessary quantities as and when required by the Bank during the initial purchase or during the entire Contract Period. However, the bidder has to provide the optional items at the same cost mentioned in the Table-G.

Table - H
Total Cost of the Hardware, Software and optional items for 5 Years

[Amount in Indian Rupees]

Sl. No.	Requirement Details	Total Cost of the Hardware, Software and optional items for 5 Years (Incl. of Taxes)
1.	Total cost of Table-A (Price details of Hardware Items for three year warranty period)	

2.	Total cost of Table-B (Price details of Software/License Items (Perpetual))	
3.	Total cost of Table-C (Price details of Software/License Items (Subscription based))	
5.	Total cost of Table-D (Price details of Linear Tape Open Cartridges)	
6.	Total cost of Table-E (Two year contract for AMC /ATS Cost for Hardware/Software/Licenses)	
7.	Total cost of Table-F (One-time Implementation charges)	
8.	Total cost of Table-G (Price details of Optional Items for 5 Years)	
9.	Total Cost of Ownership for 5 Years (Sum of Sl. No. 1 to 8)	

Declaration:

- a. Bill of material is submitted on the letter head and is signed by an Authorized Signatory with Name and Seal of the Company.
- b. We confirm that we have gone through RFP clauses, subsequent amendments and replies to pre-bid queries (if any) and abide by the same.
- c. We have not changed the structure of the format nor added any extra items. We note that any such alternation will lead to rejection of Bid.
- d. We agree that no counter condition/assumption in response to commercial bid will be accepted by the Bank. Bank has a right to reject such bid.
- e. We are agreeable to the payment schedule as per “Payment Terms” of the RFP.

Date:

Place:

Authorized signatory

Name:

Designation:

Company seal:

Corrigendum-7 to GeM Bid ref. no GEM/2024/B/4915191 dated 04/05/2024 for Selection of vendor for Supply, Installation, Configuration, Implementation and Maintenance of 500 Nos. of Servers and other IT Infra Components in Canara Bank.

It is decided to amend the following in respect of the above RFP:

c. GeM bid document (Bid End date/ Bid Opening Date, Page no. 1 of 7):

Description	Existing details	Amended details
Bid End Date/Time	08/07/2024, 15:00:00	<u>15/07/2024</u> , 15:00:00
Bid opening Date/Time	08/07/2024, 15:30:00	<u>15/07/2024</u> , 15:30:00

b.

Sl. No	Section/Annexure/Appendix of GeM Bid	Clause No.	Existing Clause	Amended Clause
1.	Section C - Deliverable and Service Level Agreements	9. Warranty	9.2. The selected bidder has to provide comprehensive On-site warranty for Three (3) years for proposed Hardware from the date of installation of the Hardware, System Software, OS, licenses etc., supplied	9.2. The selected bidder has to provide comprehensive On-site warranty for Three (3) years for proposed <u>Hardware, software and other items from the date of project acceptance & Signoff.</u>
2.	Annexure-8 Scope of Work	Evaluation for Scope of Work for this project	Sl. No. 6. The warranty for the proposed hardware will start on the date when the operating system and any other provided software are installed, as mentioned in the Scope of Work for the specific hardware.	Sl. No. 6. The warranty for the proposed hardware will start <u>from the date of project acceptance & Signoff</u> , as mentioned in the Scope of Work for the specific hardware.
3.	Annexure-9 Technical Specifications	Entire Annexure	Existing Annexure	Amended Annexure-9 Technical Specifications attached to this Corrigendum.
4.	Annexure-16 Bill of Material	Entire Annexure	Existing Annexure	Amended Annexure-16 Bill of Material attached to this Corrigendum.

All the other instructions and terms & conditions of the above RFP shall remain unchanged.

Please take note of the above amendments while submitting your response to the subject RFP

Date: 05/07/2024

Place: Bengaluru

-Sd-

Deputy General Manager

Amended Annexure-9
Technical Specifications

(Should be submitted on Company's letter head with company seal and signature of the authorized person)

SUB: Supply, Installation, Configuration, Implementation and Maintenance of 500 Nos. of Servers and other IT Infra Components in Canara Bank.

Ref: GEM/2024/B/4915191 dated 04/05/2024.

Note:	
(a)	If the bidder feels that certain features offered are superior to what has been specified by the Bank, it shall be highlighted separately. Information regarding any modification required in the proposed solution to meet the intent of the specifications and state-of-the-art technology shall be provided. However, the Bank reserves the right to adopt the modifications /superior features suggested/ offered.
(b)	The bidder shall provide all other required equipments and/or services, whether or not explicitly mentioned in this RFP, to ensure the intent of specification, completeness, operability, maintainability and upgradability.
(c)	The selected bidder shall own the responsibility to demonstrate that the product offered are as per the specification/performance stipulated in this RFP and as committed by the bidder either at site or in bidder's work site without any extra cost to the Bank.

All points mentioned under are mandatory to comply and non-compliance to any of the point lead to disqualification of the bidder during evaluation.

Technical Specifications for 500 servers (287 DC and 213 DRC)

Table-A
Technical Specification - 80 servers (41 DC and 39 DRC)

Technical Details		Technical Specification - 80 servers (41 DC and 39 DRC)	Bidder's Compliance (Yes/No)
Sl. No.	Technical Factor	Description	
1	Make	Bidder to specify	
2	Model	Bidder to specify	
3	Power Factor	Bidder to specify	
4	Form Factor	1U / 2U	
5	Processor		
	Processor Architecture	CISC	
	Processor Make	Latest generation x86_64 bit architecture-based CPU's	
	Processor	2.7 GHz (gigahertz) or above	

	Socket	Minimum 2 populated sockets i.e., 32*2 =64 core	
	Cores per socket	32	
	<u>Cache per processor</u>	32 MB L3 Cache or higher	
	Cooling	Heat Sink	
	Platform Controller Hub & Main Board	Latest Chipset / System on Chip (SoC) design. Supporting x86_64 & Suitable server class Main Board or equivalent	
6	Memory		
	RAM Type	DDR5 DIMM or Higher	
	Ram Size	64G*32/96GB*22/128G*16= approx 2TB	
	Slot Count	Minimum 24 or higher.	
	Speed	Minimum 2933 MHz or higher (memory speed should be compatible with process speed to provide better performance)	
	Features	Advanced ECC (Error Correcting Code) type or similar technology	
7	SSD		
	<u>Types of interface for SSD</u>	<u>SATA / NVMe</u>	
	<u>Total Capacity for SSD</u>	<u>960GB * 2 SSD</u> <u>1.92TB * 4 SSD</u>	
	Slot Count	12 or higher, Minimum 6 free slots should be available for future upgrade	
	Usable Space	Minimum 900 GB approximately with 960GB*2SSD After RAID 1. Minimum 3.5 TB approximately with 1.92TB * 4SSD after RAID 10.	
8	RAID Controller		
	RAID Controller	Should support RAID 1, 5, 6, 10 or higher	
	RAID Battery	RAID 1, 5, 6, 10 or higher with 2GB or higher battery backed write cache	
	Cooling	Heat Sink	
	Alarm Buzzer	Alarm Buzzer or error indication alerts or equivalent	
	Storage Health Inspector	Storage Health Inspector or tools to monitor Storage/disk health	

	Features	Automatic and configurable RAID Rebuilding / Single-RAID or Multi-RAID Arrays per Controller	
9	SAN & Network		
	FC HBA CARD	Two FC Card with minimum 1 number of 32 Gbps FC ports in each card with Supported SFP+ transceivers (With NVME Capable)	
	FC Cables	2 Nos of minimum <u>20</u> Meter OM3/OM4 FC cables or higher for SAN Connectivity (FC HBA & transceivers should Support 16 Gbps & 32Gbps Switch)	
	<u>Network ports 1 Gbps</u>	<u>Four 1Gbps network ports: can be Base-T On-board or in separate NIC (Must be in two network cards with two 1Gbps ports in each card)</u>	
	<u>Network ports 10 Gbps</u>	<u>Four 10Gbps network ports: can be Base-T On-board or in separate NIC (Must be in two network cards with two 10 Gbps ports in each card)</u>	
	<u>Server Management port</u>	Dedicate One Port of 1GBps-management port chassis card.	
10	OS & Hypervisor Compatibility		
	Virtualization compatibility	All latest version of Microsoft-HyperV, VMware, Red Hat virtualization, Open shift virtualization and other industry standard hypervisors, Open Shift, Kubernetes	
	Windows Compatibility	2019/2022	
	RHEL Compatibility	8.x & 9.x & Higher versions	
	Other Latest Linux Flavours	Latest server operating versions of SUSE Linux, Ubuntu ,RHCOS/Redhat Open Shift Container Platform	
11	Power Supply	Redundant hot swappable power supply, with required power cables	
12	BIOS	UEFI (Unified Extensible Firmware Interface) based system and firmware that supports secure boot)	
13	Warranty And Support	3 Years onsite warranty+ 2 years AMC, On-Site Support Warranty including part	

		replacement/repairs within 6 hours of reporting, and Firmware support for updates, upgrades, patches, and bug fixes for supplied h/w from OEM 24 x 7 x 365 days. SSD drives should be covered for irrespective of read/writes on them. In case of Disk failure, the faulty disk will be maintained /destroyed / Degauss by Canara Bank. Proactive storage monitoring & support from OEM should be enabled. The proposed bidder will need to ensure support of product & change of components @ zero cost in case of any part becoming obsolete/EOL & EOS. Faulty Disks would not be retuned back to OEM/Vendor or faulty disks will be destroyed before returning.	
14	Port	3 USB <u>2.0</u> port or higher and 1 VGA Port or higher	
15	Serviceability	Light path diagnostic LED or equivalent visual alerts	
16	Security	Silicon root of trust, authenticated BIOS, signed firmware updates and BIOS Live Scanning for malicious firmware Secure Boot, Disk encryption, TPM 2.0 (Trusted Platform Module), Hardware root of trust, malicious code free design.	
17	PCI Slots	Minimum 6 -PCIe Gen4 or higher slots(Peripheral Component Interconnect Express)	
18	Remote Management	1) Management of hardware and software components, Power on/off, boot process, Management log, dedicated Management ports. Should able to integrate with industry wide KVM (Kernel-based Virtual Machine) solution. Monitoring fan, power supply, memory, CPU, RAID, NIC for failures.	



		Telemetry Streaming, Idle Server Detection. 2)Management software should provide Role Based Security through LDAP or Local and able to provide pre-failure alarms for CPU, Memory & HDD by SMTP.	
19	System Management Solution	1. The system management solution is required. The system management solution should collect system information (including impending component failure) from the device that generated the alert and sends the information securely to OEM to Support to troubleshoot the issue and provide an appropriate solution. 2. The system management solution should support browser based graphical remote console along with Virtual Power button, remote boot using USB/CD/DVD Drive. It should be capable of offering upgrade of software and patches from a remote client using Media/image/folder; It should support server power capping and historical reporting and should have support for multifactor authentication. 3. The system management solution should be provided: a. Firmware and configuration baselines for compliance monitoring and enable	

		automated updates on schedule. b. Scope based access control to limit Users to specific group of devices c. Bare-metal server deployment d. Power and thermal Monitoring, alarm, and automatically execute rules based remediation. e. Manage remote devices and control power	
20	Monitoring and Analytics	1. Offered servers shall have monitoring an analytics engine for proactive management. All required licenses for same shall be included in the offer. 2. Monitoring and analytics engine shall have the capability to provide the following: i. Health and system security monitoring and notification emails ii. Performance monitoring and anomaly detection iii. REST API for integrating data with automation, ticketing, and other tools iv. Visualize server telemetry including key performance, environmental, and power metrics	

		v. Displays health, inventory, alerts, performance, and warranty status	
21	Drivers & Accessories	Drivers for the compatible OS, Add on cards and other accessories to be Provided.	
22	FAN	Server should have redundant fully populated Hot swappable fans	

Table-B
Technical Specification - 28 servers (17 DC and 11 DRC)

Technical Details		Technical Specification - 28 servers (17 DC and 11 DRC)	Bidder's Compliance (Yes/No)
Sl. No.	Technical Factor	Description	
1	Make	Bidder to specify	
2	Model	Bidder to specify	
3	Power Factor	Bidder to specify	
4	Form Factor	1U / 2U	
5	Processor		
	Processor Architecture	CISC	
	Processor Make	Latest generation x86_64 bit architecture-based CPU's	
	Processor	2.7 GHz (gigahertz) or above	
	Socket	Minimum 2 populated sockets i.e., 32*2 =64 core	
	Cores per socket	32	
	<u>Cache per processor</u>	32 MB L3 Cache or higher	
	Cooling	Heat Sink	
	Platform Controller Hub & Main Board	Latest chipset/system on chip(SoC)design supporting x86_64& suitable server class main board or equivalent.	
6	Memory		
	RAM Type	DDR5 DIMM or Higher	

	Ram Size	64GB*8 = 512 GB	
	Slot Count	Minimum 24 or higher, Minimum 16 free memory slots should be available.	
	Speed	Minimum 2933 MHz or higher (memory speed should be compatible with process speed to provide better performance)	
	Features	Advanced ECC (Error Correcting Code) type or similar technology	
7	SSD		
	Types of interface for SSD	<u>SATA / NVMe</u>	
	<u>Total Capacity for SSD</u>	<u>960GB * 2 SSD</u> <u>1.92TB * 4 SSD</u>	
	Slot Count	12 or higher, Minimum 6 free slots should be available for future upgrade	
	Usable Space	Minimum <u>900</u> GB approximately with 960GB*2SSD After RAID 1. Minimum 3.5 TB approximately with 1.92TB * 4SSD after RAID 10.	
8	RAID Controller		
	RAID Controller	Should support RAID 1, 5, 6, 10 or higher	
	RAID Battery	RAID 1, 5, 6, 10 or higher with 2GB or higher battery backed write cache	
	Cooling	Heat Sink	
	Alarm Buzzer	Alarm Buzzer or error indication alerts or equivalent	
	Storage Health Inspector	Storage Health Inspector or tools to monitor Storage/disk health	
	Features	Automatic and configurable RAID Rebuilding / Single-RAID or Multi-RAID Arrays per Controller	
9	SAN & Network		
	FC HBA CARD	Two FC Card with minimum 1 number of 32 Gbps FC ports in each card with Supported	

		SFP+ transceivers (With NVME Capable)	
	FC Cables	2 Nos of minimum 20 Meter OM3/OM4 FC cables or higher for SAN Connectivity (FC HBA & transceivers should Support 16 Gbps & 32Gbps Switch)	
	<u>Network ports 1 Gbps</u>	<u>Four 1Gbps network ports: can be Base-T On-board or in sperate NIC (Must be in two network cards with two 1Gbps ports in each card)</u>	
	<u>Network ports 10 Gbps</u>	<u>Four 10Gbps network ports: can be Base-T On-board or in sperate NIC (Must be in two network cards with two 10 Gbps ports in each card)</u>	
	<u>Server Management port</u>	Dedicate One Port of 1GBps-management port chassis card.	
10	OS & Hypervisor Compatibility		
	Virtualization compatibility	All latest version of Microsoft-HyperV, VMware, Red Hat virtualization, Open shift virtualization and other industry standard hypervisors, Open Shift, Kubernetes	
	Windows Compatibility	2019/2022	
	RHEL Compatibility	8.x & 9.x & Higher versions	
	Other Latest Linux Flavours	Latest server operating versions of SUSE Linux, Ubuntu ,RHCOS/Redhat Open Shift Container Platform	
11	Power Supply	Redundant hot swappable power supply, with required power cables	
12	BIOS	UEFI (Unified Extensible Firmware Interface) based system and firmware that supports secure boot)	

13	Warranty And Support	3 Years onsite warranty+ 2 years AMC, On-Site Support Warranty including part replacement/repairs within 6 hours of reporting, and Firmware support for updates, upgrades, patches, and bug fixes for supplied h/w from OEM 24 x 7 x 365 days. SSD drives should be covered for irrespective of read/writes on them. In case of Disk failure, the faulty disk will be maintained /destroyed / Degauss by Canara Bank. Proactive storage monitoring & support from OEM should be enabled. The proposed bidder will need to ensure support of product & change of components @ zero cost in case of any part becoming obsolete/EOL & EOS. Faulty Disks would not be retuned back to OEM/Vendor or faulty disks will be destroyed before returning.	
14	Port	3 USB <u>2.0</u> port or higher and 1 VGA Port or higher	
15	Serviceability	Light path diagnostic LED or equivalent visual alerts	
16	Security	Secure Boot, Disk encryption, TPM 2.0 (Trusted Platform Module), Hardware root of trust, malicious code free design.	
17	PCI Slots	Minimum 6 --PCIe Gen4 or higher slots(Peripheral Component Interconnect Express)	
18	Remote Management	1) Management of hardware and software components, Power on/off, boot process, Management log, dedicated Management ports. Should able to integrate with industry wide KVM (Kernel-based Virtual Machine) solution.	

		Monitoring fan, power supply, memory, CPU, RAID, NIC for failures. Telemetry Streaming, Idle Server Detection. 2)Management software should provide Role Based Security through LDAP or Local and able to provide pre-failure alarms for CPU, Memory & HDD by SMTP.	
19	System Management Solution	1. The system management solution is required. The system management solution should collect system information (including impending component failure) from the device that generated the alert and sends the information securely to OEM to Support to troubleshoot the issue and provide an appropriate solution. 2. The system management solution should support browser based graphical remote console along with Virtual Power button, remote boot using USB/CD/DVD Drive. It should be capable of offering upgrade of software and patches from a remote client using Media/image/folder; It should support server power capping and historical reporting and should have support for multifactor authentication.	

		3. The system management solution should be provided: a. Firmware and configuration baselines for compliance monitoring and enable automated updates on schedule. b. Scope based access control to limit Users to specific group of devices c. Bare-metal server deployment d. Power and thermal Monitoring, alarm, and automatically execute rules based remediation. e. Manage remote devices and control power	
20	Monitoring and Analytics	1. Offered servers shall have monitoring an analytics engine for proactive management. All required licenses for same shall be included in the offer. 2. Monitoring and analytics engine shall have the capability to provide the following: i. Health and system security monitoring and notification emails	

		ii. Performance monitoring and anomaly detection iii. REST API for integrating data with automation, ticketing, and other tools iv. Visualize server telemetry including key performance, environmental, and power metrics Displays health, inventory, alerts, performance, and warranty status	
21	Drivers & Accessories	Drivers for the compatible OS, Add on cards and other accessories to be Provided.	
22	FAN	Server should have redundant fully populated Hot swappable fans	

Table-C
Technical Specification - 100 servers (60 DC and 40 DRC)

Technical Details		Technical Specification - 100 servers (60 DC and 40 DRC)	Bidder's Compliance (Yes/No)
Sl. No.	Technical Factor	Description	
1	Make	Bidder to specify	
2	Model	Bidder to specify	
3	Power Factor	Bidder to specify	
4	Form Factor	1U / 2U	
5	Processor		
	Processor Architecture	CISC	
	Processor Make	Latest generation x86_64 bit architecture-based CPU's	
	Processor	2.7 GHz (gigahertz) or above	
	Socket	Minimum 2 sockets i.e., 16*2=32 core	
	Cores per socket	16	
	<u>Cache per processor</u>	32 MB L3 Cache or higher	

	Cooling	Heat Sink	
	Platform Controller Hub & Main Board	Latest chipset/System on chip (SoC) design supporting x86_64 & suitable server class main board or equivalent.	
6	Memory		
	RAM Type	DDR5 DIMM or Higher	
	Ram Size	64GB*16 = 1024 GB	
	Slot Count	Minimum 24 or higher, Minimum 8 free memory slots should be available.	
	Speed	Minimum 2933 MHz or higher (memory speed should be compatible with process speed to provide better performance)	
	Features	Advanced ECC (Error Correcting Code) type or similar technology	
7	SSD		
	Types of interface for SSD	<u>SATA / NVMe</u>	
	<u>Total Capacity for SSD</u>	<u>960GB * 2 SSD</u> <u>1.92TB * 4 SSD</u>	
	Slot Count	12 or higher, Minimum 6 free slots should be available for future upgrade	
	Usable Space	Minimum <u>900</u> GB approximately with 960GB*2SSD After RAID 1. Minimum 3.5 TB approximately with 1.92TB * 4SSD after RAID 10.	
8	RAID Controller		
	RAID Controller	Should support RAID 1, 5, 6, 10 or higher	
	RAID Battery	RAID 1, 5, 6, 10 or higher with 2GB or higher battery backed write cache	
	Cooling	Heat Sink	
	Alarm Buzzer	Alarm Buzzer or error indication alerts or equivalent	
	Storage Health Inspector	Storage Health Inspector or tools to monitor Storage/disk health	

	Features	Automatic and configurable RAID Rebuilding / Single-RAID or Multi-RAID Arrays per Controller	
9	SAN & Network		
	FC HBA CARD	Two FC Card with minimum 1 number of 32 Gbps FC ports in each card with Supported SFP+ transceivers (With NVME Capable)	
	FC Cables	2 Nos of minimum 20 Meter OM3/OM4 FC cables or higher for SAN Connectivity (FC HBA & transceivers should Support 16 Gbps & 32Gbps Switch)	
	<u>Network ports 1 Gbps</u>	<u>Four 1Gbps network ports: can be Base-T On-board or in sperate NIC (Must be in two network cards with two 1Gbps ports in each card)</u>	
	<u>Network ports 10 Gbps</u>	<u>Four 10Gbps network ports: can be Base-T On-board or in sperate NIC (Must be in two network cards with two 10 Gbps ports in each card)</u>	
	<u>Server Management port</u>	Dedicate One Port of 1GBps-management port chassis card.	
10	OS & Hypervisor Compatibility		
	Virtualization compatibility	All latest version of Microsoft-HyperV, VMware, Red Hat virtualization, Open shift virtualization and other industry standard hypervisors, Open Shift, Kubernetes	
	Windows Compatibility	2019/2022	
	RHEL Compatibility	8.x & 9.x & Higher versions	
	Other Latest Linux Flavours	Latest server operating versions of SUSE Linux, Ubuntu ,RHCOS/Redhat Open Shift Container Platform	
11	Power Supply	Redundant hot swappable power supply, with required power cables	
12	BIOS	UEFI (Unified Extensible Firmware Interface) based system and firmware that supports secure boot)	



13	Warranty And Support	3 Years onsite warranty+ 2 years AMC, On-Site Support Warranty including part replacement/repairs within 6 hours of reporting, and Firmware support for updates, upgrades, patches, and bug fixes for supplied h/w from OEM 24 x 7 x 365 days. SSD drives should be covered for irrespective of read/writes on them. In case of Disk failure, the faulty disk will be maintained /destroyed / Degauss by Canara Bank. Proactive storage monitoring & support from OEM should be enabled. The proposed bidder will need to ensure support of product & change of components @ zero cost in case of any part becoming obsolete/EOL & EOS. Faulty Disks would not be retuned back to OEM/Vendor or faulty disks will be destroyed before returning.	
14	Port	3 USB <u>2.0</u> port or higher and 1 VGA Port or higher	
15	Serviceability	Light path diagnostic LED or equivalent visual alerts	
16	Security	Secure Boot, Disk encryption, TPM 2.0 (Trusted Platform Module), Hardware root of trust, malicious code free design.	
17	PCI Slots	Minimum 6 - PCIe Gen4 or higher slots(Peripheral Component Interconnect Express)	



18	Remote Management	1. Management of hardware and software components, Power on/off, boot process, Management log, dedicated Management ports. Should be able to integrate with industry wide KVM (Kernel-based Virtual Machine) solution. Monitoring fan, power supply, memory, CPU, RAID, NIC for failures. Telemetry Streaming, Idle Server Detection. 2) Management software should provide Role Based Security through LDAP or Local and able to provide pre-failure alarms for CPU, Memory & HDD by SMTP.)	
19	System Management Solution	1. The system management solution is required. The system management solution should collect system information (including impending component failure) from the device that generated the alert and sends the information securely to OEM to Support to troubleshoot the issue and provide an appropriate solution. 2. The system management solution should support browser based graphical remote console along with Virtual Power button, remote boot using USB/CD/DVD Drive. It	

		should be capable of offering upgrade of software and patches from a remote client using Media/image/folder; It should support server power capping and historical reporting and should have support for multifactor authentication. 3. The system management solution should be provided: a. Firmware and configuration baselines for compliance monitoring and enable automated updates on schedule. b. Scope based access control to limit Users to specific group of devices c. Bare-metal server deployment d. Power and thermal Monitoring, alarm, and automatically execute rules based remediation. e. Manage remote devices and control power	
20	Monitoring and Analytics	1. Offered servers shall have monitoring an analytics engine for proactive management. All required licenses for same shall be included in the offer.	

		2. Monitoring and analytics engine shall have the capability to provide the following: i. Health and system security monitoring and notification emails ii. Performance monitoring and anomaly detection iii. REST API for integrating data with automation, ticketing, and other tools iv. Visualize server telemetry including key performance, environmental, and power metrics Displays health, inventory, alerts, performance, and warranty status	
21	Drivers & Accessories	Drivers for the compatible OS, Add on cards and other accessories to be Provided.	
22	FAN	Server should have redundant fully populated Hot swappable fans	

Table-D
Technical Specification - 54 servers (28 DC and 26 DRC)

Technical Details		Technical Specification - 54 servers (28 DC and 26 DRC)	Bidder's Compliance (Yes/No)
Sl. No.	Technical Factor	Description	
1	Make	Bidder to specify	
2	Model	Bidder to specify	
3	Power Factor	Bidder to specify	
4	Form Factor	1U / 2U	
5	Processor		

	Processor Architecture	CISC	
	Processor Make	Latest generation x86_64 bit architecture-based CPU's	
	Processor	2.7 GHz (gigahertz) or above	
	Socket	Minimum 2 sockets i.e., 16*2 =32 core	
	Cores per socket	16	
	<u>Cache per processor</u>	32 MB L3 Cache or higher	
	Cooling	Heat Sink	
	Platform Controller Hub & Main Board	Latest Chipset / System on Chip (SoC) design. Supporting x86_64 & Suitable server class Main Board or equivalent	
6	Memory		
	RAM Type	<u>DDR5</u> DIMM or Higher	
	Ram Size	32G*8=256GB	
	Slot Count	Minimum 24 or higher, Minimum 16 free memory slots should be available.	
	Speed	Minimum 2933 MHz or higher (memory speed should be compatible with process speed to provide better performance)	
	Features	Advanced ECC (Error Correcting Code) type or similar technology	
7	SSD		
	Types of interface for SSD	<u>SATA / NVMe</u>	
	<u>Total Capacity for SSD</u>	<u>960GB * 2 SSD</u> <u>1.92TB * 4 SSD</u>	
	Slot Count	12 or higher, Minimum 6 free slots should be available for future upgrade	
	Usable Space	Minimum <u>900</u> GB approximately with 960GB*2SSD After RAID 1. Minimum 3.5 TB approximately with 1.92TB * 4SSD after RAID 10.	
8	RAID Controller		

	RAID Controller	Should support RAID 1, 5, 6, 10 or higher	
	RAID Battery	RAID 1, 5, 6, 10 or higher with 2GB or higher battery backed write cache	
	Cooling	Heat Sink	
	Alarm Buzzer	Alarm Buzzer or error indication alerts or equivalent	
	Storage Health Inspector	Storage Health Inspector or tools to monitor Storage/disk health	
	Features	Automatic and configurable RAID Rebuilding / Single-RAID or Multi-RAID Arrays per Controller	
9	SAN & Network		
	FC HBA CARD	Two FC Card with minimum 1 number of 32 Gbps FC ports in each card with Supported SFP+ transceivers (With NVME Capable)	
	FC Cables	2 Nos of minimum <u>20</u> Meter OM3/OM4 FC cables or higher for SAN Connectivity (FC HBA & transceivers should Support 16 Gbps & 32Gbps Switch)	
	<u>Network ports 1 Gbps</u>	<u>Four 1Gbps network ports: can be Base-T On-board or in sperate NIC (Must be in two network cards with two 1Gbps ports in each card)</u>	
	<u>Network Ports 10 Gbps</u>	<u>Four 10Gbps network ports: can be Base-T On-board or in sperate NIC (Must be in two network cards with two 10 Gbps ports in each card)</u>	
	<u>Server Management port</u>	Dedicate One Port of 1GBps-management port chassis card.	
10	OS & Hypervisor Compatibility		

	Virtualization compatibility	All latest version of Microsoft-HyperV,VMware, Red Hat virtualization, Open shift virtualization and other industry standard hypervisors, Open Shift, Kubernetes	
	Windows Compatibility	2019/2022	
	RHEL Compatibility	8.x & 9.x & Higher versions	
	Other Latest Linux Flavours	Latest server operating versions of SUSE Linux, Ubuntu ,RHCOS/RedhatOpen Shift Container Platform	
11	Power Supply	Redundant hot swappable power supply, with required power cables	
12	BIOS	UEFI (Unified Extensible Firmware Interface) based system and firmware that supports secure boot)	
13	Warranty And Support	3 Years onsite warranty+ 2 years AMC, On-Site Support Warranty including part replacement/repairs within 6 hours of reporting, and Firmware support for updates, upgrades, patches, and bug fixes for supplied h/w from OEM 24 x 7 x 365 days. SSD drives should be covered for irrespective of read/writes on them. In case of Disk failure, the faulty disk will be maintained /destroyed / Degauss by Canara Bank. Proactive storage monitoring & support from OEM should be enabled. The proposed bidder will need to ensure support of product & change of components @ zero cost in case of any part becoming obsolete/EOL & EOS. Faulty Disks would not be retuned back to OEM/Vendor or faulty disks will be destroyed before returning.	
14	Port	3 USB <u>2.0</u> port or higher and 1 VGA Port or higher	

15	Serviceability	Light path diagnostic LED or equivalent visual alerts	
16	Security	Secure Boot, Disk encryption, TPM 2.0 (Trusted Platform Module), Hardware root of trust, malicious code free design.	
17	PCI Slots	Minimum 6 - PCIe Gen4 or higher slots(Peripheral Component Interconnect Express)	
18	Remote Management	1) Management of hardware and software components, Power on/off, boot process, Management log, dedicated Management ports. Should able to integrate with industry wide KVM (Kernel-based Virtual Machine) solution. Monitoring fan, power supply, memory, CPU, RAID, NIC for failures. Telemetry Streaming, Idle Server Detection. 2)Management software should provide Role Based Security through LDAP or Local and able to provide pre-failure alarms for CPU, Memory & HDD by SMTP.	
19	System Management Solution	1. The system management solution is required. The system management solution should collect system information (including impending component failure) from the device that generated the alert and sends the information securely to OEM to Support to troubleshoot the issue and provide an appropriate solution. 2. The system management solution should support	

		browser based graphical remote console along with Virtual Power button, remote boot using USB/CD/DVD Drive. It should be capable of offering upgrade of software and patches from a remote client using Media/image/folder; It should support server power capping and historical reporting and should have support for multifactor authentication. 3. The system management solution should be provided: - Firmware and configuration baselines for compliance monitoring and enable automated updates on schedule. - Scope based access control to limit Users to specific group of devices - Bare-metal server deployment - Power and thermal Monitoring, alarm, and automatically execute rules based remediation. - Manage remote devices and control power	

20	Monitoring and Analytics	1. Offered servers shall have monitoring an analytics engine for proactive management. All required licenses for same shall be included in the offer. 2. Monitoring and analytics engine shall have the capability to provide the following: i. Health and system security monitoring and notification emails ii. Performance monitoring and anomaly detection iii. REST API for integrating data with automation, ticketing, and other tools iv. Visualize server telemetry including key performance, environmental, and power metrics Displays health, inventory, alerts, performance, and warranty status	
21	Drivers & Accessories	Drivers for the compatible OS, Add on cards and other accessories to be Provided.	
22	FAN	Server should have redundant fully populated Hot swappable fans	

Table-E
Technical Specification - 226 servers (135 DC and 91 DRC)

Technical Details		Technical Specification - 226 servers (135 DC and 91 DRC)	Bidder's Compliance (Yes/No)
Sl. No.	Technical Factor	Description	
1	Make	Bidder to specify	
2	Model	Bidder to specify	
3	Power Factor	Bidder to specify	
4	Form Factor	1U / 2U	
5	Processor		
	Processor Architecture	CISC	
	Processor Make	Latest generation x86_64 bit architecture-based CPU's	
	Processor	2.7 GHz (gigahertz) or above	
	Socket	Minimum 2 sockets i.e., 16*1 =16 core (1 Populated & 1 For future upgrade) or 8*2 = 16 core	
	Cores per socket	Refer above socket details	
	<u>Cache per processor</u>	<u>32 MB L3 Cache or higher for 16 Core CPU</u> <u>22 MB L3 Cache or higher for 8 Core CPU</u>	
	Cooling	Heat Sink	
	Platform Controller Hub & Main Board	Latest Chipset / System on Chip (SoC) design. Supporting x86_64 & Suitable server class Main Board or equivalent	
6	Memory		
	RAM Type	DDR5 DIMM or Higher	
	Ram Size	64GB*8 = 512 GB	
	Slot Count	Minimum 12 or higher, Minimum 4 free memory slots should be available.	
	Speed	Minimum 2933 MHz or higher (memory speed should be compatible with process speed to provide better performance)	
	Features	Advanced ECC (Error Correcting Code) type or similar technology	

7	SSD		
	Types of interface for SSD	<u>SATA / NVMe</u>	
	<u>Total Capacity for SSD</u>	<u>960GB * 2 SSD</u> <u>1.92TB * 4 SSD</u>	
	Slot Count	12 or higher, Minimum 6 free slots should be available for future upgrade	
	Usable Space	Minimum 850 GB approximately after 960GB*2SSD After RAID 1. Minimum 3.5 TB approximately after 1.92TB * 4SSD after <u>RAID 10.</u>	
8	RAID Controller		
	RAID Controller	<u>Should support RAID 1,10 (other raid configuration support preferable)</u>	
	Cooling	Heat Sink	
	Alarm Buzzer	Alarm Buzzer or error indication alerts or equivalent	
	Storage Health Inspector	Storage Health Inspector or tools to monitor Storage/disk health	
	Features	Automatic and configurable RAID Rebuilding / Single-RAID RAID <u>or Multi-RAID Arrays per Controller</u>	
9	SAN & Network		
	FC HBA CARD	One FC Card with minimum 2 number of 32 Gbps FC ports in each card with Supported SFP+ transceivers (With NVME Capable)	
	FC Cables	2 Nos of minimum <u>20</u> Meter OM3/OM4 FC cables or higher for SAN Connectivity (FC HBA & transceivers should Support 16 Gbps & 32Gbps Switch)	
	<u>Network ports 10 Gbps</u>	<u>Two 10Gbps network ports: can be Base-T On-board or in sperate NIC (Must be in one network cards with two 10 Gbps ports in each card)</u>	
	<u>Server Management port</u>	Dedicate One Port of 1Gbps-management port chassis card.	

10	OS & Hypervisor Compatibility		
	Virtualization compatibility	All latest version of Microsoft-HyperV, VMware, Red Hat virtualization, Open shift virtualization and other industry standard hypervisors, Open Shift, Kubernetes	
	Windows Compatibility	2019/2022	
	RHEL Compatibility	8.x & 9.x & Higher versions	
	Other Latest Linux Flavours	Latest server operating versions of SUSE Linux, Ubuntu, RHCOS/Redhat Open Shift Container Platform	
11	Power Supply	Redundant hot swappable power supply, with required power cables	
12	BIOS	UEFI (Unified Extensible Firmware Interface) based system and firmware that supports secure boot)	
13	Warranty And Support	3 Years onsite warranty+ 2 years AMC, On-Site Support Warranty including part replacement/repairs within 6 hours of reporting, and Firmware support for updates, upgrades, patches, and bug fixes for supplied h/w from OEM 24 x 7 x 365 days. SSD drives should be covered for irrespective of read/writes on them. In case of Disk failure, the faulty disk will be maintained /destroyed / Degauss by Canara Bank. Proactive storage monitoring & support from OEM should be enabled. The proposed bidder will need to ensure support of product & change of components @ zero cost in case of any part becoming obsolete/EOL & EOS. Faulty Disks would not be returned back to OEM/Vendor or faulty disks will be destroyed before returning.	
14	Port	3 USB 2.0 port or higher and 1 VGA Port or higher	

15	Serviceability	Light path diagnostic LED or equivalent visual alerts	
16	Security	Secure Boot, Disk encryption, TPM 2.0 (Trusted Platform Module), Hardware root of trust, malicious code free design.	
17	PCI Slots	Minimum 2 - PCIe Gen4 or higher slots(Peripheral Component Interconnect Express	
18	Remote Management	1) Management of hardware and software components, Power on/off, boot process, Management log, dedicated Management ports. Should able to integrate with industry wide KVM (Kernel-based Virtual Machine) solution. Monitoring fan, power supply, memory, CPU, RAID, NIC for failures. Telemetry Streaming, Idle Server Detection. 2)Management software should provide Role Based Security through LDAP or Local and able to provide pre-failure alarms for CPU, Memory & HDD by SMTP.	
19	System Management Solution	1. The system management solution is required. The system management solution should collect system information (including impending component failure) from the device that generated the alert and sends the information securely to OEM to Support to troubleshoot the issue and provide an appropriate solution. 2. The system management solution should support browser	

		based graphical remote console along with Virtual Power button, remote boot using USB/CD/DVD Drive. It should be capable of offering upgrade of software and patches from a remote client using Media/image/folder; It should support server power capping and historical reporting and should have support for multifactor authentication. 3. The system management solution should be provided: - Firmware and configuration baselines for compliance monitoring and enable automated updates on schedule. - Scope based access control to limit Users to specific group of devices - Bare-metal server deployment - Power and thermal Monitoring, alarm, and automatically execute rules based remediation. - Manage remote devices and control power	

20	Monitoring and Analytics	1. Offered servers shall have monitoring an analytics engine for proactive management. All required licenses for same shall be included in the offer. 2. Monitoring and analytics engine shall have the capability to provide the following: i. Health and system security monitoring and notification emails ii. Performance monitoring and anomaly detection iii. REST API for integrating data with automation, ticketing, and other tools iv. Visualize server telemetry including key performance, environmental, and power metrics v. Displays health, inventory, alerts, performance, and warranty status	
21	Drivers & Accessories	Drivers for the compatible OS, Add on cards and other accessories to be Provided.	
22	FAN	Server should have redundant fully populated Hot swappable fans	

Table-F
Custom Technical Specification - 12 servers

Technical Details		Custom Technical Specification - 12 servers (6 DC and 6 DRC) (Type 1 - 2 DC, 2 DRC; Type 2 - 2 DC, 2 DRC; Type 3 - 2 DC, 2 DRC)	Bidder's Compliance (Yes/No)
Sl. No.	Technical Factor	Description	
1	Make	Bidder to specify	
2	Model	Bidder to specify	
3	Power Factor	Bidder to specify	
4	Form Factor	1U / 2U / 4U	
5	Processor		
	Processor Architecture	CISC	
	Processor Make	Latest generation x86_64 bit architecture-based CPU's	
	Processor	2.7 GHz (gigahertz) or above	
	Socket	Minimum 2 sockets i.e., 16*1 =16 core (1 Populated & 1 For future upgrade) or 8*2=16 core - Type 1 Minimum 2 sockets i.e., 16*2 = 32 core- Type 2 Minimum 2 sockets i.e., 16*2 = 32 core- Type 3	
	Cores per socket	Refer above socket details	
	<u>Cache per processor</u>	32 MB L3 Cache or higher <u>for 16 core CPU</u> <u>22 MB L3 Cache or higher for 8 core CPU</u>	
	Cooling	Heat Sink	
	Platform Controller Hub & Main Board	Latest Chipset / System on Chip (SoC) design. Supporting x86_64 & Suitable server class Main Board or equivalent	
6	Memory		
	RAM Type	DDR5 DIMM or Higher	
	Ram Size	64GB*4 = 256 GB - Type 1 64GB*16 = 1024 GB - Type 2 64GB*16 = 1024 GB - Type 3	

	Slot Count	Minimum 12 or higher, Minimum 8 free memory slots should be available. - Type Minimum 24 or higher, Minimum 8 free memory slots should be available. - Type 2 Minimum 24 or higher, Minimum 8 free memory slots should be available. - Type 3	
	Speed	Minimum 2933 MHz or higher (memory speed should be compatible with process speed to provide better performance)	
	Features	Advanced ECC (Error Correcting Code) type or similar technology	
7	SSD		
	Types of interface for SSD	NVMe	
	<u>Total Capacity for SSD</u>	<u>960GB * 2 SSD For all types</u> <u>1.92TB * 4 SSD -For Type 1</u> <u>1.92TB * 8 SSD - For Type 2</u> <u>3.84TB * 18 SSD - For Type 3</u>	
	Slot Count	12 or higher, Minimum 6 free slots should be available for future upgrade - Type1 12 or higher, Minimum <u>2</u> free slots should be available for future upgrade - Type2 24 or higher, Minimum 4 free slots should be available for future upgrade - Type3	
	Usable Space	<u>Minimum 900 GB approximately with 960GB*2SSD After RAID 1 for all types</u>	

		Minimum 3.5TB approx. after RAID 10 - Type 1 Minimum 7.5 TB approx. After RAID 10 - Type 2 Minimum 34 TB approx. After RAID 10 - Type 3	
8	RAID Controller		
	RAID Controller	<u>Should support RAID 1,10 (other RAID configuration support preferable) - Type 1</u> Should support RAID 1, 5, 6, 10 or higher - Type 2 & Type3	
	RAID Battery	RAID 1, 5, 6, 10 or higher with 2GB or higher battery backed write cache - Type 2 & Type 3	
	Cooling	Heat Sink	
	Alarm Buzzer	Alarm Buzzer or error indication alerts or equivalent	
	Storage Health Inspector	Storage Health Inspector or tools to monitor Storage/disk health	
	Features	Automatic and configurable RAID Rebuilding / Single-RAID or Multi-RAID Arrays per Controller	
9	SAN & Network		
	FC HBA CARD	One FC Card with minimum 2 number of 32 Gbps FC ports in each card with Supported SFP+ transceivers (With NVME Capable) - Type 1 Two FC Card with minimum 1 number of 32 Gbps FC ports in each card with Supported SFP+ transceivers (With NVME Capable) - Type 2 & Type 3	
	FC Cables	2 Nos of minimum 20 Meter OM3/OM4 FC cables or higher for SAN Connectivity (FC HBA & transceivers	

		should Support 16 Gbps & 32Gbps Switch) -Type1& Type 2 & Type 3	
	<u>Network ports 1 Gbps</u>	<u>Four 1Gbps network ports: can be Base-T On-board or in sperate NIC (Must be in two network cards with two 1Gbps ports in each card) - Type 2 & Type3</u>	
	<u>Network ports 10 Gbps</u>	<u>Two 10Gbps network ports: can be Base-T On-board or in sperate NIC (Must be in one network cards with two 10 Gbps ports) - Type 1</u> <u>Four 10Gbps network ports: can be Base-T On-board or in sperate NIC (Must be in two network cards with two 10 Gbps ports in each card) - Type 2 & Type3</u>	
	<u>Server Management port</u>	Dedicate One Port of 1Gbps-management port chassis card.	
10	OS & Hypervisor Compatibility		
	Virtualization compatibility	All latest version of Microsoft-HyperV, VMware, Red Hat virtualization, Open shift virtualization and other industry standard hypervisors, Open Shift, Kubernetes	
	Windows Compatibility	2019/2022	
	RHEL Compatibility	8.x & 9.x & Higher versions	
	Other Latest Linux Flavours	Latest server operating versions of SUSE Linux, Ubuntu ,RHCOS/RedhatOpen Shift Container Platform	
11	Power Supply	Redundant hot swappable power supply, with required power cables	
12	BIOS	UEFI (Unified Extensible Firmware Interface) based system and firmware that supports secure boot)	
13	Warranty And Support	3 Years onsite warranty+ 2 years AMC, On-Site Support Warranty including part replacement/repairs within	

		6 hours of reporting, and Firmware support for updates, upgrades, patches, and bug fixes for supplied h/w from OEM 24 x 7 x 365 days. SSD drives should be covered for irrespective of read/writes on them. In case of Disk failure, the faulty disk will be maintained /destroyed / Degauss by Canara Bank. Proactive storage monitoring & support from OEM should be enabled. The proposed bidder will need to ensure support of product & change of components @ zero cost in case of any part becoming obsolete/EOL & EOS. Faulty Disks would not be retuned back to OEM/Vendor or faulty disks will be destroyed before returning.	
14	Port	3 USB <u>2.0</u> port or higher and 1 VGA Port or higher	
15	Serviceability	Light path diagnostic LED or equivalent visual alerts	
16	Security	Secure Boot, Disk encryption, TPM 2.0 (Trusted Platform Module), Hardware root of trust, malicious code free design.	
17	PCI Slots	Minimum 2 - PCIe Gen4 or higher slots(Peripheral Component Interconnect Express) - Type 1 Minimum 6 - PCIe Gen4 or higher slots(Peripheral Component Interconnect Express) - Type2 & Type3	

18	Remote Management	1) Management of hardware and software components, Power on/off, boot process, Management log, dedicated Management ports. Should be able to integrate with industry wide KVM (Kernel-based Virtual Machine) solution. Monitoring fan, power supply, memory, CPU, RAID, NIC for failures. Telemetry Streaming, Idle Server Detection. 2) Management software should provide Role Based Security through LDAP or Local and able to provide pre-failure alarms for CPU, Memory & HDD by SMTP.	
19	System Management Solution	1. The system management solution is required. The system management solution should collect system information (including impending component failure) from the device that generated the alert and sends the information securely to OEM to Support to troubleshoot the issue and provide an appropriate solution. 2. The system management solution should support browser based graphical remote console along with Virtual Power button, remote boot using USB/CD/DVD Drive. It	

		should be capable of offering upgrade of software and patches from a remote client using Media/image/folder; It should support server power capping and historical reporting and should have support for multifactor authentication. 3. The system management solution should be provided: a. Firmware and configuration baselines for compliance monitoring and enable automated updates on schedule. b. Scope based access control to limit Users to specific group of devices c. Bare-metal server deployment d. Power and thermal Monitoring, alarm, and automatically execute rules based remediation. e. Manage remote devices and control power	
20	Monitoring and Analytics	1. Offered servers shall have monitoring an analytics engine for proactive management. All required licenses for	

		same shall be included in the offer. 2. Monitoring and analytics engine shall have the capability to provide the following: i. Health and system security monitoring and notification emails ii. Performance monitoring and anomaly detection iii. REST API for integrating data with automation, ticketing, and other tools iv. Visualize server telemetry including key performance, environmental, and power metrics Displays health, inventory, alerts, performance, and warranty status	
21	Drivers & Accessories	Drivers for the compatible OS, Add on cards and other accessories to be Provided.	
22	FAN	Server should have redundant fully populated Hot swappable fans	

Below table to be consider for estimating the cable requirement for the above 500 servers. However, any additional cables required over and above the estimated quantity for completion of the project should be supplied by the vendor without any additional cost.

Ethernet CAT6/7			
Length	DRC Qty	DC Qty	Cable Color
3M	84		RED/GREEN
5M	114	<u>300</u>	RED/GREEN
7M	162		RED/GREEN
10M	168	<u>300</u>	RED/GREEN
3M	42		orange color
5M	42		orange color
7M	42		orange color
10M	84		orange color
15M	42	<u>300</u>	orange color

Table-G

Storage Technical Specifications: (Object Storage 2.5PB Usable Space: DC -1, DRC -1)

Sl. No.	Particulars	Detailed Configuration	Bidder's Compliance (Yes/No)
1.	Make	Bidders to specify	
2.	Model	Bidders to specify	
3.	Form Factor	Bidders to specify	
4.	Power Factor	Bidder to specify	

5.	Architecture	Controllers shall be active-active so that all volumes are automatically load balanced without needing administrative intervention for manual balancing of workloads/volumes. Connectivity -Object interface would be scalable S3. its architecture shall include the following: - o S3-Server: S3 API Server for Buckets/Objects and more - o Scale-Out "any-to-any" access - o Security model S3-Bucket: Security service for Accounts a. Multi-tenant, Support for S3 IAM - Identity and Access Management. b. Bucket & Object ACLs - o S3-Metadata: Distributed Metadata Engine - o S3 Object Lock - o Transparent Bucket-Level At-REST Encryption - o S3 Console: GUI Web interface to manage accounts, users, policy and monitor usage. - o S3 Browser: GUI Web interface to create buckets and upload objects. - o Quota for S3. - o Federated Access "Single Sign On" to S3 bucket. - o Compatible with Active Directory. - o Volume protection feature (can't modify/delete files once written to the volume). - o Supports mixed environment Windows & Linux. - o Built in load balancing	
6.	Type	Near Line Drives & SSD Disk for meta handling	
7.	Memory & Cache	Minimum 64 GB per controller/node	
8.	Capacity	Minimum usable storage 2.5 PB after erasure coding/industry standard applicable disk redundancy	
9.	Drives	2.5" to 3.5" drives	
10.	Hard Disk Capacity	Each hard disk Capacity should not be less than 15 TB	
11.	Scalability	Up to 10PB with scale out architecture. The cluster scales by adding additional nodes without sacrificing performance, which allows a more cost-effective linear storage expansion than fork-lift upgrades.	

		New Nodes & Failed nodes and disks can be swapped out without downtime.	
12.	Performance	object stores can provide high sequential throughput performance, which makes them great for streaming large files. Also, object storage services help eliminate networking limitations. Files can be streamed in parallel over multiple pipes, boosting usable bandwidth	
13.	Disk and Node Redundancy	<u>The proposed storage should support erasure coding. The Proposed storage should be able to add disks/Nodes and automatically balance the data across all the nodes.</u>	
14.	Encryption	should have native encryption capabilities as per PCI DSS standards and encryption should not add any performance overheads	
15.	Backup	During power failure, Data in the cache should be safely written to the disks prior to performing a graceful shutdown. Data loss in storage should be zero due to any issues noticed in the Datacenter or any natural calamities.	
16.	Services	<u>Proposed storage array should include storage based compression, storage to storage replication for the entire supported capacity of the storage array from day one. All the required or necessary licenses must be perpetual and provided for the Full capacity of each storage from Day one. This should include licenses for Management and monitoring module and all the storage features such as Replication etc. Upgrade in capacity should not incur any additional license cost. Offered storage system have online and historical performance reporting capability.</u>	
17.	Protocol Support	<u>HTTPS, ,RESTAPIs, S3 Protocol</u> & all kinds of rest full APIs. Vendor shall configure the licenses all interfaces All above protocol shall be native to cluster and shall not require any additional gateway. Vendor can provision additional gateway if required from performance perspective but capability shall be native to main nodes only.	
18.	Operating System Support	Support for multiple Operating Systems versions connecting to it, including but not restricted to Windows 2019,2022 or later, UNIX (AIX & Solaris & HP Unix), Linux (Red hat, SUSE & OEL), Red Hat OpenShift Container Platform Plus, Hypervisor	

		(vSphere, Hyper V, red hat virtualization, Oracle virtualization)	
		Support for multiple hardware environment but not limited to X86 machines and IBM power machines	
19.	Ports	Minimum 4 Number of 10/25 Gigabit for IP Traffic per node and Minimum 2 Number of 10/25 Gbps for Replication (Network). Minimum Two Management Ports of 1Gbps	
20.	Warranty and Support	3 Years, Comprehensive, On-Site Support Warranty with 2 years AMC including part replacement /repairs within 6 hours of reporting, and Software support for updates, upgrades, patches, and bug fixes for supplied s/w from OEM 24 x 7 x 365 days. In case of Disk failure, the faulty disk will be destroyed/ degaussed on replacement. Proactive storage monitoring & support from OEM should be enabled. The proposed bidder will need to ensure support of product & change of components @ zero cost in case of any part becoming obsolete/EOL & EOS during the warranty period.	
21.	Other Features	The proposed storage system should support SNMP, Address resolution protocol, Network Time Protocol, LDAP. The Storage array should be licensed with Performance monitoring tools should be offered with the storage array. The proposed storage system shall support a browser based GUI built in management. All objects stored in Object Storage have a URL. All objects have their own metadata. Developers interact with the object storage system through a RESTful HTTP API. Object data can be located anywhere in the cluster. Backup & Recovery: Data backup and recovery rely on accessible and reliable storage. Object-based storage provides the infrastructure for secure data backup and efficient recovery procedures. There shall be no separate and dedicated control node or metadata node in the cluster. In case, nodes are separate then vendor shall over Metadata / control nodes in HA using active / active	

		approach. Offered solution shall be completely redundant and there shall be no single point of failure. Offered solution shall have file integrity checking when reading the file and automatic rebuilt if an error is detected.	
22.	Uptime	The storage should be able to provide availability parameter of 99.99% from the date of acceptance of the Storage by Bank	
23.	Power Supply	Storage should be provided with Redundant hot swappable Power supplies. The Power supplies should be FCC class A certified.	
24.	No point Failure	Offered Storage Array should be based on a No Single Point of Failure (NSPOF) architecture with complete redundancy of controllers, power, cooling, etc.	
25.	Global Spare	Offered Storage Array shall support distributed Global hot Spare capacity for offered Disk drives.	
26.	Software	Management software must include both GUI and CLI tools. Management of the storage system should be through single management tool. The GUI must be able to configure all features, monitor the status and health of the storage system. If licensed, separately, the vendor needs to provide necessary licenses for full capacity. Vendor should provide storage array management software for configuration, administration and monitoring. Vendor shall offer the enterprise version of the software if there are multiple versions of the software. Software shall be able to manage all arrays of the same family. The performance monitoring should be real-time and historical providing IOPS response time and utilization of individual components within the storage array. Log Maintenance facility should be available. Storage should be compatible to integrate with Bank monitoring tool	
27.	Remote Replication	<u>2-way replication. (It should support both synchronous and Asynchronous replication without any data loss)</u>	

28.	End of Sale & End of Support	The proposed Hardware and Software generation should be latest from the date of RFP submission and the proposed Hardware and Software should not become End of Sales for Three years from the date of delivery of hardware & End of support for 6 years from the date of delivery of hardware	
29.	Controller & Availability	Minimum four controllers are required to provide 2.5PB usable space, hot swappable controllers for high availability, load balancing and redundant modes. Minimum 20 core should be available per controller Offered Storage array should be an enterprise class storage system with 99.9999% Data Availability guarantee.	
30.	Data Management Features	1. it shall be possible to tag and search S3 Metadata. 2. Lifecycle Management - It shall be possible to automatically transition and expiration of data based on criteria. 3. it shall be possible to asynchronously replicate/copy bucket to several Cloud targets 4. Offered storage shall support multi-tenancy and data isolation	
31.	Ease of USE	1. Offered storage shall have full management and control with Supervisor and CLI • Powerful graphing capabilities & dashboards and Graphical Usage Monitoring • Auditing capabilities. • REST APIs For monitoring & management 2. Offered storage shall support role Based Access Control (RBAC)	
32.	Compliance	1. Offered storage shall ensure that Data must be tamper-proof. 2. Data must be kept for a specified period which means offered storage shall provide retention mechanism. 3. Offered storage shall have capability to migrate the data to an alternative media like tapes or any another cloud/on premises object storage.	

33.	Simplifying operations and management	The proposed Hardware and Software generation should be latest from the date of RFP submission and the proposed Hardware and Software should not become End of Sales for Three years from the date of delivery of hardware & End of support for 6 years from the date of delivery of hardware Offered storage shall be have Simplified Operations & Management and shall provide: • Software Upgrades, Server replacements, or Capacity Extensions don't stop the system • Automated disk failure detection • Automatically rebuild for failed drive • Automated storage rebalancing • Disk replacement utility • Easily add servers or hard drives in the server • The system shall automatically rebuild the missing data in case of a hardware component failure.	
34.	Multi-cloud	1. Offered storage shall provide the following features: • Shall Support writing data to any Cloud (Amazon S3, Google Cloud Storage, Microsoft Azure, Wasabi) via a single S3 API. • Shall have Open-Source interface allows developers to quickly test compatibility. • Shall Preserves native format of the data on any Cloud for providing the ability to read data directly on the public Clouds. • Shall support Replicating one to many so that a given bucket can be replicated/copied to several private and public Cloud targets. • Shall support Lifecycle data to any Cloud for automatic transition and expiration of data based on criteria. • Shall have GUI Web interface to manage multi-cloud environment. 2. In case vendor doesn't support above features natively then vendor shall provision the complete cloud automation suite in their bid and shall provide the complete documentation in the bid.	
35.	Node failures	Object storage should withstand minimum two node or 25% percent of total node (whichever is higher) failures without data loss.	

36.	Disk Failures	Object storage should withstand minimum four disk failures without data loss.	
37.	Cables	Necessary compatible power, network, fiber cables with required length to be supplied along with storage.	
38.	Core technology - Object	1. Offered Object storage core technology shall be able to abstract the underlying servers, to create a uniformly scalable storage pool 2. There shall be No size limit for object or files which can be stored in the cluster. 3. Offered storage shall do automatic Rebalancing when adding a new server in the cluster 4. Offered storage shall allow capacity extensions done by adding disks to existing servers (scale-up) or adding additional servers to the system (scale-out).	
39.	Peer to peer connectivity	1. Any change in the connecting topology, like adding the nodes, shall broadcast the change to few/all nodes in the cluster. 2. Overall cluster shall provide the self-healing processes to monitor and automatically resolve component failures using re-build, proxy and rebalance aspects.	

Table-H

Storage Technical Specifications: (Enterprise Block Storage 2.0PB Usable Space: DC -2, DRC - 2)

Sl. No.	Particulars	Detailed Configuration	Bidder's Compliance
			(Yes/No)
1.	Make	Bidders to specify	
2.	Model	Bidders to specify	
3.	Form Factor	Bidders to specify	
4.	Power Factor	Bidder to specify	
5.	Architecture	Controllers shall be active-active so that all volumes are automatically load balanced without needing administrative intervention for manual balancing of workloads/volumes.	
6.	Type	NVMe based SSD	

7.	Memory & Cache	Minimum 512 GB Cache per controller , Cache should be dynamically allocated for reads and writes without any fixed allocation.	
8.	Capacity	Minimum usable storage 2 PB after RAID6 or Dual RAID6 Configuration. (Without considering any data reduction features such as compression, deduplication etc .)	
9.	Drives	2.5" to 3.5" drives	
10.	Hard Disk Capacity	Each hard disk Capacity should not be less than 15 TB and not more than 20 TB	
11.	Scalability	Each storage up to 4PB(Scale UP) and 4 Controllers (Scale Out) DIP(data in-place) upgrade capability. <u>All disk should be accessible to all the controllers.</u>	
12.	Performance	Capable of delivering sustained minimum 10GB/s throughput and 5,00,000 IOPS in (read: write) (70:30) ratio with microsecond response time. Taking the 16kb block size into consideration for above throughput.	
13.	RAID Support	RAID array supporting raid6/Dual raid / better levels. It should support a mix and match of RAID levels behind a pair of controllers. The storage array should allow online expansion of existing RAID Groups / Storage Disk Pools.	
14.	Encryption	should have native encryption capabilities as per PCI DSS standards and encryption should not add any performance overheads	
15.	Backup	During power failure, Data in the cache should be safely written to the disks prior to performing a graceful shutdown. Data loss in storage should be zero due to any issues noticed in the Datacenter or any natural calamities.	
16.	Services	Proposed storage array should include storage based Thin Provisioning, compression, inline Deduplication Synchronous-Asynchronous Replication, Snapshot, and Volume cloning features for the entire supported capacity of the storage array from day one. All the required or necessary licenses must be perpetual and provided for the Full capacity of each storage from Day one. This should include licenses for Management and monitoring module and all the storage features such as Snapshot, Cloning, Sync and Async Replication etc. Upgrade in capacity should not incur any additional license cost	

		Offered Storage management console shall be able to manage multiple arrays from a single console is preferred. Management console shall provide following functionalities: Offered storage system have online and historical performance reporting capability. At least 1 year of historical performance information should be available online for capacity and performance forecasting, trend analysis etc. In case this capability is not available natively, then necessary software subscription shall be provided for the entire duration of the contract.	
17.	Protocol Support	Fiber Channel & iSCSI	
18.	Operating System Support	Support for multiple Operating Systems versions connecting to it, including but not restricted to Windows 2019,2022 or later, UNIX (AIX & Solaris & HP Unix), Linux (Red hat, SUSE & OEL), Red Hat OpenShift Container Platform Plus, Hypervisor (vSphere, Hyper V, Red hat Virtualization, Oracle virtualization) Support for multiple hardware environment but not limited to X86 machines and IBM power machines	
19.	Ports	Minimum 16 number of FC Ports of 32/64 Gbps each (SAN), Minimum 4 Number of 10/25 Gbps for IP Traffic (iSCSI) and 2 Number of 10/25 Gbps for Replication (Network).Minimum two management Ports of 1Gbps. Storage should support FC-NVMe: 32Gb/s	
20.	Warranty and Support	3 Years, Comprehensive, On-Site Support Warranty and 2 years AMC including part replacement /repairs within 6 hours of reporting, and Software support for updates, upgrades, patches, and bug fixes for supplied s/w from OEM 24 x 7 x 365 days. In case of Disk failure, the faulty disk will be destroyed/ degaussed on replacement. Proactive storage monitoring & support from OEM should be enabled. The proposed bidder will need to ensure support of product & change of components @ zero cost in case of any part becoming obsolete/EOL & EOS during the warranty and AMC period.	
21.	Other Features	The proposed storage system should support SNMP, Address resolution protocol, Network Time Protocol, LDAP.	

		The Storage array should be licensed and Performance monitoring tools should be offered with the storage array. The proposed storage system shall support a browser-based GUI built in management. The proposed storage should able to create multiple array pools so that same storage can be used for server virtualization and for database pools.	
22.	Uptime	The storage should be able to provide availability parameter of 99.99% from the date of acceptance of the Storage by Bank	
23.	Power Supply	Storage should be provided with Redundant hot swappable Power supplies. The Power supplies should be FCC class A certified.	
24.	No Single point of Failure	Offered Storage Array should be based on a No Single Point of Failure (NSPOF) architecture with complete redundancy of controllers, power, cooling, etc.	
25.	Global Hot Spare	Offered Storage Array shall support distributed Global hot Spare capacity for offered Disk drives.	
26.	Software	Management software must include both GUI and CLI tools. Management of the storage system should be through single management tool. The GUI must be able to configure all features, monitor the status and health of the storage system. If licensed, separately, the vendor needs to provide necessary licenses for full capacity. Vendor should provide storage array management software for configuration, administration and monitoring. Vendor shall offer the enterprise version of the software if there are multiple versions of the software. Software shall be able to manage all arrays of the same family. The performance monitoring should be real-time and historical providing IOPS response time and utilization of individual components within the storage array. Log Maintenance facility should be available. Storage should be compatible to integrate with Bank monitoring tool	
27.	Remote Replication	Offered Storage array should provide both Synchronous and Asynchronous replication across 2 storage arrays natively. <u>Offered Storage array shall support 2 Data Center solution natively where Primary site shall be able to replicate synchronously to near-by /</u>	

		<u>replicate to Far location asynchronously.</u>	
		Necessary replication licenses/Infrastructure required for replication should be provided with the array	
28.	End of Sale & End of Support	The proposed Hardware and Software generation should be latest from the date of RFP submission and the proposed Hardware and Software should not become End of Sales for Three years from the date of delivery of hardware & End of support for 6 years from the date of delivery of hardware	
29.	Controller & Availability	Storage should have minimum two active controllers, hot swappable controllers for high availability, load balancing and redundant modes. Offered Storage array should be an enterprise class storage system with <u>99.9999%</u> Data Availability guarantee. The offered array should be an end-to-end NVMe storage system and capable of supporting NVMeoF over Fibre Channel for Hosts. Controllers shall be active-active so that all volumes are automatically load balanced without needing administrative intervention for manual balancing of workloads/volumes.	
30.	Quality of service	Offered storage array shall support quality of service for critical applications so that response time requirements can be defined for specific applications / LUNS. Quality of service feature should allow definition of minimum and maximum cap for required IOPS / bandwidth for a given volume or set of volumes.	
31.	Capacity Efficiency features	Offered storage array should support thin provisioning It should also support inline data reduction (deduplication & compression) for maximizing flash storage capacity <u>The array should offer the flexibility to enable / disable the data reduction on Global level or any other granular.</u>	

32.	Snapshots / Point in time copies	The storage array should have support for controller-based snapshots (At-least 128 copies for a given volume). The snapshots should be capable of being designated either as Read Only or Read/Write as required	
33.	Multipathing	Multipathing across two controllers. Data path should work consistently on active-active and NOT in hot standby. All LUNs should have visibility through all controllers and data flow should happened through them.	

Table-I

Technical Specification of 27 server racks (19 Nos at DC - Single Phase, 8 Three Phase)

Sl. No.	Particulars	Detailed Configuration(DC)	Bidder's Compliance
			Yes/No
1.	Make	Bidders to specify	
2.	Model	Bidders to specify	
3.	Power Factor	PDU Single Phase with 63A Server rack mount power distribution unit 1Ph,230V,63A 50/60Hz with redundancy. PDU Three Phase with 32A Server rack mount power distribution unit 3Ph,440V,32A 50/60Hz with redundancy.	
4.	Form Factor	42 U Rack Frame with all necessary side panels	
5.	Colour	Black Colour	
6.	Wheels	Rack wheels for rack movement	
7.	Rack Size	600 mm*1200mm *2100mm (600mm - Width , 1200mm Depth , 2100mm Height)	
8.	Lock Mechanism	Mechanical lock with key for both front and back door	
9.	PDU Socket details	Zero U standard with minimum 20 x C13 (20 power sockets with C13 type) and minimum 4 x C19 (4 power socket with C19 type) Per PDU Dual PDU should be made available for each rack	

10.	Over load protection MCB	PDU rating approximate 14KVA per PDU for single phase with 63A (4 MCB) PDU rating approximate 22KVA per PDU for Three phase with 32A (6 MCB)	
11.	Bottom feed	Minimum 3 Meters IEC 309 input plug top	
12.	Others	Levelers Required Ganging kits and necessary tool for mounting PDU with side doors and necessary Cable organizer. Adjustable screw legs - 4 No. Rack filler to be provided upto half rack size.	
13.	Fan	fans on the top side of rack (desirable)	
14.	Compatibility	Rack should be compatible to mount all the hardware's supplied in this RFP	
15.	Cable Loops	Minimum Eight cable loops to be provided per rack for cable dressing	
16.	Certification	UL certified	
17.	Mounting	The bidder shall have to mount new as well as existing servers and other devices in the rack and will have to provide the rack mounting kit accordingly	
18.	Grounding	Copper based Electrical Grounding / Earthing Strip	

Table-J

Technical Specification of server racks (23 Nos with three phase at DR)

Sl. No.	Particulars	Detailed Configuration(DR)	Bidder's Compliance
			Yes/No
1.	Make	Bidders to specify	
2.	Model	Bidders to specify	
3.	Power Factor	PDU Three Phase with 32A Server rack mount power distribution unit 3Ph,230V,32A 50/60Hz with redundancy.	
4.	Form Factor	45 U Rack Frame with all necessary side panels	
5.	Colour	Black Colour	
6.	Wheels	Rack wheels for rack movement	
7.	Rack Size	600 mm*1200mm (600mm - Width , 1200mm Depth)	

8.	Lock Mechanism	Mechanical lock with key for both front and back door	
9.	PDU Socket details	Zero U standard with minimum 20 x C13 (20 power sockets with C13 type) and minimum 4 x C19 (4 power socket with C19 type) Per PDU. Dual PDU should be available for each rack.	
10.	Over load protection MCB	16A MCB X 2 circuits - PDU rating approximate 8KVA	
11.	Bottom feed	Minimum 3 Meters IEC 309 input plug top	
12.	Others	Levelers Required Ganging kits and necessary tool for mounting PDU with side doors and necessary Cable organizer. Rack filler to be provided upto half rack size.	
13.	Fan	fans on the top side of rack (desirable)	
14.	Compatibility	Rack should be compatible to mount all the hardware's supplied in this RFP	
15.	Cable Loops	Minimum Eight cable loops to be provided per rack for cable dressing	
16.	Certification	UL certified	
17.	Mounting	The bidder shall have to mount new as well as existing servers and other devices in the rack and will have to provide the rack mounting kit accordingly	
18.	Grounding	Copper based Electrical Grounding / Earthing Strip	

Table-K
Technical Specification of Network TOR Switches

Sl. No.	DC and DRC Switch Technical Specification:	Compliance(Y/N)
A	Type 1 Switch - 14 numbers (07 numbers in DC and 07 numbers in DRC) - Mgmt.	
1.	Switch must have 48 Gig Ethernet ports and 2 x 10G SFP+ for uplink on single chassis.	
2.	Switching capacity should be equal to greater than 100 Gbps.	
3.	Mac address table size should be equal to greater than 16000.	
4.	Switch must be supplied with compatible Trans receiver for Fiber ports and should be from same OEM.	
5.	Switch must have redundant Power Supply.	

6.	Switch should have USB/Ethernet management interfaces.	
7.	Switch should have minimum Flash memory 128 Mb.	
8.	Switch should have minimum DRAM 512 Mb.	
9.	Switch should be managed in an IPv6 network(IPv6 Device IP)	
10.	Switch should support Dual stack (IPv4 and IPv6) transitions from IPv4 to IPv6, support connectivity for both protocols	
11.	Switches should support Spanning Tree Protocol (STP)	
12.	Switch should support link aggregation control protocol (LACP) and port trunking.	
13.	Switch should support VLAN support and tagging support IEEE 802.1Q.	
14.	Switch should support Simple Network Management Protocol (SNMPv2 and SNMPv3).	
15.	Implement Access Lists on the switch to ensure SNMP access only to the SNMP manager or the NMS workstation.	
16.	Switch should support duplicates port traffic (ingress and egress) to a local or remote monitoring port.	
17.	Implementation of multiple Privilege Levels should be supported.	
18.	Switch should Support for authentication, authorization, and accounting (AAA) using RADIUS and TACACS+.	
19.	Switch should support FTP, TFTP, and SFTP.	
20.	Switch should support Extensive debugging capabilities to assist in hardware/Configuration problem resolution, should supports ping and traceroute for both IPv4 and IPv6.	
21.	Switch should support integration for Network Time Protocol (NTP), SIEM.	
22.	The Switch must be able to generate Syslog Messages with timestamp, which can be exported to a Syslog Server.	
23.	The Switch shall integrate with centralized network management software.	
24.	The Switches must be supplied with Compatible Power cables for the PDU supplied with the rack.	
25.	The switch shall have management security features like SSHv2 / Secure copy, encrypted user passwords, and authentication via AAA and RADIUS / TACACS+ to prevent unauthorized management access"	
26.	Switch should have Custom banner display.	
27.	Proposed Switches must integrate seamlessly with active - active ports for redundancy and high availability from two core/distributed switches from day one with our existing infrastructure of Cisco/Juniper Datacenter router/switches.	
28.	24*7*365 days Technical support with response time of 30 minutes.	
29.	Four hours RMA support in case of any hardware failure.	

B.	Type 2 Switch - 24 numbers (12 DC+ 12 DRC) for Data	Compliance(Y/N)
1.	Switch must be Data Center grade switch. Switch should be configurable/deployable with other switches to utilize all available links through multi-path forwarding.	
2.	Switch must have 48 fixed 10-G BASE-T ports	
3.	6 fixed 40/100-Gbps QSFP+ ports for uplink connectivity with fully populated trans receivers on single chassis.	
4.	48 downlink ports should be configured to work as 1 & 10Gbps.	
5.	Switch should support EVPN and Virtual Extensible LAN (VXLAN) to create Fabric. Fabric should be capable to integrate with SDDC like Open stack, VMWare etc. Switch should support In Service Software Upgrade.	
6.	Switch throughput should be more than equal to 1 bpps.	
7.	Latency should be less than <u>2.3</u> microsecond.	
8.	Mac address table size should be equal to greater than 2 lakhs.	
9.	Switch should support more than 4000 Vlans.	
10.	Switch must be supplied with compatible Trans receiver for all Optical/Fiber ports and should be from same OEM.	
11.	Switch must have redundant Fan and Power Supply.	
12.	Switch should provide flexibility for 10GbE top-of-rack deployment.	
13.	Switch should have USB/Ethernet management interfaces.	
14.	Switch should be managed in an IPv6 network(IPv6 Device IP)	
15.	Switch should support Dual stack (IPv4 and IPv6) transitions from IPv4 to IPv6, support connectivity for both protocols	
16.	Switches should support Spanning Tree Protocol (STP)	
17.	Switch should support link aggregation control protocol (LACP) and port trunking IEEE 802.1AX-2008.	
18.	Switch should support VLAN support and tagging support IEEE 802.1Q.	
19.	Router should support Simple Network Management Protocol (SNMPv2 and SNMPv3).	
20.	Implement Access Lists on the switch to ensure SNMP access only to the SNMP manager or the NMS workstation.	
21.	Switch should support duplicates port traffic (ingress and egress) to a local or remote monitoring port.	
22.	Implementation of multiple Privilege Levels should be supported.	
23.	Switch should Support for authentication, authorization, and accounting (AAA) using RADIUS and TACACS+.	
24.	Switch should support FTP, TFTP, and SFTP.	
25.	Switch should support Extensive debugging capabilities to assist in hardware/Configuration problem resolution, should supports ping and traceroute for both IPv4 and IPv6.	
26.	Switch should support integration for Network Time Protocol (NTP), SIEM.	

27.	The Switch must be able to generate Syslog Messages with timestamp, which can be exported to a Syslog Server.	
28.	The Switch shall integrate with centralized network management software.	
29.	The Switches must be supplied with Compatible Power cables for the PDU supplied with the rack.	
30.	The switch shall have management security features like SSHv2 / Secure copy, encrypted user passwords, and authentication via AAA and RADIUS / TACACS+ to prevent unauthorized management access"	
31.	Proposed Switches must integrate seamlessly with active - active ports for redundancy and high availability from two core/distributed switches from day one with our existing infrastructure of Cisco/Juniper Datacenter router/switches.	
32.	Switch should have Custom banner display.	
33.	High Mean Time Between Failure values (>2 Lakh hours) should be available to ensure long life of switch hardware.	
34.	24*7*365 days Technical support with response time of 30 minutes.	
35.	Four hours RMA support in case of any hardware failure.	
C.	Type 4 Switch - 4 numbers (2 DC+ 2 DRC) - Storage	Compliance(Y/N)
1.	Switch must be Data Center grade switch. Switch should be configurable/deployable with other switches to utilize all available links through multi-path forwarding.	
2.	Switch must have 48 x 25-Gbps fiber downlink ports and 6 x 100-Gbps Quad Small Form-Factor Pluggable 28 (QSFP28) uplink ports with fully populated trans receivers on single chassis.	
3.	48 downlink ports should be configured to work as 25 Gbps.	
4.	Switch should support EVPN and Virtual Extensible LAN (VXLAN) to create Fabric. Fabric should be capable to integrate with SDDC like Open stack, VMWare etc. Switch should support In Service Software Upgrade.	
5.	Switch throughput should be more than equal to 2 bpps.	
6.	Latency should be less than 1 microsecond.	
7.	Mac address table size should be equal to greater than 2 lakhs.	
8.	Switch should support more than 4000 Vlans.	
9.	Switch must be supplied with compatible Trans receiver for all Fiber ports and should be from same OEM.	
10.	Switch must have redundant Fan and Power Supply.	
11.	Switch should provide flexibility for 25GbE top-of-rack deployment.	
12.	Switch should have USB/Ethernet management interfaces.	
13.	Switch should be managed in an IPv6 network(IPv6 Device IP)	
14.	Switch should support Dual stack (IPv4 and IPv6) transitions from IPv4 to IPv6, support connectivity for both protocols	

15.	Switches should support creation of one virtual resilient switch from up to two switches by using standard LACP for automatic load balancing and high availability or by other equivalent method.	
16.	Switches should support Spanning Tree Protocol (STP)	
17.	Switch should support link aggregation control protocol (LACP) and port trunking IEEE 802.1AX-2008.	
18.	Switch should support VLAN support and tagging support IEEE 802.1Q.	
19.	Switch should support Simple Network Management Protocol (SNMPv2 and SNMPv3).	
20.	Implement Access Lists on the switch to ensure SNMP access only to the SNMP manager or the NMS workstation.	
21.	Switch should support duplicates port traffic (ingress and egress) to a local or remote monitoring port.	
22.	Implementation of multiple Privilege Levels should be supported.	
23.	Switch should Support for authentication, authorization, and accounting (AAA) using RADIUS and TACACS+.	
24.	Switch should support FTP, TFTP, and SFTP.	
25.	Switch should support Extensive debugging capabilities to assist in hardware/Configuration problem resolution, should supports ping and traceroute for both IPv4 and IPv6.	
26.	Switch should support integrate Network Time Protocol (NTP), SIEM	
27.	The Switch must be able to generate Syslog Messages with timestamp, which can be exported to a Syslog Server.	
28.	The Switch shall integrate with centralized network management software.	
29.	The Switches must be supplied with Compatible Power cables for the PDU supplied with the rack.	
30.	The switch shall have management security features like SSHv2 / Secure copy, encrypted user passwords, and authentication via AAA and RADIUS / TACACS+ to prevent unauthorized management access"	
31.	Proposed Switches must integrate seamlessly with active - active ports for redundancy and high availability from two core/distributed switches from day one with our existing infrastructure of Cisco/Juniper Datacenter router/switches.	
32.	Switch should have Custom banner display.	
33.	High Mean Time Between Failure values (>2 Lakh hours)should be available to ensure long life of switch hardware.	
34.	24*7*365 days Technical support with response time of 30 minutes.	
35.	Four hours RMA support in case of any hardware failure.	

Below table to be consider to provide uplink for above access switches as minimum cabling requirement.

Fiber(OM4)		
Length	DRC Qty	DC Qty
30M	40	25
20M	15	
15M		25
10M	20	25

In addition to the above access switches Bidder to supply Distribution Switches in High availability with required capacity to connect all supplied access switches with dual uplink of 10/40/100 Gbps in active-active mode for redundancy and load sharing (DC - (MZ-2,DMZ-2, DRC - (MZ-2,DMZ-2)) , Also Distributed Switch must be supplied with compatible Transceiver for Fiber ports and should be from same OEM with redundant power supply

Table-L

Backup Software for 500 Servers at DC and DRC

Sl. No.	Detailed Configuration-Backup Software	Bidder's Compliance
		(Yes/No)
1.	Make - Bidders to specify	
2.	Backup Software version - Bidders to specify	
3.	Backup Management <u>Software</u> should support backup of Physical, Virtual and Micro services (container) environments	
4.	Backup software should support agent/agentless backups of applications residing in VMs like SQL, Exchange, SharePoint, Oracle, etc. with non-staged granular recovery of all these applications. It should support crash consistent VM level backup for all other workloads	
5.	Backup software should be a Hardware Agnostic software and it should support snapshot integration with hypervisors like VMware and Hyper-V and support de-duplication on any storage target. It should be able to backup data to tapes (like LTO) as well for long term retention..	
6.	The proposed Backup software must offer instance based licenses with no restrictions on type of arrays (protecting heterogeneous storage technologies), front end production capacity or backup to disk target capacity restrictions. Licenses and associated software should be supplied for both primary and DR site.	

7.	Required License should be supplied to protect virtual machines, physical servers, NAS workload, Endpoints and multi cloud workload including all database applications running on these platforms	
8.	Backup software should have Capability to do trend analysis for capacity planning of backup environment, extensive alerting and reporting with pre-configured and customizable formats. Any specialized reporting modules needed must be quoted along with associated hardware to achieve this functionality. All necessary hardware resources required to run this module should be supplied.	
9.	Proposed software should support 24x7 real-time monitoring, with at-a-glance and drill-down views of backup items to check the backup status like backup size, backup files count, backup servers count, backup timings , number of times backed up etc.,	
10.	Backup software should provide Backup and Replication capabilities in one console only and also allow users to integrate with RBAC capabilities of the hypervisor, so that users can initiate backup and restore only those VMs to which they have access, without administrator intervention, thereby delivering self-serve capabilities.	
11.	Proposed software should support automated action for popular alarms (automated or semi-automated), with at-a-glance and drill-down view (e.g., Backup failed alerts with details of its failure)	
12.	The proposed backup software should be capable to take backups on object storage.	
13.	The Proposed backup software should not have any limitation on the number of incremental backups that could be taken post a Full backup.	
14.	Backup software should support instant file share recovery in NAS storages to allow users to access files fast after disaster. Backup software should support instant VM and NAS recoveries.	
15.	Proposed backup software should have the ability to perform staged restores to enable admins to comply to regulations by selectively deleting files / records which should not be restored from the backup copies. This will help in complying to "right to be forgotten "regulations like GDPR, where user data is deleted from restored backup copies in an auditable manner. Backup software should secure the system from eavesdropping of staged data as well as by prohibiting any deletions/modifications to backup copies.	
16.	Backup Software should be able to extend the backup repository to a public cloud service provider by moving older files to any S3 Compatible Object storage or Azure BLOB repositories.	

	The Backup Software should support copying of data directly into all industrial standard object storages like ECS,HCP,SCALITY etc.,	
17.	The software must has the functionality to back up on-prem data directly into cloud repositories such as AWS S3 or Microsoft Blob.	
18.	The proposed backup software should have approval flow for any backup deletion.	
19.	The Proposed backup Software should support Syslog and Service Now integration.	
20.	Recovery verification should include bare metal restore of server from backup and should have capability to verify and validate the integrity of the data. Also publish automated reports to be used in backup / recovery audits.	
21.	Backup software should support Multi factor authentication for accessing Backup console and console auto log-off functionality.	
22.	The proposed backup software should have a native solution to protect Kubernetes/Container workloads; without the need of a 3rd party solution.	
23.	The proposed backup software should provide Instant recoveries for any backup to VMware or Hyper-V Virtual machine	
24.	Backup software must have a feature of data validation, whereby a workload (VM with OS and application) is powered-on in a sandbox environment and tested for its recoverability	
25.	Backup software should support file level recovery from any backup of any VM.	
26.	Container Environment	
	Offered backup <u>software</u> should support/ open integration multiple kubernetes distributions including RHOS, VMware Tanzu, SUSE Rancher, Ezmeral Runtime etc.	
27.	Proposed backup software should be scalable to any number of worker nodes	
28.	Backup software should have the ability to take application consistent backup at granular level for micro-services	
29.	It should support integration with relational and no-sql databases.	
30.	Proposed software should have cloud storage integration	
31.	Proposed <u>software</u> have role base access control on the backup server	
32.	The offered <u>software</u> should support policy based backup architecture with calendar/frequency based scheduling.	
33.	Should preferably support auto-discovery of applications needing protection and provide alerting capability	
34.	Should support CSI integration and leverage underlying storage capabilities such as snapshots and replication of leading storage vendors including Dell EMC, HPE, Hitachi etc. Compatibility list to be provided	

35.	The proposed Backup software should protect from ransomware attacks	
36.	Should provide both GUI (dashboard) access as well as CLI using kubectl APIs.	
37.	Should support multiple independent k8s clusters	
38.	Backup software should support immutable backups for protecting backups from ransomware and malicious attacks. The immutability should be controllable from the backup management specification itself.	
39.	The backup software should have native storage integrations with all leading Storage platforms from Dell EMC, HPE, IBM, Hitachi, Netapp etc.	
40.	The backup software should support multiple types of backup repositories including Purpose built backup alliances, S3 Object Storage, Hardened NFS repositories etc. Compatibility list to be provided.	
41.	Backup software should be compatible with backup target types - VTL & NAS (NFS & CIFS).	
42.	Backup software shall have the ability to configure multiple Tape Libraries & NAS targets.	
43.	The proposed Software generation should be latest version the date of RFP submission and the proposed Software should not become End of Sales for three years from the date of the submission of the RFP and End of Life for 6 years from the date of the submission of the RFP	

Table-M

Technical Specification of Managed file transfer Solution:

Sl. No.	Detailed Specification	Compliance(Y/N)
1.	The proposed solution should be On-Premise deployment in three tier architecture DMZ secure gateway that allows files to be shared without being stored in the DMZ. The Gateway should be coordinate with the MFT to exchange secure data with the external SFTP Client	
2.	The proposed solution must centrally manage all file transfers in a secure manner.	
3.	The MFT solution should support FTP, FTP/S, SSH/SFTP, SSH/SCP, HTTPS and should have capability to support, AS1,AS2,AS3 etc. for future requirements.	
4.	The proposed solution should provide strong file encryption mechanism to encrypt data at rest and in transit	
5.	The solution should also provide a Web browser-based interface that enables users to upload/download files.	

6.	Users should view recent activity and status for file transfers they participated in, Generate reports for activity they participated in, Change their password, Subscribe to notifications.	
7.	The proposed solution should be able to support multiple file transfer job simultaneously	
8.	The proposed solution should provide a mechanism to allow external and internal entities to participate in file transfers within the same centralized server system.	
9.	The proposed solution should support automated file transfer job.	
10.	The proposed solution should be capable of sending alerts for failed task job to respective job owner	
11.	The software should support predefining the business processes for common behaviors in file-transfer scenarios, reducing the need for customization	
12.	The proposed solution should allow downloading a file multiple times.	
13.	The proposed solution should be able to restrict the file transfer based on file extension, IP, file size, header body parameter validation.	
14.	The proposed solution should support manual intervention of file retention timelines, business process retentions.	
15.	The proposed solution should provide inbuilt authentication options, including IP address, user ID and password, digital certificates, SSH keys.	
16.	The proposed solution should have mechanism to configure different password policies for external entities within the same solution	
17.	All SFTP users passwords should have option to change their password on their own as and when needed or when password expires as per policy	
18.	The proposed solution should have time based access control for external entities	
19.	The proposed solution should be able to provide successful access audit, failed access, configuration change logs, end to end transaction monitoring and troubleshooting.	
20.	The proposed solution should be able to allow blacklisting of IP's basis region, Set of IP's	
21.	The proposed solution should have capability to keep transaction/log data separate from the file system data. It should have also capability to store file system, transaction DB on the cloud.	

22.	The proposed solution should be able to terminate the session while the user is inactive for predefined time.	
23.	The proposed solution should prevent direct communications between external and internal sessions by establishing secure session breaks in the DMZ using SSL or TLS encryption	
24.	The proposed solution should support configuring data retention policy for at least 6 months.	
25.	The software should allow to automate purge or archive files.	
26.	The proposed solution should have support of Peer to Peer (Point to Point) deployments	
27.	The proposed solution should support all major industry operating systems (Windows, Linux, AIX, Solaris) and hardware (X-86 & Power, IBM Z, HP-UX)	
28.	The proposed solutions should allow addition of infrastructure/hardware to support higher usage for future requirement.	
29.	The proposed solution should provide embedded database and should also support and option to deploy it on oracle DB.	
30.	The proposed solution should have a separate dashboard to monitor real time file transfer jobs, alerts, warnings.	
31.	The proposed solution should provide proactive notification for at-risk business processes in the form of emails, SNMP traps, and alerts	
32.	The proposed solution should allow to configure email to send schedule compliance reports.	
33.	The proposed solution should be support MFA (Multi Factor Authentication) solution.	
34.	<u>The Proposed solution should have inbuilt mechanism to validate external entities using multiple authentication methods. Upon successful authentication, external users should be granted access to the green zone</u>	
35.	The proposed solution should support high available architecture/deployments link Active-Active, Active-Passive.	
36.	The proposed solution should not restrict adding user as and when required.	
37.	The solution should support oracle DB or equivalent for transactional/ logs as well as file system database.	
38.	The solution should support deploying HA at DR and DC-DR architecture	
39.	The proposed solution should support sending file in encryption form and should have an option receive it encrypted or decrypted at the destination.	
40.	The proposed solution should allow user to send a file to multiple users in different protocols at a same time.	
41.	The solution should provide option to integrate with existing antivirus to scan file before it enters internal/ green zone.	

42.	Application should have a capability to transfer file at multiple locations at the same time.	
43.	Required license to run in active- active setup and for entire solution of total 16 core to be supplied.	
44.	The solution should possess the capability to seamlessly integrate with Active Directory	
45.	The solution should support sharing of files with all file extensions and sizes, ensuring versatility and flexibility for users' needs.	
46.	The solution should possess the capability to create shared folders for each group, department, or team, with customizable access levels and storage size restrictions.	
47.	Users should have the ability to securely send files to recipients by generating a link and then emailing the link to the intended receiver.	
48.	The solution should be capable of supporting both on-premises and cloud storage repositories, offering flexibility and compatibility with various storage environments. The solution should support any brand and models of storage and hardware.	
49.	The solution should support automated data cleanup based on specified criteria such as number of days.	
50.	The solution should include comprehensive audit logging capabilities, capturing all activities such as data upload, share, download, cut, copy, paste, and rename. These logs must be stored in a non-tamperable format to ensure the integrity and reliability of the recorded information for compliance and security purposes.	
51.	The solution should allow for customizable validity periods for shared links based on specific dates and times. This feature enables administrators or users to set expiration dates and times for shared links, ensuring that access is limited to the desired timeframe.	
52.	The solution should offer command-line support, enabling seamless integration with external workflows and automation processes.	

Table-N

Technical Specifications of 4 SAN Director (2 Nos at DC and 2 Nos at DR)

Sl. No.	Detailed Configuration	Specification	Bidder's compliance (Yes/No)
1.	Bidder to specify make		
2.	Bidder to specify model		
3.	Bidder to specify form factor		

4.	Bidder to specify the power factor		
5.	SAN Director should be configured with minimum 3Blades*48 ports= 144 FC SAN ports with populated 32Gbps SFP Transceiver Modules and should be negotiable speed with 16/32 Gbps. SAN Director should support 64GBps trans receiver compatibility for future upgrade		
6.	Scalable further with 48 port*5 blades =240 FC SAN ports.		
7.	SAN director should have Dual Controllers		
8.	The switch should have 3Tbps BW per port blade providing line rate performance with 64G Line card in every Slot.		
9.	The switch should support 512 Gbps BW for ISL Trunking Necessary Licenses to be provided by the bidder.		
10.	The switch should auto-negotiate with 64/32/16 Gbps FC speed		
11.	Switch should support multiprotocol architecture such as FC, FICON, FCIP and FCR		
	Support for multiple Operating Systems versions connecting to it, including but not restricted to Windows 2016 or later, UNIX (AIX & Solaris & HP Unix), Linux (Red hat, SUSE & OEL), Hypervisor (vSphere, Hyper V , Red hat Virtualization, Oracle virtualization & Nutanix),RHCOS. Support for multiple hardware environment but not limited to X86 machines and IBM power machines		
12.	Maintenance: <u>Should Support online upgrade of firmware and other components.</u>		
13.	Warranty and Support	3 Years, Comprehensive, On-Site Support Warranty and 2 Year AMC including part replacement /repairs within 6 hours of reporting, and	

		Software support for updates, upgrades, patches, and bug fixes for supplied s/w from OEM 24 x 7 x 365 days. The proposed bidder will need to ensure support of product & change of components @ zero cost in case of any part becoming obsolete/EOL & EOS during the warranty and AMC period.	
14.	Uptime	The SAN Switch should be able to provide availability parameter of 99.90 % from the date of acceptance of the Storage by Bank	
15.	Power Supply	SAN Switch should be provided with Redundant hot swappable Power supplies. The Power supplies should be FCC class A certified	
16.	Cables	Necessary compatible power, network, Fiber cables with required length to be supplied along with storage.	
17.	Throughput	The aggregate backplane bandwidth of switch should be scalable more than 24Tbps of Fiber channel throughput for fully populated director	
18.	No Single point of Failure	The switch should have No Single Point of Failure (SPOF) and all the components should be hot swappable without even scheduled down time.	
19.	Monitoring	The switch should have Real time performance monitoring reporting tool	
20.	Diagnostics	The switch should have support for POST & online diagnostics	
21.	Other Features		
		The switch should have capability to interface with host based adapters (HBA) of multiple OEM, supporting multiple Operating Systems	

		The switch should have support of all leading SAN / NAS disk arrays and tape libraries	
		The switch should have Inter Switch linking feature to connect two or more FC switches	
		The switch should have trunking capability. The required software license should be supplied with switch	
		The switch should Provide Adaptive Networking services such as Quality of Service (QoS)	
		The switch should have high availability feature with no performance degradation of switching operation even when one of the processor card fails	
		The Switch should have Analytics and telemetry capabilities within the Switch	
		The Information generated by SAN Analytics should include at least counters and indicators related to latency, completion time, Outstanding I/Os, I/O block size etc.	
		The solution should be used to monitor storage traffic patterns for extended durations. This information should be used to profile the applications for their storage needs. Recommendation based on storage traffic patterns of the same application to other virtual machines or hosts should be provided for future expansion	
		The Analytics solution should provide performance metrics	

		of the available LUNs to enhance the storage provisioning	
		The solution should have auditability It should be able to generate multiple performance and error metrics for the complete storage fabric using a holistic approach to perform audits in the storage infrastructure.	
		The Information generated by SAN Analytics should include at least counters and indicators related to latency, completion time, Outstanding I/O's, I/O block size etc.	
		FCIP interface should have compression feature	
		SAN Switches should support NVME/ NVME-oF	
		All the ports shall be activated on day one and all necessary licenses and SFP shall be provided	
		The Switches should be IPv4/IPv6 Compliant	
		Any SAN Switch level configuration required for integration of the storage with any new applications in future to be carried out by the bidder during implementation and warranty and AMC period with no extra cost (as many times as may be required)	
		The switch should have following security features	
		Must have hardware & Software zoning	
		Centralized fabric management	
		Authentication protocol	
		RADIUS, SSH, SNMP	
		Port binding	

		The switch should support offline diagnostics, including electrical/optical loopback, link traffic/latency/distance including environmental monitoring, FCping and Pathinfo (FC traceroute), 256 bit encryption, compression, frame viewer, non-disruptive daemon restart, port mirroring	
		Switch should provide advanced zoning capabilities and allow health and performance monitoring capabilities. Support for web based management and should also support CLI	
		The director class switch should provide Inter Switch Link (ISL) for connecting multiple SAN Switches.	
		The director class switch should support non-disruptive Microcode/ firmware Upgrades and hot code activation.	
		It should be possible to isolate the high bandwidth data flows traffic to specific ISLs/trunks by simply using Zoning.	
		Switch should support Virtual Fabrics feature that enables partitioning of a physical SAN into logical fabrics and isolation by application, business group, customer, or traffic type.	
		Switch should provide advanced zoning capabilities and allow health and performance monitoring capabilities. Support for web based management and should also support CLI.	

		Should support features such as Quality of Service (QoS) to help optimize application performance in consolidated, virtual environments. It should be possible to define high, medium and low priority QoS zones to expedite high-priority traffic.	
		It shall be possible to configure the switches with alerts based on threshold values for temperature, fan status, Power supply status, port status.	
		Switch shall support diagnostics features such as port mirroring, Syslog, Online system health, Port-level statistics etc.	
22.	Port Types	The switch shall support different port types such as U_Port, , F_Port, E_Port, SIM port, EX_Port, D_Port (Diagnostic Port) & M_Port (Mirror Port)	
23.	Firmware Upgrades	The director class switch should support non-disruptive Microcode/ firmware Upgrades and hot code activation.	

Table-O
Technical Specifications of 10 SAN Switch (6 Nos at DC and 4 Nos at DR)

Sl. No.	Detailed Configuration	Specification	Bidder's compliance
			(yes/No)
1.	Bidder to specify make		
2.	Bidder to specify model		
3.	Bidder to specify form factor		
4.	Bidder to specify the power factor		

5.	SAN Switch should be configured with minimum 96 FC SAN ports with populated 32Gbps SFP Transceiver Modules and should be negotiable speed with 16/32 Gbps- (DC -4, DR -4). SAN Switch should be configured with minimum 48 FC SAN ports with populated 32Gbps SFP Transceiver Modules out of which it should contain 8 longwave sfps in each switch and it should be negotiable speed with 16/32 Gbps - (DC - 2) ISL Trunking connectivity and Cut Thru/Store Forward Switching. Necessary Licenses to be provided by the bidder. SAN Switch should support 64GBps trans receiver compatibility for future upgrade		
6.	Operating System Support	Support for multiple Operating Systems versions connecting to it, including but not restricted to Windows 2016 or later, UNIX (AIX & Solaris & HP Unix), Linux (Redhat, SUSE & OEL), Hypervisor (vSphere, Hyper V, Redhat Virtualization, Oracle virtualization & Nutanix), RHCOS.	
		Support for multiple hardware environment but not limited to X86 machines and IBM power machines	
7.	Maintenance	Should Support online upgrade of firmware and other components.	
8.	Warranty and Support	3 Years, Comprehensive, On-Site Support Warranty and 2 Year AMC including part replacement /repairs within 6 hours of reporting, and Software support for updates, upgrades, patches, and bug fixes for supplied s/w from OEM 24 x 7 x 365 days. The proposed bidder will need to ensure support of product & change of components @ zero cost in case of any part becoming obsolete/EOL & EOS during the warranty and AMC period.	
9.	Uptime	The SAN Switch should be able to provide availability parameter of 99.90 % from the date of acceptance of the Storage by Bank	
10.	Power Supply	SAN Switch should be provided with Redundant hot swappable Power supplies. The Power supplies should be FCC class A certified.	
11.	Cables	Necessary compatible power, network, Fiber cables with required length to be supplied along with storage.	

12.	No Single point of Failure	The switch should have No Single Point of Failure (SPOF) and all the components should be hot swappable without even scheduled down time.	

Table-P

**Technical Specifications of 2 LTO9 Tape Library (1 Nos at DC and 1Nos at DR)
and 200 LTO7 & 3800 LTO8 & 800 LTO9 Tapes & 200 No. of LTO9 Cleaning Cartridge**

Sl. No.	Detailed Configuration	Specification	Bidder's Compliance (Yes/No)
1.	Bidder to specify make		
2.	Bidder to specify model		
3.	Bidder to specify form factor		
4.	Bidder to specify power factor		
5.	Tape Drive	Minimum 40 LTO-9 Drive with FC Connectivity to support 8Gbps or more.	
6.	Free Slots	Minimum 250 Free tape slots should be available in library to accommodate the tapes.	
7.	Cables	Necessary OM3/OM4 FC cables of length 15 meters	
8.	LTO7 & LTO 8 & LTO 9 Tapes Up to LTO 9 Cleaning cartridges	3800 quantities (1900 DC & 1900 DRC) of LTO-8 standard tapes with custom Bar Codes compatible with the proposed Tape Library.	
		800 quantities (400 DC & 400 DRC) of LTO-9 standard tapes with custom Bar Codes compatible with the proposed Tape Library.	
		200 quantities (100 DC & 100 DRC) of LTO-7 standard tapes with custom Bar Codes.	
		200 quantities (100 DC & 100 DRC) up to LTO9 Cleaning Cartridge with custom Bar Codes.	
		Tapes replacement warranty for defects in manufacturing and material defects for the full life of the product, or until end of support of the product	

9.	Warranty and Support	3 Years, Comprehensive, On-Site Support Warranty and 2 Years AMC including part replacement /repairs within 6 hours of reporting, and Software support for updates, upgrades, patches, and bug fixes for supplied s/w from OEM 24 x 7 x 365 days. The proposed bidder will need to ensure support of product & change of components @ zero cost in case of any part becoming obsolete/EOL & EOS during the warranty and AMC period.	Internal
10.	Uptime	The storage should be able to provide availability parameter of 99.0 % from the date of acceptance of the Storage by Bank	
11.	Power Supply	Storage should be provided with Redundant hot swappable Power supplies. The Power supplies should be FCC class A certified.	
12.	Cables	Necessary compatible power, network, fiber cables with required length to be supplied along with storage.	

Table-Q
Technical Specifications of 2 LTO9 standalone Tape Drive (1 DC and 1 DRC)

Sl. No.	Detailed Configuration	Specification	Bidder's Compliance
1.	Bidder to specify make		
2.	Bidder to specify model		
3.	Bidder to specify form factor		
4.	Bidder to specify power factor		
5.	Tape Drive	Minimum 8 Slots Autoloader with LTO9 FC drive to support 8Gbps or more	
6.	Cables	Necessary OM3/OM4 FC cables of length 15 meters	
7.	Warranty and Support	3 Years, Comprehensive, On-Site Support Warranty and 2 Years AMC including part replacement /repairs within 6 hours of reporting, and Software support for updates, upgrades, patches, and bug fixes for supplied s/w from OEM 24 x 7 x 365 days. The proposed bidder will need to ensure support of product & change of components @ zero cost in case of any part becoming obsolete/EOL & EOS during the warranty and AMC period.	

8.	Cables	Necessary compatible power, network, fiber cables with required length to be supplied along with storage.	

We comply with the above Technical and Functional requirements, Non-compliance to any of the above requirement will lead to disqualification of the bidder in Technical proposal.

Date:

Signature with Seal

Name:

Designation:

Amended Annexure-16
Bill of Material

SUB: Supply, Installation, Configuration, Implementation and Maintenance of 500 Nos. of Servers and other IT Infra Components in Canara Bank

Ref: GEM/2024/B/4915191 dated 04/05/2024.

Notes

5. These details should be on the letter head of Bidder and each & every page should be signed by an Authorized Signatory with Name and Seal of the Company.
6. Please be guided by RFP terms, subsequent amendments and replies to pre-bid queries (if any) while quoting.
7. Do not change the structure of the format nor add any extra items.
8. No counter condition/assumption in response to commercial bid will be accepted. Bank has a right to reject such bid.

Table - A
Price details of Hardware Items

[Amount in Indian Rupees]

Sl. No.	Item Details	Unit Price with Three years Comprehensive onsite warranty and support (Excl. of Taxes)	Qty.	Total Cost Price with Three years Comprehensive onsite warranty and support (Excl. of Taxes)	Tax for Column c		Total Cost Price with Three years Comprehensive onsite warranty and support (Incl. of Taxes)
		a		c=a*b	% of Tax	Tax Amt.	f=c+e
23.	Servers With 64 core and approx. 2 TB Memory and Minimum 3.5 TB SSD usable space Local Disk with RAID 10 and minimum 900GB SSD usable space local Disk with RAID1 as mentioned in Tech Spec (Amended Annexure-9)		80				

Sl. No.	Item Details	Unit Price with Three years Comprehensive onsite warranty and support (Excl. of Taxes)	Qty.	Total Cost Price with Three years Comprehensive onsite warranty and support (Excl. of Taxes)	Tax for Column c		Total Cost Price with Three years Comprehensive onsite warranty and support (Incl. of Taxes)
		a		c=a*b	% of Tax	Tax Amt.	f=c+e
24.	Servers With 64 core and 512 GB Memory and 3.5 TB SSD usable space Local Disk with RAID 10 as and minimum 900GB SSD usable space local Disk with RAID1 as mentioned in Tech Spec (Amended Annexure-9)		28				
25.	Servers With 32 core and 1 TB Memory and 3.5 TB SSD usable space Local Disk with RAID 10 and minimum 900GB SSD usable sace local Disk with RAID1 as mentioned in Tech Spec (Amended Annexure-9)		100				
26.	Servers With 32 core and 256GB Memory and 3.5 TB SSD Local Disk with RAID 10 and minimum 900GB SSD usable space local Disk with RAID1 as mentioned in Tech Spec (Amended Annexure-9)		54				
27.	Servers with 16 core and 512GB Memory and <u>3.5 TB</u> SSD usable space Local Disk with <u>RAID 10</u> and minimum 900GB SSD usable space local Disk with RAID1 as mentioned in Tech Spec (Amended Annexure-9)		226				

Sl. No.	Item Details	Unit Price with Three years Comprehensive onsite warranty and support (Excl. of Taxes)	Qty.	Total Cost Price with Three years Comprehensive onsite warranty and support (Excl. of Taxes)	Tax for Column c		Total Cost Price with Three years Comprehensive onsite warranty and support (Incl. of Taxes)
		a		c=a*b	% of Tax	Tax Amt.	f=c+e
28.	Servers With 16 core and 256GB Memory and 3.5 TB SSD usable space Local Disk with RAID 10 and minimum 900GB SSD usable space local Disk with RAID1 as mentioned in Tech Spec (Amended Annexure-9)		4				
29.	Servers With 32 core and 1 TB Memory and 7.5 TB NVME SSD usable Local Disk with RAID 10 and minimum 900GB SSD usable space local Disk with RAID1 as mentioned in Tech Spec (Amended Annexure-9)		4				
30.	Servers With 32 core and 1 TB Memory and 34 TB NVME SSD usable Local Disk with RAID 10 and minimum 900GB SSD usable space local Disk with RAID1 as mentioned in Tech Spec (Amended Annexure-9)		4				
31.	Server Rack for placing Servers, storage, Library and SAN and Network switches and as per Technical Specification (Amended Annexure-9)		50				

Sl. No.	Item Details	Unit Price with Three years Comprehensive onsite warranty and support (Excl. of Taxes)	Qty.	Total Cost Price with Three years Comprehensive onsite warranty and support (Excl. of Taxes)	Tax for Column c		Total Cost Price with Three years Comprehensive onsite warranty and support (Incl. of Taxes)
		a		c=a*b	% of Tax	Tax Amt.	f=c+e
32.	PDU for the supplied RACKS and as per Technical Specification (Amended Annexure-9)		100				
33.	SAN Director (48*3=144 FC SAN ports with 16&32Gbps SFP) and as per Technical Specification (Amended Annexure-9)		4				
34.	SAN Switches (32G SAN with 96 port) Switch and as per Technical Specification (Amended Annexure-9)		8				
35.	SAN Switches (32G SAN with 48 port) Switch and as per Technical Specification (Amended Annexure-9)		2				
36.	Object Storage of 2.5PB Usable Space and as per Technical Specification (Amended Annexure-9)		2				
37.	Enterprise Block Storage of 2.0PB Usable Space and as per Technical Specification (Amended Annexure-9)		4				
38.	Tape Library with 40 Tape Drives and 250 Free slots and as per Technical Specification (Amended Annexure-9)		2				

Sl. No.	Item Details	Unit Price with Three years Comprehensive onsite warranty and support (Excl. of Taxes)	Qty.	Total Cost Price with Three years Comprehensive onsite warranty and support (Excl. of Taxes)	Tax for Column c		Total Cost Price with Three years Comprehensive onsite warranty and support (Incl. of Taxes)
		a		c=a*b	% of Tax	Tax Amt.	f=c+e
39.	LTO-9 Stand Alone Tape Drive and as per Technical Specification (Amended Annexure-9)		2				
40.	48 Gig Ethernet ports and 2 x 10G SFP+ for uplink on single chassis TOR Switch as per Technical Specification (Amended Annexure-9)		14				
41.	48 fixed 10-G BASE-T ports and 6 fixed 40/100-Gbps QSFP+ ports for uplink with fully populated transceivers connectivity on single chassis TOR switch as per Technical Specification (Amended Annexure-9)		24				
42.	48 x 25-Gbps fiber downlink ports and 6 x 100-Gbps Quad Small Form-Factor Pluggable 28 (QSFP28) uplink ports with fully populated transceivers on single chassis TOR Switch as per Technical Specification (Amended Annexure-9)		4				
43.	Distribution Switches in High availability with required capacity to connect all supplied access switches with dual uplink		8				

Sl. No.	Item Details	Unit Price with Three years Comprehensive onsite warranty and support (Excl. of Taxes)	Qty.	Total Cost Price with Three years Comprehensive onsite warranty and support (Excl. of Taxes)	Tax for Column c		Total Cost Price with Three years Comprehensive onsite warranty and support (Incl. of Taxes)
		a		c=a*b	% of Tax	Tax Amt.	f=c+e
	of 10/40/100 Gbps in active-active mode for redundancy and load sharing as per Technical Specification (Amended Annexure-9)						
44.	Total Cost for Hardware (Sum of Sl. No. 1 to 21)						

Table - B
Price details of Software/License Items (Perpetual)

[Amount in Indian Rupees]

Sl. No.	Item Details	Unit Cost with lifetime support (Excl. of Tax)	Qty.	Total Cost with lifetime support (Excl. of Tax)	Tax for Column c		Total Cost with lifetime support (Incl. of Tax)
		a		c=a*b	% of Tax	Tax Amt.	f=c+e
6.	Windows 2022 Data Centre Edition 16 Corepack with standard support		160				
7.	Windows 2022 Standard Centre Edition 16 Core pack with standard support		187				
8.	Microsoft SQL 2022 standard edition two core pack with standard support		156				

Sl. No.	Item Details	Unit Cost with first year support (Excl. of Tax)	Qty.	Total Cost with first year support (Excl. of Tax)	Tax for Column c		Total Cost with first year support (Incl. of Tax)
		a	b	c=a*b	% of Tax d	Tax Amt. e	f=c+e
9.	IBM WebSphere ND 9.5 PVU.		17920				
10.	Total Cost for Software/Licenses (Sum of Sl. No. 1 to 4)						

Table - C
Price details of Software/License Items (Subscription based Licenses)

[Amount in Indian Rupees]

Sl. No.	Item Details	Unit Price with support for 5 Years (Excl. of Tax)	Qty.	Total Cost with support for 5 Years (Excl. of Tax)	Tax for Column c		Total Cost with support for 5 Years (Incl. of Tax)
		a	B	c=a*b	% of Tax d	Tax Amt. e	f=c+e
15.	RHEL 9 Virtual DataCentre with premium support		20				
16.	RHEL 9 with premium support		150				
17.	RHEL 9 High Availability with premium support - X86 machines		30				
18.	RedHat OpenShift Container Platform Plus- RHCOS latest version subscription with premium support		3				
19.	RedHat OpenShift Container Platform Plus- RHCOS latest version subscription with standard support		3				
20.	Apache Tomcat Enterprise Edition with support - instance base		5				
21.	Managed File Transfer Solution core based		16				

22.	File Sync Software instance base with support		50				
23.	Backup Software instance based with support		500				
24.	Jboss Enterprise Application Platform (16 core Pack) with premium support		2				
25.	Jboss Enterprise Application Platform (16 core Pack) with standard support		1				
26.	Jboss web server (16 core Pack) with premium support		2				
27.	Jboss web server (16 core Pack) with standard support		1				
28.	Total Cost (Sum of Sl. No. 1 to 13)						

Table - D
Price details of Linear Tape Open Cartridges (5000 nos.)

[Amount in Indian Rupees]

Sl. No.	Requirement Details	Unit Price (Excl. of Tax)	Quantity	Total Cost Price (Excl. of Tax)	Tax for Column C		Total Price (Incl. of Tax)
		a			% of Tax	Tax Amt.	
			b	c=a*b	d	e	f=c+e
6.	LTO-7 standard tapes with customized barcodes		200				
7.	LTO-8 standard tapes with customized barcodes		3800				
8.	LTO-9 standard tapes with customized barcodes		800				
9.	LTO-9 Cleaning Cartridges with customized barcodes		200				
10.	Total cost for 5000 Linear Tape Open Cartridges (Sum of Sl. No. 1 to 4)						

Table - E
AMC /ATS Cost for Hardware/Software/Licenses for 2 Years on post warranty

[Amount in Indian Rupees]

Sl. No.	Item Details	Cost for AMC for 2 years (Excl. of Tax)		Qty.	Total AMC Cost (Excl. of Tax)	Tax for Column d		Total AMC Cost (Incl. of Tax)
		4 th Year	5 th Year			% of Tax	Tax Amt.	
		a	b			C	d=(a+b)*c	
A.	Hardware							
24.	Servers With 64 core and approx. 2 TB Memory and Minimum 3.5 TB SSD usable space Local Disk with RAID 10 and minimum 900GB SSD usable space local Disk with RAID1 as mentioned in Tech Spec (Amended Annexure-9)			80				
25.	Servers With 64 core and 512 GB Memory and 3.5 TB SSD usable space Local Disk with RAID 10 as and minimum 900GB SSD usable space local Disk with RAID1 as mentioned in Tech Spec (Amended Annexure-9)			28				
26.	Servers With 32 core and 1 TB Memory and 3.5 TB SSD usable space Local Disk with RAID 10 and minimum 900GB SSD usable sace local Disk with RAID1 as mentioned in Tech Spec (Amended Annexure-9)			100				

Sl. No.	Item Details	Cost for AMC for 2 years (Excl. of Tax)		Qty.	Total AMC Cost (Excl. of Tax)	Tax for Column d		Total AMC Cost (Incl. of Tax)
		4 th Year	5 th Year			% of Tax	Tax Amt.	
		a	b			e	f	
27.	Servers with 16 core and 512GB Memory and 3.5 TB SSD usable space Local Disk with RAID 10 and minimum 900GB SSD usable space local Disk with RAID1 as mentioned in Tech Spec (Amended Annexure-9)			226				
28.	Servers With 32 core and 256GB Memory and 3.5 TB SSD Local Disk with RAID 10 and minimum 900GB SSD usable space local Disk with RAID1 as mentioned in Tech Spec (Amended Annexure-9)			54				
29.	Servers With 16 core and 256GB Memory and 3.5 TB SSD usable space Local Disk with RAID 10 and minimum 900GB SSD usable space local Disk with RAID1 as mentioned in Tech Spec (Amended Annexure-9)			4				

Sl. No.	Item Details	Cost for AMC for 2 years (Excl. of Tax)		Qty.	Total AMC Cost (Excl. of Tax)	Tax for Column d		Total AMC Cost (Incl. of Tax)
		4 th Year	5 th Year			% of Tax	Tax Amt.	
		a	b			e	f	
30.	Servers With 32 core and 1 TB Memory and 7.5 TB NVME SSD usable Local Disk with RAID 10 and minimum 900GB SSD usable space local Disk with RAID1 as mentioned in Tech Spec (Amended Annexure-9)			4				
31.	Servers With 32 core and 1 TB Memory and <u>34</u> TB NVME SSD usable Local Disk with RAID 10 and minimum 900GB SSD usable space local Disk with RAID1 as mentioned in Tech Spec (Amended Annexure-9)			4				
32.	Server Rack for placing Servers, storage, Library and SAN and Network switches and as per Technical Specification (Amended Annexure-9)			50				
33.	PDU for the supplied RACKS and as per Technical Specification (Amended Annexure-9)			100				
34.	SAN Director (48*3=144 FC SAN ports with 16&32Gbps SFP) and as per Technical Specification (Amended Annexure-9)			4				

Sl. No.	Item Details	Cost for AMC for 2 years (Excl. of Tax)		Qty.	Total AMC Cost (Excl. of Tax)	Tax for Column d		Total AMC Cost (Incl. of Tax)
		4 th Year	5 th Year			% of Tax	Tax Amt.	
		a	b			e	f	
35.	SAN Switches (32G SAN with 96 port) Switch and as per Technical Specification (Amended Annexure-9)			8				
36.	SAN Switches (32G SAN with 48 port) Switch and as per Technical Specification (Amended Annexure-9)			2				
37.	Object Storage of <u>2.5PB</u> Usable Space and as per Technical Specification (Amended Annexure-9)			2				
38.	Enterprise Block Storage of 2.0PB Usable Space and as per Technical Specification (Amended Annexure-9)			4				
39.	Tape Library with 40 Tape Drives and 250 Free slots and as per Technical Specification (Amended Annexure-9)			2				
40.	LTO-9 Stand Alone Tape Drive and as per Technical Specification (Amended Annexure-9)			2				

Sl. No.	Item Details	Cost for AMC for 2 years (Excl. of Tax)		Qty.	Total AMC Cost (Excl. of Tax)	Tax for Column d		Total AMC Cost (Incl. of Tax)
		4 th Year	5 th Year			% of Tax	Tax Amt.	
		a	b			e	f	
41.	48 Gig Ethernet ports and 2 x 10G SFP+ for uplink on single chassis TOR Switch as per Technical Specification (Amended Annexure-9)			14				
42.	48 fixed 10-G BASE-T ports and 6 fixed 40/100-Gbps QSFP+ ports for uplink with fully populated transceivers connectivity on single chassis TOR switch as per Technical Specification (Amended Annexure-9)			24				
43.	48 x 25-Gbps fiber downlink ports and 6 x 100-Gbps Quad Small Form-Factor Pluggable 28 (QSFP28) uplink ports with fully populated transceivers on single chassis TOR Switch as per Technical Specification (Amended Annexure-9)			4				
44.	Distribution Switches in High availability with required capacity to connect all supplied access switches with dual uplink of 10/40/100 Gbps			8				

Sl. No.	Item Details	Cost for AMC for 2 years (Excl. of Tax)		Qty.	Total AMC Cost (Excl. of Tax)	Tax for Column d		Total AMC Cost (Incl. of Tax)
		4 th Year	5 th Year			% of Tax	Tax Amt.	
		a	b			e	f	
	in active-active mode for redundancy and load sharing as per Technical Specification (Amended Annexure-9)							
B.	Software							
Sl. No.	Item Details	ATS cost for 4 years (Excl. of Tax)		Qty.	Total AMC Cost (Excl. of Tax)	Tax for Column c		Total AMC Cost (Incl. of Tax)
		a	b			% of Tax	Tax Amt.	
						d	e	f=c+e
45.	Support charge for IBM WebSphere ND 9.5 PVU			17920				
46.	Total Cost for AMC for Hardware/Software/Licenses (Sum of Sl. No. 1 to 22)							

Table - F
One-time Implementation charges

							[Amount in Indian Rupees]	
Sl. No.	Item Details		Unit Price (Excl. of Tax)	No. of Units	Total Price (Excl. of Tax)	Tax for Column c		Total Price (Incl. of Tax)
						% of Tax	Tax Amt.	
			a	b	c=a*b	d	e	f=c+e
17.	Servers Installation and Configurations with OS	Per Server		500				
18.	Managed file transfer solution Implementation	Per Site		2				

Sl. No.	Item Details		Unit Price (Excl. of Tax)	No. of Units	Total Price (Excl. of Tax)	Tax for Column c		Total Price (Incl. of Tax)
			a	b	c=a*b	% of Tax d	Tax Amt. e	f=c+e
19.	Backup <u>Software</u> implementation	Per server		500				
20.	Jboss server implementation	Per Server		3				
21.	Apache Tomcate server implementation	Per Server		5				
22.	MSSQL Setup installation per server with cluster configuration (for 24 Servers - in 2 node cluster)	Per server		24				
23.	RHCOS Setup installation and configuration for three cluster (Three nodes in one Cluster)	Per Cluster		3				
24.	Installation of TOR switches	Per Switch		42				
25.	Installation of Distribution Switches	Per Switch		8				
26.	Implementation charges for SAN Director with ISL	Per Director		4				
27.	Implementation charges for SAN switch with ISL	Per Switch		10				
28.	Object Storage implementation Cost	Per storage		2				
29.	Block Storage Implementation Cost	Per storage		4				
30.	Rack and PDU implementation	Per Rack		50				
31.	Tape Library implementation cost	Per Library		2				
32.	Total Cost for Optional Items (Sum of Sl. No. 1 to 15)							

Table - G (Optional)
Price details of Optional Items for 5 Years

[Amount in Indian Rupees]

Sl. No.	Item Details	Unit Price (Excl. of Tax)	Tax for Column a		Total Price (Incl. of Tax)
			% of Tax	Tax Amt.	
		a	b	C	d=a+c
1.	1.92 TB SSD with 3 year warranty (Compatible with the proposed server)				
2.	One CPU of 16 core				
3.	One CPU of 24 core				
4.	One CPU of 32 core				
5.	One CPU of 64 core				
6.	One Memory Stick of 64 GB				
7.	One Memory Stick of 128 GB				
8.	Object Storage per TB Cost				
9.	Block Storage per TB Cost				
10.	Block Storage per controller cost				
11.	Object Storage per controller cost				
12.	One FC Card with minimum 1 number of 32 Gbps FC ports in each card				
13.	One Network Cards, each equipped with at least <u>two</u> 10-gigabit network ports				
14.	One Network Cards, each equipped with at least two 1-gigabit network ports				
15.	San Director 32G SFP Module				
16.	San Director 64G SFP Module				
17.	San Switch 32G <u>SFP</u> Module				
18.	San Switch 64G SFP Module				
19.	San Switch Long Wave 32G SFP Module				
20.	San Switch Long Wave 64G SFP Module				

Sl. No.	Item Details	Unit Price (Excl. of Tax)	Tax for Column a		Total Price (Incl. of Tax)
			% of Tax	Tax Amt.	
		a	b	C	d=a+c
21.	SAN Director per Blade Cost				
22.	SAN Director Blade Cost with fully populate <u>SFP</u>				
23.	CAT 6 UTP Copper Cable length of 3 mtrs				
24.	CAT 6 UTP Copper Cable length of 5 mtrs				
25.	CAT 6 UTP Copper Cable length of 7 mtrs				
26.	CAT 6 UTP Copper Cable length of 10 mtrs				
27.	CAT 6 UTP Copper Cable length of 15 mtrs				
28.	CAT 7 UTP Copper Cable length of 3 mtrs				
29.	CAT 7 UTP Copper Cable length of 5 mtrs				
30.	CAT 7 UTP Copper Cable length of 7 mtrs				
31.	CAT 7 UTP Copper Cable length of 10 mtrs				
32.	CAT 7 UTP Copper Cable length of 15 mtrs				
33.	CAT 7 UTP Copper Cable length of 25 mtrs				
34.	Fiber cables Cable length OM4 of 5 mtrs				
35.	Fiber cables Cable length OM4 of 10 mtrs				
36.	Fiber cables Cable length OM4 of 15 mtrs				
37.	Fiber cables Cable length OM4 of 20 mtrs				
38.	Fiber cables Cable length OM4 of 25 mtrs				
39.	Fiber cables Cable length OM4 of 30 mtrs				
40.	<u>One CPU of 8 core</u>				
41.	Total Cost for Optional Items (Sum of Sl. No. 1 to 40)				

The cost mentioned in column “a” of Table-F will be the fixed price for 5 years (i.e., Unit Price mentioned will be fixed for the entire contract period). Bank may procure the above items mentioned in Table-F with the same cost for the entire contract period.

The items brought during the contract period should be co-terminus with the base hardware.

Bank may issue Purchase order(s) to procure items mention in Table-G as per the necessary quantities as and when required by the Bank during the initial purchase or during the entire Contract Period. However, the bidder has to provide the optional items at the same cost mentioned in the Table-G.

Table - H
Total Cost of the Hardware, Software and optional items for 5 Years

[Amount in Indian Rupees]

Sl. No.	Requirement Details	Total Cost of the Hardware, Software and optional items for 5 Years (Incl. of Taxes)
1.	Total cost of Table-A (Price details of Hardware Items for three year warranty period)	
2.	Total cost of Table-B (Price details of Software/License Items (Perpetual))	
3.	Total cost of Table-C (Price details of Software/License Items (Subscription based))	
5.	Total cost of Table-D (Price details of Linear Tape Open Cartridges)	
6.	Total cost of Table-E (Two year contract for AMC /ATS Cost for Hardware/Software/Licenses)	
7.	Total cost of Table-F (One-time Implementation charges)	
8.	Total cost of Table-G (Price details of Optional Items for 5 Years)	
9.	Total Cost of Ownership for 5 Years (Sum of Sl. No. 1 to 8)	

Declaration:

- f. Bill of material is submitted on the letter head and is signed by an Authorized Signatory with Name and Seal of the Company.
- g. We confirm that we have gone through RFP clauses, subsequent amendments and replies to pre-bid queries (if any) and abide by the same.
- h. We have not changed the structure of the format nor added any extra items. We note that any such alternation will lead to rejection of Bid.

- i. We agree that no counter condition/assumption in response to commercial bid will be accepted by the Bank. Bank has a right to reject such bid.
- j. We are agreeable to the payment schedule as per “Payment Terms” of the RFP.

Date:

Place:

Authorized signatory

Name:

Designation:

Company seal:

Corrigendum-6 to GeM Bid ref. no GEM/2024/B/4915191 dated 04/05/2024 for Selection of vendor for Supply, Installation, Configuration, Implementation and Maintenance of 500 Nos. of Servers and other IT Infra Components in Canara Bank.

It is decided to amend the following in respect of the above RFP:

d. GeM bid document (Bid End date/ Bid Opening Date, Page no. 1 of 7):

Description	Existing details	Amended details
Bid End Date/Time	28/06/2024, 15:00:00	<u>08/07/2024</u> , 15:00:00
Bid opening Date/Time	28/06/2024, 15:30:00	<u>08/07/2024</u> , 15:30:00

All the other instructions and terms & conditions of the above RFP shall remain unchanged.

Please take note of the above amendments while submitting your response to the subject RFP

Date: 28/06/2024
Place: Bengaluru

-Sd-
General Manager

Replies to Pre bid Queries for GeM Bid ref. no GEM/2024/B/4915191 dated 04/05/2024 for Selection of vendor for Supply, Installation, Configuration, Implementation and Maintenance of 500 Nos. of Servers and other IT Infra Components in Canara Bank

Sl. No.	Page No.	Section / Annexure / Appendix	RFP Clause	Sub-Clause/ Specification Technical	Bidder's Query	Bank's Reply
1	64	Annexure-2 Pre-Qualification Criteria	Sl. No. 6	Pre-Qualification Criteria: The bidder should have yearly average turnover of 300 Crores in India for the last three financial years 2020-2021, 2021-2022, 2022-2023 from their Indian operation as per the audited Financial Statements. This must be the individual company turnover and not of any group of companies.	The bidder/OEM should have yearly average turnover of 300 Crores in India for the last three financial years 2020-2021, 2021-2022, 2022-2023 from their Indian operation as per the audited Financial Statements. This must be the individual company turnover and not of any group of companies. (OR) The average annual turnover of the Bidder should be Rs.60 crore or above in last three financial years (2020-21, 2021-22 & 2022-23) Remarks Request you to kindly consider Bidder /OEM for 300 cr (OR) Request you to kindly consider for 60 Crores turnover to enable us to participate in this opportunity.	Bidders to comply with RFP/GeM bid terms and conditions

2	87, 93, 99, 105, 111 & 118	Annexure-9 Technical Specifications	Table-A Technical Specification - 80 servers (41 DC and 39 DRC) Table-B Technical Specification - 28 servers (17 DC and 11 DRC) Table-C Technical Specification - 100 servers (60 DC and 40 DRC) Table-D Technical Specification - 54 servers (28 DC and 26 DRC) Table-E Technical Specification - 226 servers (135 DC and 91 DRC) Table-F Custom Technical Specification - 12 servers	Sl. No: 9 SAN & Network FC HBA CARD- Two FC Card with minimum 1 number of 32 Gbps FC ports in each card with Supported SFP+ transceivers (With NVME Capable)	Single card with 2x32G FC Ports, and we Need to know what is nvme capability in FC card	Bidders to comply with RFP/GeM bid terms and conditions

3	87	Annexure-9 Technical Specifications	Table-A Technical Specification - 80 servers (41 DC and 39 DRC)	Sl. No: 9 SAN & Network Network cards 1 Gbps 2*1Gbps - Two Network Cards, each equipped with at least two 1-gigabit network ports (Four Port of 1Gbase-T On-Board or separate NIC with supported minimum 5 meter of compatible Cat6/Cat7 UTP Cable)	Can we provideSingle card with 4x1G ports.	Bidders to comply with RFP/GeM bid terms and conditions

4	87,93,99,105,111 & 119	Annexure-9 Technical Specifications	Table-A Technical Specification - 80 servers (41 DC and 39 DRC) Table-B Technical Specification - 28 servers (17 DC and 11 DRC) Table-C Technical Specification - 100 servers (60 DC and 40 DRC) Table-D Technical Specification - 54 servers (28 DC and 26 DRC) Table-E Technical Specification - 226 servers (135 DC and 91 DRC) Table-F Custom Technical Specification - 12 servers	Sl. No: 9SAN & Network Network cards 10 Gbps 2*10Gbps -Two Network Cards, each equipped with at least two 10-gigabit network ports (Four Port BaseT NIC LOM or separate NIC with minimum 5 meter Cat6A/Cat7 UTP Cable.	can we provide Single card with 4x10G ports..	Bidders to comply with RFP/GeM bid terms and conditions

5	87, 93, 99, 105, 111 & 118	Annexure-9 Technical Specifications	Table-A Technical Specification - 80 servers (41 DC and 39 DRC) Table-B Technical Specification - 28 servers (17 DC and 11 DRC) Table-C Technical Specification - 100 servers (60 DC and 40 DRC) Table-D Technical Specification - 54 servers (28 DC and 26 DRC) Table-E Technical Specification - 226 servers (135 DC and 91 DRC) Table-F Custom Technical Specification - 12 servers	Sl. No: 9 SAN & Network FC HBA CARD- Two FC Card with minimum 1 number of 32 Gbps FC ports in each card with Supported SFP+ transceivers (With NVME Capable)	Single card with 2x32G FC Ports, and we Need to know what is nvme capability in FC card..	Bidders to comply with RFP/GeM bid terms and conditions

6	93, 99, 105, 111 & 119	Annexure-9 Technical Specifications	Table-A Technical Specification - 80 servers (41 DC and 39 DRC) Table-B Technical Specification - 28 servers (17 DC and 11 DRC) Table-C Technical Specification - 100 servers (60 DC and 40 DRC) Table-D Technical Specification - 54 servers (28 DC and 26 DRC) Table-E Technical Specification - 226 servers (135 DC and 91 DRC) Table-F Custom Technical Specification - 12 servers	Sl. No: 9 SAN & Network cards 1 Gbps 2*1Gbps (Four Port of 1Gbase-T On-Board or separate NIC with supported minimum 5 meter of compatible Cat6/Cat7 UTP Cable)	Can we provide Single card with 4x1G ports	Bidders to comply with RFP/GeM bid terms and conditions

7	87,93,99,105,111 & 119	Annexure-9 Technical Specifications	Table-A Technical Specification - 80 servers (41 DC and 39 DRC) Table-B Technical Specification - 28 servers (17 DC and 11 DRC) Table-C Technical Specification - 100 servers (60 DC and 40 DRC) Table-D Technical Specification - 54 servers (28 DC and 26 DRC) Table-E Technical Specification - 226 servers (135 DC and 91 DRC) Table-F Custom Technical Specification - 12 servers	Sl. No: 9SAN & Network Network cards 10 Gbps 2*10Gbps - Two Network Cards, each equipped with at least two 10-gigabit network ports (Four Port BaseT NIC LOM or separate NIC with minimum 5 meter Cat6A/Cat7 UTP Cable.	can we provide Single card with 4x10G ports	Bidders to comply with RFP/GeM bid terms and conditions

8	89, 95, 101, 107, 114 & 121	Annexure-9 Technical Specifications	Table-A Technical Specification - 80 servers (41 DC and 39 DRC) Table-B Technical Specification - 28 servers (17 DC and 11 DRC) Table-C Technical Specification - 100 servers (60 DC and 40 DRC) Table-D Technical Specification - 54 servers (28 DC and 26 DRC) Table-E Technical Specification - 226 servers (135 DC and 91 DRC) Table-F Custom Technical Specification - 12 servers	Sl. No: 19 System Management Solution	The system management solution is required. The system management solution should collect system information (including impending component failure) from the device that generated the alert and sends the information securely to OEM to Support to troubleshoot the issue and provide an appropriate solution. - NA Currently	Bidders to comply with RFP/GeM bid terms and conditions

9	87, 93, 99, 105, 111 & 118	Annexure-9 Technical Specifications	Table-A Technical Specification - 80 servers (41 DC and 39 DRC) Table-B Technical Specification - 28 servers (17 DC and 11 DRC) Table-C Technical Specification - 100 servers (60 DC and 40 DRC) Table-D Technical Specification - 54 servers (28 DC and 26 DRC) Table-E Technical Specification - 226 servers (135 DC and 91 DRC) Table-F Custom Technical Specification - 12 servers	Sl. No: 9 SAN & Network FC HBA CARD- Two FC Card with minimum 1 number of 32 Gbps FC ports in each card with Supported SFP+ transceivers (With NVME Capable)	Single card with 2x32G FC Ports, and we Need to know what is nvme capability in FC card.	Bidders to comply with RFP/GeM bid terms and conditions

10	93, 99, 105, 111 & 119	Annexure- 9Technical Specifications	Table- A Technical Specification - 80 servers (41 DC and 39 DRC) Table- B Technical Specification - 28 servers (17 DC and 11 DRC) Table- C Technical Specification - 100 servers (60 DC and 40 DRC) Table- D Technical Specification - 54 servers (28 DC and 26 DRC) Table- E Technical Specification - 226 servers (135 DC and 91 DRC) Table- F Custom Technical Specification - 12 servers	Sl. No: 9 SAN & Network Network cards 1 Gbps 2*1Gbps (Four Port of 1Gbase-T On-Board or separate NIC with supported minimum 5 meter of compatible Cat6/Cat7 UTP Cable)	Can we provide Single card with 4x1G ports	Bidders to comply with RFP/GeM bid terms and conditions

11	87,93,99,105,111 & 119	Annexure-9 Technical Specifications	Table-A Technical Specification - 80 servers (41 DC and 39 DRC) Table-B Technical Specification - 28 servers (17 DC and 11 DRC) Table-C Technical Specification - 100 servers (60 DC and 40 DRC) Table-D Technical Specification - 54 servers (28 DC and 26 DRC) Table-E Technical Specification - 226 servers (135 DC and 91 DRC) Table-F Custom Technical Specification - 12 servers	Sl. No: 9 SAN & Network cards 10 Gbps 2*10Gbps -Two Network Cards, each equipped with at least two 10-gigabit network ports (Four Port BaseT NIC LOM or separate NIC with minimum 5 meter Cat6A/Cat7 UTP Cable.	can we provide Single card with 4x10G ports	Bidders to comply with RFP/GeM bid terms and conditions

12	89, 95, 101, 107, 114 & 121	Annexure-9 Technical Specifications	Table-A Technical Specification - 80 servers (41 DC and 39 DRC) Table-B Technical Specification - 28 servers (17 DC and 11 DRC) Table-C Technical Specification - 100 servers (60 DC and 40 DRC) Table-D Technical Specification - 54 servers (28 DC and 26 DRC) Table-E Technical Specification - 226 servers (135 DC and 91 DRC) Table-F Custom Technical Specification - 12 servers	Sl. System Solution	No: Management	19	The system management solution is required. The system management solution should collect system information (including impending component failure) from the device that generated the alert and sends the information securely to OEM to Support to troubleshoot the issue and provide an appropriate solution. - NA Currently	Bidders to comply with RFP/GeM bid terms and conditions

13	88, 94, 100, 106, 112 & 120	Annexure- 9Technical Specifications	Table- ATechnical Specification - 80 servers (41 DC and 39 DRC)Table- BTechnical Specification - 28 servers (17 DC and 11 DRC)Table- CTechnical Specification - 100 servers (60 DC and 40 DRC)Table- DTechnical Specification - 54 servers (28 DC and 26 DRC)Table- ETechnical Specification - 226 servers (135 DC and 91 DRC)Table- FCustom Technical Specification - 12 servers	Sl. No: 14Port- 3 USB3.0 port and 1 VGA Port	Can we consider this as 2x USB 3.0 Ports	Bidder to refer corrigendum-5.

14	88, 94, 100, 107, 113 & 120	Annexure-9 Technical Specifications	Table-A Technical Specification - 80 servers (41 DC and 39 DRC) Table-B Technical Specification - 28 servers (17 DC and 11 DRC) Table-C Technical Specification - 100 servers (60 DC and 40 DRC) Table-D Technical Specification - 54 servers (28 DC and 26 DRC) Table-E Technical Specification - 226 servers (135 DC and 91 DRC) Table-F Custom Technical Specification - 12 servers	Sl. No: 17 PCI Slots- Minimum 4 - x16 PCIe Gen4 or higher free slots(Peripheral Component Interconnect Express)	After populating all the asked cards, we can provide this using only 4U GPU Servers. Kindly help to remove this clause so this requirement can be fitted in 2U form factor	Bidders to comply with RFP/GeM bid terms and conditions

15	88, 94, 100, 106, 112 & 120	Annexure-9 Technical Specifications	Table-A Technical Specification - 80 servers (41 DC and 39 DRC) Table-B Technical Specification - 28 servers (17 DC and 11 DRC) Table-C Technical Specification - 100 servers (60 DC and 40 DRC) Table-D Technical Specification - 54 servers (28 DC and 26 DRC) Table-E Technical Specification - 226 servers (135 DC and 91 DRC) Table-F Custom Technical Specification - 12 servers	Sl. No: 14 Port- 3 USB3.0 port and 1 VGA Port	Can we consider this as 2x USB 3.0 Ports..	Bidder to refer corrigendum-5.

16	88, 94, 100, 107, 113 & 120	Annexure-9 Technical Specifications	Table-A Technical Specification - 80 servers (41 DC and 39 DRC) Table-B Technical Specification - 28 servers (17 DC and 11 DRC) Table-C Technical Specification - 100 servers (60 DC and 40 DRC) Table-D Technical Specification - 54 servers (28 DC and 26 DRC) Table-E Technical Specification - 226 servers (135 DC and 91 DRC) Table-F Custom Technical Specification - 12 servers	Sl. No: 17 PCI Slots- Minimum 4 - x16 PCIe Gen4 or higher free slots (Peripheral Component Interconnect Express)	After populating all the asked cards, we can provide this using only 4U GPU Servers. Kindly help to remove this clause so this requirement can be fitted in 2U form factor	Bidders to comply with RFP/GeM bid terms and conditions

17	88, 94, 100, 106, 112 & 120	Annexure-9 Technical Specifications	Table-A Technical Specification - 80 servers (41 DC and 39 DRC) Table-B Technical Specification - 28 servers (17 DC and 11 DRC) Table-C Technical Specification - 100 servers (60 DC and 40 DRC) Table-D Technical Specification - 54 servers (28 DC and 26 DRC) Table-E Technical Specification - 226 servers (135 DC and 91 DRC) Table-F Custom Technical Specification - 12 servers	Sl. No: 14 Port- 3 USB3.0 port and 1 VGA Port	Can we consider this as 2x USB 3.0 Ports	Bidder to refer corrigendum-5.

18	88, 94, 100, 107, 113 & 120	Annexure-9 Technical Specifications	Table-A Technical Specification - 80 servers (41 DC and 39 DRC) Table-B Technical Specification - 28 servers (17 DC and 11 DRC) Table-C Technical Specification - 100 servers (60 DC and 40 DRC) Table-D Technical Specification - 54 servers (28 DC and 26 DRC) Table-E Technical Specification - 226 servers (135 DC and 91 DRC) Table-F Custom Technical Specification - 12 servers	Sl. No: 17 PCI Slots- Minimum 4 - x16 PCIe Gen4 or higher free slots(Peripheral Component Interconnect Express)	After populating all the asked cards, we can provide this using only 4U GPU Servers. Kindly help to remove this clause so this requirement can be fitted in 2U form factor	Bidders to comply with RFP/GeM bid terms and conditions

19	88, 94, 100, 106, 112 & 120	Annexure- 9Technical Specifications	Table- ATechnical Specification - 80 servers (41 DC and 39 DRC)Table- BTechnical Specification - 28 servers (17 DC and 11 DRC)Table- CTechnical Specification - 100 servers (60 DC and 40 DRC)Table- DTechnical Specification - 54 servers (28 DC and 26 DRC)Table- ETechnical Specification - 226 servers (135 DC and 91 DRC)Table- FCustom Technical Specification - 12 servers	Sl. No: 14Port- 3 USB3.0 port and 1 VGA Port	Can we consider this as 2x USB 3.0 Ports	Bidder to refer corrigendum-5.

20	88, 94, 100, 107, 113 & 120	Annexure-9 Technical Specifications	Table-A Technical Specification - 80 servers (41 DC and 39 DRC) Table-B Technical Specification - 28 servers (17 DC and 11 DRC) Table-C Technical Specification - 100 servers (60 DC and 40 DRC) Table-D Technical Specification - 54 servers (28 DC and 26 DRC) Table-E Technical Specification - 226 servers (135 DC and 91 DRC) Table-F Custom Technical Specification - 12 servers	Sl. No: 17 PCI Slots- Minimum 4 - x16 PCIe Gen4 or higher free slots(Peripheral Component Interconnect Express)	After populating all the asked cards, we can provide this using only 4U GPU Servers. Kinly help to remove this clause so this requirement can be fitted in 2U form factor.	Bidders to comply with RFP/GeM bid terms and conditions

21	88, 94, 100, 106, 112 & 120	Annexure-9 Technical Specifications	Table-A Technical Specification - 80 servers (41 DC and 39 DRC) Table-B Technical Specification - 28 servers (17 DC and 11 DRC) Table-C Technical Specification - 100 servers (60 DC and 40 DRC) Table-D Technical Specification - 54 servers (28 DC and 26 DRC) Table-E Technical Specification - 226 servers (135 DC and 91 DRC) Table-F Custom Technical Specification - 12 servers	Sl. No: 14 Port- 3 USB3.0 port and 1 VGA Port	Can we consider this as 2x USB 3.0 Ports	Bidder to refer corrigendum-5.

22	88, 94, 100, 107, 113 & 120	Annexure-9 Technical Specifications	Table-A Technical Specification - 80 servers (41 DC and 39 DRC) Table-B Technical Specification - 28 servers (17 DC and 11 DRC) Table-C Technical Specification - 100 servers (60 DC and 40 DRC) Table-D Technical Specification - 54 servers (28 DC and 26 DRC) Table-E Technical Specification - 226 servers (135 DC and 91 DRC) Table-F Custom Technical Specification - 12 servers	Sl. No: 17 PCI Slots- Minimum 4 - x16 PCIe Gen4 or higher free slots (Peripheral Component Interconnect Express)	After populating all the asked cards, we can provide this using only 4U GPU Servers. Kindly help to remove this clause so this requirement can be fitted in 2U form factor	Bidders to comply with RFP/GeM bid terms and conditions

23	116	Annexure-9 Technical Specifications	Table-F Custom Technical Specification - 12 servers	Sl. No: 5- Processor Socket Minimum 2 sockets i.e., 16*1 =16 core (1 Populated & 1 For future upgrade) - Type 1 Minimum 2 sockets i.e., 32*1 =32 core (1 Populated & 1 For future upgrade) - Type 2 Minimum 2 sockets i.e., 32*1 =32 core (1 Populated & 1 For future upgrade) - Type 3	No OEM can provide you access to so many usable PCIe Slots and so many NVMe SSD's populated on a single CPU. Kindly modify this as Dual CPU's populated.	Bidder to refer corrigendum-5.
24	118	Annexure-9 Technical Specifications	Table-F Custom Technical Specification - 12 servers	Sl. No: 7- SSD Slot Count- 10 or higher, Minimum 4 free slots should be available for future upgrade - Type 1 12 or higher Minimum 4 free slots should be available for future upgrade - Type 2 38 or higher Minimum 4 free slots should be available for future upgrade - Type 2	You have asked for All flash NVMe SSD's and H/W RAID Card with 2 GB Battery Backed Cache for the same. This is available with few OEM's only. Request you to modify this to SATA/SAS SSD's.	Bidder to refer corrigendum-5.

25	88, 94, 100, 106, 112 & 120	Annexure-9 Technical Specifications	Table-A Technical Specification - 80 servers (41 DC and 39 DRC) Table-B Technical Specification - 28 servers (17 DC and 11 DRC) Table-C Technical Specification - 100 servers (60 DC and 40 DRC) Table-D Technical Specification - 54 servers (28 DC and 26 DRC) Table-E Technical Specification - 226 servers (135 DC and 91 DRC) Table-F Custom Technical Specification - 12 servers	Sl. No: 14 Port- 3 USB3.0 port and 1 VGA Port	Can we consider this as 2x USB 3.0 Ports.	Bidder to refer corrigendum-5.

26	88, 94, 100, 107, 113 & 120	Annexure-9 Technical Specifications	Table-A Technical Specification - 80 servers (41 DC and 39 DRC) Table-B Technical Specification - 28 servers (17 DC and 11 DRC) Table-C Technical Specification - 100 servers (60 DC and 40 DRC) Table-D Technical Specification - 54 servers (28 DC and 26 DRC) Table-E Technical Specification - 226 servers (135 DC and 91 DRC) Table-F Custom Technical Specification - 12 servers	Sl. No: 17 PCI Slots- Minimum 4 - x16 PCIe Gen4 or higher free slots (Peripheral Component Interconnect Express)	After populating all the asked cards, we can provide this using only 4U GPU Servers. Kindly help to remove this clause so this requirement can be fitted in 2U form factor.	Bidders to comply with RFP/GeM bid terms and conditions

27	139	Annexure-9 Technical Specifications	Table-K Technical Specification of Network TOR Switches A. Type 1 Switch - 14 numbers (07 numbers in DC and 07 numbers in DRC) - Mgmt.	Sl. No: 27 Proposed Switches must integrate seamlessly with active - active ports for redundancy and high availability from two core/distributed switches from day one with our existing infrastructure of Cisco/Juniper Datacenter router/switches.	Kindly relax this point	Bidders to comply with RFP/GeM bid terms and conditions
28	138	Annexure-9 Technical Specifications	Table-K Technical Specification of Network TOR Switches	A. Type 1 Switch - 14 numbers (07 numbers in DC and 07 numbers in DRC) - Mgmt. Additional Clause: The Switch shall integrate with centralized network management software.	Kindly relax this point	Bidders to comply with RFP/GeM bid terms and conditions
29	140	Annexure-9 Technical Specifications	Table-K Technical Specification of Network TOR Switches B. Type 2 Switch - 24 numbers (12 DC+ 12 DRC) for Data	Sl. No: 27 Proposed Switches must integrate seamlessly with active - active ports for redundancy and high availability from two core/distributed switches from day one with our existing infrastructure of Cisco/Juniper Datacenter router/switches.	Kindly relax this point	Bidders to comply with RFP/GeM bid terms and conditions

30	138	Annexure-9 Technical Specifications	Table-K Technical Specification of Network TOR Switches	A. Type 1 Switch - 14 numbers (07 numbers in DC and 07 numbers in DRC) - Mgmt. Additional Clause: The Switch shall integrate with centralized network management software.	Kindly relax this point	Bidders to comply with RFP/GeM bid terms and conditions
31	142	Annexure-9 Technical Specifications	Table-K Technical Specification of Network TOR Switches C. Type 4 Switch - 4 numbers (2 DC+ 2 DRC) - Storage	Sl. No: 27 Proposed Switches must integrate seamlessly with active - active ports for redundancy and high availability from two core/distributed switches from day one with our existing infrastructure of Cisco/Juniper Datacenter router/switches.	Kindly relax this point	Bidders to comply with RFP/GeM bid terms and conditions
32	138	Annexure-9 Technical Specifications	Table- KTechnical Specification of Network TOR Switches	A. Type 1 Switch - 14 numbers (07 numbers in DC and 07 numbers in DRC) - Mgmt.Additional Clause:The Switch shall integrate with centralized network management software.	Kindly relax this point	Bidders to comply with RFP/GeM bid terms and conditions
33	124	Annexure-9 Technical Specifications	Table-G Storage Technical Specifications: (Object	Sl. No. 5 Architecture (Point a) :- a. Multi-tenant, Support for S3 IAM - Identity and Access Management.	Need clarity on this. What do you mean by Multi - Tenant ?	Bidders to comply with RFP/GeM bid terms and conditions

			Storage 2.0PB Usable Space: DC -1, DRC -1)			
34	128	Annexure-9 Technical Specifications	Table-G Storage Technical Specifications: (Object Storage 2.0PB Usable Space: DC -1, DRC -1)	Sl. No: 29 Controller & Availability- Minimum four controllers are required to provide 2.0PB usable space, hot swappable controllers for high availability, load balancing and redundant modes. Minimum 20 core should be available per controller Offered Storage array should be an enterprise class storage system with 99 % Data Availability guarantee.	Do you mean 4 active - active controllers ?	Bidders to comply with RFP/GeM bid terms and conditions
35	12	SECTION B - INTRODUCTIO N	6. Participation methodology:	6.3. If any product of Principal/OEM/OSD is being quoted in this RFP, the Principal/OEM/OSD cannot bid for any other Principal's/OEM's/OSD's product. If participated, the bids of Principal/OEM/OSD and the authorized bidder/s are liable for rejection.	Request you to remove this point	Bidders to comply with RFP/GeM bid terms and conditions

36	64	Annexure-2 Pre- Qualification Criteria	Sl. No. 6	Pre-Qualification Criteria: The bidder should have yearly average turnover of 300 Crores in India for the last three financial years 2020-2021, 2021-2022, 2022-2023 from their Indian operation as per the audited Financial Statements. This must be the individual company turnover and not of any group of companies.	Please add financial year 2023-24 in this criteria	Bidders to comply with RFP/GeM bid terms and conditions
37	14	SECTION C - DELIVERABLE AND SERVICE LEVEL AGREEMENTS	1. Project Timelines	1.3. The timelines for the delivery and installation of all Hardware and Software should be completed within 24 weeks from the date of acceptance of the Purchase Order or 25 weeks from the date of Purchase Order 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.	Kindly confirm delivery timeline at one place written 25 weeks and below that written 12 weeks	Bidder to refer corrigendum-5.
38	64	Annexure-2 Pre- Qualification Criteria	Sl. No. 5	Pre-Qualification Criteria: The Bidder should have an active and premium partnership with Hardware OEM to offer their Hardware and Software as a service to Bank.	-	Query not clear

39	21 & 22	SECTION C - DELIVERABLE AND SERVICE LEVEL AGREEMENTS	8. Payment Terms	8.1. The payment schedule for Hardware will be as under and will release after execution of contract agreement:Sl. No: 4 & 8	(Do we have to quote for 3 years Warranty+2 Years AMC) or (Only for 3 years warranty and then user will decide for AMC of 2 years to enter or not)	Bidders to comply with RFP/GeM bid terms and conditions
40	25	SECTION C - DELIVERABLE AND SERVICE LEVEL AGREEMENTS	12. Annual Maintenance Contract (AMC) / Annual Technical Support (ATS) (if contracted):	12.1. At the time of submission of bids, the Bidder has to quote AMC/ATS for Hardware (including OS), software, License Items for two (2) years after completion of three (3) year warranty period, in the commercial Bid separately for comprehensive maintenance contract	We are given provision to submit single/unit price on GEM portal. There is no provision of separate price submission of AMC. Kindly guide on same	Bidders to comply with RFP/GeM bid terms and conditions
41	25	SECTION C - DELIVERABLE AND SERVICE LEVEL AGREEMENTS	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.	will the AMC price will be considered for L1 evalaution?	Bidders to comply with RFP/GeM bid terms and conditions

42	161	Annexure-11 Undertaking of Authenticity	Undertaking of Authenticity	Should you require, we hereby undertake to produce the certificate from our OEM/OSD/OSO supplier in support of above undertaking at the time of delivery/installation. It will be our responsibility to produce such letters from our OEM/OSD/OSO supplier's at the time of delivery or within a reasonable time.	What exact letter you want from OEM?	Bidder to submit Annexure-15 Manufacturer Authorization Form from the OEMs.
43	139	Annexure-9 Technical Specifications	Table-K Technical Specification of Network TOR Switches	A. Type 1 Switch - 14 numbers (07 numbers in DC and 07 numbers in DRC) - Mgmt. Sl. No. 27 :- Proposed Switches must integrate seamlessly with active - active ports for redundancy and high availability from two core/distributed switches from day one with our existing infrastructure of Cisco/Juniper Datacenter router/switches.	What will be our scope of work. Kindly confirm in detail	1. Bidder should provide devices such that redundancy and high availability is achieved while connecting to Core /Distributed Switches. 2. Necessary configuration should be done by bidder in their provided switches to integrate with our existing infrastructure of Cisco/Juniper Datacenter router/switches.

44	140	Annexure-9 Technical Specifications	Table-K Technical Specification of Network TOR Switches	B. Type 2 Switch - 24 numbers (12 DC+ 12 DRC) for Data Sl. No: 31 Proposed Switches must integrate seamlessly with active - active ports for redundancy and high availability from two core/distributed switches from day one with our existing infrastructure of Cisco/Juniper Datacenter router/switches.	What will be our scope of work. Kindly confirm in detail.	1. Bidder should provide devices such that redundancy and high availability is achieved while connecting to Core /Distributed Switches. 2. Necessary configuration should be done by bidder in their provided switches to integrate with our existing infrastructure of Cisco/Juniper Datacenter router/switches.
45	142	Annexure-9 Technical Specifications	Table-K Technical Specification of Network TOR Switches C. Type 4 Switch - 4 numbers (2 DC+ 2 DRC) - Storage	Sl. No: 27 Proposed Switches must integrate seamlessly with active - active ports for redundancy and high availability from two core/distributed switches from day one with our existing infrastructure of Cisco/Juniper Datacenter router/switches.	What will be our scope of work. Kindly confirm in detail.	1. Bidder should provide devices such that redundancy and high availability is achieved while connecting to Core /Distributed Switches. 2. Necessary configuration should be done by bidder in their provided switches

						to integrate with our existing infrastructure of Cisco/Juniper Datacenter router/switches.
46	136	Annexure-9 Technical Specifications	Table-I Technical Specification of 27 server racks (19 Nos at DC - Single Phase, 8 Three Phase)	Sl. No: 3- Power Factor PDU Single Phase with 63A Server rack mount power distribution unit 1Ph,230V,63A 50/60Hz with redundancy.PDU Three Phase with 32A Server rack mount power distribution unit 3Ph,440V,63A 50/60Hz with redundancy.	Customer to specify as whether the PDU required is a dumb PDU or Intelligent PDU single phase & three phase	Normal PDU is required
47	136	Annexure-9 Technical Specifications	Table-I Technical Specification of 27 server racks (19 Nos at DC - Single Phase, 8 Three Phase)	Sl. No: 4- Form Factor 42 U Rack Frame with all necessary side panels	It is important for customer to specify that the load carrying capacity of the server racks frames to comply to 1500kgs & Also it is recommended to specify that the product to be UL certified .	Bidders to comply with RFP/GeM bid terms and conditions
48	136	Annexure-9 Technical Specifications	Table-I Technical Specification of 27 server racks (19 Nos at DC - Single	Sl. No: 6 Wheels- Rack wheels for rack movement	As such we learn that these server racks are deployed in Internet data centres hence wheels are not recommended . Recommended to use base plinth for load distribution (L X	Bidders to comply with RFP/GeM bid terms and conditions

			Phase, 8 Three Phase)		B) and if required wheels can be fitted for free movement of server racks .	
49	136	Annexure-9 Technical Specifications	Table-I Technical Specification of 27 server racks (19 Nos at DC - Single Phase, 8 Three Phase)	Sl. No. 7 (Rack Size) 600 mm*1200mm *2100mm (600mm - Width , 1200mm Depth , 2100mm Height)	It is recommended for customer to specify that the racks to be supplied with air sealing kit to prevent cold air getting mixed with hot air , also these should not any vents on the top , bottom and side panels which will change the direction of the air flow. Customer to mention on brush panels cable glands on top and bottom so that there is no loose gaps even after pulling the cables to the rack .	Bidder to refer corrigendum-5.
50	136	Annexure-9 Technical Specifications	Table-I Technical Specification of 27 server racks (19 Nos at DC - Single Phase, 8 Three Phase)	Sl. No. 9 PDU Socket details Zero U standard with minimum 20 x C13 (20 power sockets with C13 type) and minimum 4 x C19 (4 power socket with C19 type) Per PDU Dual PDU should be made available for each rack	As a standard IEC sockets comes with bank of 1 , 3 , 6 etc . Requesting customer to use 6soc bank instead of 5 sockets which is an odd size .	Bidders to comply with RFP/GeM bid terms and conditions
51	136	Annexure-9 Technical Specifications	Table-I Technical Specification of 27 server racks (19 Nos at DC - Single	Sl. No: 10- Over load protection MCB PDU rating approximate 14KVA per PDU for single phase with 63A (4 MCB) PDU rating approximate	Recommended customer to use 24 sockets of C13 & 4 nos of C19 which will be each for branch wise distribution.	Bidders to comply with RFP/GeM bid terms and conditions

			Phase, 8 Three Phase)	22KVA per PDU for Three phase with 32A (6 MCB)		
52	136	Annexure-9 Technical Specifications	Table-I Technical Specification of 27 server racks (19 Nos at DC - Single Phase, 8 Three Phase)	Sl. No: 13- Fan fans on the top side of rack (desirable)	Since it is DC environment and cooling will be contained it is recommended not to use cooling fans inside the racks which will mix cold with hot air	Bidder to refer corrigendum-5.
53	137	Annexure-9 Technical Specifications	Table-J Technical Specification of server racks (23 Nos with three phase at DR)	Sl. No: 4- Form Factor 45 U Rack Frame with all necessary side panels	instead of 45u customer ca choose 48u or 52u height racks for large usable area & depending on the usable height available at data centre	Bidders to comply with RFP/GeM bid terms and conditions
54	137	Annexure-9 Technical Specifications	Table-J Technical Specification of server racks (23 Nos with three phase at DR)	Sl. No: 6 Wheels- Rack wheels for rack movement	As such we learn that these server racks are deployed in Internet data centres hence wheels are not recommended . Recommended to use base plinth for load distribution (L X B) and if required wheels can be fitted for free movement of server racks .	Bidders to comply with RFP/GeM bid terms and conditions

55	137	Annexure-9 Technical Specifications	Table-J Technical Specification of server racks (23 Nos with three phase at DR)	Sl. No. 7 (Rack Size) 600mm*1200mm (600mm - Width , 1200mm Depth)	It is recommended for customer to specify that the racks to be supplied with air sealing kit to prevent cold air getting mixed with hot air , also these should not any vents on the top , bottom and side panels which will change the direction of the air flow. Customer to mention on brush panels cable glands on top and bottom so that there is no loose gaps even after pulling the cables to the rack .	Bidder to refer corrigendum-5.
56	137	Annexure-9 Technical Specifications	Table-J Technical Specification of server racks (23 Nos with three phase at DR)	Sl. No. 9 PDU Socket details Zero U standard with minimum 20 x C13 (20 power sockets with C13 type) and minimum 4 x C19 (4 power socket with C19 type) Per PDU. Dual PDU should be available for each rack.	As such the height of the racks are 45u & above , it is recommended to use higher no of sockets in the PDU which is available till 42u sockets .	Bidders to comply with RFP/GeM bid terms and conditions
57	137	Annexure-9 Technical Specifications	Table-J Technical Specification of server racks (23 Nos with three phase at DR)	Sl. No: 13- Fan fans on the top side of rack (desirable)	Since it is DC environment and cooling will be contained it is recommended not to use cooling fans inside the racks which will mix cold with hot air	Bidder to refer corrigendum-5.

58	NA	Annexure-9 Technical Specifications	Table-K - Technical Specification of PDU (166 Nos - (120DC, 46DR) Network Port	Dual network port to access and monitor the PDU remotely	In page no 37 & 38 it is specified as DUMB pdu's to be supplied along with the racks as per technical specifications for DC & DR racks which sums upto 100 PDU'S for a total of 50 racks . However customer to specify about remote PDU qty 166nos which will be a separate BOQ in addition to 100 nos of DUMB PDU'S . Customer to clarify this POINT.	This table pertaining to Technical Specification of PDU stands deleted. Bidder to refer corrigendum-5.
59	73	Annexure-8 Scope of Work	Evaluation for Scope of Work for this project	Sl. No: 11 All necessary cables and other accessories required for successful installation of the hardware items as per the scope of work to be supplied by the Bidder and the cost of the same to be added along with the respective Hardware items while quoting.	Qty, type of cable and length has be mention.	Bidder to refer corrigendum-5.
60	74	Annexure-8 Scope of Work	Evaluation for Scope of Work for this project	Sl. No: 12 Bidder should follow a standard development process to ensure that proposed servers meets functional, security performance and regulatory requirements of the bank.	Regulatory requirement needs to mention for the batter clarity.	Details will be shared with the selected bidder
61	74	Annexure-8 Scope of Work	Evaluation for Scope of Work for this project	Sl. No: 13 Bidder should comply as per the IT related policies of the bank.	Bank IT policy need to mention for the clarity.	Details will be shared with the selected bidder

62	74	Annexure-8 Scope of Work	Evaluation for Scope of Work for this project	Sl. No: 14 Bidder is responsible in installing the Hardware, Software and other items as per Technical Specifications and Scope of work in the bank environment. And as per the bank secure configuration documents	Need more clarity on bank secure configuration documents for the clarity.	Details will be shared with the selected bidder
63	74	Annexure-8 Scope of Work	Evaluation for Scope of Work for this project	Sl. No: 23 Bidder shall conduct preventive maintenance as may be necessary from time to time to ensure that equipment is in efficient running condition so as to ensure trouble free functioning.	Need more clarity on Preventive maintenance expectation for more clarity.	Preventive maintenance refers to health check of devices once in three month including firmware upgrade and activity report to be submitted
64	74	Annexure-8 Scope of Work	Evaluation for Scope of Work for this project	Sl. No: 25 All proposed equipment's are required to connect existing SAN infrastructure.	Existing SAN switch should have free licensed ports.	Yes. Same is available in existing SAN switch. Bidders to comply with RFP/GeM bid terms and conditions
65	NA	Generic	Generic	Bidder must also provide the necessary power cables, LAN cables, FC cables from source to their provided rack as per the guideline of the Bank.	Length and type of the cable should be specify for better planning.	Bidder to refer corrigendum-5.

66	74	Annexure-8 Scope of Work	Evaluation for Scope of Work for this project	Sl. No: 29 The Selected Bidder has to coordinate with existing vendor for the SAN cable lay, connectivity and Zoning of the SAN ports as required connecting the Proposed Hardware and Software.	Getting delay by existing vendor in provisioning the SAN configuration will be considered under the bidder scope.	LD is not applicable for the reasons attributable to the Bank and Force Majeure
67	75	Annexure-8 Scope of Work	Evaluation for Scope of Work for this project	Sl. No: 32 The Bidder should note that Servers & Other Items being procured shall be delivered at locations as per requirements of bank and the Bidder will be required to support all such installations. The Bank reserves the right to change location by giving prior notice.	Location should be informed well in advance and post dispatch, Bank has to manage the delivery.	Bidders to comply with RFP/GeM bid terms and conditions
68	75	Annexure-8 Scope of Work	Evaluation for Scope of Work for this project	Sl. No: 38 The proposed server network interfaces ports should be compatible for connecting bank CISCO switches.	Need CISCO switches SFP details. CISCO SFPs are completable with CISCO SFP.	Details will be shared with the selected bidder
69	75	Annexure-8 Scope of Work	Evaluation for Scope of Work for this project	Sl. No: 39 The proposed server FC HBA interface ports should be compatible for existing SAN Switch.	SAN switch and SFP details are required to check compatibility.	Details will be shared with the selected bidder

70	75	Annexure-8 Scope of Work	Evaluation for Scope of Work for this project	Sl. No: 42. The Bidder will responsible for the following: k. SAN connectivity to bank existing SAN Switch	Required Canara Bank team help for the successful integration	Bidders to comply with RFP/GeM bid terms and conditions
71	75	Annexure-8 Scope of Work	Evaluation for Scope of Work for this project	Sl. No: 42 The Bidder will responsible for the following: l. LAN connectivity to bank existing network switch	Required Canara Bank team help for the successful integration.	Bidders to comply with RFP/GeM bid terms and conditions
72	76	Annexure-8 Scope of Work	Evaluation for Scope of Work for Servers	Sl. No: 4 The proposed hardware should be compatible with red hat Linux 8/9 or later and Windows 2016/2019/2022 and VMware hypervisor 7.X/8.x or later and Microsoft Hypervisor 2019 or later	KVM has to incorporate in this list.	Bidders to comply with RFP/GeM bid terms and conditions
73	76	Annexure-8 Scope of Work	Evaluation for Scope of Work for Servers	Sl. No: 5 Hardening of the servers as per the bank secure configuration document based on the OS, Hypervisor and hardware flavours	Hardening points should be discussed and mutually agree with both the parties before implemented.	Details will be shared with the selected bidder
74	76	Annexure-8 Scope of Work	Evaluation for Scope of Work for Storages	Sl. No: 12 performing code upgrade on quarterly basis.	It depends on code availability and requirement of the infrastructure.	Bidders to comply with RFP/GeM bid terms and conditions

75	77	Annexure-8 Scope of Work	Evaluation for Scope of Work for Hyper-V - Microsoft	Sl. No:16 Implementation of security best practices for Hyper-V environments.	Need more clarity or require pointers from the CB to implement the same.	Details will be shared with the selected bidder
76	80	Annexure-8 Scope of Work	Evaluation for Scope of Work for Backup Solution	Sl. No: 1 proposed backup solution installation, configuration, and deployment of an application in a cluster or load balancer configuration	Backup should be installed in single instance. its configuration has to be backed-up to support during the disaster with backup software itself so it can be easy reinstalled. Ideally backup server kept outside of the virtual environment for its effectiveness.	Bidders to comply with RFP/GeM bid terms and conditions
77	80	Annexure-8 Scope of Work	Evaluation for Scope of Work for Backup Solution	Sl. No: 10 Configure the cluster or load balancer to distribute incoming traffic evenly across the backup application servers	Backup should be installed in single instance. its configuration has to be backed-up to support during the disaster with backup software itself so it can be easy reinstalled. Ideally backup server kept outside of the virtual environment for its effectiveness.	Bidders to comply with RFP/GeM bid terms and conditions
78	82	Annexure-8 Scope of Work	Evaluation for Scope of Work for TOR Switches	Sl. No: 18 Bidder to submit Migration plan, implementation document, solution architecture, traffic flow, cabling diagram etc.	Canara Bank team has to share the migration VMs count and data size.	Query not relevant

79	85	Annexure-9 Technical Specifications	Table-A Technical Specification - 80 servers (41 DC and 39 DRC)	Sl. No: 5- Processor Processor- 2.7 GHz (gigahertz) or above	The overall performance of the processor is determined by a combination of factors, including core count, instructions per clock, cache size, memory bandwidth, PCIe , UPI, and the ability to boost frequencies on demand. A newer generation Xeon processor with a lower base frequency might still outperform an older generation processor with a higher base frequency in many scenarios . Hence request Canara Bank to modify the clause as - " Latest generation with base frequency to 2.1 GHz or above"	Bidders to comply with RFP/GeM bid terms and conditions
80	86	Annexure-9 Technical Specifications	Table-A Technical Specification - 80 servers (41 DC and 39 DRC)	Sl. No: 6- Memory RAM Type- DDR4 DIMM or Higher	DDR5 is the newest/ latest standard for memory modules and brings no. of key performances and improvement gains over DDR4 in terms of higher data transfer rates, increased bandwidth, and enhanced power efficiency. The latest generation of processors support only DDR5. In order to maintain uniformity across the solution, request customer to modify the clause with "DDR5 DIMM or Higher".	Bidder to refer corrigendum-5.
81	86	Annexure-9 Technical Specifications	Table-A Technical Specification - 80 servers (41 DC and 39 DRC)	Sl. No: 6- Memory Slot Count- Minimum 24 or higher, Minimum 8 free memory slots should be available.	As per industry best practices, memory should be evenly populated in fully balanced configuration for optimal performance. Hence the card should be populated with 1 DIMM per channel and the other DIMM slot should be left free for future scalability.	Bidder to refer corrigendum-5.

82	86	Annexure-9 Technical Specifications	Table-A Technical Specification - 80 servers (41 DC and 39 DRC)	Sl. No: 6- Memory Slot Count- Minimum 24 or higher, Minimum 8 free memory slots should be available.	DDR5 is the next-generation RAM offering faster performance, higher memory bandwidth and higher densities. Also the latest generation of server processor supports DDR5. To get the best performance of the server request to modify the clause as follows- "Minimum 4400 MT/s or higher (memory speed should be compatible with processor speed to provide better performance)"	Bidder to refer corrigendum-5.
83	88	Annexure-9 Technical Specifications	Table-A Technical Specification - 80 servers (41 DC and 39 DRC)	Sl. No: 16 Security- Silicon root of trust, authenticated BIOS, signed firmware updates and BIOS Live Scanning for malicious firmware Secure Boot, Disk encryption, TPM 2.0 (Trusted Platform Module), Hardware root of trust, malicious code free design.	Customer to add support for security features like confidential computing and mechanism to partition code and data (stored in server memory) into hardened trusted execution environment.	Bidders to comply with RFP/GeM bid terms and conditions
84	92	Annexure-9 Technical Specifications	Table-B Technical Specification - 28 servers (17 DC and 11 DRC)	Sl. No: 5- Processor- 2.7 GHz (gigahertz) or above	The overall performance of the processor is determined by a combination of factors, including core count, instructions per clock, cache size, memory bandwidth, and the ability to boost frequencies on demand. A newer generation Xeon processor with a lower base frequency might still outperform an older generation processor with a higher base frequency in many scenarios . Hence request Canara Bank to modify	Bidders to comply with RFP/GeM bid terms and conditions

					the clause as - " Latest generation with base frequency to 2.1 GHz or above"	
85	92	Annexure-9 Technical Specifications	Table-B Technical Specification - 28 servers (17 DC and 11 DRC)	Sl. No: 6- Memory RAM Type- DDR4 DIMM or Higher	DDR5 is the newest/ latest standard for memory modules and brings no. of key performances and improvement gains over DDR4 in terms of higher data transfer rates, increased bandwidth, and enhanced power efficiency. The latest generation of processors support only DDR5. In order to maintain uniformity across the solution, request customer to modify the clause with "DDR5 DIMM or Higher".	Bidder to refer corrigendum-5.
86	92	Annexure-9 Technical Specifications	Table-B Technical Specification - 28 servers (17 DC and 11 DRC)	Sl. No. 6. Memory - RAM Size 64GB*8 = 512 TB	Request customer to modify this to 32GB*16 = 512 GB to get optimal memory performance	Bidders to comply with RFP/GeM bid terms and conditions
87	92	Annexure-9 Technical Specifications	Table-B Technical Specification - 28 servers (17 DC and 11 DRC)	Sl. No: 6- Memory Slot Count- Minimum 24 or higher, Minimum 8 free memory slots should be available.	As per industry best practices, memory should be evenly populated in fully balanced configuration for optimal performance. Hence the card should be populated with 1 DIMM per channel and the other DIMM slot should be left free for future scalability.	Bidder to refer corrigendum-5.

88	92	Annexure-9 Technical Specifications	Table-B Technical Specification - 28 servers (17 DC and 11 DRC)	Sl. No: 6- Memory Speed- Minimum 2933 MHz or higher (memory speed should be compatible with process speed to provide better performance)	DDR5 is the next-generation RAM offering faster performance, higher memory bandwidth and higher densities. Also the latest generation of server processor supports DDR5. To get the best performance of the server request to modify the clause as follows- "Minimum 4400 MT/s or higher (memory speed should be compatible with processor speed to provide better performance)"	Bidders to comply with RFP/GeM bid terms and conditions
89	94	Annexure-9 Technical Specifications	Table-B Technical Specification - 28 servers (17 DC and 11 DRC)	Sl. No: 16 Security- Secure Boot, Disk encryption, TPM 2.0 (Trusted Platform Module), Hardware root of trust, malicious code free design.	Customer to add support for security features like confidential computing and mechanism to partition code and data (stored in server memory) into hardened trusted execution environment.	Bidders to comply with RFP/GeM bid terms and conditions
90	97	Annexure-9 Technical Specifications	Table-C Technical Specification - 100 servers (60 DC and 40 DRC)	Sl. No: 5- Processor Processor- 2.7 GHz (gigahertz) or above	The overall performance of the processor is determined by a combination of factors, including core count, instructions per clock, cache size, memory bandwidth, and the ability to boost frequencies on demand. A newer generation Xeon processor with a lower base frequency might still outperform an older generation processor with a higher base frequency in many scenarios . Hence request Canara Bank to modify the clause as - " Latest generation with base frequency to 2.1 GHz or above"	Bidders to comply with RFP/GeM bid terms and conditions

91	98	Annexure-9 Technical Specifications	Table-C Technical Specification - 100 servers (60 DC and 40 DRC)	Sl. No: 6- Memory RAM Type- DDR4 DIMM or Higher	DDR5 is the newest/ latest standard for memory modules and brings no. of key performances and improvement gains over DDR4 in terms of higher data transfer rates, increased bandwidth, and enhanced power efficiency. The latest generation of processors support only DDR5. In order to maintain uniformity across the solution, request customer to modify the clause with "DDR5 DIMM or Higher".	Bidder to refer corrigendum-5.
92	98	Annexure-9 Technical Specifications	Table-C Technical Specification - 100 servers (60 DC and 40 DRC)	Sl. No: 6- Memory Slot Count- Minimum 24 or higher, Minimum 8 free memory slots should be available.	As per industry best practices, memory should be evenly populated in fully balanced configuration for optimal performance. Hence the card should be populated with 1 DIMM per channel and the other DIMM slot should be left free for future scalability.	Bidder to refer corrigendum-5.
93	98	Annexure-9 Technical Specifications	Table- C Technical Specification - 100 servers (60 DC and 40 DRC)	Sl. No: 6- MemorySpeed- Minimum 2933 MHz or higher (memory speed should be compatible with process speed to provide better performance)	DDR5 is the next-generation RAM offering faster performance, higher memory bandwidth and higher densities. Also the latest generation of server processor supports DDR5. To get the best performance of the server request to modify the clause as follows- "Minimum 4400 MT/s or higher (memory speed should be compatible with processor speed to provide better performance)"	Bidders to comply with RFP/GeM bid terms and conditions

94	100	Annexure-9 Technical Specifications	Table-C Technical Specification - 100 servers (60 DC and 40 DRC)	Sl. No: 16 Security- Secure Boot, Disk encryption, TPM 2.0 (Trusted Platform Module), Hardware root of trust, malicious code free design.	Customer to add support for security features like confidential computing and mechanism to partition code and data (stored in server memory) into hardened trusted execution environment.	Bidders to comply with RFP/GeM bid terms and conditions
95	104	Annexure-9 Technical Specifications	Table-D Technical Specification - 54 servers (28 DC and 26 DRC)	Sl. No: 5- Processor Processor- 2.7 GHz (gigahertz) or above	The overall performance of the processor is determined by a combination of factors, including core count, instructions per clock, cache size, memory bandwidth, and the ability to boost frequencies on demand. A newer generation Xeon processor with a lower base frequency might still outperform an older generation processor with a higher base frequency in many scenarios . Hence request Canara Bank to modify the clause as - " Latest generation with base frequency to 2.2 GHz or above"	Bidders to comply with RFP/GeM bid terms and conditions
96	104	Annexure-9 Technical Specifications	Table-D Technical Specification - 54 servers (28 DC and 26 DRC)	Sl. No: 6- Memory RAM Type- DDR4 DIMM or Higher	DDR5 is the newest/ latest standard for memory modules and brings no. of key performances and improvement gains over DDR4 in terms of higher data transfer rates, increased bandwidth, and enhanced power efficiency. The latest generation of processors support only DDR5. In order to maintain uniformity across the solution, request customer to modify the clause with "DDR5 DIMM or Higher".	Bidder to refer corrigendum-5.

97	104	Annexure-9 Technical Specifications	Table-D Technical Specification - 54 servers (28 DC and 26 DRC)	Sl. No. 6. Memory - RAM Size 64GB*4 = 256 GB	Request customer to modify this to 32GB*8 = 256 GB to get optimal performance	Bidders to comply with RFP/GeM bid terms and conditions
98	104	Annexure-9 Technical Specifications	Table-D Technical Specification - 54 servers (28 DC and 26 DRC)	Sl. No: 6- Memory Slot Count- Minimum 24 or higher, Minimum 20 free memory slots should be available.	As per industry best practices, memory should be evenly populated in fully balanced configuration for optimal performance. Hence the card should be populated with 1 DIMM per channel and the other DIMM slot should be left free for future scalability.	Bidders to comply with RFP/GeM bid terms and conditions
99	104	Annexure-9 Technical Specifications	Table-D Technical Specification - 54 servers (28 DC and 26 DRC)	Sl. No: 6- Memory Speed- Minimum 2933 MHz or higher (memory speed should be compatible with process speed to provide better performance)	DDR5 is the next-generation RAM offering faster performance, higher memory bandwidth and higher densities. Also the latest generation of server processor supports DDR5. To get the best performance of the server request to modify the clause as follows- "Minimum 4400 MT/s or higher (memory speed should be compatible with processor speed to provide better performance)"	Bidders to comply with RFP/GeM bid terms and conditions
100	106	Annexure-9 Technical Specifications	Table-D Technical Specification - 54 servers (28 DC and 26 DRC)	Sl. No: 16 Security- Secure Boot, Disk encryption, TPM 2.0 (Trusted Platform Module), Hardware root of trust, malicious code free design.	Customer to add support for security features like confidential computing and mechanism to partition code and data (stored in server memory) into hardened trusted execution envirnment.	Bidders to comply with RFP/GeM bid terms and conditions

101	110	Annexure-9 Technical Specifications	Table-E Technical Specification - 226 servers (135 DC and 91 DRC)	Sl. No: 5- Processor Processor- 2.7 GHz (gigahertz) or above	The overall performance of the processor is determined by a combination of factors, including core count, instructions per clock, cache size, memory bandwidth, and the ability to boost frequencies on demand. A newer generation Xeon processor with a lower base frequency might still outperform an older generation processor with a higher base frequency in many scenarios . Hence request Canara Bank to modify the clause as - " Latest generation with base frequency to 2.0 GHz or above"	Bidders to comply with RFP/GeM bid terms and conditions
102	110	Annexure-9 Technical Specifications	Table- ETechnical Specification - 226 servers (135 DC and 91 DRC)	Sl. No: 6- MemoryRAM Type- DDR4 DIMM or Higher	DDR5 is the newest/ latest standard for memory modules and brings no. of key performances and improvement gains over DDR4 in terms of higher data transfer rates, increased bandwidth, and enhanced power efficiency. The latest generation of processors support only DDR5. In order to maintain uniformity across the solution, request customer to modify the clause with "DDR5 DIMM or Higher".	Bidder to refer corrigendum-5.
103	110	Annexure-9 Technical Specifications	Table-E Technical Specification - 226 servers (135 DC and 91 DRC)	Sl. No: 6- Memory Slot Count- Minimum 24 or higher, Minimum 16 free memory slots should be available.	As per industry best practices, memory should be evenly populated in fully balanced configuration for optimal performance. Hence the card should be populated with 1 DIMM per channel and the other DIMM slot should be left free for future scalability.	Bidders to comply with RFP/GeM bid terms and conditions

104	110	Annexure-9 Technical Specifications	Table-E Technical Specification - 226 servers (135 DC and 91 DRC)	Sl. No: 6- Memory Speed- Minimum 2933 MHz or higher (memory speed should be compatible with process speed to provide better performance)	DDR5 is the next-generation RAM offering faster performance, higher memory bandwidth and higher densities. Also the latest generation of server processor supports DDR5. To get the best performance of the server request to modify the clause as follows- "Minimum 4400 MT/s or higher (memory speed should be compatible with processor speed to provide better performance)"	Bidders to comply with RFP/GeM bid terms and conditions
105	113	Annexure-9 Technical Specifications	Table-E Technical Specification - 226 servers (135 DC and 91 DRC)	Sl. No: 16 Security- Secure Boot, Disk encryption, TPM 2.0 (Trusted Platform Module), Hardware root of trust, malicious code free design.	Customer to add support for security features like confidential computing and mechanism to partition code and data (stored in server memory) into hardened trusted execution environment.	Bidders to comply with RFP/GeM bid terms and conditions
106	116	Annexure-9 Technical Specifications	Table-F Custom Technical Specification - 12 servers	Sl. No: 5- Processor Processor- 2.7 GHz (gigahertz) or above	The overall performance of the processor is determined by a combination of factors, including core count, instructions per clock, cache size, memory bandwidth, and the ability to boost frequencies on demand. A newer generation Xeon processor with a lower base frequency might still outperform an older generation processor with a higher base frequency in many scenarios . Hence request Canara Bank to modify the clause as - " Latest generation with base frequency to 2.0 GHz or above"	Bidders to comply with RFP/GeM bid terms and conditions

107	116	Annexure-9 Technical Specifications	Table-F Custom Technical Specification - 12 servers	Sl. No. 5 Processor Cores per socket: 24	This is not line with the socket requirement mentioned a row above. Kindly clarify.	Bidder to refer corrigendum-5.
108	117	Annexure-9 Technical Specifications	Table-F Custom Technical Specification - 12 servers	Sl. No: 6- Memory RAM Type- DDR4 DIMM or Higher	DDR5 is the newest/ latest standard for memory modules and brings no. of key performances and improvement gains over DDR4 in terms of higher data transfer rates, increased bandwidth, and enhanced power efficiency. The latest generation of processors support only DDR5. In order to maintain uniformity across the solution, request customer to modify the clause with "DDR5 DIMM or Higher".	Bidder to refer corrigendum-5.
109	117	Annexure-9 Technical Specifications	Table-F Custom Technical Specification - 12 servers	Sl. No. 6. Memory - RAM Size 64GB*4 = 256 GB - Type 1 64GB*16 = 1024 GB - Type 2 64GB*16 = 1024 GB - Type 3	Request customer to modify this to 32GB*8 = 256 GB - Type 1 128GB*8 = 1024 GB - Type 2 128GB*8 = 1024 GB - Type 3 to get optimal performance	Bidder to refer corrigendum-5.

110	117	Annexure-9 Technical Specifications	Table-F Custom Technical Specification - 12 servers	Sl. No: 6- Memory Slot Count- Minimum 24 or higher, Minimum 20 free memory slots should be available. - Type 1 Minimum 24 or higher, Minimum 8 free memory slots should be available. - Type 2 Minimum 24 or higher, Minimum 8 free memory slots should be available. - Type 3	As per industry best practices, memory should be evenly populated in fully balanced configuration for optimal performance. Hence the card should be populated with 1 DIMM per channel and the other DIMM slot should be left free for future scalability.	Bidders to comply with RFP/GeM bid terms and conditions
111	117	Annexure-9 Technical Specifications	Table-F Custom Technical Specification - 12 servers	Sl. No: 6- Memory Speed- Minimum 2933 MHz or higher (memory speed should be compatible with process speed to provide better performance)	DDR5 is the next-generation RAM offering faster performance, higher memory bandwidth and higher densities. Also the latest generation of server processor supports DDR5. To get the best performance of the server request to modify the clause as follows- "Minimum 4400 MT/s or higher (memory speed should be compatible with processor speed to provide better performance)"	Bidders to comply with RFP/GeM bid terms and conditions
112	120	Annexure-9 Technical Specifications	Table-F Custom Technical Specification - 12 servers	Sl. No: 16 Security- Secure Boot, Disk encryption, TPM 2.0 (Trusted Platform Module), Hardware root of trust, malicious code free design.	Customer to add support for security features like confidential computing and mechanism to partition code and data (stored in server memory) into hardened trusted execution environment.	Bidders to comply with RFP/GeM bid terms and conditions

113	86	Annexure-9 Technical Specifications	Table-A Technical Specification - 80 servers (41 DC and 39 DRC)	Sl. No: 6- Memory Speed- Minimum 2933 MHz or higher (memory speed should be compatible with process speed to provide better performance)	We recommend memory Speed should be minimum 3200 MHz	Bidders to comply with RFP/GeM bid terms and conditions
114	88	Annexure-9 Technical Specifications	Table-A Technical Specification - 80 servers (41 DC and 39 DRC)	Sl. No: 17 PCI Slots- Minimum 4 - x16 PCIe Gen4 or higher free slots(Peripheral Component Interconnect Express)	Considering the PCIe I/O Population which is been asked 2* Dual Port 1G , 2 * Dual Port 10G , 2 * Single Port 32G FC HBA , 1 * Raid controller -- This I/O Population will consume min 6 PCIe Slots consumption. Typical PCIe Slots available across all major OEM's will be 6-7.So considering this 4 PCIe Slots Free/Available is not looking possible. We request to dilute this expectations.	Bidder to refer corrigendum-5.
115	92	Annexure-9 Technical Specifications	Table-B Technical Specification - 28 servers (17 DC and 11 DRC)	Sl. No: 6- Memory Speed- Minimum 2933 MHz or higher (memory speed should be compatible with process speed to provide better performance)	We recommend memory Speed should be minimum 3200 MHz	Bidders to comply with RFP/GeM bid terms and conditions
116	94	Annexure-9 Technical Specifications	Table-B Technical Specification - 28 servers (17 DC and 11 DRC)	Sl. No: 17 PCI Slots- Minimum 4 - x16 PCIe Gen4 or higher free slots(Peripheral Component Interconnect Express)	Considering the PCIe I/O Population which is been asked 2* Dual Port 1G , 2 * Dual Port 10G , 2 * Single Port 32G FC HBA , 1 * Raid controller -- This I/O Population will consume min 6 PCIe Slots consumption. Typical PCIe Slots available across all major OEM's will be 6-7.So considering this 4 PCIe Slots Free/Available is not looking possible. We request to dilute this expectations.	Bidder to refer corrigendum-5.

117	98	Annexure-9 Technical Specifications	Table-C Technical Specification - 100 servers (60 DC and 40 DRC)	Sl. No: 6- Memory Ram Size- 64GB*16 = 1024 GB Slot Count- Minimum 24 or higher, Minimum 8 free memory slots should be available.	In Point 5 Processor the Specs demand 1 CPU population and 2nd Socket should be free for Future. Now in Ram segment 24 Dimm Slots are been asked with 64 GB * 16 DIMM Population. As per technology mapping 24 DIMM Slots will be mapped as 12 DIMM Slots per CPU. So in case of a One CPU population only 12 DIMM Slots will be available. So this would demand 2nd CPU Population Hence we request the amendment for 2 CPU Population.	Bidder to refer corrigendum-5.
118	98	Annexure-9 Technical Specifications	Table-C Technical Specification - 100 servers (60 DC and 40 DRC)	Sl. No: 6- Memory Speed- Minimum 2933 MHz or higher (memory speed should be compatible with process speed to provide better performance)	We recommend memory Speed should be minimum 3200 MHz	Bidders to comply with RFP/GeM bid terms and conditions
119	100	Annexure-9 Technical Specifications	Table- C Technical Specification - 100 servers (60 DC and 40 DRC)	Sl. No: 17PCI Slots- Minimum 4 - x16 PCIe Gen4 or higher free slots(Peripheral Component Interconnect Express)	Considering the PCIe I/O Population which is been asked 2* Dual Port 1G , 2 * Dual Port 10G , 2 * Single Port 32G FC HBA , 1 * Raid controller -- This I/O Population will consume min 6 Pcie Slots consumption. Typical PCIe Slots available across all major OEM's will be 6-7. So considering this 4 PCIe Slots Free/Available is not looking possible. We request to dilute this expectations.	Bidder to refer corrigendum-5.

120	104	Annexure-9 Technical Specifications	Table-D Technical Specification - 54 servers (28 DC and 26 DRC)	Sl. No: 5- Processor Socket Minimum 2 sockets i.e., 24*1 =24 core (1 Populated & 1 For future upgrade)	Considering the PCIe I/O Population which is been asked 2* Dual Port 1G , 2 * Dual Port 10G , 2 * Single Port 32G FC HBA , 1 * Raid controller -- This I/O Population will consume min 6 Pcie Slots consumption. So with single CPU population only Half of the PCIE slots will get activated. So for this I/O population it will demand Second CPU population. So we request the 2 CPU population on day 1	Bidder to refer corrigendum-5.
121	104	Annexure-9 Technical Specifications	Table-D Technical Specification - 54 servers (28 DC and 26 DRC)	Sl. No: 6- Memory Speed- Minimum 2933 MHz or higher (memory speed should be compatible with process speed to provide better performance)	We recommend memory Speed should be minimum 3200 MHz	Bidders to comply with RFP/GeM bid terms and conditions
122	107	Annexure-9 Technical Specifications	Table-D Technical Specification - 54 servers (28 DC and 26 DRC)	Sl. No: 17 PCI Slots- Minimum 4 - x16 PCIe Gen4 or higher free slots(Peripheral Component Interconnect Express)	Considering the PCIe I/O Population which is been asked 2* Dual Port 1G , 2 * Dual Port 10G , 2 * Single Port 32G FC HBA , 1 * Raid controller -- This I/O Population will consume min 6 Pcie Slots consumption. Typical PCIe Slots available across all major OEM's will be 6-7.So considering this 4 PCIe Slots Free/Available is not looking possible. We request to dilute this expectations.	Bidder to refer corrigendum-5.
123	110	Annexure-9 Technical Specifications	Table-E Technical Specification - 226 servers (135 DC and 91 DRC)	Sl. No: 6- Memory Speed- Minimum 2933 MHz or higher (memory speed should be compatible with process speed to provide better performance)	We recommend memory Speed should be minimum 3200 MHz	Bidders to comply with RFP/GeM bid terms and conditions

124	110	Annexure-9 Technical Specifications	Table-E Technical Specification - 226 servers (135 DC and 91 DRC)	Sl. No: 5- Processor Socket Minimum 2 sockets i.e., 16*1 =16 core (1 Populated & 1 For future upgrade)	Considering the PCIe I/O Population which is been asked 2* Dual Port 1G , 2 * Dual Port 10G , 2 * Single Port 32G FC HBA , 1 * Raid controller -- This I/O Population will consume min 6 Pcie Slots consumption. So with single CPU population only Half of the PCIE slots will get activated. So for this I/O population it will demand Second CPU population. So we request the 2 CPU population on day 1	Bidder to refer corrigendum-5.
125	113	Annexure-9 Technical Specifications	Table-E Technical Specification - 226 servers (135 DC and 91 DRC)	Sl. No: 17 PCI Slots- Minimum 4 - x16 PCIe Gen4 or higher free slots(Peripheral Component Interconnect Express)	Considering the PCIe I/O Population which is been asked 2* Dual Port 1G , 2 * Dual Port 10G , 2 * Single Port 32G FC HBA , 1 * Raid controller -- This I/O Population will consume min 6 Pcie Slots consumption. Typical PCIe Slots available across all major OEM's will be 6-7. So considering this 4 PCIe Slots Free/Available is not looking possible. We request to dilute this expectations.	Bidder to refer corrigendum-5.

126	116	Annexure-9 Technical Specifications	Table-F Custom Technical Specification - 12 servers	Sl. No: 5- Processor Socket Minimum 2 sockets i.e., 16*1 =16 core (1 Populated & 1 For future upgrade) - Type 1 Minimum 2 sockets i.e., 32*1 =32 core (1 Populated & 1 For future upgrade) - Type 2 Minimum 2 sockets i.e., 32*1 =32 core (1 Populated & 1 For future upgrade) - Type 3	Considering the PCIe I/O Population which is been asked 2* Dual Port 1G , 2 * Dual Port 10G , 2 * Single Port 32G FC HBA , 1 * Raid controller -- This I/O Population will consume min 6 Pcie Slots consumption. So with single CPU population only Half of the PCIE slots will get activated. So for this I/O population it will demand Second CPU population. So we request the 2 CPU population on day 1	Bidder to refer corrigendum-5.
127	117	Annexure-9 Technical Specifications	Table-F Custom Technical Specification - 12 servers	Sl. No: 6- Memory Slot Count- Minimum 24 or higher, Minimum 8 free memory slots should be available. - Type 2 Minimum 24 or higher, Minimum 8 free memory slots should be available. - Type 3	In Point 5 Processor the Specs demand 1 CPU population and 2nd Socket should be free for Future. Now in Ram segment 24 Dimm Slots are been asked with 64 GB * 16 DIMM Population. As per technology mapping 24 DIMM Slots will be mapped as 12 DIMM Slots per CPU. So in case of a One CPU population only 12 DIMM Slots will be available. So this would demand 2nd CPU Population Hence we request the amendment for 2 CPU Population.	Bidder to refer corrigendum-5.
128	118	Annexure-9 Technical Specifications	Table-F Custom Technical Specification - 12 servers	Sl. No: 7- SSD Slot Count- 38 or higher Minimum 4 free slots should be available for future upgrade - Type 2	Firstly Type2 mentioned here looks Typo-- It should be Type 3 -- We request clarity.	Bidder to refer corrigendum-5.

129	NA	Generic	Generic	Generic	In this Category of servers 38 NVMe Slots are been asked -- As per Industry standard max Nvme Support on server class systems will be 32. So we request a slot count dilution. For type 3 bank can ask for more than 1.92TB Nvme SSD.	Bidder to refer corrigendum-5.
130	120	Annexure-9 Technical Specifications	Table-F Custom Technical Specification - 12 servers	Sl. No: 17 PCI Slots- Minimum 4 - x16 PCIe Gen4 or higher free slots(Peripheral Component Interconnect Express)	Considering the PCIe I/O Population which is been asked 2* Dual Port 1G , 2 * Dual Port 10G , 2 * Single Port 32G FC HBA , 1 * Raid controller -- This I/O Population will consume min 6 Pcie Slots consumption. Typical PCIe Slots available across all major OEM's will be 6-7.So considering this 4 PCIe Slots Free/Available is not looking possible. We request to dilute this expectations.	Bidder to refer corrigendum-5.

131	64	Annexure-2 Pre- Qualification Criteria	Sl. No: 8	Pre-Qualification Criteria The Bidder/OEM should have successfully supplied minimum cumulative 500 Nos. of Servers in India in the last three years out of which the bidder should have successfully supplied Hardware and software as a service model at least 100 servers deployed at Customer's DC and DR in Indian Market in any 1 Scheduled Commercial Bank/ NBFC/ Insurance Company/ PSU/ Central Government Organization in India in the last three years as on the date of submission of bid for this RFP.	We kindly request the bank to consider relaxing the cumulative supply of servers to 40% (200 units). Additionally, we request relaxation for bidders offering Hardware or Software as a Service (SaaS) model to provide a minimum of 100 servers at Customer's DC and DR in Indian Market in any 1 Scheduled Commercial Bank/ NBFC/ Insurance Company/ PSU/ Central Government Organization in India in the last three years as on the date of submission of bid for this RFP.	Bidder to refer corrigendum-5.
132	64	Annexure-2 Pre- Qualification Criteria	Sl. No. 10	Pre-Qualification Criteria: The bidder should have support office and Service Center at Bangalore and Mumbai.	The bidder should have support office and Service Center at Bangalore OR Mumbai.	Bidders to comply with RFP/GeM bid terms and conditions
133	NA	Generic	Generic	Generic	In this Category of servers 38 NVMe Slots are been asked -- As per Industry standard max Nvme Support on server class systems will be 32. So we request a slot count dilution. For type 3 bank can ask for more than 1.92TB Nvme SSD.	Bidder to refer corrigendum-5.

134	138	Annexure-9 Technical Specifications	Table-K Technical Specification of Network TOR Switches	A. Type 1 Switch - 14 numbers (07 numbers in DC and 07 numbers in DRC) - Mgmt.	1) Is this Switch for 'Out of Band (OOB) management switches ? 2) Is there separate distribution switches to be proposed for connecting the OOB Management ToR switches together - if YES, pls share specificationso of the same. If NO, are you expecting to connect these 'Mgmt' switches as well to the distribution switches mentioned in page 142 of the RFP ?	No separate OOB switches required.All switch uplink to be connected to distributed switches.
135	140	Annexure-9 Technical Specifications	Table- KTechnical Specification of Network TOR Switches	B. Type 2 Switch - 24 numbers (12 DC+ 12 DRC) for DataSl. No. 33High Mean Time Between Failure values (>3.5 lakh hours) should be available to ensure long life of switch hardware.	Request you to change this to "High Mean Time Between Failure values (>2.7 lakh hours) should be available to ensure long life of switch hardware.Request Bank to change this value, as this is single OEM specific point . Higher MTBF values always donot provide the product relaiblity measurements	Bidder to refer corrigendum-5.
136	140	Annexure-9 Technical Specifications	Table-K Technical Specification of Network TOR Switches	C. Type 4 Switch - 4 numbers (2 DC+ 2 DRC) - Storage Sl. No: 5 Switch throughput should be more than equal to 2 bps.	Request you to change this to "Switch throughput should be more than equal to 1.2 Bpps" All switching OEMs testing standards are different and hence this number of pps also vary , hence the ask to change this number to accommodate	Bidders to comply with RFP/GeM bid terms and conditions

137	142	Annexure-9 Technical Specifications	Table-K Technical Specification of Network TOR Switches	C. Type 4 Switch - 4 numbers (2 DC+ 2 DRC) - Storage Sl. No. 33 High Mean Time Between Failure values (>3.5 lakh hours) should be available to ensure long life of switch hardware.	Request you to change this to "High Mean Time Between Failure values (>2.7 lakh hours) should be available to ensure long life of switch hardware. Request Bank to change this value, as this is single OEM specific point . Higher MTBF values always donot provide the product relablity measurements	Bidder to refer corrigendum-5.
138	142	Annexure-9 Technical Specifications	Table-K Technical Specification of Network TOR Switches	In addition to the above access switches Bidder to supply Distribution Switches in High availability with required capacity to connect all supplied access switches with dual uplink of 10/40/100 Gbps in active- active mode for redundancy and load sharing (DC - 2, DRC - 2)	1) Which all switches need to be connected to this distrubution switch (Type 1 & Type 2 & Type 4 OR is there seperate OOB Distribution switch required for Type 1 & Distribution for Data + Storage switches woudl be seperate ?	No separate OOB switches required.All switch uplink to be connected to distributed switches.
139	85	Annexure-9 Technical Specifications	Table-A Technical Specification - 80 servers (41 DC and 39 DRC)	Sl. No: 5- Processor Processor Make- Latest generation x86_64 bit architecture-based CPU's	Please mention the Class of CPU type required Platinum /Gold/Silver etc. CPU vendors have different Class of CPU and given the general ask , both CPU type like high range platinum 8500 and Mid range Gold 6500 aslo qualify hence this ask.	Bidders to comply with RFP/GeM bid terms and conditions

140	91	Annexure-9 Technical Specifications	Table-B Technical Specification - 28 servers (17 DC and 11 DRC)	Sl. No: 5- Processor Processor Make- Latest generation x86_64 bit architecture-based CPU's	Please mention the Class of CPU type required Platinum /Gold/Silver etc CPU vendors have different Class of CPU and given the general ask , both CPU type like high range platinum 8500 and Mid range Gold 6500 aslo qualify hence this ask.	Bidders to comply with RFP/GeM bid terms and conditions
141	150	Annexure-9 Technical Specifications	Table-N Technical Specifications of 4 SAN Director (2 Nos at DC and 2 Nos at DR)	Sl. No: 9 The switch should support 512 Gbps BW for ISL Trunking connectivity and Cut Thru Switching. Necessary Licenses to be provided by the bidder.	9. The switch should support 512 Gbps BW for ISL Trunking connectivity and Cut Thru/Store -Forward Switching. Necessary Licenses to be provided by the bidder. There are only 2 OEM in SAN switching market . Cut Thru SAN switching is single OEM specific mechansim and hence request bank to change this Clause for more participation	Bidder to refer corrigendum-5.
142	154	Annexure-9 Technical Specifications	Table-N Technical Specifications of 4 SAN Director (2 Nos at DC and 2 Nos at DR)	Sl. No: 21 Other Features The director class switch should provide Inter Chassis Link (ICL) for connecting multiple Chassis	The director class switch should provide Inter Chassis Link (ICL) or Inter Switch Link (ISL) for connecting multiple Chassis ICL is Single OEM specification , we provide the same capability using more open Industry standard ISL/Trunking . Request bank to change this remove or change this clause	Bidder to refer corrigendum-5.

143	156	Annexure-9 Technical Specifications	Table-OTechnical Specifications of 8 SAN Switch (4 Nos at DC and 4 Nos at DR)	Sl. No. 5ISL Trunking connectivity and Cut Thru Switching. Necessary Licenses to be provided by the bidder.	5. ISL Trunking connectivity and Cut Thru/Store Forward Switching. Necessary Licenses to be provided by the bidder. There are only 2 OEM in SAN switching market . Cut Thru SAN switching is single OEM specific mechanism and hence request bank to change this Clause for more participation	Bidder to refer corrigendum-5.
144	88	Annexure-9 Technical Specifications	Table-A Technical Specification - 80 servers (41 DC and 39 DRC)	Sl. No: 13- Warranty and Support 3 Years onsite warranty+ 2 years AMC, On-Site Support Warranty including part replacement/repairs within 4 hours of reporting, and Software support for updates, upgrades, patches, and bug fixes for supplied s/w from OEM 24 x 7 x 365 days. SSD drives should be covered for irrespective of read/writes on them. In case of Disk failure, the faulty disk will be maintained /destroyed / Degauss by Canara Bank. Proactive storage monitoring & support from OEM should be enabled. The proposed bidder will need to ensure support of product & change of components @ zero cost in	Software (Subscription based License) Bank has requested for "standard" subscription for Openshift & JBoss license along with premium. Only "premium subscription" meet the criteria "OEM 24 x 7 x 365 days. " The "standard" version	Bidder to refer corrigendum-5.

				case of any part becoming obsolete/EOL & EOS. Faulty Disks would not be retuned back to OEM/Vendor or faulty disks will be destroyed before returning.		
145	23	SECTION C - DELIVERABLE AND SERVICE LEVEL AGREEMENTS	9. Warranty	9.2. The selected bidder has to provide comprehensive On-site warranty for Three (3) years for proposed Hardware from the date of installation of the Hardware, System	Bank will require L1- L4 Enterprise support from the respective OS OEM and the selected bidder has to ensure the respective OEM support portal is made available.	Respective softwares OEM with the support level mention in the RFP to be provided and supplied licenses to be reflected under respective

				Software, OS, licenses etc., supplied.		OEM portal used by Bank where ever applicable
146	79	Annexure-8 Scope of Work	Evaluation for Scope of Work for Apache Tomcat	Entire Clause	Software Subscription for JBoss Web Server is not mentioned for implementing Apache Tomcat, Bank to confirm on the sizing and the required subscriptions for JBoss Web Server, what kind of support is expected for Prod and Non Prod Environment.	Bidder to refer corrigendum-5.
147	80	Annexure-8 Scope of Work	Evaluation for Scope of Work for Apache Tomcat	Sl. No: 9 testing procedures to ensure the cluster and load balancer configurations are functioning correctly	Bank has to define the testing process and testing scenarios?	Details will be shared with the selected bidder
148	77	Annexure-8 Scope of Work	Evaluation for Scope of Work For Open shift	Entire Clause	What is the Hardware configuration for Openshift hosting?	Details will be shared with the selected bidder
149	77	Annexure-8 Scope of Work	Evaluation for Scope of Work For Open shift	Entire Clause	What storage bank has present, does bank have Object, Block and File with certified Openshift CSI Driver? can same be used for Openshift Cluster?	Details will be shared with the selected bidder
150	172	Annexure-16 Bill of Material	Table - C Price details of Software/Lic nse Items (Subscription based Licenses)	Sl. No: 4 RedHat OpenShift - RHCOS latest version subscription with premium support	The Scope mentions implementation of Advanced Cluster Management and Cluster Securith that is available only with Red Hat OpenShift Container Platform Plus, Bank to update the SKU with Red Hat OpenShift Container	Bidder to refer corrigendum-5.

					Platform Plus in the Bill of material and Scope of Work.	
151	77	Annexure-8 Scope of Work	Evaluation for Scope of Work For Open shift	Entire Clause	For Control Plane and Infrastructure Nodes (EFK, registry, Quay, ACS, ACM, Grafana, Prometheus) can you share the infra configuration bank is expecting to provide	Details will be shared with the selected bidder
152	77	Annexure-8 Scope of Work	Evaluation for Scope of Work For Open shift	Entire Clause	Bank to confirm if they intend the OEM to implement the solution for the mentioned scope of work	Bidders to comply with RFP/GeM bid terms and conditions
153	172	Annexure-16 Bill of Material	Table - C Price details of Software/License Items (Subscription based Licenses)	Sl. No: 2 RHEL 9 with premium support	Is this for Physical host of virtual host?	Bidders to comply with RFP/GeM bid terms and conditions
154	172	Annexure-16 Bill of Material	Table - C Price details of Software/License Items (Subscription based Licenses)	Sl. No: 3 RHEL 9 High Availability with premium support for CISC - X86 machines	Can you please clarify on CISC? Specific what support is needed here?	Bidder to refer corrigendum-5.
155	NA	Generic	Generic	Generic	Please clarify on number of clusters considered to be delivered within 12 weeks.	Query not clear

156	172	Annexure-16 Bill of Material	Table - C Price details of Software/License Items (Subscription based Licenses)	Sl. No: 2 RHEL 9 with premium support	Do we need to propose RHEL with Satellite?	No
157	172	Annexure-16 Bill of Material	Table - C Price details of Software/License Items (Subscription based Licenses)	Sl. No: 1 RHEL 9 Virtual DataCentre with premium support	Do we need to propose RHEL with Satellite?	No
158	172	Annexure-16 Bill of Material	Table - C Price details of Software/License Items (Subscription based Licenses)	Sl. No: 4 RedHat OpenShift - RHCOS latest version subscription with premium support	The Scope mentions implementation of Advanced Cluster Management and Cluster Security that is available only with Red Hat OpenShift Container Platform Plus, Bank to update the SKU with Red Hat OpenShift Container Platform Plus in the Bill of material and Scope of Work.	Bidder to refer corrigendum-5.

159	24	SECTION C - DELIVERABLE AND SERVICE LEVEL AGREEMENTS	10. Scope involved during Contract period	10.7. The selected Bidder shall provide centralized complaint booking/lodging facility to the bank and the dash board shall be provided to the Bank. The method of booking complaints shall be E-mail, Toll-free no, on line portal, web, etc. 10.8. Escalation matrix as per Annexure-14 should be provided for post-delivery operational support, technical support, project related issues, etc.	Kindly provide the specifications for centralized complaint booking/lodging facility to the bank and the dash board.	Bidders to comply with RFP/GeM bid terms and conditions
160	142	Annexure-9 Technical Specifications	Table-K Technical Specification of Network TOR Switches	In addition to the above access switches Bidder to supply Distribution Switches in High availability with required capacity to connect all supplied access switches with dual uplink of 10/40/100 Gbps in active-active mode for redundancy and load sharing (DC - 2, DRC - 2)	Kindly provide the specifications with required number of 10 / 40 / 100 Gbps ports with required SFP's.	Bidders to comply with RFP/GeM bid terms and conditions
161	172	Annexure-16 Bill of Material	Table - C Price details of Software/Lic nse Items (Subscription	Sl. No: 8 File Sync Software instance base with support	Kindly provide the specifications for the same	Bidder to refer corrigendum-5. Details provided in Annexure-8 Scope of Work.

			based Licenses)			
162	24	SECTION C - DELIVERABLE AND SERVICE LEVEL AGREEMENTS	10. Scope involved during Contract period	10.5. The support shall be given on site.	Kindly confirm the number of resources required on-site with type of resources - System - Network - Storage - Helpdesk - Others	Selected Bidder has to provide enough resource for smooth completion of the project. Also during the contract if any issues arises bidder has to come onsite to resolve the issues as per the RFP scope.
163	171	Annexure-16 Bill of Material	Table - B Price details of Software/License Items (Perpetual)	Sl. No: 1 Windows 2022 Data Centre Edition 16 Corepack with Enterprise support	What coverage do you need under Enterprise support. Do you need a Premier support contract from Microsoft for supporting these perpetual licenses or need just Software assurance(which now don't cover support only give Upgrade right)	Software Assurance not required

164	20	SECTION C - DELIVERABLE AND SERVICE LEVEL AGREEMENTS	8. Payment Terms	8.1.50% - On Supply/delivery of all the of Hardware as per RFP20% - Installation of all Hardware20% - Configuration, implementation and completion of all scope of work10% - After Completion of Warranty Period (i.e., three years). Warranty period.	Request you to change the payment terms as - On Supply/delivery of all the of Hardware as per RFP - 70%Installation of all Hardware - 20%Configuration, implementation and completion of all scope of work - 10%After Completion of Warranty Period (i.e., three years). Warranty period. - 10%	Bidders to comply with RFP/GeM bid terms and conditions
165	181	Annexure-16 Bill of Material	Table - H Total Cost of the Hardware, Software and optional items for 5 Years	Total Cost of the Hardware, Software and optional items for 5 Years (Incl. of Taxes)	Request you to exclude the Total cost of Table-G (Price details of optional items for 5 years) from Total cost of Ownership for 5 years.	Bidder to refer corrigendum-5.

166	181	Annexure-16 Bill of Material	Table - G (Optional) Price details of Optional Items for 5 Years	The cost mentioned in column "a" of Table-F will be the fixed price for 5 years (i.e., Unit Price mentioned will be fixed for the entire contract period). Bank may procure the above items mentioned in Table-F with the same cost for the entire contract period. The items brought during the contract period should be co-terminus with the base hardware. Bank may issue Purchase order(s) to procure items mention in Table-F as per the necessary quantities as and when required by the Bank during the initial purchase or during the entire Contract Period. However, the bidder has to provide the optional items at the same cost mentioned in the Table-F.	The details mentioned referring the Table-F which is for Implementation services. However, the details should be for Table -G. Please change the same with Table-G (Refer Optional items).	Bidder to refer corrigendum-5.

167	NA	Generic	Generic	In the GeM Portal - We need to select only one Catalog (with specification and price). However the items asked in the Annexure 16 - Commercial bid are different & multiple items.	In the GeM Portal - We need to select only one Catalog (with specification and price). However the items asked in the Annexure 16 - Commercial bid are different & multiple items. Kindly allow the bid without the Catalog category and allow the submission of TCO with commercial bid upload.	Bidder to comply with RFP terms and Conditions
168	38	SECTION F - OWNERSHIP &AWARDING OF CONTRACT	1. Bid Validity Period	The Offer submitted and the prices quoted therein shall be valid for 180 days from the date of opening of Commercial Bid. Bid valid for any shorter period shall be rejected by the Bank.	Since most of the OEM's pricing policy for their quote is maximum 90 days. Hence request to Bank to change the clause as - The Offer submitted and the prices quoted therein shall be valid for 180 90 days from the date of Bid submission opening of Commercial Bid.	Bidders to comply with RFP/GeM bid terms and conditions
169	14-15	SECTION C - DELIVERABLE AND SERVICE LEVEL AGREEMENTS	1. Project Timelines	Entire Clause	Please confirm the total project duration is 5 years including (Delivery, Installation, Implementation + Warranty + AMC).	Bidders to comply with RFP/GeM bid terms and conditions

170	14	SECTION C - DELIVERABLE AND SERVICE LEVEL AGREEMENTS	1. Project Timelines	1.3. The timelines for the delivery and installation of all Hardware and Software should be completed within 24 weeks from the date of acceptance of the Purchase Order or 25 weeks from the date of Purchase Order 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.	The RFP states delivery and installation within 24/25 weeks. Please clarify if this is the total timeline for all locations combined or for each individual location	Bidder to refer corrigendum-5.
171	14	SECTION C - DELIVERABLE AND SERVICE LEVEL AGREEMENTS	1. Project Timelines	1.4. The Bidder shall ensure that the Renewal of Licenses/ Subscriptions/ Fees /AMC/ATS/ Support contracts as applicable, during the period of Contract is completed before expiry date of respective components and the renewal process should be initiated at least 6 months prior to the date of expiry.	License/subscription renewals to be initiated 6 months prior to expiry. Will the Bank provide a consolidated list of all expiry dates well in advance?	Selected Bidder has to submit the details of AMC/ATS along with project signoff documents
172	14	SECTION C - DELIVERABLE AND SERVICE LEVEL AGREEMENTS	1. Project Timelines	1.5. Bank reserves the right to change/modify locations for supply of the items. In the event of any change/modification in the locations where the hardware items are to be	Bank reserves the right to change locations. Will the Bank bear any potential cost increase due to significant distance changes or unforeseen logistical challenges?	Bidders to comply with RFP/GeM bid terms and conditions

				delivered, the bidder in such cases shall Supply, Installation, Configuration, Implementation and Maintenance at the modified locations at no extra cost to the Bank. However, if the hardware items are already delivered, and if the modifications in locations are made after delivery, the bidder shall carry out Installation, Configuration, Implementation and Maintenance at the modified locations and the Bank in such cases shall bear the shifting charges/arrange shifting as mutually agreed. The Warranty/ATS/AMC and all RFP terms should be applicable to the altered locations also as per the Bank's requirement without any extra cost to the Bank during the full contract period.	

173	15	SECTION C - DELIVERABLE AND SERVICE LEVEL AGREEMENTS	2. Integration & Interfaces	2.1. The selected bidder has to work with different application vendors in order to integrate new solution to the existing workload or new workloads during contract period. 2.2. The selected bidder has to work with different teams of Bank & application OEMs to understand the policies requirement and configurations of respective applications for the offered service.	Will the Bank provide detailed documentation of existing applications and their APIs/interfaces to facilitate smooth integration?	Details will be shared with the selected bidder
174	NA	Generic	Generic	Generic	Is there a designated point of contact within the Bank and each application vendor to coordinate integration efforts?	Details will be shared with the selected bidder
175	15	SECTION C - DELIVERABLE AND SERVICE LEVEL AGREEMENTS	3. Training:	The selected vendor has to give demo and explain operational guidelines of the product at the site of the installation to Bank's Officials.	Besides the on-site demo, will the Bank require any formal training sessions (e.g., classroom-based, online)? If so, please specify the duration and number of participants.	No separate training session is required, other than the training mentioned in the RFP document.
176	NA	Generic	Generic	Generic	Will the training be conducted during the implementation phase or after project completion?	No separate training session is required, other than the training mentioned in the RFP document.

177	16	SECTION C - DELIVERABLE AND SERVICE LEVEL AGREEMENTS	4. Security	4.5. The selected bidder has to do necessary changes in the configuration directed by security team of the bank after security audits like VAPT, Code Audit etc., without disturbing the production and existing backed up copies and at no additional cost to the Bank.	Please elaborate on the scope of "necessary changes" post-audit. Will these changes be limited to configuration adjustments or could they involve significant software modifications?	Details will be shared with the selected bidder
178	16	SECTION C - DELIVERABLE AND SERVICE LEVEL AGREEMENTS	4. Security	4.7. Any kind of change like update, upgrades etc. in the system after complete installation will not lead into any commercial during contract period.	Does "any kind of change" include major version upgrades that might normally be chargeable? If so, please clarify the Bank's expectation on cost coverage.	Bidders to comply with RFP/GeM bid terms and conditions
179	16	SECTION C - DELIVERABLE AND SERVICE LEVEL AGREEMENTS	5. Acceptance	Entire Clause	What are the specific criteria and performance benchmarks the Bank will use to determine project acceptance?	Bidders to comply with RFP/GeM bid terms and conditions
180	NA	Generic	Generic	Generic	Will the Bank provide a detailed acceptance testing plan outlining the test scenarios, expected results, and duration of the testing phase?	Details will be shared with the selected bidder
181	16-17	SECTION C - DELIVERABLE AND SERVICE LEVEL AGREEMENTS	6. Uptime	Entire Clause	How will the Bank measure and verify the uptime? Will there be a third-party monitoring tool or is the Bank's internal monitoring sufficient?	Bidder to refer corrigendum-5.

182	NA	Generic	Generic	Generic	Does the "planned downtime" mentioned in 6.5 refer to scheduled maintenance windows? If so, please specify their frequency and duration.	Details will be shared with the selected bidder
183	17-18	SECTION C - DELIVERABLE AND SERVICE LEVEL AGREEMENTS	7. Penalties/Liquidated Damages	Entire Clause	Clauses 7.1.1 to 7.1.5: Please clarify if these penalties are cumulative or if the maximum 10% cap applies to the sum of all potential penalties.	Bidders to comply with RFP/GeM bid terms and conditions
184	NA	Generic	Generic	Generic	Clause 7.2: Will the Bank provide detailed downtime reports as a basis for calculating penalties? If so, what format and level of detail will be included in these reports?	Details will be shared with the selected bidder
185	21 & 22	SECTION C - DELIVERABLE AND SERVICE LEVEL AGREEMENTS	8. Payment Terms	Entire Clause	Clause 8.1: The payment schedule is tied to specific deliverables. Will these payment milestones be adjusted if there are changes to the project timeline as per clause 1.5?	Bidders to comply with RFP/GeM bid terms and conditions
186	NA	Generic	Generic	Generic	Clause 8.2: What specific documents (besides invoices and delivery proof) will the Bank require for each payment stage?	Details will be shared with the selected bidder
187	23	SECTION C - DELIVERABLE AND SERVICE LEVEL AGREEMENTS	9. Warranty	Entire Clause	Does the 3-year warranty period start from the date of installation at each individual location or from the date of the final project acceptance?	From the date of installation at each individual location. Bidders to comply with RFP/GeM bid terms and conditions
188	NA	Generic	Generic	Generic	Does the warranty cover parts and labor for all repairs/replacements, or are there any exclusions?	There is no exclusion in

						Comprehensive warranty and AMC.
189	23-25	SECTION C - DELIVERABLE AND SERVICE LEVEL AGREEMENTS	10. Scope involved during Contract period 11. Scope involved during Contract period including Warranty and AMC/ATS:	Entire Clause	Clause 10.2 & 11.2: Please clarify if "free of cost" updates include major version upgrades or only minor patches and security fixes.	It includes all updates
190	NA	Generic	Generic	Generic	Clause 11.5: What is the Bank's definition of "equivalent or higher capacity"? Will the replacement components need to match the exact specifications or just meet the functional requirements?	Bidders to comply with RFP/GeM bid terms and conditions
191	26	SECTION C - DELIVERABLE AND SERVICE LEVEL AGREEMENTS	13. Local support	Entire Clause	Will the Bank require any on-site presence beyond the response and repair timelines mentioned in 13.3? If so, please specify the level of on-site support needed.	Bidders to comply with RFP/GeM bid terms and conditions
192	25-26	SECTION C - DELIVERABLE AND SERVICE LEVEL AGREEMENTS	12. Annual Maintenance Contract (AMC) / Annual Technical Support (ATS) (if contracted):	Entire Clause	Will the Bank's decision to enter into AMC/ATS be based solely on the quoted price, or will other factors like service quality and response times also be considered?	Bidders to comply with RFP/GeM bid terms and conditions

193	47	Annexure-9 Technical Specifications	Table-M Technical Specification of Managed file transfer Solution:	Sl. No: 35 The proposed solution should support high available architecture/deployments link Active-Active, Active-Passive.	Is there any passive site? Do you expect bidder to factor license for passive site as well? If yes how many cores?	16 core license is required per site (DC-Active & DRC-Passive)
194	149	Annexure-9 Technical Specifications	Table-M Technical Specification of Managed file transfer Solution:	Sl. No: 47 Users should have the ability to securely send files to recipients by generating a link and then emailing the link to the intended receiver.	Is the requirement is to upload the file on the MFT solution and then share a webpage link and credentials over an email to download the file ?	Yes. Weblink to be shared to end-user for file upload/download from mft
195	149	Annexure-9 Technical Specifications	Table-M Technical Specification of Managed file transfer Solution:	Sl. No: 52 The solution should offer command-line support, enabling seamless integration with external workflows and automation processes.	Could you explain about this requirement in detail? What all external workflows application integration is required?	Workflow for Automation of file movement to other location based on some criteria like date, time, range, filetypes, etc.
196	145	Annexure-9 Technical Specifications	Table-M Technical Specification of Managed file transfer Solution:	Sl. No: 41 The solution should provide option to integrate with existing antivirus to scan file before it enters internal/ green zone.	Can you specify name of the antivirus to be integrated?	Details will be shared with the selected bidder
197	149	Annexure-9 Technical Specifications	Table-M Technical Specification of Managed file transfer Solution:	Sl. No: 49 The solution should support automated data cleanup based on specified criteria such as number of days.	Do you wish to cleanup user or only user data or both?	Bidders to comply with RFP/GeM bid terms and conditions

198	149	Annexure-9 Technical Specifications	Table-M Technical Specification of Managed file transfer Solution:	Sl. No: 50 The solution should include comprehensive audit logging capabilities, capturing all activities such as data upload, share, download, cut, copy, paste, and rename. These logs must be stored in a non-tamperable format to ensure the integrity and	The cut, copy, paste, rename happens outside the MFT application could you specify in more details about this requirement?	Bidders to comply with RFP/GeM bid terms and conditions
199	148	Annexure-9 Technical Specifications	Table-M Technical Specification of Managed file transfer Solution:	Sl. No: 38 The solution should support deploying HA at DR and DC-DR architecture	Are you planning to deploy DR? If yes, is it going to be Active or passive? Do you expect bidder to provide licenses for DR from day 1?	DR is required in passive mode
200	149	Annexure-9 Technical Specifications	Table-M Technical Specification of Managed file transfer Solution:	Sl. No: 48 The solution should be capable of supporting both on-premises and cloud storage repositories, offering flexibility and compatibility with various storage environments. The solution should support any brand and models of storage and hardware.	Do you expect MFT solution to have support for container deployments as well?	Bidders to comply with RFP/GeM bid terms and conditions
201	47	Annexure-9 Technical Specifications	Table-M Technical Specification of Managed file transfer Solution:	Sl. No: 33 The proposed solution should be support MFA (Multi Factor Authentication) solution.	What MFA mechanisms are expected here?	MFA - Email and SMS

202	149	Annexure-9 Technical Specifications	Table-M Technical Specification of Managed file transfer Solution:	Sl. No: 46 The solution should possess the capability to create shared folders for each group, department, or team, with customizable access levels and storage size restrictions.	Could you explain about this requirement in detail?	Bidders to comply with RFP/GeM bid terms and conditions
203	172	Annexure-16 Bill of Material	Table - C Price details of Software/Lic nse Items (Subscription based Licenses)	Sl. No: 8 File Sync Software instance base with support	Can specify what do you mean by instances here? Servers or concurrent file syncs?	Yes. Instance are referred to servers
204	85- 159	Annexure-9 Technical Specifications	Entire Clause	Entire Clause	Requesting Bank to clarify if the SSD capacity mentioned in the RFP include boot drive capacity or it needs to be added seperately.	Bidder to refer corrigendum-5.
205	86	Annexure-9 Technical Specifications	Table-A Technical Specification - 80 servers (41 DC and 39 DRC)	Sl. No: 6- Memory Slot Count- Minimum 24 or higher, Minimum 8 free memory slots should be available.	Requesting bank to change it to minimum 16 memory slots per processor and minimum 50% free memory slots should be available so that bank has a better option for future expandability	Bidders to comply with RFP/GeM bid terms and conditions
206	87	Annexure-9 Technical Specifications	Table-A Technical Specification - 80 servers (41 DC and 39 DRC)	Sl. No: 9- SAN & Network Network cards 1 Gbps- 2*1Gbps - Two Network Cards, each equipped with at least two 1-gigabit network ports (Four Port of 1Gbase-T On-Board or separate NIC with supported minimum 5	Request bank to clarify on the number of actual 1GB network card required. We understand that the requirement is for 4 ports of 1 GB ethernet. We would request bank to look at 4 -port (embedded/PCIe) card instead of dual port card inorder to maintain empty PCI slot for future expandability	Bidders to comply with RFP/GeM bid terms and conditions

				meter of compatible Cat6/Cat7 UTP Cable)		
207	87,9 3, 99, 105, 111 & 119	Annexure-9 Technical Specifications	Table-A Technical Specification - 80 servers (41 DC and 39 DRC) Table-B Technical Specification - 28 servers (17 DC and 11 DRC) Table-C Technical Specification - 100 servers (60 DC and 40 DRC) Table-D Technical Specification - 54 servers (28 DC and 26 DRC) Table-E Technical Specification - 226 servers (135 DC and 91	Sl. No: 9 SAN & Network Network cards 10 Gbps 2*10Gbps -Two Network Cards, each equipped with at least two 10-gigabit network ports (Four Port BaseT NIC LOM or separate NIC with minimum 5 meter Cat6A/Cat7 UTP Cable.	Request bank to clarify on the number of actual 10 GB network card. We understand that the requirement is for 4 ports of 10 GB. We would request bank to look at 4 -port (embedded/PCIe) card instead of dual port card inorder to maintain empty PCI slot for future expandability	Bidders to comply with RFP/GeM bid terms and conditions

			DRC) Table-F Custom Technical Specification - 12 servers			

208	87, 93, 99, 105, 112, 119	Annexure- 9Technical Specifications	Table- ATechnical Specification - 80 servers (41 DC and 39 DRC)Table- BTechnical Specification - 28 servers (17 DC and 11 DRC)Table- CTechnical Specification - 100 servers (60 DC and 40 DRC)Table- DTechnical Specification - 54 servers (28 DC and 26 DRC)Table- ETechnical Specification - 226 servers (135 DC and 91 DRC)Table- FCustom Technical Specification - 12 servers	Sl. No. 10.OS &Hypervisor CompatibilityWindows Compatibility- 2016/2019/2022	Request Bank to kindly remove Windows 2016 since it is EoL,also latest generation of servers supports Windows 2019 and above.	Bidder to refer corrigendum-5.

209	87, 93, 99, 106, 112 & 119	Annexure-9 Technical Specifications	Table-A Technical Specification - 80 servers (41 DC and 39 DRC) Table-B Technical Specification - 28 servers (17 DC and 11 DRC) Table-C Technical Specification - 100 servers (60 DC and 40 DRC) Table-D Technical Specification - 54 servers (28 DC and 26 DRC) Table-E Technical Specification - 226 servers (135 DC and 91 DRC) Table-F Custom Technical Specification - 12 servers	Sl. No: 10- OS & Hypervisor Compatibility Other Latest Linux Flavours- Latest server operating versions of Centos, SUSE Linux, Oracle Linux, Ubuntu ,RHCOS	Request bank to remove CentOS since open source and community support is only available	Bidder to refer corrigendum-5.

210	87, 93, 99, 106, 112 & 119	Annexure-9 Technical Specifications	Table-A Technical Specification - 80 servers (41 DC and 39 DRC) Table-B Technical Specification - 28 servers (17 DC and 11 DRC) Table-C Technical Specification - 100 servers (60 DC and 40 DRC) Table-D Technical Specification - 54 servers (28 DC and 26 DRC) Table-E Technical Specification - 226 servers (135 DC and 91 DRC) Table-F Custom Technical Specification - 12 servers	Sl. No: 10- OS & Hypervisor Compatibility Other Latest Linux Flavours- Latest server operating versions of Centos, SUSE Linux, Oracle Linux, Ubuntu ,RHCOS	Requesting bank to make it RHCOS/ Redhat Openshift container platform. As there is no separate certification for RHCOS. RHCOS is a part of Redhat Openshift container platform	Bidder to refer corrigendum-5.

211	87	Annexure-9 Technical Specifications	Table-A Technical Specification - 80 servers (41 DC and 39 DRC) Table-C Technical Specification - 100 servers (60 DC and 40 DRC)	Sl. No: 10- OS & Hypervisor Compatibility Virtualization compatibility- All latest version of Microsoft-HyperV, VMware, Red Hat virtualization, Oracle virtualization, Open shift virtualization and other industry standard hypervisors, Open Shift, Kubernetes	Requesting bank to remove Oracle virtualization for wider participation of OEM	Bidder to refer corrigendum-5.
212	88, 94, 100, 106, 112 & 120	Annexure-9 Technical Specifications	Table-A Technical Specification - 80 servers (41 DC and 39 DRC) Table-B Technical Specification - 28 servers (17 DC and 11 DRC) Table-C Technical Specification - 100 servers (60 DC and 40 DRC) Table-D Technical Specification - 54 servers (28 DC and 26 DRC) Table-E Technical Specification -	Sl. No: 14- Port 3 USB3.0 port and 1 VGA Port	Requesting bank to change it to USB 3.0 or higher and 1 VGA Port	Bidder to refer corrigendum-5.

			226 servers (135 DC and 91 DRC) Table-F Custom Technical Specification - 12 servers			

213	89, 95, 101, 107, 113 & 121	Annexure-9 Technical Specifications	Table-A Technical Specification - 80 servers (41 DC and 39 DRC) Table-B Technical Specification - 28 servers (17 DC and 11 DRC) Table-C Technical Specification - 100 servers (60 DC and 40 DRC) Table-D Technical Specification - 54 servers (28 DC and 26 DRC) Table-E Technical Specification - 226 servers (135 DC and 91 DRC) Table-F Custom Technical Specification - 12 servers	Sl. No: 18 Remote Management-Telemetry Streaming, Idle Server Detection, Real-time power meter, temperature monitoring, customized administration and management of System Temperature and Cooling Sub-system.	Requesting bank to remove customized administration of System Temperature and Cooling Sub-system for wider participation of OEM	Bidder to refer corrigendum-5.

214	90, 96, 102, 108, 115 & 122	Annexure-9 Technical Specifications	Table-A Technical Specification - 80 servers (41 DC and 39 DRC) Table-B Technical Specification - 28 servers (17 DC and 11 DRC) Table-C Technical Specification - 100 servers (60 DC and 40 DRC) Table-D Technical Specification - 54 servers (28 DC and 26 DRC) Table-E Technical Specification - 226 servers (135 DC and 91 DRC) Table-F Custom Technical Specification - 12 servers	Sl. No: 19- System Management Solution 3. The system management solution should be provided: c. Bare-metal server deployment and cloning	Please clarify cloning functionality desired	Bidder to refer corrigendum-5.
215	NA	Generic	Generic	Security - Secure Recovery - recover critical firmware to known good state on	Requesting bank to consider this clause the RFP to have a better data security for any cyber attack.	Bidders to comply with RFP/GeM bid terms and conditions

				detection of compromised firmware		
216	97	Annexure-9 Technical Specifications	Table-C Technical Specification - 100 servers (60 DC and 40 DRC)	Sl. No: 5- Processor Socket Minimum 2 sockets i.e., 32*1 =32 core (1 Populated & 1 For future upgrade)	Requesting bank to modify the requirement to accommodate two processors of 32 core; in order to meet network interface card & the memory requirement as per RFP. For a single processor only 3 Nos of PCIE slots & 16 nos of DIMM slots will be available. Now as per the RFP the total nos of PCIE slot required is 6 Nos & 24 nos DIMM slot required which can only be complied by adding another processor	Bidder to refer corrigendum-5.
217	104	Annexure-9 Technical Specifications	Table-D Technical Specification - 54 servers (28 DC and 26 DRC)	Sl. No: 5- Processor Socket Minimum 2 sockets i.e., 24*1 =24 core (1 Populated & 1 For future upgrade)	Requesting bank to modify the requirement to accommodate two processors of 24 core; in order to meet network interface card requirement. For a single processor only 3 Nos of PCIE slots & 16 nos of DIMM slots will be available. Now as per the RFP the total nos of PCIE slot required is 6 Nos & 24 nos DIMM slot required which can only be complied by adding another processor	Bidder to refer corrigendum-5.
218	104	Annexure-9 Technical Specifications	Table-D Technical Specification - 54 servers (28 DC and 26 DRC)	Sl. No: 7- SSD Usable Space- Minimum 1.5 TB approx. After RAID 10	Requesting bank to change it to 3 TB or higher. The bank has requested minimum drive capacity to be 1.92TB. For applying Raid10 we require minimum 4 drives (1.92*4). Hence the minimum capacity which can be configured according to the RFP would be 3.84TB	Bidder to refer corrigendum-5.

219	110	Annexure-9 Technical Specifications	Table-E Technical Specification - 226 servers (135 DC and 91 DRC)	Sl. No: 5- Processor Socket Minimum 2 sockets i.e., 16*1 =16 core (1 Populated & 1 For future upgrade)	Requesting bank to modify the requirement to accommodate two processors of 16 core; in order to meet network interface card requirement. For a single processor only 3 Nos of PCIE slots & 16 nos of DIMM slots will be available. Now as per the RFP the total nos of PCIE slot required is 6 Nos & 24 nos DIMM slot required which can only be complied by adding another processor	Bidder to refer corrigendum-5.
220	116	Annexure-9 Technical Specifications	Table-F Custom Technical Specification - 12 servers	Sl. No: 5- Processor Socket Minimum 2 sockets i.e., 16*1 =16 core (1 Populated & 1 For future upgrade) - Type 1	Requesting bank to modify the requirement to accommodate two processors of 16 core; in order to meet network interface card requirement For a single processor only 3 Nos of PCIE slots & 16 nos of DIMM slots will be available. Now as per the RFP the total nos of PCIE slot required is 6 Nos & 24 nos DIMM slot required which can only be complied by adding another processor	Bidder to refer corrigendum-5.

221	116	Annexure-9 Technical Specifications	Table-F Custom Technical Specification - 12 servers	Sl. No: 5- Processor Socket Minimum 2 sockets i.e., 16*1 =16 core (1 Populated & 1 For future upgrade) - Type 1 Minimum 2 sockets i.e., 32*1 =32 core (1 Populated & 1 For future upgrade) - Type 2 Minimum 2 sockets i.e., 32*1 =32 core (1 Populated & 1 For future upgrade) - Type 3	Requesting bank to modify the requirement to accommodate two processors of 32 core; in order to meet network interface card requirement For a single processor only 3 Nos of PCIE slots & 16 nos of DIMM slots will be available. Now as per the RFP the total nos of PCIE slot required is 6 Nos & 24 nos DIMM slot required which can only be complied by adding another processor	Bidder to refer corrigendum-5.
222	116	Annexure-9 Technical Specifications	Table-F Custom Technical Specification - 12 servers	Sl. No: 5- Processor Socket Minimum 2 sockets i.e., 16*1 =16 core (1 Populated & 1 For future upgrade) - Type 1 Minimum 2 sockets i.e., 32*1 =32 core (1 Populated & 1 For future upgrade) - Type 2 Minimum 2 sockets i.e., 32*1 =32 core (1 Populated & 1 For future upgrade) - Type 3	Requesting bank to modify the requirement to accommodate two processors of 32 core; in order to meet network interface card requirement. For a single processor only 3 Nos of PCIE slots & 16 nos of DIMM slots will be available. Now as per the RFP the total nos of PCIE slot required is 6 Nos & 24 nos DIMM slot required which can only be complied by adding another processor	Bidder to refer corrigendum-5.
223	116	Annexure-9 Technical Specifications	Table-F Custom Technical Specification - 12 servers	Sl. No: 5- Processor Cores per socket- 24	Request bank to clarify whether 24 Core needs to be considered for any configuration since socket information mentioned in the table talks about 16 & 32 cores only.	Bidder to refer corrigendum-5.

224	117	Annexure-9 Technical Specifications	Table-F Custom Technical Specification - 12 servers	Sl. No: 7- SSD Total Capacity for SATA SSD- 1.92 TB SSD disks or Higher (to support RAID 1,5,6,10)	Since the type of interface for SSD is mentioned as NVMe requesting bank to clarify on the drives to be considered as SATA or NVME.	Bidders to comply with RFP/GeM bid terms and conditions
225	118	Annexure-9 Technical Specifications	Table-F Custom Technical Specification - 12 servers	Sl. No: 7- SSD Slot Count- 38 or higher Minimum 4 free slots should be available for future upgrade - Type 2	Slot count 38 has been mentioned with minimum 4 free slots in the RFP. As per our calculation 12 slots are occupied with 4 free slots, as a result of which the slot count should be 16. Requesting bank to clarify on the same	Bidder to refer corrigendum-5.
226	124- 125	Annexure-9 Technical Specifications	Table-G Storage Technical Specifications: (Object Storage 2.0PB Usable Space: DC -1, DRC -1)	Sl. No: 8 Capacity- Minimum usable storage 2 PB after RAID6/ Dual RAID6 Configuration.(Without considering any data reduction features such as compression, deduplication etc .,)	Request bank to change the same as below Minimum usable storage 2 PB after erasure coding (Without considering any data reduction features such as compression, deduplication etc .,)	Bidder to refer corrigendum-5.
227	125	Annexure-9 Technical Specifications	Table-G Storage Technical Specifications: (Object Storage 2.0PB Usable Space: DC -1, DRC -1)	Sl. No: 13 RAID Support- RAID array supporting 10, 0, 1, 5 and 6 or better levels. It should support a mix and match of RAID levels behind a pair of controllers. The storage array should allow online expansion of existing RAID Groups / Storage Disk Pools.	Not applicable for Object storage. It uses erasure coding, Request bank to Remove this clause	Bidder to refer corrigendum-5.

228	126	Annexure-9 Technical Specifications	Table-G Storage Technical Specifications: (Object Storage 2.0PB Usable Space: DC -1, DRC -1)	Sl. No: 16 Services-Proposed storage array should include storage based compression, inline Deduplication, storage to storage replication, Snapshot for the entire supported capacity of the storage array from day one. All the required or necessary licenses must be perpetual and provided for the Full capacity of each storage from Day one. This should include licenses for Management and monitoring module and all the storage features such as Snapshot, Cloning, Replication etc. Upgrade in capacity should not incur any additional license cost. Offered storage system have online and historical performance reporting capability.	These are applicable for NVMe storage, which are not applicable for Object storage, Request bank to remove this clause	Bidder to refer corrigendum-5.
229	132	Annexure-9 Technical Specifications	Table-H Storage Technical Specifications: (Enterprise Block Storage 2.0PB Usable	Sl. No: 9 Drives- 2.5" to 3.5" drives	NVMe disk comes only in 2.5" Form Factor, so please remove 3.5"	Bidder to refer corrigendum-5.

			Space: DC -2, DRC -2)			
230	132	Annexure-9 Technical Specifications	Table-H Storage Technical Specifications: (Enterprise Block Storage 2.0PB Usable Space: DC -2, DRC -2)	Sl. No: 11 Scalability- Each storage up to 5PB (Scale UP) and 8 controller (Scale Out) DIP(data in-place) upgrade capability	All the RFP specification w.r.t. performance,Capacity, Scalability, Features can be met with 4 Controller Storages, hence request to make changes to have wider participation. Please change as "Each storage up to 5PB (Scale UP) and 4 controller or more (Scale Out) DIP(data in-place) upgrade capability." for wider participation of OEM	Bidder to refer corrigendum-5.
231	132	Annexure-9 Technical Specifications	Table-H Storage Technical Specifications: (Enterprise Block Storage 2.0PB Usable Space: DC -2, DRC -2)	Sl. No: 12 Performance- Capable of delivering sustained minimum 10GB/s throughput and 5,00,000 IOPS in (read: write) (70:30) ratio with microsecond response time.	Please specify the block size also as it is critical performance metrics, and with all data compactation enabled, Please modify it as "Capable of delivering sustained minimum 10GB/s throughput and 5,00,000 IOPS in (read: write) (70:30) ratio, 16KB Block size with microsecond response time after enabling all data reduction features "	Bidder to refer corrigendum-5.
232	132	Annexure-9 Technical Specifications	Table-H Storage Technical Specifications: (Enterprise Block Storage 2.0PB Usable Space: DC -2, DRC -2)	Sl. No: 13 RAID Support- RAID array supporting 10, 0, 1, 5 and 6 or better levels. It should support a mix and match of RAID levels behind a pair of controllers. The storage array should allow online expansion of existing RAID	All NVMe storage comes only with dual disk failure protection (RAID 6), so please remove RAID 10,0,1,5, Please modify as "RAID array supporting 6 or better levels. The storage array should allow online expansion of existing RAID Groups / Storage Disk Pools."	Bidder to refer corrigendum-5.

				Groups / Storage Disk Pools.		
233	133	Annexure-9 Technical Specifications	Table-H Storage Technical Specifications: (Enterprise Block Storage 2.0PB Usable Space: DC -2, DRC -2)	Sl. No: 18 Operating System Support for multiple Operating Systems versions connecting to it, including but not restricted to Windows 2016,2019,2022 or later, UNIX (AIX & Solaris & HP Unix), Linux (Red hat, SUSE & OEL), Hypervisor (vSphere, Hyper V, Red hat Virtualization, Oracle virtualization & Nutanix)	Support for multiple Operating Systems versions connecting to it, including but not restricted to Windows 2016,2019,2022 or later, UNIX (AIX & Solaris & HP Unix), Linux (Red hat, SUSE & Ubuntu), Hypervisor (vSphere, Hyper V, Red hat Virtualization, Oracle virtualization)	Bidder to refer corrigendum-5.
234	135	Annexure-9 Technical Specifications	Table-H Storage Technical Specifications: (Enterprise Block Storage 2.0PB Usable Space: DC -2, DRC -2)	Sl. No: 29 Controller & Availability- Offered Storage array should be an enterprise class storage system with 99.90 % Data Availability guarantee.	To ensure the maximum data availability, suggest to have 100% instead of 99.90% as this is primary storage availability has to be at max possible. Please modify as "Offered Storage array should be an enterprise class NVMe based storage system with 100% % Data Availability guarantee supports only NVMe drives."	Bidder to refer corrigendum-5.

235	134	Annexure-9 Technical Specifications	Table-H Storage Technical Specifications: (Enterprise Block Storage 2.0PB Usable Space: DC -2, DRC -2)	Sl. No: 22- Uptime The storage should be able to provide availability parameter of 99.90 % from the date of acceptance of the Storage by Bank	To ensure the maximum Up Time, suggest to have 99.9999% instead of 99.90% as this is primary storage availability has to be at max possible The storage should be able to provide availability parameter of 99.9999 % from the date of acceptance of the Storage by Bank	Bidder to refer corrigendum-5.
236	132	Annexure-9 Technical Specifications	Table-H Storage Technical Specifications: (Enterprise Block Storage 2.0PB Usable Space: DC -2, DRC -2)	Sl. No: 10- Hard Disk Capacity Each hard disk Capacity should not be less than 15 TB and not more than 20 TB	Each TLC NVMe SSD Capacity should not be more than 16 TB	Bidder to refer corrigendum-5.

237	133	Annexure-9 Technical Specifications	Table-H Storage Technical Specifications: (Enterprise Block Storage 2.0PB Usable Space: DC -2, DRC -2)	Sl. No: 20- Warranty and Support 3 Years, Comprehensive, On-Site Support Warranty and 2 years AMC including part replacement /repairs within 4 hours of reporting, and Software support for updates, upgrades, patches, and bug fixes for supplied s/w from OEM 24 x 7 x 365 days. In case of Disk failure, the faulty disk will be destroyed/ degaussed on replacement. Proactive storage monitoring & support from OEM should be enabled. The proposed bidder will need to ensure support of product & change of components @ zero cost in case of any part becoming obsolete/EOL & EOS during the warranty and AMC period.	3 Years, Comprehensive, On-Site Support Warranty and 2 years AMC including part replacement /repairs within 6 hours of reporting, and Software support for updates, upgrades, patches, and bug fixes for supplied s/w from OEM 24 x 7 x 365 days. In case of Disk failure, the faulty disk will be destroyed/ degaussed on replacement. Proactive storage monitoring & support from OEM should be enabled. The proposed bidder will need to ensure support of product & change of components @ zero cost in case of any part becoming obsolete/EOL & EOS during the warranty and AMC period.	Bidder to refer corrigendum-5.
238	138	Annexure-9 Technical Specifications	Table-K Technical Specification of Network TOR Switches	A. Type 1 Switch - 14 numbers (07 numbers in DC and 07 numbers in DRC) - Mgmt.	Table H	Query not clear

239	138	Annexure-9 Technical Specifications	Table-K Technical Specification of Network TOR Switches	A. Type 1 Switch - 14 numbers (07 numbers in DC and 07 numbers in DRC) - Mgmt. Sl. No: 3 Mac address table size should be equal to greater than 16000.	Request to increase the MAC capacity to 32000 instead of 16000. Since it's DC environment we request to maintain the Min 32K MAC capacity to handle the Maximum host.	Bidders to comply with RFP/GeM bid terms and conditions
240	138	Annexure-9 Technical Specifications	Table-K Technical Specification of Network TOR Switches	A. Type 1 Switch - 14 numbers (07 numbers in DC and 07 numbers in DRC) - Mgmt. Sl. No: 4 Switch must be supplied with compatible Trans ceiver for Fiber ports.	Request to change the clause "Switch must be supplied with compatible Transceiver for Fiber ports and should be from same OEM" most of the Transceivers will be compatible with the switches. When it comes to operational OEM engineering will not support with third-party Trasnceviers which may led to the issue.	Bidder to refer corrigendum-5.
241	138	Annexure-9 Technical Specifications	Table-K Technical Specification of Network TOR Switches	A. Type 1 Switch - 14 numbers (07 numbers in DC and 07 numbers in DRC) - Mgmt. Sl. No: 5 Switch must have redundant Power Supply.	Request to change the clause "Switch must have hot-swappable redundant FAN tray & Power Supply day 1" Since it's DC switches, Proposed switches must support hot-swappable which will not impact the DC operational" RPS stand for internal/external, hence request to modify the clause.	Bidders to comply with RFP/GeM bid terms and conditions

242	138	Annexure-9 Technical Specifications	Table-K Technical Specification of Network TOR Switches	A. Type 1 Switch - 14 numbers (07 numbers in DC and 07 numbers in DRC) - Mgmt. Sl. No: 14 Switch should support Simple Network Management Protocol (SNMPv2 and SNMPv3).	Request to change the clause" Switch should support Simple Network Management Protocol (SNMPv2c and SNMPv3).	Bidders to comply with RFP/GeM bid terms and conditions
243	139	Annexure-9 Technical Specifications	Table-K Technical Specification of Network TOR Switches	A. Type 1 Switch - 14 numbers (07 numbers in DC and 07 numbers in DRC) - Mgmt. Sl. No: 28 24*7*365 days Technical support with response time of 30 minutes.	Request to change the clause: Switch OEM must provide direct support to Bank proposed switches 24*7*365 days Technical support.	Bidders to comply with RFP/GeM bid terms and conditions
244	138	Annexure-9 Technical Specifications	Table-K Technical Specification of Network TOR Switches	A. Type 1 Switch - 14 numbers (07 numbers in DC and 07 numbers in DRC) - Mgmt. Additional Clause: The Switch should support integrated trusted platform module (TPM) for platform integrity. This ensure the boot process started from a trusted combination of switches.	This will secure the switches hardware and software of the proposed components	Bidders to comply with RFP/GeM bid terms and conditions

245	138	Annexure-9 Technical Specifications	Table-K Technical Specification of Network TOR Switches	A. Type 1 Switch - 14 numbers (07 numbers in DC and 07 numbers in DRC) - Mgmt. Additional Clause: The Switch should support Control Plane Policing sets rate limit on control protocols to protect CPU overload from DOS attacks	Since it's DC switches request to add the security clause to prevent the DC	Bidders to comply with RFP/GeM bid terms and conditions
246	138	Annexure-9 Technical Specifications	Table-K Technical Specification of Network TOR Switches	A. Type 1 Switch - 14 numbers (07 numbers in DC and 07 numbers in DRC) - Mgmt. Additional Clause: The Switch should support VXLAN encapsulation (tunnelling) protocol for overlay network that enables a more scalable virtual network deployment	If Bank need to create the L2/L3 fabric proposed DC clause switch must participate in the DC fabric day 1	Bidders to comply with RFP/GeM bid terms and conditions

247	138	Annexure-9 Technical Specifications	Table-K Technical Specification of Network TOR Switches	A. Type 1 Switch - 14 numbers (07 numbers in DC and 07 numbers in DRC) - Mgmt. Additional clause: The switch should support front plane stacking on uplink port or Backplane stacking. The switch should support minimum 4 switch in stack/cluster	Request add the Stack/Cluster points, if servers iLO ports will be connected to 1G Switches or 1G Servers ports can be used to connect, which can be provide single IP management.	Bidders to comply with RFP/GeM bid terms and conditions
248	138	Annexure-9 Technical Specifications	Table-K Technical Specification of Network TOR Switches	A. Type 1 Switch - 14 numbers (07 numbers in DC and 07 numbers in DRC) - Mgmt. Additional Clause: The Switch should support Built-in programmable and easy to use REST API interface	Now a days all are going with Modern automated DC solution, if proposed switches are not supporting the script language which will led to integrate with API based automated solution in future.	Bidders to comply with RFP/GeM bid terms and conditions
249	139	Annexure-9 Technical Specifications	Table-K Technical Specification of Network TOR Switches	B. Type 2 Switch - 24 numbers (12 DC+ 12 DRC) for Data Sl. No: 1 Switch must be Data Center grade switch. Switch should be configurable/deployable with other switches to utilize all available links	Change the clause to: Switch must be Data Center grade switch. Switch should be configurable/deployable and Open Standards implementation with other switches to utilize all available links through multi-path forwarding Request to add the Open standard clause to avoid the vendor lock in	Bidders to comply with RFP/GeM bid terms and conditions

				through multi-path forwarding.		
250	139	Annexure-9 Technical Specifications	Table-K Technical Specification of Network TOR Switches	B. Type 2 Switch - 24 numbers (12 DC+ 12 DRC) for Data Sl. No: 3 6 fixed 40/100-Gbps QSFP+ ports for uplink connectivity with fully populated trans receivers on single chassis.	Request to Amend this clause: 4 fixed 40/100-Gbps QSFP+ ports for uplink connectivity with fully populated trans receivers on single chassis. Technically 4 Ports are sufficient in the chassis to form the cluster and uplink to core/spine, hence request to amend this clause to qualify all the standard OEMs	Bidders to comply with RFP/GeM bid terms and conditions
251	139	Annexure-9 Technical Specifications	Table-K Technical Specification of Network TOR Switches	B. Type 2 Switch - 24 numbers (12 DC+ 12 DRC) for Data Sl. No: 5 Switch should support EVPN and Virtual Extensible LAN (VXLAN) to create Fabric. Fabric should be capable to integrate with SDDC like Open stack, VMWare etc. Switch should support In Service Software Upgrade.	Please clarify what is the Fabric is used by Bank? Should we include the Fabric Manager to manage all the proposed DC switches?	Details will be shared with the selected bidder

252	139	Annexure-9 Technical Specifications	Table-K Technical Specification of Network TOR Switches	B. Type 2 Switch - 24 numbers (12 DC+ 12 DRC) for Data Sl. No: 7 Latency should be less than 2 microsecond.	Request to change the clause to "Latency should be less than 4 microsecond to comply all the OEMs	Bidders to comply with RFP/GeM bid terms and conditions
253	139	Annexure-9 Technical Specifications	Table-K Technical Specification of Network TOR Switches	B. Type 2 Switch - 24 numbers (12 DC+ 12 DRC) for Data Sl. No: 10 Switch must be supplied with compatible Trans receiver for all Optical/Fiber ports.	Request to change the clause "Switch must be supplied with compatible Trans receiver for Fiber ports and should from same OEM" most of the Transceivers will be compatible in the switches. When it comes to operational OEM engineering will not support with third-party Trasnceviers which may lead to the issue. Please clarify what is speed and transceivers type to be populated in the switches.	Bidder to refer corrigendum-5.
254	139	Annexure-9 Technical Specifications	Table-K Technical Specification of Network TOR Switches	B. Type 2 Switch - 24 numbers (12 DC+ 12 DRC) for Data Sl. No: 11 Switch must have redundant Fan and Power Supply.	Request to change the clause "Switch must have hot-swappable redundant FAN tray & Power Supply day1" Since it's DC switches, proposed switches must support hot swappable which will not impact the DC operational" hence request to modify the clause.	Bidders to comply with RFP/GeM bid terms and conditions

255	140	Annexure-9 Technical Specifications	Table-K Technical Specification of Network TOR Switches	B. Type 2 Switch - 24 numbers (12 DC+ 12 DRC) for DataSl. No. 33High Mean Time Between Failure values (>3.5 lakh hours) should be available to ensure long life of switch hardware.	Request to change the clause to Min 2L Hours or above to qualify all the standard OEMs	Bidder to refer corrigendum-5.
256	140	Annexure-9 Technical Specifications	Table-K Technical Specification of Network TOR Switches	B. Type 2 Switch - 24 numbers (12 DC+ 12 DRC) for Data Sl. No: 34 24*7*365 days Technical support with response time of 30 minutes.	Request to change the clause: 24*Switch OEM must provide direct support to Bank proposed switches 24*7*365 days Technical support.	Bidders to comply with RFP/GeM bid terms and conditions
257	140	Annexure-9 Technical Specifications	Table-K Technical Specification of Network TOR Switches B. Type 2 Switch - 24 numbers (12 DC+ 12 DRC) for Data	Additional Clause Switch Solution must be incorporate the Fabric Manager. The overall System network design & operations must be based on Open Standards' implementation for Networking, with the minimum of eBGP/OSPF underlay, eBGP/MP-BGP/EVPN overlay and VXLAN H/W VTEP where required.	Technically DC switches should support Advance layer 3 to form the CLOS architecture in the DC fabric environment.	Bidders to comply with RFP/GeM bid terms and conditions

258	139	Annexure-9 Technical Specifications	Table-K Technical Specification of Network TOR Switches B. Type 2 Switch - 24 numbers (12 DC+ 12 DRC) for Data	Additional Clause: The system must provide open APIs to enable an automated system wide build of the DC	Now a days all are going with Modern automated DC solution, if proposed switches are not supporting the script language which will led to integrate with API based automated solution in future.	Bidders to comply with RFP/GeM bid terms and conditions
259	140	Annexure-9 Technical Specifications	Table-K Technical Specification of Network TOR Switches B. Type 2 Switch - 24 numbers (12 DC+ 12 DRC) for Data	Additional Clause The solution should provide realtime monitoring of various parameter of the network using realtime state streaming telemetry or better technology.	Switches must support real-time monitor and telemetry to manage the DC fabric solution.	Bidders to comply with RFP/GeM bid terms and conditions
260	140	Annexure-9 Technical Specifications	Table-K Technical Specification of Network TOR Switches B. Type 2 Switch - 24 numbers (12 DC+ 12 DRC) for Data	Additional Clause	is there any existing Spine switches? Can you please let us know the Spine details to understand, also please confirm the leaf to spine connectivity type and speed?	Details will be shared with the selected bidder

261	140	Annexure-9 Technical Specifications	Table-K Technical Specification of Network TOR Switches	C. Type 4 Switch - 4 numbers (2 DC+ 2 DRC) - Storage Sl. No: 4 Switch should support EVPN and Virtual Extensible LAN (VXLAN) to create Fabric. Fabric should be capable to integrate with SDDC like Open stack, VMWare etc. Switch should support In Service Software Upgrade.	Please include static routing, OSPF, VRRP, PBR, IP SLA or equivalent MP- BGP, MPLS -L3 Please clarify what is the Fabric is used by Bank? Should we include the Fabric Manager to manage all the proposed DC switches?	Bidders to comply with RFP/GeM bid terms and conditions
262	141	Annexure-9 Technical Specifications	Table-K Technical Specification of Network TOR Switches	C. Type 4 Switch - 4 numbers (2 DC+ 2 DRC) - Storage Sl. No: 6 Latency should be less than 1 microsecond.	Request to change the clause to "Latency should be less than 3 microsecond to comply all the OEMs	Bidders to comply with RFP/GeM bid terms and conditions
263	142	Annexure-9 Technical Specifications	Table- K Technical Specification of Network TOR Switches	C. Type 4 Switch - 4 numbers (2 DC+ 2 DRC) - Storage Sl. No. 33 High Mean Time Between Failure values (>3.5 lakh hours) should be available to ensure long life of switch hardware.	Request to change the clause to Min 2L Hours or above to qualify all the standard OEMs	Bidder to refer corrigendum-5.
264	142	Annexure-9 Technical Specifications	Table-K Technical Specification of Network TOR Switches	C. Type 4 Switch - 4 numbers (2 DC+ 2 DRC) - Storage Sl. No: 34 24*7*365 days Technical support with response time of 30 minutes.	Request to change the clause: 24*Switch OEM must provide direct support to Bank proposed switches 24*7*365 days Technical support.	Bidders to comply with RFP/GeM bid terms and conditions

265	141	Annexure-9 Technical Specifications	Table-K Technical Specification of Network TOR Switches C. Type 4 Switch - 4 numbers (2 DC+ 2 DRC) - Storage	Additional Clause Switch Solution must be incorporate the Fabric Manager. The overall System network design & operations must be based on Open Standards' implementation for Networking, with the minimum of eBGP/OSPF underlay, eBGP/MP- BGP/EVPN overlay and VXLAN H/W VTEP where required.	Technically DC switches should support Advance layer 3 to form the CLOS architecture in the DC fabric environment.	Bidders to comply with RFP/GeM bid terms and conditions
266	140	Annexure-9 Technical Specifications	Table-K Technical Specification of Network TOR Switches	C. Type 4 Switch - 4 numbers (2 DC+ 2 DRC) - Storage Additional Clause: The system must provide open APIs to enable an automated system wide build of the DC	Now a days all are going with Modern automated DC solution, if proposed switches are not supporting the script language which will led to integrate with API based automated solution in future.	Bidders to comply with RFP/GeM bid terms and conditions
267	141	Annexure-9 Technical Specifications	Table-K Technical Specification of Network TOR Switches C. Type 4 Switch - 4 numbers (2 DC+ 2 DRC) - Storage	Additional Clause The solution should provide realtime monitoring of various parameter of the network using realtime state streaming telemetry or better technology.	Switches must support real-time monitor and telemetry to manage the DC fabric solution.	Bidders to comply with RFP/GeM bid terms and conditions

268	140	Annexure-9 Technical Specifications	Table-K Technical Specification of Network TOR Switches C. Type 4 Switch - 4 numbers (2 DC+ 2 DRC) - Storage	Additional Clause- Proposed switches must support - iSCSI, Lossless iSCSI, RDMA over Converged Ethernet version 2 (RoCE v1 and v2) and Non- Volatile Memory Express (NVMe over Fabrics)	DC Storage switches, hence please consider the this storage related protocol.	Bidders to comply with RFP/GeM bid terms and conditions
269	142	Annexure-9 Technical Specifications	Table-K Technical Specification of Network TOR Switches	In addition to the above access switches Bidder to supply Distribution Switches in High availability with required capacity to connect all supplied access switches with dual uplink of 10/40/100 Gbps in active- active mode for redundancy and load sharing (DC - 2, DRC - 2)	Please clarify the Points.. What is the predominants Port speed ?	Bidders to comply with RFP/GeM bid terms and conditions
270	136	Annexure-9 Technical Specifications	Table-I Technical Specification of 27 server racks (19 Nos at DC - Single Phase, 8 Three Phase)	Sl. No: 6 Wheels- Rack wheels for rack movement	As such we learn that these server racks are deployed in Internet data centres hence wheels are not recommended . Recommended to use base plinth for load distribution (L X B) and if required wheels can be fitted for free movement of server racks .	Bidders to comply with RFP/GeM bid terms and conditions

271	137	Annexure-9 Technical Specifications	Table-J Technical Specification of server racks (23 Nos with three phase at DR)	Sl. No: 6 Wheels- Rack wheels for rack movement	As such we learn that these server racks are deployed in Internet data centres hence wheels are not recommended . Recommended to use base plinth for load distribution (L X B) and if required wheels can be fitted for free movement of server racks .	Bidders to comply with RFP/GeM bid terms and conditions
272	77	Annexure-8 Scope of Work	Evaluation for Scope of Work For Open shift	Entire Clause	What is the Hardware configuration for Openshift hosting?	Details will be shared with the selected bidder
273	77	Annexure-8 Scope of Work	Evaluation for Scope of Work For Open shift	Entire Clause	What storage bank has present, does bank have Object, Block and File with certified Openshift CSI Driver? can same be used for Openshift Cluster?	Details will be shared with the selected bidder
274	172	Annexure-16 Bill of Material	Table - C Price details of Software/License Items (Subscription based Licenses)	Sl. No: 4 RedHat OpenShift - RHCOS latest version subscription with premium support	The Scope mentions implementation of Advanced Cluster Management and Cluster Security that is available only with Red Hat OpenShift Container Platform Plus, Bank to update the SKU with Red Hat OpenShift Container Platform Plus in the Bill of material and Scope of Work.	Bidder to refer corrigendum-5.
275	172	Annexure-16 Bill of Material	Table - C Price details of Software/License Items (Subscription based Licenses)	Sl. No: 2 RHEL 9 with premium support	Is this for Physical host of virtual host?	Physical Host
276	NA	Generic	Generic	Query -For Rack	-	Query not clear
277	NA	Generic	Generic	Query for Tape Lib	-	Query not clear

278	159	Annexure-9 Technical Specifications	Table-Q Technical Specifications of 2 LTO9 standalone Tape Drive (1 DC and 1 DRC)	Sl. No: 5 Tape Drive- One LTO-9 Drive with FC Connectivity to support 8Gbps or more.	STAND ALONE DRIVES are Not available in FC , all major brands provide Standalone drive in SAS model only. ELSE 8 Slots Autoloader with LTO9 FC driv can be provided if Required .	Bidder to refer corrigendum-5.
279	NA	Generic	Generic	Query for server	-	Query not clear
280	118	Annexure-9 Technical Specifications	Table-F Custom Technical Specification - 12 servers	Sl. No: 9 SAN & Network	With Single CPU populated there is a limitation to get enough PCIe slots hence make the CPU installed as 2 nos	Bidder to refer corrigendum-5.
281	64	Annexure-2 Pre- Qualification Criteria	Entire Clause	Entire Clause	-	Bidders to comply with RFP/GeM bid terms and conditions
282	64	Annexure-2 Pre- Qualification Criteria	Sl. No. 6	Pre-Qualification Criteria: The bidder should have yearly average turnover of 300 Crores in India for the last three financial years 2020-2021, 2021-2022, 2022-2023 from their Indian operation as per the audited Financial Statements. This must be the individual company turnover and not of any group of companies.	Few bidder have 300 croes turnover so we are requesting you change as 100 crores atleast.	Bidders to comply with RFP/GeM bid terms and conditions

283	64	Annexure-2 Pre- Qualification Criteria	Sl. No: 8	Pre-Qualification Criteria The Bidder/OEM should have successfully supplied minimum cumulative 500 Nos. of Servers in India in the last three years out of which the bidder should have successfully supplied Hardware and software as a service model at least 100 servers deployed at Customer's DC and DR in Indian Market in any 1 Scheduled Commercial Bank/ NBFC/ Insurance Company/ PSU/ Central Government Organization in India in the last three years as on the date of submission of bid for this RFP.	We are requesting for ammendment.	Bidder to refer corrigendum-5.
284	159	Annexure-9 Technical Specifications	Table-Q Technical Specifications of 2 LTO9 standalone Tape Drive (1 DC and 1 DRC)	Sl. No: 5 Tape Drive- One LTO-9 Drive with FC Connectivity to support 8Gbps or more.	STAND ALONE DRIVES are Not available in FC , all major brands provide Standalone drive in SAS model only. ELSE, Bank can ask bidders to provide 1U, 8 Slots Autoloader with LTO9 FC drive , each site can be provided if FC is Mandatory Required .	Bidder to refer corrigendum-5.
285	159	Annexure-9 Technical Specifications	Table-Q Technical Specifications of 2 LTO9 standalone	Sl. No: 6 Cables- Necessary OM3/OM4 FC cables of length 15 meters	STAND ALONE DRIVES are Not available in FC , all major brands provide Standalone drive in SAS model only.	Bidder to refer corrigendum-5.

			Tape Drive (1 DC and 1 DRC)			
286	64	Annexure-2 Pre- Qualification Criteria	Sl. No. 6	Pre-Qualification Criteria: The bidder should have yearly average turnover of 300 Crores in India for the last three financial years 2020-2021, 2021-2022, 2022-2023 from their Indian operation as per the audited Financial Statements. This must be the individual company turnover and not of any group of companies.	Servers & Storage are the backbone for any Data Centre, and your organization being one of the top PSU Banks in India, this requirement and support extended is very critical. Bank should ensure that participating bidders should have enough resources to be able to align L1, L2 and L3 onsite resources immediately as and when required. This can be guaranteed only by bidders who have been performing consistently well through the years. Hence, we request bank to modify this clause as below: "The bidder should have yearly average turnover of 1000 Crores in India for the last three financial years 2020-2021, 2021-2022, 2022-2023 from their Indian operation as per the audited Financial Statements. This must be the individual company turnover and not of any group of companies."	Bidders to comply with RFP/GeM bid terms and conditions

287	64	Annexure-2 Pre- Qualification Criteria	Sl. No: 8	Pre-Qualification Criteria The Bidder/OEM should have successfully supplied minimum cumulative 500 Nos. of Servers in India in the last three years out of which the bidder should have successfully supplied Hardware and software as a service model at least 100 servers deployed at Customer's DC and DR in Indian Market in any 1 Scheduled Commercial Bank/ NBFC/ Insurance Company/ PSU/ Central Government Organization in India in the last three years as on the date of submission of bid for this RFP.	Please elaborate the term "Hardware and software as a service model"	Bidder to refer corrigendum-5.

288	64	Annexure-2 Pre- Qualification Criteria	Sl. No: 8	Pre-Qualification Criteria The Bidder/OEM should have successfully supplied minimum cumulative 500 Nos. of Servers in India in the last three years out of which the bidder should have successfully supplied Hardware and software as a service model at least 100 servers deployed at Customer's DC and DR in Indian Market in any 1 Scheduled Commercial Bank/ NBFC/ Insurance Company/ PSU/ Central Government Organization in India in the last three years as on the date of submission of bid for this RFP.	Bank will be entering into a direct contract with the bidders, with OEMs only lined back-to-back for support and AMC. The bidder may not have enough experience and manpower resources to cover the day-to-day service and support requirements of this scale at both DC and DR locations. Hence, we request you to modify this clause as below: "The Bidder should have successfully supplied minimum cumulative 500 Nos. of Servers in India at Customer's DC and DR in Indian Market in any 1 Scheduled Commercial Bank/ NBFC/ Insurance Company/ PSU/ Central Government Organization in India in the last three years as on the date of submission of bid for this RFP."	Bidder to refer corrigendum-5.

289	64	Annexure-2 Pre- Qualification Criteria	Sl. No: 8	Pre-Qualification Criteria The Bidder/OEM should have successfully supplied minimum cumulative 500 Nos. of Servers in India in the last three years out of which the bidder should have successfully supplied Hardware and software as a service model at least 100 servers deployed at Customer's DC and DR in Indian Market in any 1 Scheduled Commercial Bank/ NBFC/ Insurance Company/ PSU/ Central Government Organization in India in the last three years as on the date of submission of bid for this RFP.	For Work Orders from government entities, not all organizations share a work completion certificate or letter specifying period and nature of services provided. We hence request you to accept "Invoices raised against the PO" along with copy of purchase order as document required to justify this qualification criteria.	Bidder to refer corrigendum-5.
290	14	SECTION C - DELIVERABLE AND SERVICE LEVEL AGREEMENTS	1. Project Timelines	1.3. The timelines for the delivery and installation of all Hardware and Software should be completed within 24 weeks from the date of acceptance of the Purchase Order or 25 weeks from the date of Purchase Order for all the locations. It will be the sole responsibility of the vendor to submit any form required for release of	Please considering the relaxation for the Project timeline as - "The timelines for the delivery and installation of all Hardware and Software should be completed within 30 weeks from the date of acceptance of the Purchase Order or 31 weeks from the date of Purchase Order 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."	Bidders to comply with RFP/GeM bid terms and conditions

				shipment from the check post.		
291	14	SECTION C - DELIVERABLE AND SERVICE LEVEL AGREEMENTS	1. Project Timelines	1.3. Delivery of all Hardware and software: Within 12 weeks from date of Acceptance of PO	Kindly revise the timelines to "Within 18 weeks from date of Acceptance of PO"	Bidders to comply with RFP/GeM bid terms and conditions
292	14	SECTION C - DELIVERABLE AND SERVICE LEVEL AGREEMENTS	1. Project Timelines	1.3. Installation of all Hardware: Within 6 weeks from the date of delivery of hardware	Considering the quantity of hardware covered under this RFP, Kindly revise the timelines to "Within 12 weeks from the date of delivery of hardware"	Bidders to comply with RFP/GeM bid terms and conditions
293	14	SECTION C - DELIVERABLE AND SERVICE LEVEL AGREEMENTS	1. Project Timelines	1.3. Delivery of all Hardware and software: Within 12 weeks from date of Acceptance of PO	Considering the quantity of hardware covered under this RFP, Kindly revise the timelines to "Within 16 weeks from the date of delivery of hardware/Software"	Bidders to comply with RFP/GeM bid terms and conditions
294	124	Annexure-9 Technical Specifications	Table-G Storage Technical Specifications: (Object Storage 2.0PB	Sl. No: 5- Architecture *Security model S3-Vault: Security service for Accounts a. Multi-tenant, Support for S3 IAM - Identity and Access Management.	This is vendor specific terminology, please clarify the requirement with respective security.	Bidder to refer corrigendum-5.

			Usable Space: DC -1, DRC -1)			
295	124	Annexure-9 Technical Specifications	Table-G Storage Technical Specifications: (Object Storage 2.0PB Usable Space: DC -1, DRC -1)	Sl. No: 5 Architecture- Connectivity -File Interface o Capability to write simultaneously to the same folder from different file connectors (folder scale out). o Seamless load balancing and failover among the file connectors. o Quota for file	Connectivity -S3/File Interface o Capability to write simultaneously to the same object/folder from different S3/file connectors (Object scale out). o Seamless load balancing and failover among the S3/ file connectors. o Quota for S3/file Folder structure is not applicable to purpose build object storage solutions as object storage works on buckets, please clarify.	Bidder to refer corrigendum-5.

296	126	Annexure-9 Technical Specifications	Table- GStorage Technical Specifications: (Object Storage 2.0PB Usable Space: DC -1, DRC -1)	Sl. No: 16 Services- Proposed storage array should include storage based compression, inline Deduplication, storage to storage replication, Snapshot for the entire supported capacity of the storage array from day one. All the required or necessary licenses must be perpetual and provided for the Full capacity of each storage from Day one. This should include licenses for Management and monitoring module and all the storage features such as Snapshot, Cloning, Replication etc. Upgrade in capacity should not incur any additional license cost. Offered storage system have online and historical performance reporting capability. Offered storage system have online and historical performance reporting capability. At least 1 year of historical performance information should be available online for capacity and performance forecasting, trend analysis etc. In case this capability is not available natively, then necessary software subscription shall be provided for the entire duration of the contract. As asked capacity is on NL SAS drives, enabling inlinee duplication is not recommended. And this is vendor specific and also they support dedup for NAS but not for object. So request you to amend the clause.	Proposed storage array should include storage based compression/inline Deduplication, storage to storage replication, Snapshot for the entire supported capacity of the storage array from day one. All the required or necessary licenses must be perpetual and provided for the Full capacity of each storage from Day one. This should include licenses for Management and monitoring module and all the storage features such as Snapshot, Cloning, Replication etc. Upgrade in capacity should not incur any additional license cost. Offered storage system have online and historical performance reporting capability. Offered storage system have online and historical performance reporting capability. At least 1 year of historical performance information should be available online for capacity and performance forecasting, trend analysis etc. In case this capability is not available natively, then necessary software subscription shall be provided for the entire duration of the contract. As asked capacity is on NL SAS drives, enabling inlinee duplication is not recommended. And this is vendor specific and also they support dedup for NAS but not for object. So request you to amend the clause.	Bidder to refer corrigendum-5.

297	126	Annexure-9 Technical Specifications	Table-G Storage Technical Specifications: (Object Storage 2.0PB Usable Space: DC -1, DRC -1)	Sl. No: 17 Protocol Support- CIFS, SMB, NFSV3&V4,HTTPS,HTTP,RE STAPIs,FTP, Linux FS (FUSE), S3 Protocol, SWIFT & all kinds of rest full APIs. Vendor shall configure the licenses all interfaces All above protocol shall be native to cluster and shall not require any additional gateway. Vendor can provision additional gateway if required from performance perspective but capability shall be native to main nodes only.	S3/CIFS/SMB/NFSV/HTTPS/HTTP/RES TAPIs/FTP/Linux FS (FUSE)/S3 Protocol/SWIFT & all kinds of rest full APIs. Vendor shall configure the licenses all interfaces The purpose build object storage systems does support S3 protocol only, so we request you to please segregate the file and object requirement. There are solutions which can support NAS and object but it lacks critical object capabilities.	Bidder to refer corrigendum-5.
298	133	Annexure-9 Technical Specifications	Table-H Storage Technical Specifications: (Enterprise Block Storage 2.0PB Usable Space: DC -2, DRC -2)	Sl. No: 18 Operating System Support Support for multiple Operating Systems versions connecting to it, including but not restricted to Windows 2016,2019,2022 or later, UNIX (AIX & Solaris & HP Unix), Linux (Red hat, SUSE & OEL), Hypervisor (vSphere, Hyper V, Red hat Virtualization, Oracle virtualization & Nutanix)	This is not relevant to object storage as S3 access is OS agnostic.	Bidder to refer corrigendum-5.

299	127	Annexure-9 Technical Specifications	Table- GStorage Technical Specifications: (Object Storage 2.0PB Usable Space: DC -1, DRC -1)	Sl. No: 21- Other FeaturesEntire Clause	The proposed storage system should support SNMP, Address resolution protocol, Network Time Protocol, LDAP/Network Lock Manager. The Storage array should be licensed with Performance monitoring tools should be offered with the storage array. The proposed storage system shall support a browser based GUI built in management. All objects stored in Object Storage have a URL. All objects have their own metadata. Developers interact with the object storage system through a RESTful HTTP API. Object data can be located anywhere in the cluster. Backup & Recovery: Data backup and recovery rely on accessible and reliable storage. Object-based storage provides the infrastructure for secure data backup and efficient recovery procedures. There shall be no separate and dedicated control node or metadata node in the cluster. In case, nodes are separate then vendor shall over Metadata / control nodes in HA using active / active approach. Offered solution shall be completely redundant and there shall be no single point of failure. Offered solution shall have file integrity checking when reading the file and automatic rebuilt if an error is detected. Please segregate the requirement for object	Bidder to refer corrigendum-5.

					and file as NLM is NFS specific feature. Request you to modify the clause	

300	140	Annexure-9 Technical Specifications	Table-K Technical Specification of Network TOR Switches	B. Type 2 Switch - 24 numbers (12 DC+ 12 DRC) for Data Sl. No. 33 High Mean Time Between Failure values (>3.5 lakh hours) should be available to ensure long life of switch hardware.	Request you to change this to "High Mean Time Between Failure values (>2.7 lakh hours) should be available to ensure long life of switch hardware. Request Bank to change this value, as this is single OEM specific point . Higher MTBF values always donot provide the product relaiability measurements	Bidder to refer corrigendum-5.
301	142	Annexure-9 Technical Specifications	Table-K Technical Specification of Network TOR Switches	C. Type 4 Switch - 4 numbers (2 DC+ 2 DRC) - Storage Sl. No. 33 High Mean Time Between Failure values (>3.5 lakh hours) should be available to ensure long life of switch hardware.	Request you to change this to "High Mean Time Between Failure values (>2.7 lakh hours) should be available to ensure long life of switch hardware. Request Bank to change this value, as this is single OEM specific point . Higher MTBF values always donot provide the product relaiability measurements	Bidder to refer corrigendum-5.
302	150	Annexure-9 Technical Specifications	Table-N Technical Specifications of 4 SAN Director (2 Nos at DC and 2 Nos at DR)	Sl. No: 9 The switch should support 512 Gbps BW for ISL Trunking connectivity and Cut Thru Switching. Necessary Licenses to be provided by the bidder.	9. The switch should support 512 Gbps BW for ISL Trunking connectivity and Cut Thru/Store -Forward Switching. Necessary Licenses to be provided by the bidder. There are only 2 OEM in SAN switching market . Cut Thru SAN switching is single OEM specific mechansim and hence request bank to change this Clause for more participation	Bidder to refer corrigendum-5.
303	154	Annexure-9 Technical Specifications	Table-N Technical Specifications of 4 SAN Director (2 Nos	Sl. No: 21 Other Features The director class switch should provide Inter Chassis Link (ICL) for connecting multiple Chassis	The director class switch should provide Inter Chassis Link (ICL) or Inter Switch Link (ISL) for connecting multiple Chassis ICL is Single OEM specification , we provide the same capability using more open Industry	Bidder to refer corrigendum-5.

			at DC and 2 Nos at DR)		standard ISL/Trunking . Request bank to change this remove or change this clause	
304	155	Annexure-9 Technical Specifications	Table-O Technical Specifications of 8 SAN Switch (4 Nos at DC and 4 Nos at DR)	Sl. No. 5 ISL Trunking connectivity and Cut Thru Switching. Necessary Licenses to be provided by the bidder.	5. ISL Trunking connectivity and Cut Thru/Store Forward Switching. Necessary Licenses to be provided by the bidder. There are only 2 OEM in SAN switching market . Cut Thru SAN switching is single OEM specific mechansim and hence request bank to change this Clause for more participation	Bidder to refer corrigendum-5.
305	75	Annexure-8 Scope of Work	Evaluation for Scope of Work for this project	Sl. No: 42.The Bidder will responsible for the following:k. SAN connectivity to bank existing SAN Switch	Request Bank to remove this point, with this ask only one OEM qaulifies here. This leads to price disadvantage and donot provide chance for Cisco to bid this requirement	Bidder to refer corrigendum-5.
306	77	Annexure-8 Scope of Work	Evaluation for Scope of Work For Open shift	Entire Clause	What is the Hardware configuration for Openshift hosting?	Details will be shared with the selected bidder
307	77	Annexure-8 Scope of Work	Evaluation for Scope of Work For Open shift	Entire Clause	What storage bank has present, does bank have Object, Block and File with certified Openshift CSI Driver? can same be used for Openshift Cluster?	Details will be shared with the selected bidder
308	73-84	Annexure-8 Scope of Work	Entire Clause	Entire Clause	We are a well established System Integrator with many OEM certified technical resources on our payroll, who can take care of the entire scope of work. We request bank to allow	Bidders to comply with RFP/GeM bid terms and conditions

					Bidder to take care of the entire Scope of Work as per Annexure 8.	
309	64	Annexure-2 Pre- Qualification Criteria	Sl. No. 6	Pre-Qualification Criteria: The bidder should have yearly average turnover of 300 Crores in India for the last three financial years 2020-2021, 2021-2022, 2022-2023 from their Indian operation as per the audited Financial Statements. This must be the individual company turnover and not of any group of companies.	Servers & Storage are the backbone for any Data Centre, and your organization being one of the top PSU Banks in India, this requirement and support extended is very critical. Bank should ensure that participating bidders should have enough resources to be able to align L1, L2 and L3 onsite resources immediately as and when required. This can be guaranteed only by bidders who have been performing consistently well through the years. Hence, we request bank to modify this clause as below: "The bidder should have yearly average turnover of 1000 Crores in India for the last three financial years 2020-2021, 2021-2022, 2022-2023 from their Indian operation as per the audited Financial Statements. This must be the individual company turnover and not of any group of companies."	Bidders to comply with RFP/GeM bid terms and conditions

310	64	Annexure-2 Pre- Qualification Criteria	Sl. No: 8	Pre-Qualification Criteria The Bidder/OEM should have successfully supplied minimum cumulative 500 Nos. of Servers in India in the last three years out of which the bidder should have successfully supplied Hardware and software as a service model at least 100 servers deployed at Customer's DC and DR in Indian Market in any 1 Scheduled Commercial Bank/ NBFC/ Insurance Company/ PSU/ Central Government Organization in India in the last three years as on the date of submission of bid for this RFP.	Please elaborate the term "Hardware and software as a service model"	Bidder to refer corrigendum-5.

311	20-22	SECTION C - DELIVERABLE AND SERVICE LEVEL AGREEMENTS	8. Payment Terms	Entire Clause	We request bank to revise the payment terms as below: 70% - On Supply/delivery of all the of Hardware as per RFP 10% - Installation of all Hardware 10% - Configuration, implementation and completion of all scope of work 10% - After Completion of warranty period of 3 years and after deducting Or On submission of a bank guarantee for equivalent to 10% of the cost of Hardware/Software AMC as mentioned in Table-F. - Quarterly in arrears on submission of Quarterly Preventive Maintenance activity report OR Yearly in advance On submission of a bank guarantee for equivalent amount	Bidders to comply with RFP/GeM bid terms and conditions

312	126	Annexure-9 Technical Specifications	Table- GStorage Technical Specifications: (Object Storage 2.0PB Usable Space: DC -1, DRC -1)	Sl. No: 16 Services- Proposed storage array should include storage based compression, inline Deduplication, storage to storage replication, Snapshot for the entire supported capacity of the storage array from day one. All the required or necessary licenses must be perpetual and provided for the Full capacity of each storage from Day one. This should include licenses for Management and monitoring module and all the storage features such as Snapshot, Cloning, Replication etc. Upgrade in capacity should not incur any additional license cost. Offered storage system have online and historical performance reporting capability. Offered storage system have online and historical performance reporting capability.	Proposed storage array should include storage based compression/inline Deduplication, storage to storage replication, Snapshot for the entire supported capacity of the storage array from day one. All the required or necessary licenses must be perpetual and provided for the Full capacity of each storage from Day one. This should include licenses for Management and monitoring module and all the storage features such as Snapshot, Cloning, Replication etc. Upgrade in capacity should not incur any additional license cost. Offered storage system have online and historical performance reporting capability. Offered storage system have online and historical performance reporting capability. At least 1 year of historical performance information should be available online for capacity and performance forecasting, trend analysis etc. In case this capability is not available natively, then necessary software subscription shall be provided for the entire duration of the contract. As asked capacity is on NL SAS drives, enabling inlinee duplication is not recommended. And this is vendor specific and also they support dedup for NAS but not for object. So request you to amend the clause.	Bidder to refer corrigendum-5.

313	126	Annexure-9 Technical Specifications	Table-G Storage Technical Specifications: (Object Storage 2.0PB Usable Space: DC -1, DRC -1)	Sl. No: 17 Protocol Support- CIFS, SMB, NFSV3&V4,HTTPS,HTTP,RE STAPIs,FTP, Linux FS (FUSE), S3 Protocol, SWIFT & all kinds of rest full APIs. Vendor shall configure the licenses all interfaces All above protocol shall be native to cluster and shall not require any additional gateway. Vendor can provision additional gateway if required from performance perspective but capability shall be native to main nodes only.	S3/CIFS/SMB/NFSV/HTTPS/HTTP/RES TAPIs/FTP/Linux FS (FUSE)/S3 Protocol/SWIFT & all kinds of rest full APIs. Vendor shall configure the licenses all interfaces The purpose build object storage systems does support S3 protocol only, so we request you to please segregate the file and object requirement. There are solutions which can support NAS and object but it lacks critical object capabilities.	Bidder to refer corrigendum-5.

314	127	Annexure-9 Technical Specifications	Table- GStorage Technical Specifications: (Object Storage 2.0PB Usable Space: DC -1, DRC -1)	Sl. No: 21- Other FeaturesEntire Clause	The proposed storage system should support SNMP, Address resolution protocol, Network Time Protocol, LDAP/Network Lock Manager. The Storage array should be licensed with Performance monitoring tools should be offered with the storage array. The proposed storage system shall support a browser based GUI built in management. All objects stored in Object Storage have a URL. All objects have their own metadata. Developers interact with the object storage system through a RESTful HTTP API. Object data can be located anywhere in the cluster. Backup & Recovery: Data backup and recovery rely on accessible and reliable storage. Object-based storage provides the infrastructure for secure data backup and efficient recovery procedures. There shall be no separate and dedicated control node or metadata node in the cluster. In case, nodes are separate then vendor shall over Metadata / control nodes in HA using active / active approach. Offered solution shall be completely redundant and there shall be no single point of failure. Offered solution shall have file integrity checking when reading the file and automatic rebuilt if an error is detected. Please segregate the requirement for object	Bidder to refer corrigendum-5.

					and file as NLM is NFS specific feature. Request you to modify the clause	

315	140	Annexure-9 Technical Specifications	Table-K Technical Specification of Network TOR Switches	B. Type 2 Switch - 24 numbers (12 DC+ 12 DRC) for Data Sl. No. 33 High Mean Time Between Failure values (>3.5 lakh hours) should be available to ensure long life of switch hardware.	Request you to change this to "High Mean Time Between Failure values (>2.7 lakh hours) should be available to ensure long life of switch hardware. Request Bank to change this value, as this is single OEM specific point . Higher MTBF values always donot provide the product reliability measurements	Bidder to refer corrigendum-5.
316	142	Annexure-9 Technical Specifications	Table-K Technical Specification of Network TOR Switches	C. Type 4 Switch - 4 numbers (2 DC+ 2 DRC) - Storage Sl. No. 33 High Mean Time Between Failure values (>3.5 lakh hours) should be available to ensure long life of switch hardware.	Request you to change this to "High Mean Time Between Failure values (>2.7 lakh hours) should be available to ensure long life of switch hardware. Request Bank to change this value, as this is single OEM specific point . Higher MTBF values always donot provide the product reliability measurements	Bidder to refer corrigendum-5.
317	154	Annexure-9 Technical Specifications	Table-N Technical Specifications of 4 SAN Director (2 Nos at DC and 2 Nos at DR)	Sl. No: 21 Other Features The director class switch should provide Inter Chassis Link (ICL) for connecting multiple Chassis	The director class switch should provide Inter Chassis Link (ICL) or Inter Switch Link (ISL) for connecting multiple Chassis ICL is Single OEM specification , we provide the same capability using more open Industry standard ISL/Trunking . Request bank to change this remove or change this clause	Bidder to refer corrigendum-5.
318	77	Annexure-8 Scope of Work	Evaluation for Scope of Work For Open shift	Entire Clause	What is the Hardware configuration for Openshift hosting?	Details will be shared with the selected bidder
319	77	Annexure-8 Scope of Work	Evaluation for Scope of Work For Open shift	Entire Clause	What is the Hardware configuration for Openshift hosting?	Details will be shared with the selected bidder

320	77	Annexure-8 Scope of Work	Evaluation for Scope of Work For Open shift	Entire Clause	What storage bank has present, does bank have Object, Block and File with certified Openshift CSI Driver? can same be used for Openshift Cluster?	Details will be shared with the selected bidder
321	77	Annexure-8 Scope of Work	Evaluation for Scope of Work For Open shift	Entire Clause	Bank to confirm if they intend the OEM to implement the solution for the mentioned scope of work	Details will be shared with the selected bidder
322	NA	Generic	Generic	Generic	Please clarify on number of clusters considered to be delivered within 12 weeks.	Bidders to comply with RFP/GeM bid terms and conditions
323	172	Annexure-16 Bill of Material	Table - C Price details of Software/License Items (Subscription based Licenses)	Sl. No: 2 RHEL 9 with premium support	Do we need to propose RHEL with Satellite?	Bidders to comply with RFP/GeM bid terms and conditions
324	172	Annexure-16 Bill of Material	Table - C Price details of Software/License Items (Subscription based Licenses)	Sl. No: 3 RHEL 9 High Availability with premium support for CISC - X86 machines	Do we need to propose RHEL with Satellite?	Bidders to comply with RFP/GeM bid terms and conditions
325	73-84	Annexure-8 Scope of Work	Entire Clause	Entire Clause	We are a well established System Integrator with many OEM certified technical resources on our payroll, who can take care of the entire scope of work. We request bank to allow Bidder to take care of the entire Scope of Work as per Annexure 8.	Bidders to comply with RFP/GeM bid terms and conditions

326	17	SECTION C - DELIVERABLE AND SERVICE LEVEL AGREEMENTS	7. Penalties/Liquidated Damages	7.1. Penalties/Liquidated damages for delay in Supply, Installation, Configuration, Implementation Other related items would be as under: 7.1.6. However, the total Penalty/LD to be recovered under above clauses 7.1.1 to 7.1.5 shall be restricted to 10% of the total Contract Value as mention in Table-H.	Request you to change the total Penalty/LD to be recovered under above clauses 7.1.1 to 7.1.5 shall be restricted to 5 %	Bidders to comply with RFP/GeM bid terms and conditions
327	21	SECTION C - DELIVERABLE AND SERVICE LEVEL AGREEMENTS	8. Payment Terms	8.1. The payment schedule for Hardware will be as under and will release after execution of contract agreement: Sl. No: 5 100%- On Supply and Installation of all the of Software/ Licenses as per RFP	100% On Supply (As for Software deployment has a dependency - Planning, Design & Configuration)	Bidders to comply with RFP/GeM bid terms and conditions

328	22	SECTION C - DELIVERABLE AND SERVICE LEVEL AGREEMENTS	8. Payment Terms	8.1. The payment schedule for Hardware will be as under and will release after execution of contract agreement: Sl. No: 8 AMC as mentioned in Table-F- Quarterly in arrears on submission of Quarterly Preventive Maintenance activity report and acceptance duly signed by Bank officials of the respective officials of the respective Branch/Office.	Please remove Preventive Maintenance activity Requirments as the DataCenter Hardware doesnot require Physical Preventive Maintenance as they are designed to run 24 x 7 withour any disruption and for health check of this equipments, we recommand to be done by DCO team	Preventive maintenance referres to healh check of devices once in three month including firmware upgrade and activity report to be submitted
329	149	Annexure-9 Technical Specifications	Table-M Technical Specification of Managed file transfer Solution:	Sl. No: 46 The solution should possess the capability to create shared folders for each group, department, or team, with customizable access levels and storage size restrictions.	Could you explain about this requirement in detail?	Bidders to comply with RFP/GeM bid terms and conditions

330	64	Annexure-2 Pre-Qualification Criteria	Sl. No: 8	Pre-Qualification Criteria The Bidder/OEM should have successfully supplied minimum cumulative 500 Nos. of Servers in India in the last three years out of which the bidder should have successfully supplied Hardware and software as a service model at least 100 servers deployed at Customer's DC and DR in Indian Market in any 1 Scheduled Commercial Bank/ NBFC/ Insurance Company/ PSU/ Central Government Organization in India in the last three years as on the date of submission of bid for this RFP.	Please remove below clause line As current requirement is CAPEX On Premises & not as a service "out of which the bidder should have successfully supplied Hardware and software as a service model at least 100 servers deployed at Customer's DC and DR in Indian Market" Scheduled Commercial Bank/ NBFC/ Insurance Company/ PSU/ Central Government Organization in India in the last three years as on the date of submission of bid for this RFP.	Bidder to refer corrigendum-5.
331	76	Annexure-8 Scope of Work	Evaluation for Scope of Work for MSSQL - Microsoft SQL	Sl. No: 1 Installation and Configuration: Set up SQL Server databases and configure settings to ensure optimal performance and security.	Require more details on number of SQL Clusters and Databases need to be configured	Details will be shared with the selected bidder
332	77	Annexure-8 Scope of Work	Evaluation for Scope of Work for Hyper-V - Microsoft	Entire Clause	Require more details on number of windows Clusters and Databases need to be configured	Details will be shared with the selected bidder

333	77	Annexure-8 Scope of Work	Evaluation for Scope of Work For Open shift	Entire Clause	Require More Details Like number of cluster, Worker Node & application landscape .	Details will be shared with the selected bidder
334	79	Annexure-8 Scope of Work	Evaluation for Scope of Work for Apache Tomcat	Entire Clause	Require More Details Like nos of server /Clusters need to be deployed and configured	Details will be shared with the selected bidder
335	81	Annexure-8 Scope of Work	Evaluation for Scope of Work for Jboss solution	Entire Clause	Require More Details	Bidders to comply with RFP/GeM bid terms and conditions
336	-	-	-	-	Bidder's Query	Query not clear
337	NA	Generic	Generic	Generic	-	Query not clear
338	-	-	-	-	Bidder's Query	Query not clear
339	140	Annexure-9 Technical Specifications	Table-K Technical Specification of Network TOR Switches	B. Type 2 Switch - 24 numbers (12 DC+ 12 DRC) for Data Sl. No. 33 High Mean Time Between Failure values (>3.5 lakh hours) should be available to ensure long life of switch hardware.	Request Bank to change this value, as this is single OEM specific point . Higher MTBF values always donot provide the product reliability measurements	Bidder to refer corrigendum-5.

340	142	Annexure-9 Technical Specifications	Table-K Technical Specification of Network TOR Switches	C. Type 4 Switch - 4 numbers (2 DC+ 2 DRC) - Storage Sl. No. 33 High Mean Time Between Failure values (>3.5 lakh hours) should be available to ensure long life of switch hardware.	Request Bank to change this value, as this is single OEM specific point . Higher MTBF values always donot provide the product relailbity measurements	Bidder to refer corrigendum-5.
341	85	Annexure-9 Technical Specifications	Table-A Technical Specification - 80 servers (41 DC and 39 DRC)	Sl. No: 5- Processor Processor Make- Latest generation x86_64 bit architecture-based CPU's	CPU vendors have different Class of CPU and given the general ask , both CPU type like high range platinum 8500 and Mid range Gold 6500 aslo qualify hence this ask.	Bidders to comply with RFP/GeM bid terms and conditions
342	91	Annexure-9 Technical Specifications	Table-B Technical Specification - 28 servers (17 DC and 11 DRC)	Sl. No: 5- Processor Processor Make- Latest generation x86_64 bit architecture-based CPU's	CPU vendors have different Class of CPU and given the general ask , both CPU type like high range platinum 8500 and Mid range Gold 6500 aslo qualify hence this ask.	Bidders to comply with RFP/GeM bid terms and conditions
343	150	Annexure-9 Technical Specifications	Table-N Technical Specifications of 4 SAN Director (2 Nos at DC and 2 Nos at DR)	Sl. No: 9 The switch should support 512 Gbps BW for ISL Trunking connectivity and Cut Thru Switching. Necessary Licenses to be provided by the bidder.	There are only 2 OEM in SAN switching market . Cut Thru SAN switching is single OEM specific mechansim and hence request bank to change this Clause for more participation	Bidder to refer corrigendum-5.
344	154	Annexure-9 Technical Specifications	Table- NTechnical Specifications of 4 SAN Director (2 Nos at DC and 2 Nos at DR)	Sl. No: 21 Other FeaturesThe director class switch should provide Inter Chassis Link (ICL) for connecting multiple Chassis	ICL is Single OEM specification , we provide the same capability using more open Industry standard ISL/Trunking . Request bank to change this remove or change this clause	Bidder to refer corrigendum-5.

345	155	Annexure-9 Technical Specifications	Table-O Technical Specifications of 8 SAN Switch (4 Nos at DC and 4 Nos at DR)	Sl. No. 5 ISL Trunking connectivity and Cut Thru Switching. Necessary Licenses to be provided by the bidder.	There are only 2 OEM in SAN switching market . Cut Thru SAN switching is single OEM specific mechansim and hence request bank to change this Clause for more participation	Bidder to refer corrigendum-5.
346	NA	Generic	Generic	Generic	-	Query not clear
347	NA	Generic	Generic	Generic	-	Query not clear
348	NA	Generic	Generic	Generic	Sub-Clause/Technical Specification	Query not clear
349	144	Annexure-9 Technical Specifications	Table-L Backup Solution for 500 Servers at DC and DRC	Sl. No: 13 The proposed backup software should have object storage backup.	Request to change this to " The proposed backup solution should have object storage backup"	Bidders to comply with RFP/GeM bid terms and conditions
350	144	Annexure-9 Technical Specifications	Table-L Backup Solution for 500 Servers at DC and DRC	Sl. No. 15 Backup software should support instant file share recovery in NAS storages to allow users to access files fast after disaster	Request to change this to " Backup solution should support instant file share recovery in NAS storages to allow users to access files fast after disaster"	Bidders to comply with RFP/GeM bid terms and conditions
351	144	Annexure-9 Technical Specifications	Table-L Backup Solution for 500 Servers at DC and DRC	Sl. No: 17 Software should be able to extend the backup repository to a public cloud service provider by moving older files to any S3 Compatible Object storage or Azure BLOB repositories.	Request to change this to "Backup Solution should be able to extend the backup repository to a public cloud service provider by moving older files to any S3 Compatible Object storage or Azure BLOB repositories."	Bidders to comply with RFP/GeM bid terms and conditions

352	144	Annexure-9 Technical Specifications	Table-L Backup Solution for 500 Servers at DC and DRC	Sl. No: 18 The software must has the functionality to back up on- prem data directly into cloud repositories such as AWS S3 or Microsoft Blob	Request to change this to " The solution must has the functionality to back up on-prem data directly into cloud repositories such as AWS S3 or Microsoft Blob"	Bidders to comply with RFP/GeM bid terms and conditions
353	145	Annexure-9 Technical Specifications	Table-L Backup Solution for 500 Servers at DC and DRC	Sl. No. 39 Backup software should support immutable backups for protecting backups from ransomware and malicious attacks. The immutability should be controllable from the backup management specification itself.	Request to change this to " Backup solution should support immutable backups for protecting backups from ransomware and malicious attacks. The immutability should be controllable from the backup management specification itself"	Bidders to comply with RFP/GeM bid terms and conditions
354	145	Annexure-9 Technical Specifications	Table-L Backup Solution for 500 Servers at DC and DRC	Sl. No: 41 The backup software should support multiple types of backup repositories including Purpose built backup alliances, S3 Object Storage, Hardened NFS repositories etc. Compatibility list to be provided	Request to change this to "The backup solution should support multiple types of backup repositories including Purpose built backup alliances, S3 Object Storage, Hardened NFS repositories etc. Compatibility list to be provided"	Bidders to comply with RFP/GeM bid terms and conditions
355	85	Annexure-9 Technical Specifications	Table-A Technical Specification - 80 servers (41 DC and 39 DRC)	Sl. No: 5- Processor Processor Make- Latest generation x86_64 bit architecture-based CPU's	We request Canara bank to Change this to 3rd generation or higher x86_64 bit architecturebased CPU's	Bidders to comply with RFP/GeM bid terms and conditions

356	86, 92, 98, 104, 110 & 117	Annexure- 9Technical Specifications	Table- ATechnical Specification - 80 servers (41 DC and 39 DRC)Table- BTechnical Specification - 28 servers (17 DC and 11 DRC)Table- CTechnical Specification - 100 servers (60 DC and 40 DRC)Table- DTechnical Specification - 54 servers (28 DC and 26 DRC)Table- ETechnical Specification - 226 servers (135 DC and 91 DRC)Table- FCustom Technical Specification - 12 servers	Sl. No: 6- MemoryRam Size- 128GB*16 = 2 TB	We request Canara Bank to change this to 2TB of Total Memory for better memory bandwidth, MII percentage and price / performance.	Bidder to refer corrigendum-5.

357	86, 92, 98, 104, 110 & 117	Annexure-9 Technical Specifications	Table-A Technical Specification - 80 servers (41 DC and 39 DRC) Table-B Technical Specification - 28 servers (17 DC and 11 DRC) Table-C Technical Specification - 100 servers (60 DC and 40 DRC) Table-D Technical Specification - 54 servers (28 DC and 26 DRC) Table-E Technical Specification - 226 servers (135 DC and 91 DRC) Table-F Custom Technical Specification - 12 servers	Sl. No: 6- Memory Slot Count- Minimum 24 or higher, Minimum 8 free memory slots should be available.	Minimum 24 or higher, Minimum 8 free memory slots should be available.	Bidder to refer corrigendum-5.

358	88, 94, 100, 107, 113 & 120	Annexure-9 Technical Specifications	Table-A Technical Specification - 80 servers (41 DC and 39 DRC) Table-B Technical Specification - 28 servers (17 DC and 11 DRC) Table-C Technical Specification - 100 servers (60 DC and 40 DRC) Table-D Technical Specification - 54 servers (28 DC and 26 DRC) Table-E Technical Specification - 226 servers (135 DC and 91 DRC) Table-F Custom Technical Specification - 12 servers	Sl. No: 17 PCI Slots- Minimum 4 - x16 PCIe Gen4 or higher free slots(Peripheral Component Interconnect Express)	We request this to be changed to Minimum 4 - PCIe Gen4 or higher free slots(Peripheral Component Interconnect Express)	Bidder to refer corrigendum-5.
359	92	Annexure-9 Technical Specifications	Table-B Technical Specification -	Sl. No: 5- Processor Processor Make- Latest generation x86_64	We request Canara bank to Change this to 3rd generation or higher x86_64 bit architecturebased CPU's	Bidders to comply with RFP/GeM bid

			28 servers (17 DC and 11 DRC)	bit architecture-based CPU's		terms and conditions
360	88, 94, 100, 107, 113 & 120	Annexure-9 Technical Specifications	Table-A Technical Specification - 80 servers (41 DC and 39 DRC) Table-B Technical Specification - 28 servers (17 DC and 11 DRC) Table-C Technical Specification - 100 servers (60 DC and 40 DRC) Table-D Technical Specification - 54 servers (28 DC and 26 DRC) Table-E Technical Specification - 226 servers (135 DC and 91 DRC) Table-F Custom Technical Specification - 12 servers	Sl. No: 17 PCI Slots- Minimum 4 - x16 PCIe Gen4 or higher free slots(Peripheral Component Interconnect Express)	We request this to be changed to Minimum 4 - PCIe Gen4 or higher free slots(Peripheral Component Interconnect Express)	Bidder to refer corrigendum-5.

361	97	Annexure-9 Technical Specifications	Table-C Technical Specification - 100 servers (60 DC and 40 DRC)	Sl. No: 5- Processor Processor Make- Latest generation x86_64 bit architecture-based CPU's	We request Canara bank to Change this to 3rd generation or higher x86_64 bit architecturebased CPU's	Bidders to comply with RFP/GeM bid terms and conditions
362	104	Annexure-9 Technical Specifications	Table-D Technical Specification - 54 servers (28 DC and 26 DRC)	Sl. No: 5- Processor Socket Minimum 2 sockets i.e., 24*1 =24 core (1 Populated & 1 For future upgrade)	Since other requirements mentioned in the RFP for the server cannot be met via single socket configuraiton , namely - 1. PCI slot expansion ; PCI Cards required to be populated ; Memory required to be populated and free slots cannot be upgraded without additonal CPU etc.. We request Canara Bank to go with dual socket CPU and Ammend this clause with 16 Core DUAL CPU	Bidder to refer corrigendum-5.
363	NA	Generic	Generic	Generic	-	Query not clear

364	87, 93, 99, 105, 111 & 118	Annexure-9 Technical Specifications	Table-A Technical Specification - 80 servers (41 DC and 39 DRC) Table-B Technical Specification - 28 servers (17 DC and 11 DRC) Table-C Technical Specification - 100 servers (60 DC and 40 DRC) Table-D Technical Specification - 54 servers (28 DC and 26 DRC) Table-E Technical Specification - 226 servers (135 DC and 91 DRC) Table-F Custom Technical Specification - 12 servers	Sl. No: SAN & Network	9	Required SAN and Network cards cannot be populated in single socket system.. We request the server to be changed to dual socket to meet these criteria. (total of 6 cards are required -- 2 nos of 1G, 2Nos of 10G and 2 Nos of FC).	Bidder to refer corrigendum-5.

365	88, 94, 100, 107, 113 & 120	Annexure-9 Technical Specifications	Table-A Technical Specification - 80 servers (41 DC and 39 DRC) Table-B Technical Specification - 28 servers (17 DC and 11 DRC) Table-C Technical Specification - 100 servers (60 DC and 40 DRC) Table-D Technical Specification - 54 servers (28 DC and 26 DRC) Table-E Technical Specification - 226 servers (135 DC and 91 DRC) Table-F Custom Technical Specification - 12 servers	Sl. No: 17 PCI Slots- Minimum 4 - x16 PCIe Gen4 or higher free slots (Peripheral Component Interconnect Express)	This clause cannot be met in single socket system. We request the server to be moved to dual socket to abide these clause.	Bidder to refer corrigendum-5.
366	103	Annexure-9 Technical Specifications	Table-D Technical Specification -	Sl. No: 5- Processor Processor Make- Latest generation x86_64 bit architecture-based CPU's	We request Canara bank to Change this to 3rd generation or higher x86_64 bit architecture based CPU's	Bidders to comply with RFP/GeM bid terms and conditions

			54 servers (28 DC and 26 DRC)			
367	110	Annexure-9 Technical Specifications	Table-E Technical Specification - 226 servers (135 DC and 91 DRC)	Sl. No: 5- Processor Socket Minimum 2 sockets i.e., 16*1 =16 core (1 Populated & 1 For future upgrade)	Since other requirements mentioned in the RFP for the server cannot be met via single socket configuraiton , namely - 1. PCI slot expansion ; PCI Cards required to be populated ; Memory required to be populated and free slots cannot be upgraded without additonal CPU etc.. We request Canara Bank to go with dual socket CPU and Ammend this clause with 16Core Dual CPU	Bidder to refer corrigendum-5.

368	87, 93, 99, 105, 111 & 118	Annexure-9 Technical Specifications	Table-A Technical Specification - 80 servers (41 DC and 39 DRC) Table-B Technical Specification - 28 servers (17 DC and 11 DRC) Table-C Technical Specification - 100 servers (60 DC and 40 DRC) Table-D Technical Specification - 54 servers (28 DC and 26 DRC) Table-E Technical Specification - 226 servers (135 DC and 91 DRC) Table-F Custom Technical Specification - 12 servers	Sl. No: SAN & Network	9	Required SAN and Network cards cannot be populated in single socket system.. We request the server to be changed to dual socket to meet these criteria. (total of 6 cards are required -- 2 nos of 1G, 2Nos of 10G and 2 Nos of FC).	Bidder to refer corrigendum-5.

369	88, 94, 100, 107, 113 & 120	Annexure-9 Technical Specifications	Table-A Technical Specification - 80 servers (41 DC and 39 DRC) Table-B Technical Specification - 28 servers (17 DC and 11 DRC) Table-C Technical Specification - 100 servers (60 DC and 40 DRC) Table-D Technical Specification - 54 servers (28 DC and 26 DRC) Table-E Technical Specification - 226 servers (135 DC and 91 DRC) Table-F Custom Technical Specification - 12 servers	Sl. No: 17 PCI Slots- Minimum 4 - x16 PCIe Gen4 or higher free slots (Peripheral Component Interconnect Express)	This clause cannot be met in single socket system. We request the server to be moved to dual socket to abide these clause.	Bidder to refer corrigendum-5.
370	110	Annexure-9 Technical Specifications	Table-E Technical Specification - 226 servers	Sl. No: 5- Processor Processor Make- Latest generation x86_64 bit architecture-based CPU's	We request Canara bank to Change this to 3rd generation or higher x86_64 bit architecture based CPU's	Bidders to comply with RFP/GeM bid terms and conditions

			(135 DC and 91 DRC)			
371	87, 93, 99, 105, 111 & 118	Annexure-9 Technical Specifications	Table-A Technical Specification - 80 servers (41 DC and 39 DRC) Table-B Technical Specification - 28 servers (17 DC and 11 DRC) Table-C Technical Specification - 100 servers (60 DC and 40 DRC) Table-D Technical Specification - 54 servers (28 DC and 26 DRC) Table-E Technical Specification - 226 servers (135 DC and 91 DRC) Table-F Custom Technical Specification - 12 servers	Sl. No: SAN & Network	9	Required SAN and Network cards cannot be populated in single socket system.. We request the server to be changed to dual socket to meet these criteria. (total of 6 cards are required -- 2 nos of 1G, 2Nos of 10G and 2 Nos of FC). Bidder to refer corrigendum-5.

372	88, 94, 100, 107, 113 & 120	Annexure-9 Technical Specifications	Table-A Technical Specification - 80 servers (41 DC and 39 DRC) Table-B Technical Specification - 28 servers (17 DC and 11 DRC) Table-C Technical Specification - 100 servers (60 DC and 40 DRC) Table-D Technical Specification - 54 servers (28 DC and 26 DRC) Table-E Technical Specification - 226 servers (135 DC and 91 DRC) Table-F Custom Technical Specification - 12 servers	Sl. No: 17 PCI Slots- Minimum 4 - x16 PCIe Gen4 or higher free slots (Peripheral Component Interconnect Express)	This clause cannot be met in single socket system. We request the server to be moved to dual socket to abide these clause.	Bidder to refer corrigendum-5.
373	116	Annexure-9 Technical Specifications	Table-F Custom Technical	Sl. No: 5- Processor Processor Make- Latest generation x86_64 bit architecture-based CPU's	We request Canara bank to Change this to 3rd generation or higher x86_64 bit architecture based CPU's	Bidders to comply with RFP/GeM bid terms and conditions

			Specification - 12 servers			
374	116	Annexure-9 Technical Specifications	Table-F Custom Technical Specification - 12 servers	Sl. No: 5- Processor Socket Minimum 2 sockets i.e., 16*1 =16 core (1 Populated & 1 For future upgrade) - Type 1 Minimum 2 sockets i.e., 32*1 =32 core (1 Populated & 1 For future upgrade) - Type 2 Minimum 2 sockets i.e., 32*1 =32 core (1 Populated & 1 For future upgrade) - Type 3	Since other requirements mentioned in the RFP for the server cannot be met via single socket configuraiton , namely - 1. PCI slot expansion ; PCI Cards required to be populated ; Memory required to be populated and free slots cannot be upgraded without additonal CPU etc.. We request Canara Bank to go with dual socket CPU and Ammend this clause as : Minimum 2 sockets i.e., 16*2 =32 core - Type 1 Minimum 2 sockets i.e., 16*2 =32 core - Type 2 Minimum 2 sockets i.e., 16*2 =32 core - Type 3	Bidder to refer corrigendum-5.

375	86, 92, 98, 104, 110 & 117	Annexure-9 Technical Specifications	Table-A Technical Specification - 80 servers (41 DC and 39 DRC) Table-B Technical Specification - 28 servers (17 DC and 11 DRC) Table-C Technical Specification - 100 servers (60 DC and 40 DRC) Table-D Technical Specification - 54 servers (28 DC and 26 DRC) Table-E Technical Specification - 226 servers (135 DC and 91 DRC) Table-F Custom Technical Specification - 12 servers	Sl. No: 6- Memory Ram Size- 128GB*16 = 2 TB	This clause cannot be met with one variant of x86 CPU with single socket populated. We request Canara Bank to change the server to dual socket to meet this criteria.	Bidder to refer corrigendum-5.

376	86, 92, 98, 104, 110 & 117	Annexure- 9Technical Specifications	Table- ATechnical Specification - 80 servers (41 DC and 39 DRC)Table- BTechnical Specification - 28 servers (17 DC and 11 DRC)Table- CTechnical Specification - 100 servers (60 DC and 40 DRC)Table- DTechnical Specification - 54 servers (28 DC and 26 DRC)Table- ETechnical Specification - 226 servers (135 DC and 91 DRC)Table- FCustom Technical Specification - 12 servers	Sl. No: 6- MemorySlot Count- Minimum 24 or higher, Minimum 8 free memory slots should be available.	We request Canara bank to have all servers with min 12 or higher disk slots. Type 3 - 38 slots are asked which are not possible in standard server and a JBOD may have to be provisioned .	Bidder to refer corrigendum-5.

377	87, 93, 99, 105, 111 & 118	Annexure-9 Technical Specifications	Table-A Technical Specification - 80 servers (41 DC and 39 DRC) Table-B Technical Specification - 28 servers (17 DC and 11 DRC) Table-C Technical Specification - 100 servers (60 DC and 40 DRC) Table-D Technical Specification - 54 servers (28 DC and 26 DRC) Table-E Technical Specification - 226 servers (135 DC and 91 DRC) Table-F Custom Technical Specification - 12 servers	Sl. No: SAN & Network	9	Required SAN and Network cards cannot be populated in single socket system.. We request the server to be changed to dual socket to meet these criteria. (total of 6 cards are required -- 2 nos of 1G, 2Nos of 10G and 2 Nos of FC).	Bidder to refer corrigendum-5.

378	88, 94, 100, 107, 113 & 120	Annexure-9 Technical Specifications	Table-A Technical Specification - 80 servers (41 DC and 39 DRC) Table-B Technical Specification - 28 servers (17 DC and 11 DRC) Table-C Technical Specification - 100 servers (60 DC and 40 DRC) Table-D Technical Specification - 54 servers (28 DC and 26 DRC) Table-E Technical Specification - 226 servers (135 DC and 91 DRC) Table-F Custom Technical Specification - 12 servers	Sl. No: 17 PCI Slots- Minimum 4 - x16 PCIe Gen4 or higher free slots(Peripheral Component Interconnect Express)	This clause cannot be met in single socket system. We request the server to be moved to dual socket to abide these clause.	Bidder to refer corrigendum-5.

379	124	Annexure-9 Technical Specifications	Table-G Storage Technical Specifications: (Object Storage 2.0PB Usable Space: DC -1, DRC -1)	Sl. No: 5- ArchitectureScale-Out “Any to Any” access? Security Model S3-Vault, Security services for accounts? S3-Metadata Distributed Metadata Engine. Interface, Capability to write simultaneously to the same folder from different file connectors (Folder Scale Out). Seamless load balancing and failover among the file connectors. Built in Load balancing.	Request Bank to provide more details on these points, folder scaleout, Secuirty model S3 vault, built in load balancing etc..Request bank to consider NAS and Object requirments as an overall solution.	Bidder to refer corrigendum-5.
380	125	Annexure-9 Technical Specifications	Table-G Storage Technical Specifications: (Object Storage 2.0PB Usable Space: DC -1, DRC -1)	Sl. No: 13 RAID Support- RAID array supporting 10, 0, 1, 5 and 6 or better levels. It should support a mix and match of RAID levels behind a pair of controllers. The storage array should allow online expansion of existing RAID Groups / Storage Disk Pools.	Request the bank to consider erasure coding as well and not just traditional RAID.	Bidder to refer corrigendum-5.

381	126	Annexure-9 Technical Specifications	Table-G Storage Technical Specifications: (Object Storage 2.0PB Usable Space: DC -1, DRC -1)	Sl. No: 16 Services- Proposed storage array should include storage based compression, inline Deduplication, storage to storage replication, Snapshot for the entire supported capacity of the storage array from day one. All the required or necessary licenses must be perpetual and provided for the Full capacity of each storage from Day one. This should include licenses for Management and monitoring module and all the storage features such as Snapshot, Cloning, Replication etc. Upgrade in capacity should not incur any additional license cost. Offered storage system have online and historical performance reporting capability.	Request Bank to consider Inline compression, Inline dedupe, Global Dedupe (cluster wide) on NAS and only compression on Object Storage.	Bidder to refer corrigendum-5.

382	126	Annexure-9 Technical Specifications	Table-G Storage Technical Specifications: (Object Storage 2.0PB Usable Space: DC -1, DRC -1)	Sl. No: 17 Protocol Support- CIFS, SMB, NFSV3&V4,HTTPS,HTTP,RE STAPIs,FTP, Linux FS (FUSE), S3 Protocol, SWIFT & all kinds of rest full APIs. Vendor shall configure the licenses all interfaces All above protocol shall be native to cluster and shall not require any additional gateway. Vendor can provision additional gateway if required from performance perspective but capability shall be native to main nodes only.	Request Bank to remove Linux FS (FUSE). This is basically using mounted drive as block or file storage which in this case is not required because there is already block, file and Object storage requirement as per RFP.	Bidder to refer corrigendum-5.
383	128- 129	Annexure- 9Technical Specifications	Table- GStorage Technical Specifications: (Object Storage 2.0PB Usable Space: DC -1, DRC -1)	Sl. No: 29Controller & Availability- Minimum four controllers are required to provide 2.0PB usable space, hot swappable controllers for high availability, load balancing and redundant modes. Minimum 20 core should be available per controllerOffered Storage array should be an enterprise class storage system with 99 % Data Availability guarantee.	Request bank to consider minimum 16 Core per node and also to consider NAS and object requirement as dedicated storage solution.	Bidder to refer corrigendum-5.

384	129	Annexure-9 Technical Specifications	Table-G Storage Technical Specifications: (Object Storage 2.0PB Usable Space: DC -1, DRC -1)	Sl. No. 30 Data Management Features 1. it shall be possible to tag and search S3 Metadata. 2. Lifecycle Management - It shall be possible to automatically transition and expiration of data based on criteria. 3. it shall be possible to asynchronously replicate bucket to several Cloud targets 4. Offered storage shall support multi-tenancy and data isolation	Request bank to provide more details on the asynch replication capability to multiple cloud targets.	Bidder to refer corrigendum-5.
385	129	Annexure-9 Technical Specifications	Table-G Storage Technical Specifications: (Object Storage 2.0PB Usable Space: DC -1, DRC -1)	Sl. No. 32 Compliance 1. Offered storage shall ensure that Data must be tamper-proof. 2. Data must be kept for a specified period which means offered storage shall provide retention mechanism. 3. Offered storage shall have capability to migrate the data to an alternative media	Request bank to provide more clarity on point 3- What do we mean by alternative media?	Bidder to refer corrigendum-5.

386	130	Annexure-9 Technical Specifications	Table-G Storage Technical Specifications: (Object Storage 2.0PB Usable Space: DC -1, DRC -1)	Sl. No. 34. Multi-cloud Controller	Request bank to provide more clarity on the built in multi cloud controller engine and support Local legacy NAS Storage.	Bidder to refer corrigendum-5.
387	131	Annexure-9 Technical Specifications	Table-G Storage Technical Specifications: (Object Storage 2.0PB Usable Space: DC -1, DRC -1)	Sl. No. 38 Core technology - Object 1. Offered Object storage core technology shall be able to abstract the underlying servers, to create a uniformly scalable storage pool 2. There shall be No size limit for object or files which can be stored in the cluster. 3. Offered storage shall do automatic Rebalancing when adding a new server in the cluster 4. Offered storage shall allow capacity extensions done by adding disks to existing servers (scale-up) or adding additional servers to the system (scale-out).	Request bank to consider support for upto 16TB file size as optional on NAS Storage.	Bidder to refer corrigendum-5.

388	131	Annexure-9 Technical Specifications	Table-G Storage Technical Specifications: (Object Storage 2.0PB Usable Space: DC -1, DRC -1)	Sl. No. 39 Peer to peer connectivity1. Any change in the connecting topology, like adding the nodes, shall broadcast the change to few nodes instead of broadcasting to all nodes in the cluster. 2. Overall cluster shall provide the self-healing processes to monitor and automatically resolve component failures using re-build, proxy and rebalance aspects.	We request the bank to consider the following for point1 Proposed storage should not have any impact on performance while adding or removing nodes/controllers.	Bidder to refer corrigendum-5.
389	132	Annexure-9 Technical Specifications	Table-H Storage Technical Specifications: (Enterprise Block Storage 2.0PB Usable Space: DC -2, DRC -2)	Sl. No: 11 Scalability- Each storage up to 5PB (Scale UP) and 8 controller (Scale Out) DIP(data in-place) upgrade capability	Request the bank to consider 5PB as the overall Storage capacity and not per Storage appliance.	Bidder to refer corrigendum-5.

390	134	Annexure-9 Technical Specifications	Table-H Storage Technical Specifications: (Enterprise Block Storage 2.0PB Usable Space: DC -2, DRC -2)	Sl. No: 27 Remote Replication Offered Storage array should provide both Synchronous and Asynchronous replication across 2 storage arrays natively. Offered Storage array shall support 3 Data Center solution natively where Primary site shall be able to replicate synchronously to near-by / Bunker location and at the same time shall be able to replicate to Far location asynchronously. Necessary replication licenses/ Infrastructure required for replication should be provided with the array	Request bank to consider Synhronous and Asynchronous replication since we are only considering for DC and DR locations.	Bidder to refer corrigendum-5.

391	135	Annexure-9 Technical Specifications	Table-H Storage Technical Specifications: (Enterprise Block Storage 2.0PB Usable Space: DC -2, DRC -2)	Sl. No: 31 Capacity Efficiency features- Offered storage array should support thin provisioning It should also support inline data reduction (deduplication & compression) for maximizing flash storage capacity The array should offer the flexibility to enable / disable the data reduction on a per-volume basis	Request bank to consider Deduplication and compression across the array and not on a per volume basis, since Data reduction when applied globally across the arrays, gives better data reduction, compared to setting this up individually on a per volume basis.	Bidder to refer corrigendum-5.
392	153	Annexure-9 Technical Specifications	Table-N Technical Specifications of 4 SAN Director (2 Nos at DC and 2 Nos at DR)	Sl. No: 21 Other Features- FCIP interface should have compression feature	Do we need to provide FCIP routers for Storage based replication between DC and DR. If yes , pls specify the WAN Bandwidth between DC and DR and RPO details.	FCIP router is not required
393	NA	Generic	Generic	Generic	-	Query not clear
394	-	-	-	-	Bidder's Query	Query not clear

395	124-125	Annexure-9 Technical Specifications	Table-G Storage Technical Specifications: (Object Storage 2.0PB Usable Space: DC -1, DRC -1)	Sl. No: 8 Capacity- Minimum usable storage 2 PB after RAID6/ Dual RAID6 Configuration.(Without considering any data reduction features such as compression, deduplication etc .,)	Since Object storage support Erasure coding mechanism and not traditional RAID protection. Request to remove this clause	Bidder to refer corrigendum-5.
396	125	Annexure-9 Technical Specifications	Table-G Storage Technical Specifications: (Object Storage 2.0PB Usable Space: DC -1, DRC -1)	Sl. No: 13RAID Support- RAID array supporting 10, 0, 1, 5 and 6 or better levels. It should support a mix and match of RAID levels behind a pair of controllers. The storage array should allow online expansion of existing RAID Groups / Storage Disk Pools.	Since Object storage support Erasure coding mechanism and not traditional RAID protection. Request to change the clause to " Object storage to support erasure coding and allow online expansion of storage space "	Bidder to refer corrigendum-5.

397	126	Annexure-9 Technical Specifications	Table-G Storage Technical Specifications: (Object Storage 2.0PB Usable Space: DC -1, DRC -1)	Sl. No: 17 Protocol Support- CIFS, SMB, NFSV3&V4,HTTPS,HTTP,RE STAPIs,FTP, Linux FS (FUSE), S3 Protocol, SWIFT & all kinds of rest full APIs. Vendor shall configure the licenses all interfaces All above protocol shall be native to cluster and shall not require any additional gateway. Vendor can provision additional gateway if required from performance perspective but capability shall be native to main nodes only.	CIFS, SMB, NFS are NAS storage protocols and NOT object storage protocols. Also FTP and Linux FS (FUSE) are not standard protocols supported by al Object storage. Request to change the clause to " HTTPS,HTTP,RESTAPIs, S3 Protocol, SWIFT & all kinds of rest full APIs. Vendor shall configure the licenses all interfaces. ALL Above protocols shall be native to cluster and shall not require additional gateway. CIFS, SMB, NFS can be supported using additional gateway"	Bidder to refer corrigendum-5.
398	128	Annexure-9 Technical Specifications	Table-G Storage Technical Specifications: (Object Storage 2.0PB Usable Space: DC -1, DRC -1)	Sl. No: 27- Remote Replication 2-way replication with zero data loss	This is a typical SAN storage requirement which does sync replication to Near DR site. and not applicable to Object storage. Also since proposed solution does not involve near DR , Request to remove this clause as this is more applicable to SAN storage and NOT Object storage	Bidder to refer corrigendum-5.
399	130	Annexure-9 Technical Specifications	Table-G Storage Technical Specifications: (Object Storage 2.0PB Usable Space: DC -1, DRC -1)	Sl. No. 34. Multi-cloud Controller	Need more understanding on what is meant by Multi Cloud controller, This looks to be a vendor specific and need more details .	Bidder to refer corrigendum-5.

400	132	Annexure-9 Technical Specifications	Table-H Storage Technical Specifications: (Enterprise Block Storage 2.0PB Usable Space: DC -2, DRC -2)	Sl. No: 11 Scalability- Each storage up to 5PB (Scale UP) and 8 controller (Scale Out) DIP(data in-place) upgrade capability	5 PB scalability with 15 TB drive option looks single vendor specific. Since NVMe protocol supports max 96 drives as scale up, Request to change the clause to : Each storage up to 4 PB and 8 controller (Scale Up/ Scale Out) DIP(data in-place) upgrade capability" OR support effective capacity of 5 PB scalability (using data reduction techniques like compression and deuplication)	Bidder to refer corrigendum-5.
401	132	Annexure-9 Technical Specifications	Table-H Storage Technical Specifications: (Enterprise Block Storage 2.0PB Usable Space: DC -2, DRC -2)	Sl. No: 13 RAID Support- RAID array supporting 10, 0, 1, 5 and 6 or better levels. It should support a mix and match of RAID levels behind a pair of controllers. The storage array should allow online expansion of existing RAID Groups / Storage Disk Pools.	Modern storages supports RAID5 and RAID 6 level protection and have discontinued support for RAID10 and 0, Hence Request to change the clause to : Storage should support single and double disk failure protection. The storage array should allow online expansion of existing RAID Groups / Storage Disk Pools	Bidder to refer corrigendum-5.
402	143	Annexure-9 Technical Specifications	Table-L Backup Solution for 500 Servers at DC and DRC	Sl. No: 5 Backup software should be a Hardware Agnostic software and it should support snapshot integration with hypervisors like VMware and Hyper-V and support de-duplication on any storage target. It should be able to backup data to	Since Bank has asked for backup software along with backup storage target, Request to change this clause to "Backup solution should support snapshot integration with hypervisors like VMware and Hyper-V and support de-duplication It should be able to backup data to tapes (like LTO) as well for long term retention"	Bidders to comply with RFP/GeM bid terms and conditions

				tapes (like LTO) as well for long term retention		
403	143	Annexure-9 Technical Specifications	Table-L Backup Solution for 500 Servers at DC and DRC	Sl. No: 6 The proposed Backup software must offer instance based licenses with no restrictions on type of arrays (protecting heterogeneous storage technologies), front end production capacity or backup to disk target capacity restrictions. Licenses and associated software should be supplied for both primary and DR site.	What do Bank mean by instances. Is it the total number of servers which are part of this RFP ? Request Please clarify with details	Yes. Instance are referred to servers
404	143	Annexure-9 Technical Specifications	Table-L Backup Solution for 500 Servers at DC and DRC	Sl. No: 10 Proposed solution should have security and compliance dashboard inbuilt with the product.	Need more details on this as what is the exact requirement	Bidder to refer corrigendum-5.
405	144	Annexure-9 Technical Specifications	Table-L Backup Solution for 500 Servers at DC and DRC	Sl. No: 13 The proposed backup software should have object storage backup.	Request to change this to " The proposed backup solution should have object storage backup"	Bidder to refer corrigendum-5.

406	144	Annexure-9 Technical Specifications	Table-L Backup Solution for 500 Servers at DC and DRC	Sl. No: 15 Backup software should support instant file share recovery in NAS storages to allow users to access files fast after disaster	Request to change this to " Backup solution should support instant file share recovery in NAS storages to allow users to access files fast after disaster"	Bidders to comply with RFP/GeM bid terms and conditions
407	144	Annexure-9 Technical Specifications	Table-L Backup Solution for 500 Servers at DC and DRC	Sl. No: 17 Software should be able to extend the backup repository to a public cloud service provider by moving older files to any S3 Compatible Object storage or Azure BLOB repositories.	Request to change this to "Backup Solution should be able to extend the backup repository to a public cloud service provider by moving older files to any S3 Compatible Object storage or Azure BLOB repositories."	Bidders to comply with RFP/GeM bid terms and conditions
408	144	Annexure-9 Technical Specifications	Table-L Backup Solution for 500 Servers at DC and DRC	Sl. No: 18 The software must has the functionality to back up on-prem data directly into cloud repositories such as AWS S3 or Microsoft Blob	Request to change this to " The solution must has the functionality to back up on-prem data directly into cloud repositories such as AWS S3 or Microsoft Blob"	Bidders to comply with RFP/GeM bid terms and conditions
409	145	Annexure-9 Technical Specifications	Table-L Backup Solution for 500 Servers at DC and DRC	Sl. No: 39 Backup software should support immutable backups for protecting backups from ransomware and malicious attacks. The immutability should be controllable from the backup management specification itself.	Request to change this to " Backup solution should support immutable backups for protecting backups from ransomware and malicious attacks. The immutability should be controllable from the backup management specification itself"	Bidders to comply with RFP/GeM bid terms and conditions

410	145	Annexure-9 Technical Specifications	Table-L Backup Solution for 500 Servers at DC and DRC	Sl. No: 41 The backup software should support multiple types of backup repositories including Purpose built backup alliances, S3 Object Storage, Hardened NFS repositories etc. Compatibility list to be provided	Request to change this to "The backup solution should support multiple types of backup repositories including Purpose built backup alliances, S3 Object Storage, Hardened NFS repositories etc. Compatibility list to be provided"	Bidders to comply with RFP/GeM bid terms and conditions
411	159	Annexure-9 Technical Specifications	Table-Q Technical Specifications of 2 LTO9 standalone Tape Drive (1 DC and 1 DRC)	Sl. No: 5 Tape Drive- One LTO-9 Drive with FC Connectivity to support 8Gbps or more.	Overall Backup Capacity requirement	Bidders to comply with RFP/GeM bid terms and conditions

412	158	Annexure-9 Technical Specifications	Table-P Technical Specifications of 2 LTO9 Tape Library (1 Nos at DC and 1 Nos at DR) and 200 LTO7 & 3800 LTO8 & 800 LTO9 Tapes & 200 No. of LTO9 Cleaning Cartridge	Sl. No: 8LTO7 & LTO 8 & LTO 9 Tapes Up to LTO 9 Cleaning cartridges 3800 quantities (1900 DC & 1900 DRC) of LTO-8 standard tapes with custom Bar Codes compatible with the proposed Tape Library. 800 quantities (400 DC & 400 DRC) of LTO-9 standard tapes with custom Bar Codes compatible with the proposed Tape Library. 200 quantities (100 DC & 100 DRC) of LTO-7 standard tapes with custom Bar Codes.	Overall Backup Capacity requirement. As LTO 9 Supports 18TB Native and 45TB Compressed and 1900 LTO9 will equal to 32PB Native capacity and 85.5 Compressed capacity	Bidders to comply with RFP/GeM bid terms and conditions
413	159	Annexure-9 Technical Specifications	Table-Q Technical Specifications of 2 LTO9 standalone Tape Drive (1 DC and 1 DRC)	Sl. No: 5 Tape Drive- One LTO-9 Drive with FC Connectivity to support 8Gbps or more.	Standalone Tapedrive Supports only SAS Connectivity	Bidder to refer corrigendum-5.
414	140	Annexure-9 Technical Specifications	Table-K Technical Specification of Network TOR Switches	B. Type 2 Switch - 24 numbers (12 DC+ 12 DRC) for Data Sl. No. 33 High Mean Time Between Failure values (>3.5 lakh hours) should be available to ensure long life of switch hardware.	Request Bank to change this value, as this is single OEM specific point . Higher MTBF values always donot provide the product reliability measurements	Bidder to refer corrigendum-5.

415	142	Annexure-9 Technical Specifications	Table-K Technical Specification of Network TOR Switches	C. Type 4 Switch - 4 numbers (2 DC+ 2 DRC) - Storage Sl. No. 33 High Mean Time Between Failure values (>3.5 lakh hours) should be available to ensure long life of switch hardware.	Request Bank to change this value, as this is single OEM specific point . Higher MTBF values always donot provide the product relailbity measurements	Bidder to refer corrigendum-5.
416	85	Annexure-9 Technical Specifications	Table-A Technical Specification - 80 servers (41 DC and 39 DRC)	Sl. No: 5- Processor Processor Make- Latest generation x86_64 bit architecture-based CPU's	CPU vendors have different Class of CPU and given the general ask , both CPU type like high range platinum 8500 and Mid range Gold 6500 aslo qualify hence this ask.	Bidders to comply with RFP/GeM bid terms and conditions
417	91	Annexure-9 Technical Specifications	Table-B Technical Specification - 28 servers (17 DC and 11 DRC)	Sl. No: 5- Processor Processor Make- Latest generation x86_64 bit architecture-based CPU's	CPU vendors have different Class of CPU and given the general ask , both CPU type like high range platinum 8500 and Mid range Gold 6500 aslo qualify hence this ask.	Bidders to comply with RFP/GeM bid terms and conditions
418	154	Annexure-9 Technical Specifications	Table-N Technical Specifications of 4 SAN Director (2 Nos at DC and 2 Nos at DR)	Sl. No: 21 Other Features The director class switch should provide Inter Chassis Link (ICL) for connecting multiple Chassis	ICL is Single OEM specification , we provide the same capability using more open Industry standard ISL/Trunking . Request bank to change this remove or change this clause	Bidder to refer corrigendum-5.

419	91	Annexure-9 Technical Specifications	Table-A Technical Specification - 80 servers (41 DC and 39 DRC)	Sl. No: 13 Warranty And Support 3 Years onsite warranty+ 2 years AMC, On-Site Support Warranty including part replacement/repairs within 4 hours of reporting, and Software support for updates, upgrades, patches, and bug fixes for supplied s/w from OEM 24 x 7 x 365 days. SSD drives should be covered for irrespective of read/writes on them. In case of Disk failure, the faulty disk will be maintained /destroyed / Degauss by Canara Bank. Proactive storage monitoring & support from OEM should be enabled. The proposed bidder will need to ensure support of product & change of components @ zero cost in case of any part becoming obsolete/EOL & EOS. Faulty Disks would not be retuned back to OEM/Vendor or faulty disks will be destroyed before returning.	Software (Subscription based License) Bank has requested for "standard" subscription for Openshift & JBoss license along with premium. Only "premium subscription" meet the criteria "OEM 24 x 7 x 365 days. " The "standard" version	Bidder to refer corrigendum-5.

420	22	SECTION C - DELIVERABLE AND SERVICE LEVEL AGREEMENTS	9. Warranty	9.2. The selected bidder has to provide comprehensive On-site warranty for Three (3) years for proposed Hardware from the date of installation of the Hardware, System Software, OS, licenses etc., supplied.	Bank will require L1- L4 Enterprise support from the respective OS OEM and the selected bidder has to ensure the respective OEM support portal is made available.	Respective softwares OEM with the support level mention in the RFP to be provided and supplied licenses to be reflected under respective OEM portal used by Bank where ever applicable
421	79	Annexure-8 Scope of Work	Evaluation for Scope of Work for Apache Tomcat	Entire Clause	Software Subscription for JBoss Web Server is not mentioned for implementing Apache Tomcat, Bank to confirm on the sizing and the required subscriptions for JBoss Web Server, what kind of support is expected for Prod and Non Prod Environment.	Bidders to comply with RFP/GeM bid terms and conditions
422	80	Annexure-8 Scope of Work	Evaluation for Scope of Work for Apache Tomcat	Sl. No: 9 testing procedures to ensure the cluster and load balancer configurations are functioning correctly	Bank has to define the testing process and testing scenarios?	Details will be shared with the selected bidder
423	77	Annexure-8 Scope of Work	Evaluation for Scope of Work For Open shift	Entire Clause	What is the Hardware configuration for Openshift hosting?	Details will be shared with the selected bidder
424	77	Annexure-8 Scope of Work	Evaluation for Scope of Work For Open shift	Entire Clause	What storage bank has present, does bank have Object, Block and File with certified Openshift CSI Driver? can same be used for Openshift Cluster?	Details will be shared with the selected bidder

425	77	Annexure-8 Scope of Work	Evaluation for Scope of Work For Open shift	Entire Clause	For Control Plane and Infrastructure Nodes (EFK, registry, Quay, ACS,ACM, Grafana, Prometheus) can you share the infra configuration bank is expecting to provide	Details will be shared with the selected bidder
426	77	Annexure-8 Scope of Work	Evaluation for Scope of Work For Open shift	Entire Clause	Bank to confirm if they intend the OEM to implement the solution for the mentioned scope of work	Bidders to comply with RFP/GeM bid terms and conditions
427	172	Annexure-16 Bill of Material	Table - C Price details of Software/Lic nse Items (Subscription based Licenses)	Sl. No: 2 RHEL 9 with premium support	Is this for Physical host of virtual host?	Bidder to refer corrigendum-5.
428	NA	Generic	Generic	Generic	Please clarify on number of clusters considered to be delivered within 12 weeks.	Bidders to comply with RFP/GeM bid terms and conditions
429	172	Annexure-16 Bill of Material	Table - C Price details of Software/Lic nse Items (Subscription based Licenses)	Sl. No: 1 RHEL 9 Virtual DataCentre with premium support	Do we need to propose RHEL with Satellite?	Bidders to comply with RFP/GeM bid terms and conditions
430	172	Annexure- 16Bill of Material	Table - CPrice details of Software/Lic nse Items (Subscription based Licenses)	Sl. No: 4RedHat OpenShift - RHCOS latest version subscription with premium support	The Scope mentions implementation of Advanced Cluster Management and Cluster Securith that is available only with Red Hat OpenShift Container Platform Plus, Bank to update the SKU with Red Hat OpenShift Container	Bidder to refer corrigendum-5.

					Platform Plus in the Bill of material and Scope of Work.	
431	172	Annexure-16 Bill of Material	Table - C Price details of Software/License Items (Subscription based Licenses)	Sl. No: 5 RedHat OpenShift - RHCOS latest version subscription with standard support.	The Scope mentions implementation of Advanced Cluster Management and Cluster Security that is available only with Red Hat OpenShift Container Platform Plus, Bank to update the SKU with Red Hat OpenShift Container Platform Plus in the Bill of material and Scope of Work.	Bidder to refer corrigendum-5.
432	139	Annexure-9 Technical Specifications	Table-K Technical Specification of Network TOR Switches	B. Type 2 Switch - 24 numbers (12 DC+ 12 DRC) for Data Sl. No: 3 6 fixed 40/100-Gbps QSFP+ ports for uplink connectivity with fully populated trans receivers on single chassis.	All uplinks will be 40G ?	All should be 40/100 gig supported for Uplinks
433	139	Annexure-9 Technical Specifications	Table-K Technical Specification of Network TOR Switches	B. Type 2 Switch - 24 numbers (12 DC+ 12 DRC) for Data Sl. No: 7 Latency should be less than 2 microsecond.	<2.3us	Bidders to comply with RFP/GeM bid terms and conditions

434	139	Annexure-9 Technical Specifications	Table-K Technical Specification of Network TOR Switches	B. Type 2 Switch - 24 numbers (12 DC+ 12 DRC) for Data Sl. No: 5 Switch should support EVPN and Virtual Extensible LAN (VXLAN) to create Fabric. Fabric should be capable to integrate with SDDC like Open stack, VMWare etc. Switch should support In Service Software Upgrade.	1. can the integration with SDDC of VMWare and Openstack be done with a lifecycle management component provided by Dell and then integrated with Dell Switch Fabric? 2. Whether In Service Software Upgrade is required for minor upgrades (patch updates) or for Major upgrades (version level changes)?	Bidders to comply with RFP/GeM bid terms and conditions
435	139	Annexure-9 Technical Specifications	Table-K Technical Specification of Network TOR Switches	A. Type 1 Switch - 14 numbers (07 numbers in DC and 07 numbers in DRC) - Mgmt. Sl. No: 27 Proposed Switches must integrate seamlessly with active - active ports for redundancy and high availability from two core/distributed switches from day one with our existing infrastructure of Cisco/Juniper Datacenter router/switches.	you have mentioned about interoperability with other OEMs for Open standard tech- any specific Cisco patent or open standard feature you are looking to implement?	Bidders to comply with RFP/GeM bid terms and conditions

436	82	Annexure-8 Scope of Work	Evaluation for Scope of Work for TOR Switches	Sl. No: 3 Bidder should ensure planning and designing for proposed solution. Sl. No: 14 Design includes low & high level diagrams, planning of the implementation and should be aimed at ensuring that a new network or service meets the needs of the Bank.	can you please share the current network architecture diagram to design the new one?	Details will be shared with the selected bidder
437	82	Annexure-8 Scope of Work	Evaluation for Scope of Work for TOR Switches	Sl. No: 13 Bidder has to Plan, Design considering various failovers scenarios, Migrate, Integrate with existing and future infrastructure, Implement day to day changes, maintain and coordinate with OEM at Bank Data Centre and at Data Recovery Centre.	what all should be migrated to new infra? Any specific protocols you are using so that we understand the integration with existing network	Bidder to refer corrigendum-5.
438	NA	Generic	Generic	Backup	-	Query not clear
439	-	-	-	-	Bidders Query	Query not clear

440	143	Annexure-9 Technical Specifications	Table-L Backup Solution for 500 Servers at DC and DRC	Sl. No. 5 Backup software should be a Hardware Agnostic software and it should support snapshot integration with hypervisors like VMware and Hyper-V and support de-duplication on any storage target. It should be able to backup data to tapes (like LTO) as well for long term retention..	Backup is critical and should be protected at all points in time. Offering a capability to write to generic storage or any storage target could compromise the backup and could lead to loss of backup data. it is important to ensure the backup is performed to purpose built backup appliance.	Bidders to comply with RFP/GeM bid terms and conditions
441	143	Annexure-9 Technical Specifications	Table-L Backup Solution for 500 Servers at DC and DRC	Sl. No: 6 The proposed Backup software must offer instance based licenses with no restrictions on type of arrays (protecting heterogeneous storage technologies), front end production capacity or backup to disk target capacity restrictions. Licenses and associated software should be supplied for both primary and DR site.	Every software vendor has unique licensing models and to encourage maximum participation, request Bank to modify the specifications and benefit Bank by providing unlimited scalability for their virtual instances. Requesting bank to change to the following : The proposed Backup software must be offered as Front end capacity/instance based licenses. Licenses and associated software should be supplied for both primary and DR site.	Bidders to comply with RFP/GeM bid terms and conditions

442	144	Annexure-9 Technical Specifications	Table-L Backup Solution for 500 Servers at DC and DRC	Sl. No. 15 Backup software should support instant file share recovery in NAS storages to allow users to access files fast after disaster	To help in fast recovery of backed up data and for generic inclusion of this functionality, request Bank to modify the following as Backup software should support file share recovery in NAS storages to allow users to access files fast after disaster. Backup solution should support instant VM/NAS recoveries.	Bidder to refer corrigendum-5.
443	144	Annexure-9 Technical Specifications	Table-L Backup Solution for 500 Servers at DC and DRC	Sl. No: 16 Proposed backup software should have the ability to perform staged restores to enable admins to comply to regulations by selectively deleting files / records which should not be restored from the backup copies. This will help in complying to "right to be forgotten" regulations like GDPR, where user data is deleted from restored backup copies in an auditable manner.	With the increase in cyber attacks, it is important to secure the system from eavesdropping of staged data as well as by prohibiting any deletions/modifications to backup copies. As this specification can be achieved functionality during traditional recovery and as a software feature is Proprietary, hence request deletion.	Bidder to refer corrigendum-5.
444	144	Annexure-9 Technical Specifications	Table-L Backup Solution for 500 Servers at DC and DRC	Sl. No: 21 Recovery verification should automatically boot the server from backup and verify the recoverability of VM image, Guest OS and Application Consistency and then publish automated reports to be	The clause in preset form is proprietary to a particular vendor. We understnad that the solutionshould have capability to verify and validate the integrity of the data.	Bidder to refer corrigendum-5.

				used in backup / recovery audits.		
445	134	Annexure-9 Technical Specifications	Table-H Storage Technical Specifications: (Enterprise Block Storage 2.0PB Usable Space: DC -2, DRC -2)	Sl. No: 27 Remote Replication Offered Storage array should provide both Synchronous and Asynchronous replication across 2 storage arrays natively. Offered Storage array shall support 3 Data Center solution natively where Primary site shall be able to replicate synchronously to near-by / Bunker location and at the same time shall be able to replicate to Far location asynchronously. Necessary replication licenses/ Infrastructure required for replication should be provided with the array	We understand from the RFP that the bank is looking for a 2 Site DC and DR and needs replication from DC to DR using Sync and Async replication natively without any additional hardware for Replication. The Storage array should be able to switch between Sync and Async Modes without requiring to resync entire data.	Bidder to refer corrigendum-5.

446	145	Annexure-9 Technical Specifications	Table-L Backup Solution for 500 Servers at DC and DRC	Sl. No: 27 Offered backup solution should multiple kubernetes distributions including RHOS, VMware Tanzu, SUSE Rancher, Ezmeral Runtime etc.	We request the bank to consider the clause to offer open integration and have extended support for multiple kubernetes platforms such as RHOS/VMware Tanzu/SUSE Rancher/Ezmeral Runtime etc	Bidder to refer corrigendum-5.
447	124	Annexure-9 Technical Specifications	Table-G Storage Technical Specifications: (Object Storage 2.0PB Usable Space: DC -1, DRC -1)	Sl. No: 5- Architecture Scale-Out "Any to Any" access? Security Model S3-Vault, Security services for accounts? S3-Metadata Distributed Metadata Engine. Interface, Capability to write simultaneously to the same folder from different file connectors (Folder Scale Out). Seamless load balancing and failover among the file connectors. Built in Load balancing.	Request Bank to provide more details on these points, folder scaleout, Secuirty model S3 vault, built in load balancing etc.. Request bank to consider NAS and Object requirements as an overall solution.	Bidder to refer corrigendum-5.
448	124-125	Annexure-9 Technical Specifications	Table-G Storage Technical Specifications: (Object Storage 2.0PB Usable Space: DC -1, DRC -1)	Sl. No: 8 Capacity- Minimum usable storage 2 PB after RAID6/ Dual RAID6 Configuration.(Without considering any data reduction features such as compression, deduplication etc .,)	Traditional RAID is has dependancies on the Drives and rebuild is limited/restricted to the RAID Groups and controller pairs. Industry has evolved and adopted Erasure coding which offers beter flexibility and also reliability and can protect against more than 2 drive failures across Nodes/controllers, reducing the risk of data loss. Request bank to consider erasure coding as a protection	Bidder to refer corrigendum-5.

					mechanism instead of Traditional RAID.	
449	125	Annexure-9 Technical Specifications	Table-G Storage Technical Specifications: (Object Storage 2.0PB Usable Space: DC -1, DRC -1)	Sl. No: 13 RAID Support- RAID array supporting 10, 0, 1, 5 and 6 or better levels. It should support a mix and match of RAID levels behind a pair of controllers. The storage array should allow online expansion of existing RAID Groups / Storage Disk Pools.	Request the bank to consider erasure coding instead of traditional RAID. Large data sets and scaleout architecture required for the object store needs high availability, reliability and serviceability by leveraging Erasure coding, by distributing the data across controllers/nodes to offer 99.99999% availability and no outage in the event of a disk rebuild. Traditional RAID Groups have limitations around the rebuild times and availability for large data sets. Request the bank to consider Erasure Coding instead of Traditional Raid.	Bidders to comply with RFP/GeM bid terms and conditions

450	126	Annexure-9 Technical Specifications	Table-G Storage Technical Specifications: (Object Storage 2.0PB Usable Space: DC -1, DRC -1)	Sl. No: 16 Services-Proposed storage array should include storage based compression, inline Deduplication, storage to storage replication, Snapshot for the entire supported capacity of the storage array from day one. All the required or necessary licenses must be perpetual and provided for the Full capacity of each storage from Day one. This should include licenses for Management and monitoring module and all the storage features such as Snapshot, Cloning, Replication etc. Upgrade in capacity should not incur any additional license cost. Offered storage system have online and historical performance reporting capability.	Object store is designed for erasure coding and for long term archival. The functionality requested is not native to object storage. Request the bank to consider Inline compression, Inline dedupe, Dedupe (cluster wide) on NAS and only compression on Object Storage.	Bidder to refer corrigendum-5.

451	135	Annexure-9 Technical Specifications	Table-H Storage Technical Specifications: (Enterprise Block Storage 2.0PB Usable Space: DC -2, DRC -2)	Sl. No: 31 Capacity Efficiency features- Offered storage array should support thin provisioning It should also support inline data reduction (deduplication & compression) for maximizing flash storage capacity The array should offer the flexibility to enable / disable the data reduction on a per-volume basis	Request bank to consider Deduplication and compression across the array. The compression should be hardware based to reduce the overhead on the controllers. Data reduction when applied globally across the arrays, gives better data reduction, compared to setting this up individually on a per volume basis.	Bidder to refer corrigendum-5.
452	129	Annexure-9 Technical Specifications	Table-G Storage Technical Specifications: (Object Storage 2.0PB Usable Space: DC -1, DRC -1)	Sl. No. 32 Compliance 1. Offered storage shall ensure that Data must be tamper-proof. 2. Data must be kept for a specified period which means offered storage shall provide retention mechanism. 3. Offered storage shall have capability to migrate the data to an alternative media	Point 3. We understand the bank needs flexibility to move data to an alternate storage which could be another cloud/on prem object store. Request Bank to provide more clarity on this.	Bidder to refer corrigendum-5.

453	145	Annexure-9 Technical Specifications	Table-L Backup Solution for 500 Servers at DC and DRC	Sl. No: 33 Offered solution should support intelligent policy definitions for backup windows, automatic staggering of backups to reduce impact on the system backend, use of declarative policies for backups etc.	The clause in the present form is restrictive and proprietary to a particular vendor. Please change to the below. The offered solution should support policy based backup architecture with calendar/frequency based scheduling.	Bidder to refer corrigendum-5.
454	132	Annexure-9 Technical Specifications	Table-H Storage Technical Specifications: (Enterprise Block Storage 2.0PB Usable Space: DC -2, DRC -2)	Sl. No: 11 Scalability- Each storage up to 5PB (Scale UP) and 8 controller (Scale Out) DIP(data in-place) upgrade capability	Request the bank to consider 4PB as the overall Storage capacity, since the current Drive sizes that we support are 15TB NVMe SSDs and we would be scaling up to 4PB, and as the new drives are added we will be able to support higher capacities. Request Bank to consider File and Block in the same storage system since the complete feature capabilities of NAS (compression, Dedupe, SSnapshot, NFS V4) can be supported in Unified Storage.	Bidder to refer corrigendum-5.
455	132	Annexure-9 Technical Specifications	Table-H Storage Technical Specifications: (Enterprise Block Storage 2.0PB Usable Space: DC -2, DRC -2)	Sl. No: 13 RAID Support- RAID array supporting 10, 0, 1, 5 and 6 or better levels. It should support a mix and match of RAID levels behind a pair of controllers. The storage array should allow online expansion of existing RAID Groups / Storage Disk Pools.	We understand that the bank is looking for an All Flash Storage and needs higher availability, Reliability and serviceability. Since the disk capacities are increasing, the Storage should support mixing and matching of different capacity NVMe disks within the same pool for flexibility of capacity for expansion. The RAID level that gives best availability and capacity is RAID 6 or Dual Parity.	Bidder to refer corrigendum-5.

					Request the bank to consider RAID 5/6. and should allow online expansion of Pool.	
456	132	Annexure-9 Technical Specifications	Table-H Storage Technical Specifications: (Enterprise Block Storage 2.0PB Usable Space: DC -2, DRC -2)	Sl. No: 14 Encryption- should have native encryption capabilities as per PCI DSS standards and encryption should not add any performance overheads	we understand that the bank is looking for encryption. the storage array should use Self Encrypting drives to ensure the encryption is not burdening or adding any overheads to the storage array. Request the bank to include Self Encrypting drives to be mandatory for the encryption.	Bidders to comply with RFP/GeM bid terms and conditions
457	145	Annexure-9 Technical Specifications	Table-L Backup Solution for 500 Servers at DC and DRC	Sl. No: 36 Should support direct integration support and air-gapped environments with support for private registries	For integration and protecting against destructive ransomware, please change to the below The proposed solution should support direct integration with multiple backup softwares and support automated physical isolations (air-gap) architecture.	Bidder to refer corrigendum-5.

458	NA	Annexure-9 Technical Specifications	Table-L Backup Solution for 500 Servers at DC and DRC	Additional Clause: Capacity and Performance- Purpose built backup appliance should be sized appropriately for front-end data of 200 TB as per below mentioned backup policies. a. Daily incremental backup - retained for 4 weeks in Purpose built backup appliance. b. Weekly full backup for all data types - retained for 1 month in Purpose built backup appliance. c. Monthly full backups - for 12 months. d. Yearly full backups - retained for 5 years in Purpose built backup appliance. The appliance should be quoted with adequate capacity considering 1% daily change rate for entire duration of 5 years warranty. Bidder must provide a sizing certificate showcasing this sizing consideration on the OEM's letter head with seal and sign from the authorized	We request the bank to include the backup policies as part of the RFP to ensure all bidders are evaluated on the same page. "Purpose built backup appliance should be sized appropriately for front-end data of 200 TB as per below mentioned backup policies. a. Daily incremental backup - retained for 4 weeks in Purpose built backup appliance. b. Weekly full backup for all data types - retained for 1 month in Purpose built backup appliance. c. Monthly full backups - for 12 months. d. Yearly full backups - retained for 5 years in Purpose built backup appliance. The appliance should be quoted with adequate capacity considering 1% daily change rate for entire duration of 5 years warranty. Bidder must provide a sizing certificate showcasing this sizing consideration on the OEM's letter head with seal and sign from the authorized signatory. Entire capacity of appliance must be offered as single pool with global deduplication to increase the data reduction efficiency."	Bidders to comply with RFP/GeM bid terms and conditions

				signatory. Entire capacity of appliance must be offered as single pool with global deduplication to increase the data reduction efficiency.		

459	171	Annexure-16 Bill of Material	Table - B Price details of Software/License Items (Perpetual)	Sl. No. 4 IBM WebSphere ND 9.5 PVU with support- Qty- 17920	While IBM WebSphere specifications, can the bank provide more clarity on the requirement. Also, would it be feasible to supply the item without MAF or can bank drop the requirement from the RFP as this is specific vendor requirement which is in denied list of direct vendors for our organization	Bidders to comply with RFP/GeM bid terms and conditions
460	172	Annexure-16 Bill of Material	Table - C Price details of Software/License Items (Subscription based Licenses)	1. RHEL 9 Virtual DataCentre with premium support 2. RHEL 9 with premium support 3. RHEL 9 High Availability with premium support for CISC - X86 machines 4. RedHat OpenShift - RHCOS latest version subscription with premium support 5. RedHat OpenShift - RHCOS latest version subscription with standard support	Can bank reconsider other compatible Linux platforms like Oracle Linux rather than RHEL alone, as Linux is an open platform and naming a particular support group is making the RFP restrictive even in Linux platforms	Bidders to comply with RFP/GeM bid terms and conditions

461	64	Annexure-2 Pre- Qualification Criteria	Sl. No: 8	Pre-Qualification Criteria The Bidder/OEM should have successfully supplied minimum cumulative 500 Nos. of Servers in India in the last three years out of which the bidder should have successfully supplied Hardware and software as a service model at least 100 servers deployed at Customer's DC and DR in Indian Market in any 1 Scheduled Commercial Bank/ NBFC/ Insurance Company/ PSU/ Central Government Organization in India in the last three years as on the date of submission of bid for this RFP.	Request change the clause as follows : The Bidder/OEM should have successfully supplied minimum cumulative 200 Nos. of Servers in India in the last 7 years out of which the bidder should have successfully supplied Hardware and software as a service model at least 100 servers deployed at Customer's DC and DR in Indian Market/ built manage 100 servers cloud environment for any 1 Scheduled Commercial Bank/ NBFC/ Insurance Company/ PSU/ SDC/Central Government Organization in India in the last Seven years as on the date of submission of bid for this RFP.	Bidder to refer corrigendum-5.
462	64	Annexure-2 Pre- Qualification Criteria	Sl. No. 5	Pre-Qualification Criteria: The Bidder should have an active and premium partnership with Hardware OEM to offer their Hardware and Software as a service to Bank.	Request change the clause as follows : The Bidder should have an active partnership with Hardware OEM .	Bidders to comply with RFP/GeM bid terms and conditions
463	64	Annexure-2 Pre- Qualification Criteria	Sl. No. 5	Pre-Qualification Criteria: The Bidder should have an active and premium partnership with Hardware OEM to offer their	Please also suggest if MAF shall be required only by the hardware OEM	Bidders to comply with RFP/GeM bid terms and conditions

				Hardware and Software as a service to Bank.		

464	124	Annexure-9 Technical Specifications	Table- GStorage Technical Specifications: (Object Storage 2.0PB Usable Space: DC -1, DRC -1)	Sl. No: 5ArchitectureControllers shall be active-active so that all volumes are automatically load balanced without needing administrative intervention for manual balancing of workloads/volumes.Connectivity -Object interface would be scalable S3.its architecture shall include the following: o S3-Server: S3 API Server for Buckets/Objects and more o-Out "any-to-any"access o Security model S3-Vault: Security service for accounts a. Multi-tenant, Support for S3 IAM - Identity and Access Management.b.Bucket &Object ACLs o S3-Metadata:Distributed Metadata Engineo S3 Object Lock o Transparent Bucket-Level At-REST Encryptiono S3 Console: GUI Web interface to manage accounts, users, policy and monitor usage.o S3 Browser: GUI Web interface to create buckets and upload objects. o	Please modify "Controllers shall be active-active so that all volumes are automatically load balanced without needing administrative intervention for manual balancing of workloads/volumes.Connectivity - Object interface would be scalable S3.its architecture shall include the following: o S3-Server: S3 API Server for Buckets/Objects and more o-Out "any-to-any"access o Security model S3-Vault: Security service for accounts a. Multi-tenant, Support for S3 IAM - Identity and Access Management.b.Bucket &Object ACLs o S3-Metadata:Distributed Metadata Engineo S3 Object Lock o Transparent Bucket-Level At-REST Encryptiono S3 Console: GUI Web interface to manage accounts, users, policy and monitor usage.o S3 Browser: GUI Web interface to create buckets and upload objects. o Quota for S3.Connectivity-File Interface/connector o Capability to write simultaneously to the same folder/bucket from different file connectors (folder scale out). o Seamless load balancing and failover among the file connectors.o Federated Access "Single Sign On" to S3 Connector.o Compatible with LDAP, Active Directory and Kerberos. o Volume protection feature (can't modify/delete files once written to	Bidder to refer corrigendum-5.

				Quota for S3.Connectivity-File Interface/connector o Capability to write simultaneously to the same folder/bucket from different file connectors (folder scale out). o Seamless load balancing and failover among the file connectors.o Federated Access “Single Sign On” to S3 Connector.o Compatible with LDAP, Active Directory and Kerberos. o Volume protection feature (can’t modify/delete files once written to the volume). o Quota for file/object. o Supports mixed environment Windows & Linux. o Built in load balancing	the volume). o Quota for file/object. o Supports mixed environment Windows & Linux. o Built in load balancing”	

465	126	Annexure-9 Technical Specifications	Table-G Storage Technical Specifications: (Object Storage 2.0PB Usable Space: DC -1, DRC -1)	Sl. No: 17 Protocol Support- CIFS, SMB, NFSV3&V4,HTTPS,HTTP,RE STAPIs,FTP, Linux FS (FUSE), S3 Protocol, SWIFT & all kinds of rest full APIs. Vendor shall configure the licenses all interfaces All above protocol shall be native to cluster and shall not require any additional gateway. Vendor can provision additional gateway if required from performance perspective but capability shall be native to main nodes only.	Please modify "CIFS, SMB, NFSV3&V4,HTTPS,HTTP,RESTAPIs, S3 Protocol, SWIFT & all kinds of rest full APIs. Vendor shall configure the licenses all interfaces All above protocol shall be native to cluster and can be provided with connector if required."	Bidder to refer corrigendum-5.
466	126- 127	Annexure-9 Technical Specifications	Table-G Storage Technical Specifications: (Object Storage 2.0PB Usable Space: DC -1, DRC -1)	Sl. No: 19 Ports- Minimum 4 Number of 10/25 Gigabit for IP Traffic per node and 2 Number of 10/25 Gbps for Replication (Network). Minimum Two Management Ports of 1Gbps	Please modify "Minimum 4 Number of 10/25 Gigabit for IP Traffic per node and Minimum Two Management Ports of 1Gbps"	Bidder to refer corrigendum-5.

467	127	Annexure-9 Technical Specifications	Table- GStorage Technical Specifications: (Object Storage 2.0PB Usable Space: DC -1, DRC -1)	Sl. No: 21Other Features	Please modify as "The proposed storage system should support SNMP,Address resolution protocol, Network Time Protocol, LDAPThe Storage array should be licensed with Performance monitoring tools should be offered with the storagearray.The proposed storage system shall support a browser based GUI built in management.All objects stored in Object Storage have a URL.All objects have their own metadata. Developers interact with the object storage systemthrough a RESTful HTTP API.Object data can be located anywhere in the cluster. Backup & Recovery: Data backup and recovery rely on accessible and reliable storage. Object-based storage provides the infrastructure for secure data backup and efficient recovery procedures. There shall be no separate and dedicated control node or metadata node in the cluster. In case, nodes are separate then vendor shall over Metadata / control nodes in HA using active / active approach. Offered solution shall be completely redundant and there shall be no single point of failure. Offered solution shall have file integrity checking when reading the file and automatic rebuilt if an error is detected."	Bidder to refer corrigendum-5.

468	128	Annexure-9 Technical Specifications	Table-G Storage Technical Specifications: (Object Storage 2.0PB Usable Space: DC -1, DRC -1)	Sl. No: 23 Power Supply Storage should be provided with Redundant hot swappable Power supplies. The Power supplies should be FCC class A certified.	Please modify as "Storage should be provided with Redundant hot swappable Power supplies. The Power supplies should be FCC class A certified /Carbon Footprint for Products by ENERGY STAR® certified"	Bidders to comply with RFP/GeM bid terms and conditions

469	132-133	Annexure-9 Technical Specifications	Table-H Storage Technical Specifications: (Enterprise Block Storage 2.0PB Usable Space: DC -2, DRC -2)	Sl. No: 16- Services Proposed storage array should include storage based Thin Provisioning, compression, inline Deduplication Synchronous-Asynchronous Replication, Snapshot, and Volume cloning features for the entire supported capacity of the storage array from day one. All the required or necessary licenses must be perpetual and provided for the Full capacity of each storage from Day one. This should include licenses for Management and monitoring module and all the storage features such as Snapshot, Cloning, Sync and Async Replication etc. Upgrade in capacity should not incur any additional license cost Offered Storage management console shall be able to manage multiple arrays from a single console is preferred. Management console shall provide following functionalities: Offered storage system have online and historical Q1 Storage based Async remote Replication required ? If yes FCIP Router provided by Bank ? Or FCIP router already exist ? What is the dedicated bandwidth available in DC & DR for the storage systems ? And what is rate of change of data for each storage system ? what are RPO RTO requirements ?	FCIP router is not required

				performance reporting capability. At least 1 year of historical performance information should be available online for capacity and performance forecasting, trend analysis etc. In case this capability is not available natively, then necessary software subscription shall be provided for the entire duration of the contract.		

470	133	Annexure-9 Technical Specifications	Table-H Storage Technical Specifications: (Enterprise Block Storage 2.0PB Usable Space: DC -2, DRC -2)	Sl. No: 19 Ports- Minimum 16 number of FC Ports of 32/64 Gbps each (SAN), Minimum 4 Number of 10/25 Gbps for IP Traffic (iSCSI) and 2 Number of 10/25 Gbps for Replication (Network). Minimum two management Ports of 1Gbps. Storage should support FC-NVMe: 32Gb/s	recommend to add FCIP Router for Storage base Remote Replication	FCIP router is not required
471	159	Annexure-9 Technical Specifications	Table-Q Technical Specifications of 2 LTO9 standalone Tape Drive (1 DC and 1 DRC)	Sl. No: 5 Tape Drive- One LTO-9 Drive with FC Connectivity to support 8Gbps or more.	STAND ALONE DRIVES are Not available in FC , all major brands provide Standalone drive in SAS model only. ELSE, Bank can ask bidders to provide 1U, 8 Slots Autoloader with LTO9 FC drive , each site can be provided if Required . As such, request modification to : One LTO-9 Drive with SAS/FC Connectivity to support 8Gbps FC or 12Gbps SAS or more to be provided , Bidder must provide the appropriate SAS HBA card on the Server directly & SAS/FC Cable by the Bidder	Bidder to refer corrigendum-5.
472	159	Annexure-9 Technical Specifications	Table-Q Technical Specifications of 2 LTO9 standalone Tape Drive (1 DC and 1 DRC)	Sl. No: 6 Cables- Necessary OM3/OM4 FC cables of length 15 meters	STAND ALONE DRIVES are Not available in FC , all major brands provide Standalone drive in SAS model only. . As such, request modification to : Necessary OM3/OM4 FC cables of length 15 meters or SAS CABLE 12Gbps HD approx 2 mtrs	Bidder to refer corrigendum-5.

473	64	Annexure-2 Pre- Qualification Criteria	Sl. No. 6	Pre-Qualification Criteria: The bidder should have yearly average turnover of 300 Crores in India for the last three financial years 2020-2021, 2021-2022, 2022-2023 from their Indian operation as per the audited Financial Statements. This must be the individual company turnover and not of any group of companies.	We request you to amend the clause to "The bidder should have yearly average turnover of 300 Crores in India for the last three financial years 2020-2021, 2021-2022, 2022-2023, 2023-24 (Provisional) from their Indian operation as per the audited Financial Statements. This must be the individual company turnover and not of any group of companies." OR The bidder should have yearly average turnover of 275 Crores in India for the last three financial years 2020-2021, 2021-2022, 2022-2023 from their Indian operation as per the audited Financial Statements. This must be the individual company turnover and not of any group of companies.	Bidders to comply with RFP/GeM bid terms and conditions

474	64	Annexure-2 Pre- Qualification Criteria	Sl. No: 8	Pre-Qualification Criteria The Bidder/OEM should have successfully supplied minimum cumulative 500 Nos. of Servers in India in the last three years out of which the bidder should have successfully supplied Hardware and software as a service model at least 100 servers deployed at Customer's DC and DR in Indian Market in any 1 Scheduled Commercial Bank/ NBFC/ Insurance Company/ PSU/ Central Government Organization in India in the last three years as on the date of submission of bid for this RFP.	The Bidder/OEM should have successfully supplied minimum cumulative 500 Nos. of Servers in India in the last three years out of which the bidder should have successfully supplied Hardware and software of as a service model at least 100 servers deployed at Customer's DC and DR in Indian Market in any 1 Scheduled Commercial Bank/ NBFC/ Insurance Company/ PSU/ Central Government Organization in India in the last three years as on the date of submission of bid for this RFP. Kindly amend this clause as per above request as this bid is for CAPEX and no OPEX solution is asked as part of this bid. "As a Service Model" refers to OPEX and hence request you to change this clause. In case "As a Service Model" is required then CAMC orders may be allowed for consideration as these are offered as services to customers.	Bidder to refer corrigendum-5.

475	88	Annexure-9 Technical Specifications	Table-A Technical Specification - 80 servers (41 DC and 39 DRC)	Sl. No: 13- Warranty and Support 3 Years onsite warranty+ 2 years AMC, On-Site Support Warranty including part replacement/repairs within 4 hours of reporting, and Software support for updates, upgrades, patches, and bug fixes for supplied s/w from OEM 24 x 7 x 365 days. SSD drives should be covered for irrespective of read/writes on them. In case of Disk failure, the faulty disk will be maintained /destroyed / Degauss by Canara Bank. Proactive storage monitoring & support from OEM should be enabled. The proposed bidder will need to ensure support of product & change of components @ zero cost in case of any part becoming obsolete/EOL & EOS. Faulty Disks would not be returned back to OEM/Vendor or faulty disks will be destroyed before returning.	Software (Subscription based License) Bank has requested for "standard" subscription for Openshift & JBoss license along with premium. Only "premium subscription" meet the criteria "OEM 24 x 7 x 365 days." Request you to include amend the same to Premium version	Bidder to refer corrigendum-5.

476	23	SECTION C - DELIVERABLE AND SERVICE LEVEL AGREEMENTS	9. Warranty	9.2. The selected bidder has to provide comprehensive On-site warranty for Three (3) years for proposed Hardware from the date of installation of the Hardware, System Software, OS, licenses etc., supplied.	Bank will require L1- L4 Enterprise support from the respective OS OEM and the selected bidder has to ensure the respective OEM support portal is made available. Kindly incorporate this clause	Respective softwares OEM with the support level mention in the RFP to be provided and supplied licenses to be reflected under respective OEM portal used by Bank where ever applicable
477	80	Annexure-8 Scope of Work	Evaluation for Scope of Work for Apache Tomcat	Sl. No: 9 testing procedures to ensure the cluster and load balancer configurations are functioning correctly	Request Bank to define the testing process and testing scenarios	Details will be shared with the selected bidder
478	77	Annexure-8 Scope of Work	Evaluation for Scope of Work For Open shift	Entire Clause	Kindly share the Hardware configuration for Openshift hosting	Details will be shared with the selected bidder
479	77	Annexure-8 Scope of Work	Evaluation for Scope of Work For Open shift	Entire Clause	Request you to kindly confirm what storage does bank have presently on Object, Block and File with certified Openshift CSI Driver. Can the same be used for Openshift Cluster. Please clarify	Details will be shared with the selected bidder
480	77	Annexure-8 Scope of Work	Evaluation for Scope of Work For Open shift	Entire Clause	Request Bank to share the infra configuration for Control Plane and Infrastructure Nodes (EFK, registry, Quay, ACS,ACM, Grafana, Prometheus)	Details will be shared with the selected bidder
481	172	Annexure-16 Bill of Material	Table - C Price details of Software/Lic nse Items	Sl. No: 2 RHEL 9 with premium support	Kindly clarify if this is for Physical host of virtual host.	Physical Host

			(Subscription based Licenses)			
482	172	Annexure-16 Bill of Material	Table - C Price details of Software/License Items (Subscription based Licenses)	Sl. No: 3 RHEL 9 High Availability with premium support for CISC - X86 machines	Request Bank to clarify on CISC. Please specify what support is needed here.	Bidder to refer corrigendum-5.
483	157	Annexure-9 Technical Specifications	Table-P Technical Specifications of 2 LTO9 Tape Library (1 Nos at DC and 1Nos at DR) and 200 LTO7 & 3800 LTO8 & 800 LTO9 Tapes & 200 No. of LTO9 Cleaning Cartridge	Sl. No: 5 Tape Drive- Minimum 40 LTO-9 Drive with FC Connectivity to support 8Gbps or more.	Please clarify what is Expected performance in total across all 40 Drives. Also kindly let us know if there an expansion plan in future.	Bidders to comply with RFP/GeM bid terms and conditions. No Future expansion is planned

484	158	Annexure-9 Technical Specifications	Table-PTechnical Specifications of 2 LTO9 Tape Library (1 Nos at DC and 1Nos at DR) and 200 LTO7 & 3800 LTO8 & 800 LTO9 Tapes & 200 No. of LTO9 Cleaning Cartridge	Sl. No: 8LTO7 & LTO 8 & LTO 9 TapesUp to LTO 9 Cleaning cartridges3800 quantities (1900 DC & 1900 DRC) of LTO-8 standard tapes with custom Bar Codes compatible with the proposed Tape Library.800 quantities (400 DC & 400 DRC) of LTO-9 standard tapes with custom Bar Codes compatible with the proposed Tape Library.200 quantities (100 DC & 100 DRC) of LTO-7 standard tapes with custom Bar Codes.	Kindly confirm the plan to Access LTO7 tapes.Since the licensed slots are only 250, kindly clarify the plan to store 1900*LTO8, 400*LTO9, 100*LTO7 and 100*CLN tapes in each site.	Bidders to comply with RFP/GeM bid terms and conditions
485	85-159	Annexure-9 Technical Specifications	Entire Clause	Entire Clause	Requesting Bank to clarify if the SSD capacity mentioned in the RFP include boot drive capacity or it needs to be added seperately.	Bidder to refer corrigendum-5.
486	86	Annexure-9 Technical Specifications	Table-A Technical Specification - 80 servers (41 DC and 39 DRC)	Sl. No: 6- Memory Slot Count- Minimum 24 or higher, Minimum 8 free memory slots should be available.	Requesting bank to change it to minimum 16 memory slots per processor and minimum 50% free memory slots should be available so that bank has a better option for future expandability	Bidder to refer corrigendum-5.

487	87	Annexure-9 Technical Specifications	Table-A Technical Specification - 80 servers (41 DC and 39 DRC)	Sl. No: 9- SAN & Network Network cards 1 Gbps- 2*1Gbps - Two Network Cards, each equipped with at least two 1-gigabit network ports (Four Port of 1Gbase-T On-Board or separate NIC with supported minimum 5 meter of compatible Cat6/Cat7 UTP Cable)	Request bank to clarify on the number of actual 1GB network card required. We understand that the requirement is for 4 ports of 1 GB ethernet. We would request bank to look at 4 -port (embedded/PCIe) card instead of dual port card inorder to maintain empty PCI slot for future expandability	Bidders to comply with RFP/GeM bid terms and conditions
488	87,9 3, 99, 105, 111 & 119	Annexure-9 Technical Specifications	Table-A Technical Specification - 80 servers (41 DC and 39 DRC) Table-B Technical Specification - 28 servers (17 DC and 11 DRC) Table-C Technical Specification - 100 servers (60 DC and 40 DRC) Table-D Technical Specification - 54 servers (28 DC and 26 DRC) Table-E Technical Specification -	Sl. No: 9 SAN & Network Network cards 10 Gbps 2*10Gbps -Two Network Cards, each equipped with at least two 10-gigabit network ports (Four Port BaseT NIC LOM or separate NIC with minimum 5 meter Cat6A/Cat7 UTP Cable.	Request bank to clarify on the number of actual 10 GB network card. We understand that the requirement is for 4 ports of 10 GB. We would request bank to look at 4 -port (embedded/PCIe) card instead of dual port card inorder to maintain empty PCI slot for future expandability	Bidders to comply with RFP/GeM bid terms and conditions

			226 servers (135 DC and 91 DRC) Table-F Custom Technical Specification - 12 servers			

489	87, 93, 99, 105, 112, 119	Annexure- 9Technical Specifications	Table- ATechnical Specification - 80 servers (41 DC and 39 DRC)Table- BTechnical Specification - 28 servers (17 DC and 11 DRC)Table- CTechnical Specification - 100 servers (60 DC and 40 DRC)Table- DTechnical Specification - 54 servers (28 DC and 26 DRC)Table- ETechnical Specification - 226 servers (135 DC and 91 DRC)Table- FCustom Technical Specification - 12 servers	Sl. No. 10.OS &Hypervisor CompatibilityWindows Compatibility- 2016/2019/2022	Request Bank to kindly remove Windows 2016 since it is EoL,also latest generation of servers supports Windows 2019 and above.	Bidder to refer corrigendum-5.

490	87, 93, 99, 106, 112 & 119	Annexure-9 Technical Specifications	Table-A Technical Specification - 80 servers (41 DC and 39 DRC) Table-B Technical Specification - 28 servers (17 DC and 11 DRC) Table-C Technical Specification - 100 servers (60 DC and 40 DRC) Table-D Technical Specification - 54 servers (28 DC and 26 DRC) Table-E Technical Specification - 226 servers (135 DC and 91 DRC) Table-F Custom Technical Specification - 12 servers	Sl. No: 10- OS & Hypervisor Compatibility Other Latest Linux Flavours- Latest server operating versions of Centos, SUSE Linux, Oracle Linux, Ubuntu ,RHCOS	Request bank to remove CentOS since open source and community support is only available	Bidder to refer corrigendum-5.

491	87, 93, 99, 106, 112 & 119	Annexure-9 Technical Specifications	Table-A Technical Specification - 80 servers (41 DC and 39 DRC) Table-B Technical Specification - 28 servers (17 DC and 11 DRC) Table-C Technical Specification - 100 servers (60 DC and 40 DRC) Table-D Technical Specification - 54 servers (28 DC and 26 DRC) Table-E Technical Specification - 226 servers (135 DC and 91 DRC) Table-F Custom Technical Specification - 12 servers	Sl. No: 10- OS & Hypervisor Compatibility Other Latest Linux Flavours- Latest server operating versions of Centos, SUSE Linux, Oracle Linux, Ubuntu ,RHCOS	Requesting bank to make it RHCOS/ Redhat Openshift container platform. As there is no separate certification for RHCOS. RHCOS is a part of Redhat Openshift container platform	Bidder to refer corrigendum-5.

492	88, 94, 100, 106, 112 & 120	Annexure- 9Technical Specifications	Table- ATechnical Specification - 80 servers (41 DC and 39 DRC)Table- BTechnical Specification - 28 servers (17 DC and 11 DRC)Table- CTechnical Specification - 100 servers (60 DC and 40 DRC)Table- DTechnical Specification - 54 servers (28 DC and 26 DRC)Table- ETechnical Specification - 226 servers (135 DC and 91 DRC)Table- FCustom Technical Specification - 12 servers	Sl. No: 14- Port3 USB3.0 port and 1 VGA Port	Requesting bank to change it to USB 3.0 or higher and 1 VGA Port	Bidder to refer corrigendum-5.

493	89, 95, 101, 107, 113 & 121	Annexure-9 Technical Specifications	Table-A Technical Specification - 80 servers (41 DC and 39 DRC) Table-B Technical Specification - 28 servers (17 DC and 11 DRC) Table-C Technical Specification - 100 servers (60 DC and 40 DRC) Table-D Technical Specification - 54 servers (28 DC and 26 DRC) Table-E Technical Specification - 226 servers (135 DC and 91 DRC) Table-F Custom Technical Specification - 12 servers	Sl. No: 18 Remote Management- Telemetry Streaming, Idle Server Detection, Real- time power meter, temperature monitoring, customized administration and management of System Temperature and Cooling Sub-system.	Requesting bank to remove customized administration of System Temperature and Cooling Sub-system for wider participation of OEM	Bidder to refer corrigendum-5.

494	90, 96, 102, 108, 115 & 122	Annexure-9 Technical Specifications	Table-A Technical Specification - 80 servers (41 DC and 39 DRC) Table-B Technical Specification - 28 servers (17 DC and 11 DRC) Table-C Technical Specification - 100 servers (60 DC and 40 DRC) Table-D Technical Specification - 54 servers (28 DC and 26 DRC) Table-E Technical Specification - 226 servers (135 DC and 91 DRC) Table-F Custom Technical Specification - 12 servers	Sl. No: 19- System Management Solution 3. The system management solution should be provided: c. Bare-metal server deployment and cloning	Plesae clarify cloning functionality desired	Bidder to refer corrigendum-5.

495	110	Annexure-9 Technical Specifications	Table-E Technical Specification - 226 servers (135 DC and 91 DRC)	Sl. No: 5- Processor Socket Minimum 2 sockets i.e., 16*1 =16 core (1 Populated & 1 For future upgrade)	Requesting bank to modify the requirement to accommodate two processors of 16 core; in order to meet network interface card requirement. For a single processor only 3 Nos of PCIE slots & 16 nos of DIMM slots will be available. Now as per the RFP the total nos of PCIE slot required is 6 Nos & 24 nos DIMM slot required which can only be complied by adding another processor	Bidder to refer corrigendum-5.
496	117	Annexure-9 Technical Specifications	Table-F Custom Technical Specification - 12 servers	Sl. No: 7- SSD Total Capacity for SATA SSD- 1.92 TB SSD disks or Higher (to support RAID 1,5,6,10)	Since the type of interface for SSD is mentioned as NVMe requesting bank to clarify on the drives to be considered as SATA or NVME.	Bidder to refer corrigendum-5.
497	132	Annexure-9 Technical Specifications	Table-H Storage Technical Specifications: (Enterprise Block Storage 2.0PB Usable Space: DC -2, DRC -2)	Sl. No: 10- Hard Disk Capacity Each hard disk Capacity should not be less than 15 TB and not more than 20 TB	Each TLC NVMe SSD Capacity should not be more than 16 TB	Bidder to refer corrigendum-5.
498	138	Annexure-9 Technical Specifications	Table-K Technical Specification of Network TOR Switches	A. Type 1 Switch - 14 numbers (07 numbers in DC and 07 numbers in DRC) - Mgmt. Sl. No: 5 Switch must have redundant Power Supply.	Request to change the clause "Switch must have hot-swappable redundant FAN tray & Power Supply day 1" Since it's DC switches, Proposed switches must support hot-swappable which will not impact the DC operational" RPS stand for	Bidders to comply with RFP/GeM bid terms and conditions

					internal/external, hence request to modify the clause.	
499	140	Annexure-9 Technical Specifications	Table-K Technical Specification of Network TOR Switches	B. Type 2 Switch - 24 numbers (12 DC+ 12 DRC) for Data Sl. No. 33 High Mean Time Between Failure values (>3.5 lakh hours) should be available to ensure long life of switch hardware.	Request to change the clause to Min 2L Hours or above to qualify all the standard OEMs	Bidder to refer corrigendum-5.
500	140	Annexure-9 Technical Specifications	Table-K Technical Specification of Network TOR Switches B. Type 2 Switch - 24 numbers (12 DC+ 12 DRC) for Data	Additional Clause	is there any existing Spine switches? Can you please let us know the Spine details to understand, also please confirm the leaf to spine connectivity type and speed?	Details will be shared with the selected bidder
501	142	Annexure-9 Technical Specifications	Table-K Technical Specification of Network TOR Switches	C. Type 4 Switch - 4 numbers (2 DC+ 2 DRC) - Storage Sl. No. 33 High Mean Time Between Failure values (>3.5 lakh hours) should be available	Request to change the clause to Min 2L Hours or above to qualify all the standard OEMs	Bidder to refer corrigendum-5.

				to ensure long life of switch hardware.		
502	140	Annexure-9 Technical Specifications	Table-K Technical Specification of Network TOR Switches C. Type 4 Switch - 4 numbers (2 DC+ 2 DRC) - Storage	Additional Clause- Proposed switches must support - iSCSI, Lossless iSCSI, RDMA over Converged Ethernet version 2 (RoCE v1 and v2) and Non- Volatile Memory Express (NVMe over Fabrics)	DC Storage switches, hence please consider this storage related protocol.	Bidders to comply with RFP/GeM bid terms and conditions
503	142	Annexure-9 Technical Specifications	Table-K Technical Specification of Network TOR Switches	In addition to the above access switches Bidder to supply Distribution Switches in High availability with required capacity to connect all supplied access switches with dual uplink of 10/40/100 Gbps in active- active mode for redundancy and load sharing (DC - 2, DRC - 2)	Please clarify the Points.. What is the Port speed and Port Counts?	Bidders to comply with RFP/GeM bid terms and conditions

504	NA	Generic	Generic	Generic	In this Category of servers 38 NVMe Slots are been asked -- As per Industry standard max Nvme Support on server class systems will be 32. So we request a slot count dilution. For type 3 bank can ask for more than 1.92TB Nvme SSD.	Bidder to refer corrigendum-5.
505	14	SECTION C - DELIVERABLE AND SERVICE LEVEL AGREEMENTS	1. Project Timelines	1.3. The timelines for the delivery and installation of all Hardware and Software should be completed within 24 weeks from the date of acceptance of the Purchase Order or 25 weeks from the date of Purchase Order 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.	Considering the post-pandemic conditions and amount of work, request authorities to allow 52 weeks for completion of delivery and installation of all Hardware and Software.	Bidders to comply with RFP/GeM bid terms and conditions
506	73	Annexure-8 Scope of Work	Evaluation for Scope of Work for this project	Sl. No: 9 The Bidder should note that servers and other items being procured shall be delivered at locations as per requirements of the Bank.	Request authorities to confirm the delivery location and number of locations.	Details will be shared with the selected bidder

507	73	Annexure-8 Scope of Work	Evaluation for Scope of Work for this project	Sl. No. 11 All necessary cables and other accessories required for successful installation of the hardware items as per the scope of work to be supplied by the Bidder and the cost of the same to be added along with the respective Hardware items while quoting.	Request authorities to confirm approximate area & number of locations to be covered, so cabling length can be estimated.	Bidder to refer corrigendum-5.
508	74	Annexure-8 Scope of Work	Evaluation for Scope of Work for this project	Sl. No: 28 Bidder must also provide the necessary power cables, LAN cables, FC cables from source to their provided rack as per the guideline of the Bank.	-	Cable details are mentioned along with device technical specifications.
509	74	Annexure-8 Scope of Work	Evaluation for Scope of Work for this project	Sl. No. 12 Bidder should follow a standard development process to ensure that proposed servers meets functional, security performance and regulatory requirements of the bank.	Request authorities to provide specific reference for security and regulatory requirement.	Details will be shared with the selected bidder
510	74	Annexure-8 Scope of Work	Evaluation for Scope of Work for this project	Sl. No. 13 Bidder should comply as per the IT related policies of the bank.	Any additional item Non-SoR (Except covered in this RFP BoQ) required to achieve compliance to these referred IT policies, will be provided by the Bank. Please confirm.	Bidders to comply with RFP/GeM bid terms and conditions

511	76	Annexure-8 Scope of Work	Evaluation for Scope of Work for Servers	Sl. No: 2 Deployment of servers requires co-ordination with different project application vendors. The bidder should co-ordinate with the software vendors while installing and ensure installation and commissioning for running the applications for which these servers are procured.	Bank application I&C either from existing infra or newly procured will be out of scope of this RFP. please confirm.	Bidders to comply with RFP/GeM bid terms and conditions
512	74	Annexure-8 Scope of Work	Evaluation for Scope of Work for this project	Sl. No: 16 Bidder is responsible for collection of logs and submission of the logs for further analysis and providing the solution to resolve any hardware incidents.	Request authorities to confirm log retention period both online and offline.	Bidders to comply with RFP/GeM bid terms and conditions
513	74	Annexure-8 Scope of Work	Evaluation for Scope of Work for this project	Sl. No: 16 Bidder is responsible for collection of logs and submission of the logs for further analysis and providing the solution to resolve any hardware incidents.	As per our understanding, Bank has already estimated and covered required storage for log retention period. bidder need not to factor additional storage. please confirm.	Bidders to comply with RFP/GeM bid terms and conditions
514	74	Annexure-8 Scope of Work	Evaluation for Scope of Work for this project	Sl. No: 20 Bidder has to provide the escalation matrix to escalate any incident.	Any onsite resource required during warranty and AMC period post commissioning . Please confirm.	No resident resource required.

515	74	Annexure-8 Scope of Work	Evaluation for Scope of Work for this project	Sl. No: 21 Bidder is responsible to provide the periodic reports of the proposed hardware health as per the bank requirement.	As per our understanding, Customer (Bank) already have NMS/EMS system in place for monitoring and reporting purpose. As NMS is not listed in RFP BOQ. Bidder need to fetch the report with existing EMS/NMS. Please clarify.	Bidders to comply with RFP/GeM bid terms and conditions
516	76	Annexure-8 Scope of Work	Evaluation for Scope of Work for Storages	Sl. No: 4 Showcase the Monitor storage performance metrics including throughput, latency, and IOPS.	-	Bidders to comply with RFP/GeM bid terms and conditions
517	74	Annexure-8 Scope of Work	Evaluation for Scope of Work for this project	Sl. No: 23 Bidder shall conduct preventive maintenance as may be necessary from time to time to ensure that equipment is in efficient running condition so as to ensure trouble free functioning.	Request authorities to confirm the frequency of PM activities per year.	Preventive maintenance refers to health check of devices once in three month including firmware upgrade and activity report to be submitted
518	74	Annexure-8 Scope of Work	Evaluation for Scope of Work for this project	Sl. No: 25 All proposed equipment's are required to connect existing SAN infrastructure.	Request authorities to share details of Existing SAN infra.	Details will be shared with the selected bidder
519	74	Annexure-8 Scope of Work	Evaluation for Scope of Work for this project	Sl. No: 30 Bidder support should include advice and help the bank in implementing controls for the risk advised by regulators/Govt. of India.	As per our understanding , it will be limited to RFP BoQ only. please confirm.	Bidders to comply with RFP/GeM bid terms and conditions

520	75	Annexure-8 Scope of Work	Evaluation for Scope of Work for this project	Sl. No: 38 The proposed server network interfaces ports should be compatible for connecting bank CISCO switches.	Please share existing switch details or bidder understands that given specification for SoR items are compatible to the existing cisco switches. please confirm. Or kindly share switches detail with port type(electrical/optical), speed, connector type etc	Details will be shared with the selected bidder
521	75	Annexure-8 Scope of Work	Evaluation for Scope of Work for this project	Sl. No: 40 All hardware delivered to be rack mounted, powered on and configured properly including tape drive, tape library , server rack with PDU,TOR Switch etc., supplied as part of this RFP	As per our understanding, Rack Grounding/earthing for devices, cooling and UPS power will be provided by Bank. please confirm.	Yes. Rack Grounding/earthin g, power, space will be provided by Bank
522	75	Annexure-8 Scope of Work	Evaluation for Scope of Work for this project	Sl. No: 42 The Bidder will responsible for the following: h. Server Management connectivity.	As per our understanding, Out-of-band management switches are part of the RFP BoQ. bidder need not to factor additional switches, cabling and accessories for OOB Management. please confirm.	Yes
523	75	Annexure-8 Scope of Work	Evaluation for Scope of Work for this project	Sl. No: 42 The Bidder will responsible for the following: m. All activities related to Storage Administration assigned during the implementation period and till the project tenure (Warranty and AMC/ATS, if contracted) without any extra cost.	Does onsite resource required to fulfill this requirement or resource required as and when basis. please confirm.	Bidders to comply with RFP/GeM bid terms and conditions

524	76	Annexure-8 Scope of Work	Evaluation for Scope of Work for Servers	Sl. No. 1. Bidder has to install / re-install the operating system (if required), other software in the servers and support the same during warranty and AMC period without any extra cost to the Bank.	Software (which are not part of BoQ) installation will be out of scope. Please amend.	All supplied softwares along with the RFP to be installed and configured
525	76	Annexure-8 Scope of Work	Evaluation for Scope of Work for Servers	Sl. No: 2 Deployment of servers requires co-ordination with different project application vendors. The bidder should co-ordinate with the software vendors while installing and ensure installation and commissioning for running the applications for which these servers are procured.	As part of this RFP, Hardware, OS, DB listed in BoQ are in the scope, another software/application installation need to be done by respective vendor/OEM. Please amend the clause.	Bidders to comply with RFP/GeM bid terms and conditions
526	76	Annexure-8 Scope of Work	Evaluation for Scope of Work for Storages	Sl. No: 3 Integrate storage systems with existing infrastructure including servers, networks, and backup solutions	As per our understanding technical specification of given BoQ is compatible to integrate with existing infra. Please clarify.	Bidders to comply with RFP/GeM bid terms and conditions
527	76	Annexure-8 Scope of Work	Evaluation for Scope of Work for Storages	Sl. No. 5. Identify performance bottlenecks and implement optimization strategies such as load balancing, caching, or tiering.	Additional line items to achieve these optimization strategy will be procured by the bank separately if not procured as part of this RFP SoR/BoQ. please confirm.	Storage should have this features

528	142	Annexure-9 Technical Specifications	Table-K Technical Specification of Network TOR Switches	In addition to the above access switches Bidder to supply Distribution Switches in High availability with required capacity to connect all supplied access switches with dual uplink of 10/40/100 Gbps in active-active mode for redundancy and load sharing (DC - 2, DRC - 2)	Request authorities to share specification of switches. Also confirm that total count of distribution switches will be 4 for this RFP.	Bidder to refer corrigendum-5.
529	14	SECTION C - DELIVERABLE AND SERVICE LEVEL AGREEMENTS	1. Project Timelines	1.3 Sl. No: 1 Delivery of all Hardware and software- Within 12 weeks from date of Acceptance of PO	Request to change 12 weeks to 16 weeks considering the volume	Bidders to comply with RFP/GeM bid terms and conditions
530	14	SECTION C - DELIVERABLE AND SERVICE LEVEL AGREEMENTS	1. Project Timelines	1.3. Configuration, implementation and completion of all scope of work: Within 12 weeks from the date of delivery of hardware/Software	Request to change 12 weeks to 16 weeks considering the volume, configurations and multiple sites	Bidders to comply with RFP/GeM bid terms and conditions
531	15	SECTION C - DELIVERABLE AND SERVICE LEVEL AGREEMENTS	2. Integration & Interfaces	2.1. The selected bidder has to work with different application vendors in order to integrate new solution to the existing workload or new workloads during contract period.	Please elaborate what kind of integrations are expected and its frequency.	Details will be shared with the selected bidder

532	15	SECTION C - DELIVERABLE AND SERVICE LEVEL AGREEMENTS	3. Training:	The selected vendor has to give demo and explain operational guidelines of the product at the site of the installation to Bank's Officials.	Is there any need of any class room training planned, if yes, please provide the expected number of days, participants and topic.	No separate training session is required, other than the training mentioned in the RFP document.
533	24	SECTION C - DELIVERABLE AND SERVICE LEVEL AGREEMENTS	10. Scope involved during Contract period	10.9. Any server for middleware, database, OS and database licenses to be provided by the successful bidder without any additional cost to the Bank	Please remove this clause or mention the specific software in scope	Bidder to refer corrigendum-5.
534	74	Annexure-8 Scope of Work	Evaluation for Scope of Work for this project	Sl. No. 22 All installed hardware firmware must be of stable version and all recommended patches should be installed by the bidder and the same to be submitted to the bank on quarterly basis.	We understand that the patches to be installed during implementation and then provide the patches to back on quarterly basis. Implementation of quarterly patches not in the scope of bidder. Please confirm	Bidders to comply with RFP/GeM bid terms and conditions
535	64	Annexure-2 Pre-Qualification Criteria	Sl. No. 5	Pre-Qualification Criteria: The Bidder should have an active and premium partnership with Hardware OEM to offer their Hardware and Software as a service to Bank. Documents to be submitted In compliance with Pre-Qualification Criteria Copy of partnership certificate from OEM.	The Bidder should have an active partnership with Hardware OEM to offer their Hardware and Software as a service to Bank. Documents: Copy of MAF from OEM.	Bidders to comply with RFP/GeM bid terms and conditions

536	64	Annexure-2 Pre- Qualification Criteria	Sl. No. 6	Pre-Qualification Criteria: The bidder should have yearly average turnover of 300 Crores in India for the last three financial years 2020-2021, 2021-2022, 2022-2023 from their Indian operation as per the audited Financial Statements. This must be the individual company turnover and not of any group of companies.	Considering the significant size of Bid, We request you to modify the clause as follows: “The bidder should have average turnover of at least 800 Crores in India over the last three financial years 2020-2021, 2021-2022, 2022-2023 from their Indian operation as per the audited Financial Statements. This must be the individual company turnover and not of any group of companies.”	Bidders to comply with RFP/GeM bid terms and conditions

537	64	Annexure-2 Pre- Qualification Criteria	Sl. No: 8	Pre-Qualification Criteria The Bidder/OEM should have successfully supplied minimum cumulative 500 Nos. of Servers in India in the last three years out of which the bidder should have successfully supplied Hardware and software as a service model at least 100 servers deployed at Customer's DC and DR in Indian Market in any 1 Scheduled Commercial Bank/ NBFC/ Insurance Company/ PSU/ Central Government Organization in India in the last three years as on the date of submission of bid for this RFP.	To attract maximum bidders, we request you to remove multiple intersections as asked in Bidder Clause by modifying the clause as follows: "The Bidder/OEM should have successfully supplied minimum cumulative 500 Nos. of Servers in India in the last three years out of which the bidder should have successfully supplied Hardware and software as a service model at least cumulative 100 servers deployed at Customer's DC and DR in Indian Market in any of the following: Scheduled Commercial Bank/ NBFC/ Insurance Company/ PSU/ Central Government Organization in India in the last three years as on the date of submission of bid for this RFP" or Alternatively change the clause as follows. The Bidder/OEM should have successfully supplied minimum cumulative 500 Nos. of Servers in India in the last three years out of which the bidder/OEM should have successfully supplied Hardware and software as a service model at least 100 servers deployed at Customer's DC and DR in Indian Market in any 1 Scheduled Commercial Bank/ NBFC/ Insurance Company/ PSU/ Central Government Organization in India in the last three	Bidder to refer corrigendum-5.

					years as on the date of submission of bid for this RFP	

538	144	Annexure-9 Technical Specifications	Table-L Backup Solution for 500 Servers at DC and DRC	Sl. No: 15 Backup software should support instant file share recovery in NAS storages to allow users to access files fast after disaster.	To help in fast recovery of backed up data and for generic inclusion of this functionality, request Bank to modify the following as Backup software should support file share recovery in NAS storages to allow users to access files fast after disaster. Backup solution should support instant VM/NAS recoveries.	Bidder to refer corrigendum-5.
539	134	Annexure-9 Technical Specifications	Table-H Storage Technical Specifications: (Enterprise Block Storage 2.0PB Usable Space: DC -2, DRC -2)	Sl. No: 27 Remote Replication Offered Storage array should provide both Synchronous and Asynchronous replication across 2 storage arrays natively. Offered Storage array shall support 3 Data Center solution natively where Primary site shall be able to replicate synchronously to near-by / Bunker location and at the same time shall be able to replicate to Far location asynchronously. Necessary replication licenses/ Infrastructure required for replication should be provided with the array	We understand from the RFP that the bank is looking for a 2 Site DC and DR and needs replication from DC to DR using Sync and Async replication natively without any additional hardware for Replication. The Storage array should be able to switch between Sync and Async Modes without requiring to resync entire data.	Bidder to refer corrigendum-5.

540	125	Annexure-9 Technical Specifications	Table-G Storage Technical Specifications: (Object Storage 2.0PB Usable Space: DC -1, DRC -1)	Sl. No: 13 RAID Support- RAID array supporting 10, 0, 1, 5 and 6 or better levels. It should support a mix and match of RAID levels behind a pair of controllers. The storage array should allow online expansion of existing RAID Groups / Storage Disk Pools.	Request the bank to consider erasure coding instead of traditional RAID. Large data sets and scaleout architecture required for the object store needs high availability, reliability and serviceability by leveraging Erasure coding, by distributing the data across controllers/Nodes to offer 99.99999% availability and no outage in the event of a disk rebuild. Traditional RAID Groups have limitations around the rebuild times and availability for large data sets. Request the bank to consider Erasure Coding instead of Traditional Raid.	Bidder to refer corrigendum-5.

541	126	Annexure-9 Technical Specifications	Table-G Storage Technical Specifications: (Object Storage 2.0PB Usable Space: DC -1, DRC -1)	Sl. No: 16 Services- Proposed storage array should include storage based compression, inline Deduplication, storage to storage replication, Snapshot for the entire supported capacity of the storage array from day one. All the required or necessary licenses must be perpetual and provided for the Full capacity of each storage from Day one. This should include licenses for Management and monitoring module and all the storage features such as Snapshot, Cloning, Replication etc. Upgrade in capacity should not incur any additional license cost. Offered storage system have online and historical performance reporting capability.	Object store is designed for erasure coding and for long term archical. The functionality requested is not native to object storage. Request the bank to consider Inline compression, Inline dedupe, Dedupe (cluster wide) on NAS and only compression on Object Storage.	Bidder to refer corrigendum-5.

542	126	Annexure-9 Technical Specifications	Table-G Storage Technical Specifications: (Object Storage 2.0PB Usable Space: DC -1, DRC -1)	Sl. No: 17 Protocol Support- CIFS, SMB, NFSV3&V4,HTTPS,HTTP,RE STAPIs,FTP, Linux FS (FUSE), S3 Protocol, SWIFT & all kinds of rest full APIs. Vendor shall configure the licenses all interfaces All above protocol shall be native to cluster and shall not require any additional gateway. Vendor can provision additional gateway if required from performance perspective but capability shall be native to main nodes only.	Request Bank to remove Linux FS (FUSE). FUSE is using mounted drive as block or file storage which in this case is not required because there is already block, file and Object storage requirement as per RFP.	Bidder to refer corrigendum-5.
543	129	Annexure-9 Technical Specifications	Table-G Storage Technical Specifications: (Object Storage 2.0PB Usable Space: DC -1, DRC -1)	Sl. No. 30Data Management Features1. it shall be possible to tag and search S3 Metadata.2. Lifecycle Management - It shall be possible to automatically transition and expiration of data based on criteria.3. it shall be possible to asynchronously replicate bucket to several Cloud targets4. Offered storage shall support multi-tenancy and data isolation	For point number 3, request bank to provide details on the asynch replication capability to multiple cloud targets. We understand that the bank needs security and should be able to replicate or copy a bucket(s) to approved cloud target(s) which could be another S3 Target.	Bidder to refer corrigendum-5.

544	132	Annexure-9 Technical Specifications	Table-H Storage Technical Specifications: (Enterprise Block Storage 2.0PB Usable Space: DC -2, DRC -2)	Sl. No: 11 Scalability- Each storage up to 5PB (Scale UP) and 8 controller (Scale Out) DIP(data in-place) upgrade capability	Request the bank to consider 4PB as the overall Storage capacity, since the current Drive sizes that we support are 15TB NVMe SSDs and we would be scaling up to 4PB, and as the new drives are added we will be able to support higher capacities. Request Bank to consider File and Block in the same storage system since the complete feature capabilities of NAS (compression, Dedupe, SSnapshot, NFS V4) can be supported in Unified Storage.	Bidder to refer corrigendum-5.
545	132	Annexure-9 Technical Specifications	Table-H Storage Technical Specifications: (Enterprise Block Storage 2.0PB Usable Space: DC -2, DRC -2)	Sl. No: 13 RAID Support- RAID array supporting 10, 0, 1, 5 and 6 or better levels. It should support a mix and match of RAID levels behind a pair of controllers. The storage array should allow online expansion of existing RAID Groups / Storage Disk Pools.	We understand that the bank is looking for an All Flash Storage and needs higher availability, Reliability and serviceability. Since the disk capacities are increasing, the Storage should support mixing and matching of different capacity NVMe disks within the same pool for flexibility of capacity for expansion. The RAID level that gives best availability and capacity is RAID 6 or Dual Parity. Request the bank to consider RAID 5/6. and should allow online expansion of Pool.	Bidder to refer corrigendum-5.
546	132	Annexure-9 Technical Specifications	Table-H Storage Technical Specifications: (Enterprise Block Storage 2.0PB Usable	Sl. No: 14 Encryption- should have native encryption capabilities as per PCI DSS standards and encryption should not add any performance overheads	we understand that the bank is looking for encryption. the storage array should use Self Encrypting drives to ensure the encryption is not burdening or adding any overheads to the storage array. Request the bank to include Self	Bidders to comply with RFP/GeM bid terms and conditions

			Space: DC -2, DRC -2)		Encrypting drives to be mandatory for the encryption.	

547	64	Annexure-2 Pre-Qualification Criteria	Sl. No: 8	Pre-Qualification Criteria The Bidder/OEM should have successfully supplied minimum cumulative 500 Nos. of Servers in India in the last three years out of which the bidder should have successfully supplied Hardware and software as a service model at least 100 servers deployed at Customer's DC and DR in Indian Market in any 1 Scheduled Commercial Bank/ NBFC/ Insurance Company/ PSU/ Central Government Organization in India in the last three years as on the date of submission of bid for this RFP.	This RFP PQC clause-8 is bringing two qualifying conditions for Bidders/OEM and Bidder together under one clause, which in turn restrict Bidders to prove/ meet the 100 Server with different server OEM's. Hence we request Bank to keep the clause as below. 1. Bidder/ OEM Should have successfully supplied minimum cumulative 500 No Servers in India in the last three Years. 2. Bidder should have successfully supplied hardware and software as a service model at least 100 Servers deployed at customer's DC and DR in Indian market in any Scheduled Commercial Bank/ NBFC/ Insurance Company/ PSU/ Central Government Organization in India in the last three years as on the date of submission of bid for this RFP. We further request Bank to reduce cumulative no's to 250 Nos. of Servers supplied in India in the last three years and remove Hardware and Software as a service model as Bank is buying Upfront/Capex payment as part of the OEM/Bidder Qualifying criteria. Since, this point would restrict Bidders to participate. Further we request bank to limit this clause to workorders only, since most of the workorders for the Hardware supply in nature and will not carry any signoff and customer would have NDA signed with bidder for not disclosing the same. Kindly note:	Bidder to refer corrigendum-5.

					We will not be able to submit the Institution letters due to compliance/NDA and internal policies of the institution, hence request to remove the condition of producing the letter	

548	64	Annexure-2 Pre- Qualification Criteria	Sl. No: 8	Pre-Qualification Criteria The Bidder/OEM should have successfully supplied minimum cumulative 500 Nos. of Servers in India in the last three years out of which the bidder should have successfully supplied Hardware and software as a service model at least 100 servers deployed at Customer's DC and DR in Indian Market in any 1 Scheduled Commercial Bank/ NBFC/ Insurance Company/ PSU/ Central Government Organization in India in the last three years as on the date of submission of bid for this RFP.	We have executed projects in different PSU/ BFSI, wherein customer has released multiple PO's in slotwise against the single RFP. hence, kindly allow us to submit the multiple PO's from a single customers for 40 Servers or allow us to submit multiple PO's from multiple customers for 100 Servers of any OEM deployed at Customer's DC & DR. in any Scheduled Commercial Bank/ NBFC/ Insurance Company/ PSU/ Central Government Organization in India in the last three years and remove Hardware and Software as a service model as Bank is buying Upfront/Capex payment. Since, this point would restrict Bidders to participate. Kindly note: We will not be able to submit the Institution letters due to compliance and internal policies of the institution, hence request to remove the condition of producing the letter We request bank to limit this clause to workorders only, since most of the workorders for the Hardware supply in nature and will not carry any signoff	Bidder to refer corrigendum-5.

549	64	Annexure-2Pre-Qualification Criteria	Sl. No. 5	Pre-Qualification Criteria:The Bidder should have an active and premium partnership with Hardware OEM to offer their Hardware and Software as a service to Bank.	We request Bank to clarify whether this certificate to produce to only Hardware OEM. Also clarify its applicable to only server and storage OEMsWe further request Bank to amend the clause to active and authorized partnership with Hardware OEM.Kindly request Bank to remove Hardware and Software as a service model as Bank is buying Upfront/Capex payment.Since, this point would restrict Bidders to participate.	Bidders to comply with RFP/GeM bid terms and conditions
550	20	SECTION C - DELIVERABLE AND SERVICE LEVEL AGREEMENTS	8. Payment Terms	8.1. The payment schedule for Hardware will be as under and will release after execution of contract agreement: On Supply/delivery of all the of Hardware as per RFP- 50%	Bidder has to agree to the OEM Commercial and Credit offering which does not allow bidder to pay 50% of the payment to OEM while taking delivery, all OEMs ask for 100% payment against delivery, The RFP stated payment term is too less remittance from Bank to proucre Hardware from the OEM through bidder and it will detorate the liquidity position of the any bidder, since its a big value project. Also this will restrict us to not to participate as it is difficult to get the approval from our Finance. Hence,we kindly request Bank to amend the clause to 80% payment against delivery of Hardware on production of relevant documents as per GeM Terms & conditions. As we have standard credit terms with OEM	Bidders to comply with RFP/GeM bid terms and conditions

					and distributor which we need to agree to supply Hardware & Software.	
551	20	SECTION C - DELIVERABLE AND SERVICE LEVEL AGREEMENTS	8. Payment Terms	8.1. The payment schedule for Hardware will be as under and will release after execution of contract agreement: Installation of all Hardware- 20%	We kindly request Bank to amend the clause-5% payment against successful installation of Hardware as per Scope of Work and Technical requirements as per GeM Terms & conditions. As we have standard credit terms with OEM and distributor which we need to agree to supply Hardware & Software.	Bidders to comply with RFP/GeM bid terms and conditions

552	21	SECTION C - DELIVERABLE AND SERVICE LEVEL AGREEMENTS	8. Payment Terms	8.1. The payment schedule for Hardware will be as under and will release after execution of contract agreement: Configuration, implementation and completion of all scope of work- 20%	we kindly request Bank to amend the clause- 5% payment against After successful configuration and implementation of Hardware and software as per Scope of Work and Technical requirements as per GeM Terms & conditions. As we have standard credit terms with OEM and distributor which we need to agree to supply Hardware & Software.	Bidders to comply with RFP/GeM bid terms and conditions
553	22	SECTION C - DELIVERABLE AND SERVICE LEVEL AGREEMENTS	8. Payment Terms	8.1. The payment schedule for Hardware will be as under and will release after execution of contract agreement: Sl. No: 8 AMC as mentioned in Table-F- Quarterly in arrears on submission of Quarterly Preventive Maintenance activity report and acceptance duly signed by Bank officials of the respective officials of the respective Branch/Office.	Bank has put the AMC in Table F where as it should be Table E, we request for the change.	Bidder to refer corrigendum-5.

554	22	SECTION C - DELIVERABLE AND SERVICE LEVEL AGREEMENTS	8. Payment Terms	8.1. The payment schedule for Hardware will be as under and will release after execution of contract agreement:AMC as mentioned in Table-F-Quarterly in arrears on submission of Quarterly Preventive Maintenance activity report and acceptance duly signed by Bank officials of the respective officials of the respective Branch/Office.	This clause is mandatorily need to be amended to yearly in advance since no longer no OEMs are following quaterly payment terms for AMC/ATS.We need to pay Upfront to OEMs (Hardware & Software) every year in begining as we have standard credit terms with OEM and distributor. Hence we kindly request Bank to amend the clause for Yearly upfront payment against AMC as per Table -E against ABG without which it is difficlut for us to get financial approval to participate.	Bidder to refer corrigendum-5.

555	73	Annexure-8 Scope of Work	Evaluation for Scope of Work for this project	Sl. No: 4 The bidder has to provide AMC/ATS for the all supplied Hardware and Software as per the Scope of Work post warranty period. During the warranty period and AMC period, the Bidder is bound to do all hardware spares replacement and upgrade/update of proposed hardware 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.	Request you to remove upgrade word from below point since its calls out for new hardware replacement incase its needed by BANK. " the upgrade/update of proposed hardware to next or required version without extra cost to the Bank"	Bidder to refer corrigendum-5.

556	74	Annexure-8 Scope of Work	Evaluation for Scope of Work for this project	Sl. No: 12 Bidder should follow a standard development process to ensure that proposed servers meets functional, security performance and regulatory requirements of the bank.	As bidder is not supplying the security device / software , what sort of security performance is expected from bidder?Kindly Clarify	Details will be shared with the selected bidder
557	74	Annexure-8 Scope of Work	Evaluation for Scope of Work for this project	Sl. No: 13 Bidder should comply as per the IT related policies of the bank.	Requesting to share the policies.	Details will be shared with the selected bidder
558	74	Annexure-8 Scope of Work	Evaluation for Scope of Work for this project	Sl. No: 18 Bidder is responsible to inform if any new version/update/Service pack/firmware/code upgrade/upgrade of proposed hardware is available by OEM, to the bank within seven days (7 days) of the release and provide the upgrade solution (software) within one month of such releases without any cost to the bank during the period of contract.	Please change it to, "Bidder is responsible to inform if any new stable version/update/Service pack/firmware/code upgrade/upgrade of proposed hardware is available" and "provide the upgrade solution (software) within one month of such stable releases without any cost"	Bidder to refer corrigendum-5.

559	74	Annexure-8 Scope of Work	Evaluation for Scope of Work for this project	Sl. No: 19 If any more additional licenses are procured by the bank through the successful bidder all such licenses are to be maintained by the bidder.	In that case the maintainacne cost has to be proportionately should be considered by bank as an increment to the successful bid price closer	Bidders to comply with RFP/GeM bid terms and conditions
560	76	Annexure-8 Scope of Work	Evaluation for Scope of Work for Servers	Sl. No: 5 Hardening of the servers as per the bank secure configuration document based on the OS, Hypervisor and hardware flavours	our understanding is that hardening is only for operating system and Hypervisor kindly clarify	Bidders to comply with RFP/GeM bid terms and conditions
561	74	Annexure-8 Scope of Work	Evaluation for Scope of Work for this project	Sl. No: 21 Bidder is responsible to provide the periodic reports of the proposed hardware health as per the bank requirement.	Please mention the frequency , is it monthly, quarterly etc.Since there is no FMS service asked in the RFP, how bank will provide access to bidder. Is FMS service part of this RFP then will the bank will provide the required space and related systems to bidder to perform the activity, require clarity	Preventive maintenance referrres to healh check of devices once in three month including firmware upgrade and activity report to be submitted
562	74	Annexure-8 Scope of Work	Evaluation for Scope of Work for this project	Sl. No: 24 All the connectivity for the hardware i.e. LAN and SAN switches need to be ensured by the bidder.	Please provide the uplink details for LAN to connect with existing network traffic. The Core to Server Rack connectivity will be provided by Bank or Bidder. Kindly Clarify. Also requesting for site visit before proposing the BoM.	Bidders to comply with RFP/GeM bid terms and conditions
563	74	Annexure-8 Scope of Work	Evaluation for Scope of Work for this project	Sl. No: 25 All proposed equipment's are required to connect existing SAN infrastructure.	Please share the existing SAN infra details along with avail port & SFPs etc. Who would be responsible for Zoning of existing SAN switch?	Details will be shared with the selected bidder. Existing SAN switch

						zoning will be done by Bank team
564	74	Annexure-8 Scope of Work	Evaluation for Scope of Work for this project	Sl. No: 28 Bidder must also provide the necessary power cables, LAN cables, FC cables from source to their provided rack as per the guideline of the Bank.	Bidder has to only provide the LAN cable and Existing vendor will lay or bidder also have to lay the cables? clarification required. Quantity, quality and length and colour of the cables is not mentioned for LAN and SAN cables, is it bidder's responsibility to supply LAN and SAN cables. These details are very much necessary to stick on to the project timelines, else we loose time unnecessarily	Selected Bidder has to lay the cables. Cable details are mention under the device technical specification
565	75	Annexure-8 Scope of Work	Evaluation for Scope of Work for this project	Sl. No: 39 The proposed server FC HBA interface ports should be compatible for existing SAN Switch.	Information required for Existing SAN switch to check the compatibility with updated server generation for HBA compatibility	Bidder to refer corrigendum-5.
566	75	Annexure-8 Scope of Work	Evaluation for Scope of Work for this project	Sl. No: 34 During installation if the bank requires any new Software/OS/Utility, Bidder has to install without any cost where the licenses of the software are with the Bank.	Need details of the software's which we need to install later. Our understanding is that any installation / reinstallation is only for the products supplied by bidder, require clarity	Bidders to comply with RFP/GeM bid terms and conditions

567	75	Annexure-8 Scope of Work	Evaluation for Scope of Work for this project	Sl. No: 38 The proposed server network interfaces ports should be compatible for connecting bank CISCO switches.	Need details of the existing cisco switches	Bidder to refer corrigendum-5.
568	75	Annexure-8 Scope of Work	Evaluation for Scope of Work for this project	Sl. No: 42 The Bidder will responsible for the following: m. All activities related to Storage Administration assigned during the implementation period and till the project tenure (Warranty and AMC/ATS, if contracted) without any extra cost.	Bank has not mentioned for the resident engineer in the tender, please let us know, if RE is required for this activity or we can manage it remotely?	No resident engineer required.
569	76	Annexure-8 Scope of Work	Evaluation for Scope of Work for Servers	Sl. No: 2 Deployment of servers requires co-ordination with different project application vendors. The bidder should co-ordinate with the software vendors while installing and ensure installation and commissioning for running the applications for which these servers are procured.	Please clarify the expectation of "ensure installation and commissioning for running the applications" - which is not supplied by the bidder. Any delay due to installation of the application software by respective vendors will be excluded in the Implementation timeline. Bank has to ensure the required Spoc from bank would help the successful bidder to co-ordinate with the existing applications vendors and bidders for the project completion.	Bidders to comply with RFP/GeM bid terms and conditions

570	76	Annexure-8 Scope of Work	Evaluation for Scope of Work for Storages	Sl. No: 3 Integrate storage systems with existing infrastructure including servers, networks, and backup solutions	Please share the existing infra details for compatibility check before proposing the BoM.	Details will be shared with the selected bidder
571	76	Annexure-8 Scope of Work	Evaluation for Scope of Work for Storages	Sl. No: 5 Identify performance bottlenecks and implement optimization strategies such as load balancing, caching, or tiering.	what is the expectation on existing infrastructure which is not supplied by the bidder and going to connect to new storage	Same is requested for new infrastructure. Bid ders to comply with RFP/GeM bid terms and conditions
572	77	Annexure-8 Scope of Work	Evaluation for Scope of Work for Hyper-V - Microsoft	Sl. No: 1 Implementing a Hyper-V environment with clustering or load balancing for deploying applications	As per new policy Only stand alone Hyp-V virtualization is possible, Hyp-V cluster is not possible other than MS Azure stack product. Please confirm if stand alone virtualization will be enough for the configuration.	Bidders to comply with RFP/GeM bid terms and conditions
573	77	Annexure-8 Scope of Work	Evaluation for Scope of Work for Hyper-V - Microsoft	Sl. No: 6 Configuration of Hyper-V Clustering (Active/Active and Active/Passive) or Load Balancing	As per new policy Only stand alone Hyp-V virtualization is possible, Hyp-V cluster is not possible other that MS Azure stack product. Please confirm if stand alone virtualization will be enough for the configuration.	Bidders to comply with RFP/GeM bid terms and conditions

574	74	Annexure-8 Scope of Work	Evaluation for Scope of Work for this project	Sl. No: 29 The Selected Bidder has to coordinate with existing vendor for the SAN cable lay, connectivity and Zoning of the SAN ports as required connecting the Proposed Hardware and Software.	There is an ambiguity between this two statement , please let us know whether bidder has to only coordinate with existing vendor for Laying or needs to lay cable end to end by supplying the material? Bank has to ensure the required Spoc from bank would help the successful bidder to co-ordinate with the existing applications vendors and bidders for the project completion. Is there any requirement to have patch panels to connect patch cords from servers to patch panel and then to TOR switches , require clarity Network Connectivity from Core to TOR to Patch Pannel will be in the scope of bidder or bank FC and CAT6 Patch cord will be provided by bank or bidder, require clarity	Selected Bidder has to lay the cables and coordinate with Bank teams

575	75	Annexure-8 Scope of Work	Evaluation for Scope of Work for this project	Sl. No: 42 The Bidder will responsible for the following: i. LAN and SAN Cable lay with proper labelling, tagging and cable dressing.	There is an ambiguity between this two statement , please let us know whether bidder has to only coordinate with existing vendor for Laying or needs to lay cable end to end by supplying the material? Bank has to ensure the required Spoc from bank would help the successful bidder to co-ordinate with the existing applications vendors and bidders for the project completion. Is there any requirement to have patch panels to connect patch cords from servers to patch panel and then to TOR switches , require clarity Network Connectivity from Core to TOR to Patch Pannel will be in the scope of bidder or bank FC and CAT6 Patch cord will be provided by bank or bidder, require clarity	Selected Bidder has to lay the cables and coordinate with Bank teams
576	76	Annexure-8 Scope of Work	Evaluation for Scope of Work for Storages	Sl. No: 3 Integrate storage systems with existing infrastructure including servers, networks, and backup solutions	Bank must let us know the present backup solution as it is required to know for backup integrity without which it is impossible to propose the right backup solution. Is there any requirement to restore the old backups then require existing backup solution being used in bank to propose backup solution	Same is for our storage scope and not backup. Hence, Bidders to comply with RFP/GeM bid terms and conditions

577	146	Annexure-9 Technical Specifications	Table-LBackup Solution for 500 Servers at DC and DRC	Sl. No:45 Offered Device shall integrate and utilize customer's current tape backup infrastructure in the following aspects : Compatibility with existing tape library and tape drives Offered device shall have integrated de-duplication license & replication license so that only unique data or DE duplicated data are transferred to remote / DR location.	Bank must let us know the existing Tape library details before proposing the solution. As compatibility is required with existing one.	Bidder to refer corrigendum-5.
578	NA	Generic	Generic	Site readiness	Bank must let us know the site readiness status of Dc & DRC in respect to Space power & cooling and network.	Selected Bidder has to do site visit and coordinate with bank team for site readiness verification
579	20	SECTION C - DELIVERABLE AND SERVICE LEVEL AGREEMENTS	8. Payment Terms	8.1. The payment schedule for Hardware will be as under and will release after execution of contract agreement: Sl. No: 2 Installation of all Hardware- 20%	Hardware installation means , rack and stack of hardware and power ON test , does this enough to claim 20% payment require clarity	Bidders to comply with RFP/GeM bid terms and conditions

580	77	Annexure-8 Scope of Work	Evaluation for Scope of Work for MSSQL - Microsoft SQL	Sl. No: 5 Setting up Microsoft SQL Server High Availability: Failover Cluster Instances as per requirement at DC and DRC sites	In the RFP MSSQL version is mentioned as standard edition where it support active standby setup. Require clarity on whether MSSQL - Active -Active or Active - Passive HA for DR replication and failover. Please let us know the given quantity in BOM for MSSQL is considering Active-active or Active- Passive HA	HA in Active - Passive mode
581	14	SECTION C - DELIVERABLE AND SERVICE LEVEL AGREEMENTS	1. Project Timelines	1.3 Sl. No: 1 Delivery of all Hardware and software- Within 12 weeks from date of Acceptance of PO	Requesting bank to increase supply of hardware timelines to 16 weeks instead of 12 weeks	Bidders to comply with RFP/GeM bid terms and conditions
582	14	SECTION C - DELIVERABLE AND SERVICE LEVEL AGREEMENTS	1. Project Timelines	1.3. Configuration, implementation and completion of all scope of work: Within 12 weeks from the date of delivery of hardware/Software	Requesting bank to increase timelines to 18 weeks instead of 12 weeks	Bidders to comply with RFP/GeM bid terms and conditions

583	136	Annexure-9 Technical Specifications	Table-I Technical Specification of 27 server racks (19 Nos at DC - Single Phase, 8 Three Phase)	Sl. No: 3- Power Factor PDU Single Phase with 63A Server rack mount power distribution unit 1Ph,230V,63A 50/60Hz with redundancy. PDU Three Phase with 32A Server rack mount power distribution unit 3Ph,440V,63A 50/60Hz with redundancy.	For uniform power distribution can we offer Single Phase :advanced power distribution unit with Switched and Metered by Outlet, 1PH, 7.4kW 230V 32A having 20 universal outlets (Combination of C19 and C13), Dual network port to access and monitor the PDU remotely. Three Phase : advanced power distribution unit with Switched and Metered by Outlet, 3PH, 22.1kW 400V 32A having 24 universal outlets (Combination of C19 and C13), Dual network port to access and monitor the PDU remotely	Normal PDU is required
584	136	Annexure-9 Technical Specifications	Table-I Technical Specification of 27 server racks (19 Nos at DC - Single Phase, 8 Three Phase)	Sl. No: 10- Over load protection MCB PDU rating approximate 14KVA per PDU for single phase with 63A (4 MCB) PDU rating approximate 22KVA per PDU for Three phase with 32A (6 MCB)	For uniform power distribution can we offer advanced power distribution unit with Switched and Metered by Outlet, 3PH, 22.1kW 400V 32A having 24 universal outlets (Combination of C19 and C13), Dual network port to access and monitor the PDU remotely	Normal PDU is required
585	137	Annexure-9 Technical Specifications	Table-J Technical Specification of server racks (23 Nos with three phase at DR)	Sl. No: 10 Over load protection MCB 16A MCB X 2 circuits - PDU rating approximate 8KVA	The three phase PDU with 6 breakers.	Bidders to comply with RFP/GeM bid terms and conditions

586	73	Annexure-8 Scope of Work	Evaluation for Scope of Work for this project	Sl. No: 4The bidder has to provide AMC/ATS for the all supplied Hardware and Software as per the Scope of Work post warranty period. During the warranty period and AMC period, the Bidder is bound to do all hardware spares replacement and upgrade/update of proposed hardware 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.	Is there any device retention policy, bank has for that faulty device also need to be kept in DC?	In case of HDD same wil be degaussed and returned on arrival on new disk other faulty parts will be returned on replacements of new parts.

587	149	Annexure-9 Technical Specifications	Table-M Technical Specification of Managed file transfer Solution:	Sl. No: 50 The solution should include comprehensive audit logging capabilities, capturing all activities such as data upload, share, download, cut, copy, paste, and rename. These logs must be stored in a non-tamperable format to ensure the integrity and	The cut, copy, paste, rename happens outside the MFT application could you specify in more details about this requirement?	Bidders to comply with RFP/GeM bid terms and conditions
588	73-84	Annexure-8 Scope of Work	Entire Clause	Entire Clause	Scope of work for IBM Websphere is not defined, kindly request bank to confirm if the deployment scope lies with the bidder or it will be taken care by the Bank itself. If its scope of the bidder, request bank to define the SOW for these licenses.	IBM webspher license only to be supplied
589	172	Annexure-16 Bill of Material	Table - C Price details of Software/Lic nse Items (Subscription based Licenses)	Sl. No. 6 Apache Tomcat with support - instance base -- 5QTY	Request bank to share the server physical cores/ Virtual cores count of the server on which it will be deployed as our licensing model is based on this.	Five servers of each 16 physical cores
590	140	Annexure-9 Technical Specifications	Table-K Technical Specification of Network TOR Switches	B. Type 2 Switch - 24 numbers (12 DC+ 12 DRC) for Data Sl. No: 33 High Mean Time Between Failure values (>3.5 lakh hours) should be available to ensure long life of switch hardware.	Request you to change this to "High Mean Time Between Failure values (>2.7 lakh hours) should be available to ensure long life of switch hardware. Request Bank to change this value, as this is single OEM specific point . Higher MTBF values always donot provide the product relaiability measurements	Bidder to refer corrigendum-5.

591	142	Annexure-9 Technical Specifications	Table-K Technical Specification of Network TOR Switches	C. Type 4 Switch - 4 numbers (2 DC+ 2 DRC) - Storage Sl. No: 33 High Mean Time Between Failure values (>3.5 lakh hours) should be available to ensure long life of switch hardware.	Request you to change this to "High Mean Time Between Failure values (>2.7 lakh hours) should be available to ensure long life of switch hardware. Request Bank to change this value, as this is single OEM specific point . Higher MTBF values always donot provide the product relaiibly measurements	Bidder to refer corrigendum-5.
592	85	Annexure-9 Technical Specifications	Table-A Technical Specification - 80 servers (41 DC and 39 DRC)	Sl. No: 5- Processor Processor Make- Latest generation x86_64 bit architecture-based CPU's	Please mention the Class of CPU type required Platinum /Gold/Silver etc CPU vendors have different Class of CPU and given the general ask , both CPU type like high range platinum 8500 and Mid range Gold 6500 aslo qualify hence this ask.	Bidders to comply with RFP/GeM bid terms and conditions
593	91	Annexure-9 Technical Specifications	Table-B Technical Specification - 28 servers (17 DC and 11 DRC)	Sl. No: 5- Processor Processor Make- Latest generation x86_64 bit architecture-based CPU's	Please mention the Class of CPU type required Platinum /Gold/Silver etc CPU vendors have different Class of CPU and given the general ask , both CPU type like high range platinum 8500 and Mid range Gold 6500 aslo qualify hence this ask.	Bidders to comply with RFP/GeM bid terms and conditions
594	154	Annexure-9 Technical Specifications	Table-N Technical Specifications of 4 SAN Director (2 Nos at DC and 2 Nos at DR)	Sl. No: 21 Other Features The director class switch should provide Inter Chassis Link (ICL) for connecting multiple Chassis	The director class switch should provide Inter Chassis Link (ICL) or Inter Switch Link (ISL) for connecting multiple Chassis ICL is Single OEM specification , we provide the same capability using more open Industry standard ISL/Trunking . Request bank to change this remove or change this clause	Bidder to refer corrigendum-5.

595	156	Annexure-9 Technical Specifications	Table-O Technical Specifications of 8 SAN Switch (4 Nos at DC and 4 Nos at DR)	Sl. No: 5 ISL Trunking connectivity and Cut Thru Switching. Necessary Licenses to be provided by the bidder.	There are only 2 OEM in SAN switching market . Cut Thru SAN switching is single OEM specific mechansim and hence request bank to change this Clause for more participation	Bidder to refer corrigendum-5.
596	75	Annexure-8 Scope of Work	Evaluation for Scope of Work for this project	Sl. No: 42 The Bidder will responsible for the following: k. SAN connectivity to bank existing SAN Switch	Request Bank to remove this point, with this ask only one OEM qaulifies here. This leads to price disadvantage and donot provide chance for Cisco to bid this requirement	Bidder to refer corrigendum-5.
597	85	Annexure-9 Technical Specifications	Table-A Technical Specification - 80 servers (41 DC and 39 DRC)	Sl. No: 5- Processor Processor Make- Latest generation x86_64 bit architecture-based CPU's	We request Canara bank to Change this to 3rd generation or higher x86_64 bit architecturebased CPU's	Bidders to comply with RFP/GeM bid terms and conditions

598	86, 92, 98, 104, 110 & 117	Annexure-9 Technical Specifications	Table-A Technical Specification - 80 servers (41 DC and 39 DRC) Table-B Technical Specification - 28 servers (17 DC and 11 DRC) Table-C Technical Specification - 100 servers (60 DC and 40 DRC) Table-D Technical Specification - 54 servers (28 DC and 26 DRC) Table-E Technical Specification - 226 servers (135 DC and 91 DRC) Table-F Custom Technical Specification - 12 servers	Sl. No: 6- Memory Ram Size- 128GB*16 = 2 TB	We request Canara Bank to change this to 2TB of Total Memory for better memory bandwidth, MII percentage and price / performance.	Bidders to comply with RFP/GeM bid terms and conditions

599	86, 92, 98, 104, 110 & 117	Annexure-9 Technical Specifications	Table-A Technical Specification - 80 servers (41 DC and 39 DRC) Table-B Technical Specification - 28 servers (17 DC and 11 DRC) Table-C Technical Specification - 100 servers (60 DC and 40 DRC) Table-D Technical Specification - 54 servers (28 DC and 26 DRC) Table-E Technical Specification - 226 servers (135 DC and 91 DRC) Table-F Custom Technical Specification - 12 servers	Sl. No: 6- Memory Slot Count- Minimum 24 or higher, Minimum 8 free memory slots should be available.	Minimum 24 or higher, Minimum 8 free memory slots should be available.	Bidder to refer corrigendum-5.

600	88, 94, 100, 107, 113 & 120	Annexure-9 Technical Specifications	Table-A Technical Specification - 80 servers (41 DC and 39 DRC) Table-B Technical Specification - 28 servers (17 DC and 11 DRC) Table-C Technical Specification - 100 servers (60 DC and 40 DRC) Table-D Technical Specification - 54 servers (28 DC and 26 DRC) Table-E Technical Specification - 226 servers (135 DC and 91 DRC) Table-F Custom Technical Specification - 12 servers	Sl. No: 17 PCI Slots- Minimum 4 - x16 PCIe Gen4 or higher free slots(Peripheral Component Interconnect Express)	We request this to be changed to Minimum 4 - PCIe Gen4 or higher free slots(Peripheral Component Interconnect Express)	Bidder to refer corrigendum-5.
601	92	Annexure-9 Technical Specifications	Table-B Technical Specification -	Sl. No: 5- Processor Processor Make- Latest	We request Canara bank to Change this to 3rd generation or higher x86_64 bit architecturebased CPU's	Bidders to comply with RFP/GeM bid

			28 servers (17 DC and 11 DRC)	generation x86_64 bit architecture-based CPU's		terms and conditions
602	88, 94, 100, 107, 113 & 120	Annexure-9 Technical Specifications	Table-A Technical Specification - 80 servers (41 DC and 39 DRC) Table-B Technical Specification - 28 servers (17 DC and 11 DRC) Table-C Technical Specification - 100 servers (60 DC and 40 DRC) Table-D Technical Specification - 54 servers (28 DC and 26 DRC) Table-E Technical Specification - 226 servers (135 DC and 91 DRC) Table-F Custom Technical Specification - 12 servers	Sl. No: 17 PCI Slots- Minimum 4 - x16 PCIe Gen4 or higher free slots (Peripheral Component Interconnect Express)	We request this to be changed to Minimum 4 - PCIe Gen4 or higher free slots (Peripheral Component Interconnect Express)	Bidder to refer corrigendum-5.

603	97	Annexure-9 Technical Specifications	Table-C Technical Specification - 100 servers (60 DC and 40 DRC)	Sl. No: 5- Processor Processor Make- Latest generation x86_64 bit architecture-based CPU's	We request Canara bank to Change this to 3rd generation or higher x86_64 bit architecturebased CPU's	Bidders to comply with RFP/GeM bid terms and conditions
604	104	Annexure-9 Technical Specifications	Table-D Technical Specification - 54 servers (28 DC and 26 DRC)	Sl. No: 5- Processor Socket Minimum 2 sockets i.e., 24*1 =24 core (1 Populated & 1 For future upgrade)	Since other requirements mentioned in the RFP for the server cannot be met via single socket configuraiton , namely - 1. PCI slot expansion ; PCI Cards required to be populated ; Memory required to be populated and free slots cannot be upgraded without additonal CPU etc.. We request Canara Bank to go with dual socket CPU and Ammend this clause with 16 Core DUAL CPU	Bidder to refer corrigendum-5.

605	87, 93, 99, 105, 111 & 118	Annexure-9 Technical Specifications	Table-A Technical Specification - 80 servers (41 DC and 39 DRC) Table-B Technical Specification - 28 servers (17 DC and 11 DRC) Table-C Technical Specification - 100 servers (60 DC and 40 DRC) Table-D Technical Specification - 54 servers (28 DC and 26 DRC) Table-E Technical Specification - 226 servers (135 DC and 91 DRC) Table-F Custom Technical Specification - 12 servers	Sl. No: SAN & Network	9	Required SAN and Network cards cannot be populated in single socket system.. We request the server to be changed to dual socket to meet these criteria. (total of 6 cards are required -- 2 nos of 1G, 2Nos of 10G and 2 Nos of FC).	Bidder to refer corrigendum-5.

606	88, 94, 100, 107, 113 & 120	Annexure-9 Technical Specifications	Table-A Technical Specification - 80 servers (41 DC and 39 DRC) Table-B Technical Specification - 28 servers (17 DC and 11 DRC) Table-C Technical Specification - 100 servers (60 DC and 40 DRC) Table-D Technical Specification - 54 servers (28 DC and 26 DRC) Table-E Technical Specification - 226 servers (135 DC and 91 DRC) Table-F Custom Technical Specification - 12 servers	Sl. No: 17 PCI Slots- Minimum 4 - x16 PCIe Gen4 or higher free slots (Peripheral Component Interconnect Express)	This clause cannot be met in single socket system. We request the server to be moved to dual socket to abide these clause.	Bidder to refer corrigendum-5.
607	103	Annexure-9 Technical Specifications	Table-D Technical Specification -	Sl. No: 5- Processor Processor Make- Latest generation x86_64 bit architecture-based CPU's	We request Canara bank to Change this to 3rd generation or higher x86_64 bit architecture based CPU's	Bidders to comply with RFP/GeM bid terms and conditions

			54 servers (28 DC and 26 DRC)			
608	97	Annexure-9 Technical Specifications	Table-C Technical Specification - 100 servers (60 DC and 40 DRC)	Sl. No: 5- Processor Socket Minimum 2 sockets i.e., 32*1 =32 core (1 Populated & 1 For future upgrade)	Since other requirements mentioned in the RFP for the server cannot be met via single socket configuraiton , namely - 1. PCI slot expansion ; PCI Cards required to be populated ; Memory required to be populated and free slots cannot be upgraded without additonal CPU etc.. We request Canara Bank to go with dual socket CPU and Ammend this clause with 16Core Dual CPU	Bidder to refer corrigendum-5.

609	87, 93, 99, 105, 111 & 118	Annexure-9 Technical Specifications	Table-A Technical Specification - 80 servers (41 DC and 39 DRC) Table-B Technical Specification - 28 servers (17 DC and 11 DRC) Table-C Technical Specification - 100 servers (60 DC and 40 DRC) Table-D Technical Specification - 54 servers (28 DC and 26 DRC) Table-E Technical Specification - 226 servers (135 DC and 91 DRC) Table-F Custom Technical Specification - 12 servers	Sl. No: SAN & Network	9	Required SAN and Network cards cannot be populated in single socket system.. We request the server to be changed to dual socket to meet these criteria. (total of 6 cards are required -- 2 nos of 1G, 2Nos of 10G and 2 Nos of FC).	Bidder to refer corrigendum-5.

610	88, 94, 100, 107, 113 & 120	Annexure-9 Technical Specifications	Table-A Technical Specification - 80 servers (41 DC and 39 DRC) Table-B Technical Specification - 28 servers (17 DC and 11 DRC) Table-C Technical Specification - 100 servers (60 DC and 40 DRC) Table-D Technical Specification - 54 servers (28 DC and 26 DRC) Table-E Technical Specification - 226 servers (135 DC and 91 DRC) Table-F Custom Technical Specification - 12 servers	Sl. No: 17 PCI Slots- Minimum 4 - x16 PCIe Gen4 or higher free slots (Peripheral Component Interconnect Express)	This clause cannot be met in single socket system. We request the server to be moved to dual socket to abide these clause.	Bidder to refer corrigendum-5.
611	110	Annexure-9 Technical Specifications	Table-E Technical Specification - 226 servers	Sl. No: 5- Processor Processor Make- Latest generation x86_64 bit architecture-based CPU's	We request Canara bank to Change this to 3rd generation or higher x86_64 bit architecture based CPU's	Bidders to comply with RFP/GeM bid terms and conditions

			(135 DC and 91 DRC)			
612	110	Annexure-9 Technical Specifications	Table-E Technical Specification - 226 servers (135 DC and 91 DRC)	Sl. No: 5- Processor Socket Minimum 2 sockets i.e., 16*1 =16 core (1 Populated & 1 For future upgrade)	Since other requirements mentioned in the RFP for the server cannot be met via single socket configuraiton , namely - 1. PCI slot expansion ; PCI Cards required to be populated ; Memory required to be populated and free slots cannot be upgraded without additonal CPU etc.. We request Canara Bank to go with dual socket CPU and Ammend this clause as : Minimum 2 sockets i.e., 16*2 =32 core	Bidder to refer corrigendum-5.

613	87, 93, 99, 105, 111 & 118	Annexure-9 Technical Specifications	Table-A Technical Specification - 80 servers (41 DC and 39 DRC) Table-B Technical Specification - 28 servers (17 DC and 11 DRC) Table-C Technical Specification - 100 servers (60 DC and 40 DRC) Table-D Technical Specification - 54 servers (28 DC and 26 DRC) Table-E Technical Specification - 226 servers (135 DC and 91 DRC) Table-F Custom Technical Specification - 12 servers	Sl. No: SAN & Network	9	Required SAN and Network cards cannot be populated in single socket system.. We request the server to be changed to dual socket to meet these criteria. (total of 6 cards are required -- 2 nos of 1G, 2Nos of 10G and 2 Nos of FC).	Bidder to refer corrigendum-5.

614	88, 94, 100, 107, 113 & 120	Annexure-9 Technical Specifications	Table-A Technical Specification - 80 servers (41 DC and 39 DRC) Table-B Technical Specification - 28 servers (17 DC and 11 DRC) Table-C Technical Specification - 100 servers (60 DC and 40 DRC) Table-D Technical Specification - 54 servers (28 DC and 26 DRC) Table-E Technical Specification - 226 servers (135 DC and 91 DRC) Table-F Custom Technical Specification - 12 servers	Sl. No: 17 PCI Slots- Minimum 4 - x16 PCIe Gen4 or higher free slots (Peripheral Component Interconnect Express)	This clause cannot be met in single socket system. We request the server to be moved to dual socket to abide these clause.	Bidder to refer corrigendum-5.

615	116	Annexure-9 Technical Specifications	Table-F Custom Technical Specification - 12 servers	Sl. No: 5- Processor Processor Make- Latest generation x86_64 bit architecture-based CPU's	Latest generation x86_64 bit architecturebased CPU's We request Canara bank to Change this to 3rd generation or higher x86_64 bit architecture based CPU's	Bidders to comply with RFP/GeM bid terms and conditions
616	86, 92, 98, 104, 110 & 117	Annexure-9 Technical Specifications	Table-A Technical Specification - 80 servers (41 DC and 39 DRC) Table-B Technical Specification - 28 servers (17 DC and 11 DRC) Table-C Technical Specification - 100 servers (60 DC and 40 DRC) Table-D Technical Specification - 54 servers (28 DC and 26 DRC) Table-E Technical Specification - 226 servers (135 DC and 91 DRC) Table-F Custom	Sl. No: 6- Memory Ram Size- 128GB*16 = 2 TB	64GB*16 = 1024 GB - Type 2 and Type 3 servers. This clause cannot be met with one variant of x86 CPU with single socket populated. We request Canara Bank to change the server to dual socket to meet this criteria.	Bidder to refer corrigendum-5.

			Technical Specification - 12 servers			

617	86, 92, 98, 104, 110 & 117	Annexure-9 Technical Specifications	Table-A Technical Specification - 80 servers (41 DC and 39 DRC) Table-B Technical Specification - 28 servers (17 DC and 11 DRC) Table-C Technical Specification - 100 servers (60 DC and 40 DRC) Table-D Technical Specification - 54 servers (28 DC and 26 DRC) Table-E Technical Specification - 226 servers (135 DC and 91 DRC) Table-F Custom Technical Specification - 12 servers	Sl. No: 6- Memory Slot Count- Minimum 24 or higher, Minimum 8 free memory slots should be available.	10 or higher, Minimum 4 free slots should be available for future upgrade - Type 1 12 or higher Minimum 4 free slots should be available for future upgrade - Type 2 38 or higher Minimum 4 free slots should be available for future upgrade - Type 3 We request Canara bank to have all servers with min 12 or higher disk slots. Type 3 - 38 slots are asked which are not possible in standard server and a JBOD may have to be provisioned .	Bidder to refer corrigendum-5.

618	87, 93, 99, 105, 111 & 118	Annexure-9 Technical Specifications	Table-A Technical Specification - 80 servers (41 DC and 39 DRC) Table-B Technical Specification - 28 servers (17 DC and 11 DRC) Table-C Technical Specification - 100 servers (60 DC and 40 DRC) Table-D Technical Specification - 54 servers (28 DC and 26 DRC) Table-E Technical Specification - 226 servers (135 DC and 91 DRC) Table-F Custom Technical Specification - 12 servers	Sl. No: SAN & Network	9	Required SAN and Network cards cannot be populated in single socket system.. We request the server to be changed to dual socket to meet these criteria. (total of 6 cards are required -- 2 nos of 1G, 2Nos of 10G and 2 Nos of FC).	Bidder to refer corrigendum-5.

619	88, 94, 100, 107, 113 & 120	Annexure-9 Technical Specifications	Table-A Technical Specification - 80 servers (41 DC and 39 DRC) Table-B Technical Specification - 28 servers (17 DC and 11 DRC) Table-C Technical Specification - 100 servers (60 DC and 40 DRC) Table-D Technical Specification - 54 servers (28 DC and 26 DRC) Table-E Technical Specification - 226 servers (135 DC and 91 DRC) Table-F Custom Technical Specification - 12 servers	Sl. No: 17 PCI Slots- Minimum 4 - x16 PCIe Gen4 or higher free slots(Peripheral Component Interconnect Express)	Minimum 4 - x16 PCIe Gen4 or higher free slots(Peripheral Component Interconnect Express) This clause cannot be met in single socket system. We request the server to be moved to dual socket to abide these clause.	Bidder to refer corrigendum-5.

620	124-125	Annexure-9 Technical Specifications	Table- GStorage Technical Specifications: (Object Storage 2.0PB Usable Space: DC -1, DRC -1)	Sl. No: 8Capacity- Minimum usable storage 2 PB after RAID6/ Dual RAID6 Configuration.(Without considering any data reduction features such as compression, deduplication etc .,)	Request bank to consider erasure coding protection as well and not just traditional RAID.	Bidder to refer corrigendum-5.
621	77	Annexure-8 Scope of Work	Evaluation for Scope of Work For Open shift	Entire Clause	What is the Hardware configuration for Openshift hosting?	Details will be shared with the selected bidder
622	77	Annexure-8 Scope of Work	Evaluation for Scope of Work For Open shift	Entire Clause	What storage bank has present, does bank have Object, Block and File with certified Openshift CSI Driver? can same be used for Openshift Cluster?	Details will be shared with the selected bidder
623	NA	Generic	Generic	Generic	Please clarify on number of clusters considered to be delivered within 12 weeks.	Bidders to comply with RFP/GeM bid terms and conditions
624	172	Annexure-16 Bill of Material	Table - C Price details of Software/License Items (Subscription based Licenses)	Sl. No: 3 RHEL 9 High Availability with premium support for CISC - X86 machines	Do we need to propose RHEL with Satellite?	Bidders to comply with RFP/GeM bid terms and conditions

625	140	Annexure-9 Technical Specifications	Table-K Technical Specification of Network TOR Switches	B. Type 2 Switch - 24 numbers (12 DC+ 12 DRC) for Data Sl. No: 31 Proposed Switches must integrate seamlessly with active - active ports for redundancy and high availability from two core/distributed switches from day one with our existing infrastructure of Cisco/Juniper Datacenter router/switches.	you have mentioned about interoperability with other OEMs for Open standard tech- any specific Cisco patent or open standard feature you are looking to implement?	Bidders to comply with RFP/GeM bid terms and conditions
626	82	Annexure-8 Scope of Work	Evaluation for Scope of Work for TOR Switches	Sl. No: 3 Bidder should ensure planning and designing for proposed solution. Sl. No: 14 Design includes low & high level diagrams, planning of the implementation and should be aimed at ensuring that a new network or service meets the needs of the Bank.	can you please share the current network architecture diagram to design the new one?	Details will be shared with the selected bidder

627	82	Annexure-8 Scope of Work	Evaluation for Scope of Work for TOR Switches	Sl. No: 13 Bidder has to Plan, Design considering various failovers scenarios, Migrate, Integrate with existing and future infrastructure, Implement day to day changes, maintain and coordinate with OEM at Bank Data Centre and at Data Recovery Centre.	what all should be migrated to new infra? Any specific protocols you are using so that we understand the integration with existing network	Bidders to comply with RFP/GeM bid terms and conditions
628	5	Annexure-9 Technical Specifications	Table-L Backup Solution for 500 Servers at DC and DRC	Sl. No. 5 Backup software should be a Hardware Agnostic software and it should support snapshot integration with hypervisors like VMware and Hyper-V and support de-duplication on any storage target. It should be able to backup data to tapes (like LTO) as well for long term retention.	Request bank to consider it as follows : Backup software should be a Hardware Agnostic software and it should support snapshot integration with hypervisors like VMware and Hyper-V and support de-duplication on proposed storage target. It should support tiering of backup data to tapes (like LTO) or object storage for long term retention.	Bidders to comply with RFP/GeM bid terms and conditions

629	144	Annexure-9 Technical Specifications	Table-L Backup Solution for 500 Servers at DC and DRC	Sl. No: 16 Proposed backup software should have the ability to perform staged restores to enable admins to comply to regulations by selectively deleting files / records which should not be restored from the backup copies. This will help in complying to "right to be forgotten" regulations like GDPR, where user data is deleted from restored backup copies in an auditable manner.	With the increase in cyber attacks, it is important to secure the system from eavesdropping of staged data as well as by prohibiting any deletions/modifications to backup copies. As this specification can be achieved functionality during traditional recovery and as a software feature is Proprietary, hence request deletion.	Bidder to refer corrigendum-5.
630	144	Annexure-9 Technical Specifications	Table-L Backup Solution for 500 Servers at DC and DRC	Sl. No: 21 Recovery verification should automatically boot the server from backup and verify the recoverability of VM image, Guest OS and Application Consistency and then publish automated reports to be used in backup / recovery audits.	Vendor Proprietary. Please consider the following : Solution should have the capability for recovery verification to boot the server from backup and verify the recoverability of VM image, Guest OS and Application Consistency and then publish reports to be used in backup / recovery audits.	Bidder to refer corrigendum-5.
631	145	Annexure-9 Technical Specifications	Table-L Backup Solution for 500 Servers at DC and DRC	Sl. No: 27 Offered backup solution should multiple kubernetes distributions including RHOS, VMware Tanzu, SUSE Rancher, Ezmeral Runtime etc.	For open integration, request to change to the following : Offered backup solution should multiple kubernetes platforms for e.g., RHOS/VMware Tanzu/SUSE Rancher/Ezmeral Runtime etc	Bidder to refer corrigendum-5.

632	145	Annexure-9 Technical Specifications	Table-L Backup Solution for 500 Servers at DC and DRC	Sl. No: 33 Offered solution should support intelligent policy definitions for backup windows, automatic staggering of backups to reduce impact on the system backend, use of declarative policies for backups etc.	Vendor Proprietary. Please change to the below. The offered solution should support policy based backup architecture with calendar/frequency based scheduling.	Bidder to refer corrigendum-5.

633	NA	Annexure-9 Technical Specifications	Table-L Backup Solution for 500 Servers at DC and DRC	Additional Clause: Capacity and Performance- Purpose built backup appliance should be sized appropriately for front-end data of 200 TB as per below mentioned backup policies. a. Daily incremental backup - retained for 4 weeks in Purpose built backup appliance. b. Weekly full backup for all data types - retained for 1 month in Purpose built backup appliance. c. Monthly full backups - for 12 months. d. Yearly full backups - retained for 5 years in Purpose built backup appliance. The appliance should be quoted with adequate capacity considering 1% daily change rate for entire duration of 5 years warranty. Bidder must provide a sizing certificate showcasing this sizing consideration on the OEM's letter head with seal and sign from the authorized	Kindly add this clause for sizing the backup storage.	Bidders to comply with RFP/GeM bid terms and conditions

				signatory. Entire capacity of appliance must be offered as single pool with global deduplication to increase the data reduction efficiency.		

634	64	Annexure-2 Pre- Qualification Criteria	Sl. No: 8	Pre-Qualification CriteriaThe Bidder/OEM should have successfully supplied minimum cumulative 500 Nos. of Servers in India in the last three years out of which the bidder should have successfully supplied Hardware and software as a service model at least 100 servers deployed at Customer's DC and DR in Indian Market in any 1 Scheduled Commercial Bank/ NBFC/ Insurance Company/ PSU/ Central Government Organization in India in the last three years as on the date of submission of bid for this RFP.	We request to modify the clause as belowThe Bidder/OEM should have successfully supplied minimum cumulative 500 Nos. of Servers in India in the last Five years out of which the bidder should have successfully supplied hardware/Server at least 100 Nos deployed in Indian Market in any Scheduled Commercial Bank/ NBFC/ Insurance Company/ PSU/ Central Government Organization in India in the last Five years as on the date of submission of bid for this RFP.	Bidder to refer corrigendum-5.
635	20	SECTION C - DELIVERABLE AND SERVICE LEVEL AGREEMENTS	8. Payment Terms	8.1. 50% - On Supply/delivery of all the of Hardware as per RFP 20% - Installation of all Hardware 20% - Configuration, implementation and completion of all scope of work 10% - After Completion of Warranty Period (i.e.,	OEM's collects 100% aginst delivery from SI's, the current payment term seriously impact the Cash Flow , Hence requesting the Bank to modify the caluse as below 70% - On Supply/delivery of all the of Hardware as per RFP 10% - Installation of all Hardware 10% - Configuration, implementation and completion of all scope of work 10% - After Completion of Warranty	Bidders to comply with RFP/GeM bid terms and conditions

				three years). Warranty period.	Period (i.e., three years). Warranty period or on submission of BG in the equivalent value	
636	21 & 22	SECTION C - DELIVERABLE AND SERVICE LEVEL AGREEMENTS	8. Payment Terms	8.1. The payment schedule for Hardware will be as under and will release after execution of contract agreement: Sl. No: 5 100 %- On Supply and Installation of all the of Software/ Licenses as per RFP On supply and installation of software on production of relevant documents like delivery signoff and invoice of the items supplied and after deducting applicable penalties and Liquidated damages (if any) as per GeM Terms & conditions. Please note that Originals of invoices (plus One Copy) reflecting Taxes & Duties, Proof of delivery duly signed by Bank officials of the respective Branch/office should be submitted while claiming payment in respect of orders placed.	We request Bank to modify the caluse as below 70% - On Delivery of all the of Software/ Licenses as per RFP 30% - On Installation of all the of Software/ Licenses as per RFP	Bidders to comply with RFP/GeM bid terms and conditions

637	22	SECTION C - DELIVERABLE AND SERVICE LEVEL AGREEMENTS	8. Payment Terms	8.1. The payment schedule for Hardware will be as under and will release after execution of contract agreement: Sl. No: 8 AMC as mentioned in Table-F- Quarterly in arrears on submission of Quarterly Preventive Maintenance activity report and acceptance duly signed by Bank officials of the respective officials of the respective Branch/Office.	OEM's collects 100% yearly advance from SI's, the current payment term seriously impact the Cash Flow. Hence requesting Bank to modify the caluse as below AMC - Yearly in advance	Bidders to comply with RFP/GeM bid terms and conditions
638	17-20	SECTION C - DELIVERABLE AND SERVICE LEVEL AGREEMENTS	7. Penalties/Liquidated Damages	Maximum LD to 10%	The Liquidated damages under this section are too stringent increasing the risk exposure of the bidder hence we request you to reduce the cumulative LD maximum 5% of the respective table's total value (Table A/Table B/ Table C/ Table D/ Table E/ Table F/ Table G)	Bidders to comply with RFP/GeM bid terms and conditions
639	64	Annexure-2 Pre- Qualification Criteria	Sl. No. 5	Pre-Qualification Criteria: The Bidder should have an active and premium partnership with Hardware OEM to offer their Hardware and Software as a service to Bank.	The Bidder should have an active and premium/gold partnership with the proposed Hardware OEM (As the procurement is capex based, and also different OEMs use different terminology to the highest level of partnership)	Bidders to comply with RFP/GeM bid terms and conditions

640	140	Annexure-9 Technical Specifications	Table-K Technical Specification of Network TOR Switches	B. Type 2 Switch - 24 numbers (12 DC+ 12 DRC) for Data Sl. No. 33 High Mean Time Between Failure values (>3.5 lakh hours) should be available to ensure long life of switch hardware.	Request you to change this to "High Mean Time Between Failure values (>2.7 lakh hours) should be available to ensure long life of switch hardware. Request Bank to change this value, as this is single OEM specific point . Higher MTBF values always donot provide the product relaiability measurements	Bidder to refer corrigendum-5.
641	142	Annexure-9 Technical Specifications	Table-K Technical Specification of Network TOR Switches	C. Type 4 Switch - 4 numbers (2 DC+ 2 DRC) - Storage Sl. No. 33 High Mean Time Between Failure values (>3.5 lakh hours) should be available to ensure long life of switch hardware.	Request you to change this to "High Mean Time Between Failure values (>2.7 lakh hours) should be available to ensure long life of switch hardware. Request Bank to change this value, as this is single OEM specific point . Higher MTBF values always donot provide the product relaiability measurements	Bidder to refer corrigendum-5.
642	85	Annexure-9 Technical Specifications	Table-A Technical Specification - 80 servers (41 DC and 39 DRC)	Sl. No: 5- Processor Processor Make- Latest generation x86_64 bit architecture-based CPU's	Please mention the Class of CPU type required Platinum /Gold/Silver etc CPU vendors have different Class of CPU and given the general ask , both CPU type like high range platinum 8500 and Mid range Gold 6500 aslo qualify hence this ask.	Bidders to comply with RFP/GeM bid terms and conditions

643	91	Annexure-9 Technical Specifications	Table-B Technical Specification - 28 servers (17 DC and 11 DRC)	Sl. No: 5- Processor Processor Make- Latest generation x86_64 bit architecture-based CPU's	Please mention the Class of CPU type required Platinum /Gold/Silver etc CPU vendors have different Class of CPU and given the general ask , both CPU type like high range platinum 8500 and Mid range Gold 6500 aslo qualify hence this ask.	Bidders to comply with RFP/GeM bid terms and conditions
644	150	Annexure-9 Technical Specifications	Table-N Technical Specifications of 4 SAN Director (2 Nos at DC and 2 Nos at DR)	Sl. No: 9 The switch should support 512 Gbps BW for ISL Trunking connectivity and Cut Thru Switching. Necessary Licenses to be provided by the bidder.	There are only 2 OEM in SAN switching market . Cut Thru SAN switching is single OEM specific mechansim and hence request bank to change this Clause for more participation	Bidder to refer corrigendum-5.
645	154	Annexure-9 Technical Specifications	Table-N Technical Specifications of 4 SAN Director (2 Nos at DC and 2 Nos at DR)	Sl. No: 21 Other Features The director class switch should provide Inter Chassis Link (ICL) for connecting multiple Chassis	The director class switch should provide Inter Chassis Link (ICL) or Inter Switch Link (ISL) for connecting multiple Chassis ICL is Single OEM specification , we provide the same capability using more open Industry standard ISL/Trunking . Request bank to change this remove or change this clause	Bidder to refer corrigendum-5.
646	124	Annexure-9 Technical Specifications	Table-G Storage Technical Specifications: (Object Storage 2.0PB Usable Space: DC -1, DRC -1)	Sl. No: 5- Architecture *Security model S3-Vault: Security service for Accounts a. Multi-tenant, Support for S3 IAM - Identity and Access Management.	This is vendor specific terminology, please clarify the requirement with respective security.	Bidder to refer corrigendum-5.

647	126	Annexure-9 Technical Specifications	Table-G Storage Technical Specifications: (Object Storage 2.0PB Usable Space: DC -1, DRC -1)	Sl. No: 16 Services-Proposed storage array should include storage based compression, inline Deduplication, storage to storage replication, Snapshot for the entire supported capacity of the storage array from day one. All the required or necessary licenses must be perpetual and provided for the Full capacity of each storage from Day one. This should include licenses for Management and monitoring module and all the storage features such as Snapshot, Cloning, Replication etc. Upgrade in capacity should not incur any additional license cost. Offered storage system have online and historical performance reporting capability. Offered storage system have online and historical performance reporting capability.	Proposed storage array should include storage based compression/inline Deduplication, storage to storage replication, Snapshot for the entire supported capacity of the storage array from day one. All the required or necessary licenses must be perpetual and provided for the Full capacity of each storage from Day one. This should include licenses for Management and monitoring module and all the storage features such as Snapshot, Cloning, Replication etc. Upgrade in capacity should not incur any additional license cost. Offered storage system have online and historical performance reporting capability. Offered storage system have online and historical performance reporting capability. At least 1 year of historical performance information should be available online for capacity and performance forecasting, trend analysis etc. In case this capability is not available natively, then necessary software subscription shall be provided for the entire duration of the contract. As asked capacity is on NL SAS drives, enabling inlinee duplication is not recommended. And this is vendor specific and also they support dedup for NAS but not for object. So request you to amend the clause.	Bidder to refer corrigendum-5.

648	126	Annexure-9 Technical Specifications	Table-G Storage Technical Specifications: (Object Storage 2.0PB Usable Space: DC -1, DRC -1)	Sl. No: 17 Protocol Support- CIFS, SMB, NFSV3&V4,HTTPS,HTTP,RE STAPIs,FTP, Linux FS (FUSE), S3 Protocol, SWIFT & all kinds of rest full APIs. Vendor shall configure the licenses all interfaces All above protocol shall be native to cluster and shall not require any additional gateway. Vendor can provision additional gateway if required from performance perspective but capability shall be native to main nodes only.	S3/CIFS/SMB/NFSV/HTTPS/HTTP/RES TAPIs/FTP/Linux FS (FUSE)/S3 Protocol/SWIFT & all kinds of rest full APIs. Vendor shall configure the licenses all interfaces The purpose build object storage systems does support S3 protocol only, so we request you to please segregate the file and object requirement. There are solutions which can support NAS and object but it lacks critical object capabilities. This is not relevant to object storage as S3 access is OS agnostic.	Bidder to refer corrigendum-5.
649	127	Annexure-9 Technical Specifications	Table- GStorage Technical Specifications: (Object Storage 2.0PB Usable Space: DC -1, DRC -1)	Sl. No: 21- Other FeaturesEntire Clause	The proposed storage system should support SNMP, Address resolution protocol, Network Time Protocol, LDAP/Network Lock Manager. The Storage array should be licensed with Performance monitoring tools should be offered with the storage array. The proposed storage system shall support a browser based GUI built in management. All objects stored in Object Storage have a URL. All objects have their own metadata. Developers interact with the object storage system through a RESTful HTTP API. Object data can be located anywhere in the cluster.Backup & Recovery: Data	Bidder to refer corrigendum-5.

					backup and recovery rely on accessible and reliable storage. Object-based storage provides the infrastructure for secure data backup and efficient recovery procedures. There shall be no separate and dedicated control node or metadata node in the cluster. In case, nodes are separate then vendor shall over Metadata / control nodes in HA using active / active approach. Offered solution shall be completely redundant and there shall be no single point of failure. Offered solution shall have file integrity checking when reading the file and automatic rebuilt if an error is detected. Please segregate the requirement for object and file as NLM is NFS specific feature. Request you to modify the clause	
650	157	Annexure-9 Technical Specifications	Table-P Technical Specifications of 2 LTO9 Tape Library (1 Nos at DC and 1Nos at DR) and 200 LTO7 & 3800 LTO8 & 800 LTO9 Tapes & 200 No. of LTO9 Cleaning Cartridge	Sl. No: 5 Tape Drive- Minimum 40 LTO-9 Drive with FC Connectivity to support 8Gbps or more.	One LTO-9 Drive with SAS/FC Connectivity to support 8Gbps FC or 12Gbps SAS or more to be provided , Bidder must provide the appropriate SAS HBA card on the Server directly & SAS/FC Cable by the Bidder STAND ALONE DRIVES are Not available in FC , all major brands provide Standalone drive in SAS model only. ELSE, Bank can ask bidders to provide 1U, 8 Slots Autoloader with LTO9 FC drive , each site can be provided if FC is Mandatory Required .	Bidder to refer corrigendum-5.

651	157	Annexure-9 Technical Specifications	Table-P Technical Specifications of 2 LTO9 Tape Library (1 Nos at DC and 1Nos at DR) and 200 LTO7 & 3800 LTO8 & 800 LTO9 Tapes & 200 No. of LTO9 Cleaning Cartridge	Sl. No: 7 Cables- Necessary OM3/OM4 FC cables of length 15 meters	Necessary OM3/OM4 FC cables of length 15 meters or SAS CABLE 12Gbps HD apprx 2 mtrs STAND ALONE DRIVES are Not available in FC , all major brands provide Standalone drive in SAS model only.	Bidder to refer corrigendum-5.
652	2	GeM Bid Document	EMD Amount	75000000	Since the overall bid value is smaller, Requesting Bank to reduce the EMD to 2 Cr.	Bidders to comply with RFP/GeM bid terms and conditions
653	144	Annexure-9 Technical Specifications	Table-L Backup Solution for 500 Servers at DC and DRC	Sl. No: 12 Proposed solution should support automated action for popular alarms (automated or semi- automated), with at-a- glance and drill-down view	Kindly clarify on brief, What is excepted ?	Eg., Backup failed alerts with details of its failure
654	129	Annexure-9 Technical Specifications	Table-G Storage Technical Specifications: (Object Storage 2.0PB Usable Space: DC -1, DRC -1)	Sl. No: 32- Compliance 3. Offered storage shall have capability to migrate the data to an alternative media	Kindly provide existing application and database size in DC-DRC which require to migrate in the new environment .	Bidders to comply with RFP/GeM bid terms and conditions

655	76	Annexure-8 Scope of Work	Evaluation for Scope of Work for Servers	Sl. No: 5 Hardening of the servers as per the bank secure configuration document based on the OS, Hypervisor and hardware flavours	Clarifications : OS hardening documents will be provided by Bank or bidder need to provide hardening documents on their best practice.	Details will be shared with the selected bidder
656	76	Annexure-8 Scope of Work	Evaluation for Scope of Work for Storages	Sl. No: 3 Integrate storage systems with existing infrastructure including servers, networks, and backup solutions	Kindly confirm existing Block level and Objective storage used capacity details in DC-DRC	Bidder to refer corrigendum-5.
657	76	Annexure-8 Scope of Work	Evaluation for Scope of Work for MSSQL - Microsoft SQL	Sl. No: 1 Installation and Configuration: Set up SQL Server databases and configure settings to ensure optimal performance and security.	Kindly confirm existing MS SQL data size in DC and DRC sites	Bidders to comply with RFP/GeM bid terms and conditions
658	77	Annexure-8 Scope of Work	Evaluation for Scope of Work For Open shift	Sl. No: 8 Installation & Configuration of RHACS OCP clusters	Kindly provide existing OCP cluster work space and infra/work nodes details .OCP cluster exist only on DC or DRC sites?	OCP cluster required at both sites. Details will be shared with the selected bidder
659	80	Annexure-8 Scope of Work	Evaluation for Scope of Work for Backup Solution	Sl. No: 1 proposed backup solution installation, configuration, and deployment of an application in a cluster or load balancer configuration	Kindly confirm backup solution need to integrate with existing solution or this solution is applicable for new environment?. If possible provide existing backup software and data size .	Same is requested for new infrastructure. Bidders to comply with RFP/GeM bid terms and conditions

660	81	Annexure-8 Scope of Work	Evaluation for Scope of Work for Jboss solution	Sl. No: 1 Install, configure, and deploy applications in a clustered or load-balanced configuration using JBoss Application Server	Clarifications : Whether Jboss environment is required for both Linux and Windows environments. Splitup for both environments.	RedHat Linux Platform
661	79	Annexure-8 Scope of Work	Evaluation for Scope of Work for Apache Tomcat	Sl. No. 1 Apache Tomcat web & application server installation, configuration, and deployment in a cluster or load balancer configuration	Kindly confirm Apache Tomcat environment required for Linux or Windows platform? .Details of any existing version and data size.	RedHat Linux Platform
662	15	SECTION C - DELIVERABLE AND SERVICE LEVEL AGREEMENTS	2. Integration & Interfaces	2.1. The selected bidder has to work with different application vendors in order to integrate new solution to the existing workload or new workloads during contract period.	Clarifications: Whether bank will help for third party bank applications integrations along with application vendor.	Details will be shared with the selected bidder
663	76	Annexure-8 Scope of Work	Evaluation for Scope of Work for Storages	Sl. No: 3 Integrate storage systems with existing infrastructure including servers, networks, and backup solutions	Kindly provide existing infrastructure details like storage, backup softwares	Details will be shared with the selected bidder

664	146	Annexure-9 Technical Specifications	Table-L Backup Solution for 500 Servers at DC and DRC	Sl. No: 45 Offered Device shall integrate and utilize customer's current tape backup infrastructure in the following aspects : Compatibility with existing tape library and tape drives Offered device shall have integrated de-duplication license & replication license so that only unique data or DE duplicated data are transferred to remote / DR location.	Kindly confirm existing Tape library details in DC-NDR .	Details will be shared with the selected bidder
665	149	Annexure-9 Technical Specifications	Table-M Technical Specification of Managed file transfer Solution:	Sl. No: 46 The solution should possess the capability to create shared folders for each group, department, or team, with customizable access levels and storage size restrictions.	Could you explain about this requirement in detail?	Bidders to comply with RFP/GeM bid terms and conditions
666	149	Annexure-9 Technical Specifications	Table-M Technical Specification of Managed file transfer Solution:	Sl. No: 50The solution should include comprehensive audit logging capabilities, capturing all activities such as data upload, share, download, cut, copy, paste, and rename. These logs must be stored in a non-tamperable format to ensure the integrity and	The cut, copy, paste, rename happens outside the MFT application could you specify in more details about this requirement?	Bidders to comply with RFP/GeM bid terms and conditions

				reliability of the recorded information for compliance and security purposes.		
667	172	Annexure-16 Bill of Material	Table - C Price details of Software/License Items (Subscription based Licenses)	Sl. No: 8 File Sync Software instance base with support (Qty- 50)	Can specify what do you mean by instances here? Servers or concurrent file syncs?	Yes. Instance are referred to servers

668	Na	Annexure-9 Technical Specifications	Table-A Technical Specification - 80 servers (41 DC and 39 DRC) Table-B Technical Specification - 28 servers (17 DC and 11 DRC) Table-C Technical Specification - 100 servers (60 DC and 40 DRC) Table-D Technical Specification - 54 servers (28 DC and 26 DRC) Table-E Technical Specification - 226 servers (135 DC and 91 DRC)	Sl. No: 6- Memory Slot Count- Minimum 24 or higher, Minimum 8 free memory slots should be available.	Minimum 16 or higher, Minimum 8 free memory slots should be available.	Bidder to refer corrigendum-5.

669	12	SECTION B - INTRODUCTION	5. Requirement Details	5.2. The term of contract will be for a period of five (05) years. However, Bank reserves the right to have an annual review on completion of 12 months the date of acceptance of purchase order. If the services are found to be unsatisfactory Bank reserves the right to discontinue the Services.	1. Contract period should cover even implementation period hence >5years 2. We assume unsatisfactory here means if the SLAs are breached beyond the maximum permissible limits of the contract	Bidders to comply with RFP/GeM bid terms and conditions
670	14	SECTION C - DELIVERABLE AND SERVICE LEVEL AGREEMENTS	1. Project Timelines	1.6. The Installation will be deemed as incomplete if any component of the hardware/Software is not delivered or is delivered but not installed and / or not operational or not acceptable to the Bank after acceptance testing/examination. In such an event, the supply and installation will be termed as incomplete and system(s) will not be accepted and the warranty period will not commence. The installation will be accepted only after complete commissioning of hardware.	We assume that being operational hereby means, supplied hardware and software are configured as per the design requirement and specifications. Signoff should not be dependent on running of applications as its beyond the scope of bidder	Bidders to comply with RFP/GeM bid terms and conditions

671	15	SECTION C - DELIVERABLE AND SERVICE LEVEL AGREEMENTS	1. Project Timelines	1.10. Date of delivery shall be treated as date of last material delivered to the ordered locations if materials are not damaged.	There may be many items required at the site; we assume partial here means when the particular item is not delivered in completeness i.e. there is no short shipment in an item. However the timelines should not impact the items which are delivered completely	Bidders to comply with RFP/GeM bid terms and conditions
672	17	SECTION C - DELIVERABLE AND SERVICE LEVEL AGREEMENTS	7. Penalties/Liquidated Damages	7.1. Penalties/Liquidated damages for delay in Supply, Installation, Configuration, Implementation Other related items would be as under:	We request to keep it penalty applicable only on delayed item, not on complete value of section	Bidders to comply with RFP/GeM bid terms and conditions
673	25	SECTION C - DELIVERABLE AND SERVICE LEVEL AGREEMENTS	12. Annual Maintenance Contract (AMC) / Annual Technical Support (ATS) (if contracted):	12.3. Support for maintenance of solution (including Hardware, Software, OS and software license) supplied should be available for a minimum period of Three (3) years, covering all parts, maintenance and support, after expiry of warranty period.	Since the AMC/ATS is only for 2 years post warranty so we assume, 3 years hereby means that the solution should be available for purchase of 1 year extra AMC after 5 years of wty+AMC period is over	Bidders to comply with RFP/GeM bid terms and conditions

674	27	SECTION C - DELIVERABLE AND SERVICE LEVEL AGREEMENTS	19. Right to Audit	19.1. The selected bidder has to get itself annually audited by internal/ external empaneled Auditors appointed by the Bank/inspecting official from the Reserve Bank of India or any regulatory authority, covering the risk parameters finalized by the Bank /such auditors in the areas of products (IT hardware/software) and services etc., provided to the Bank and the selected bidder is required to submit such certification by such Auditors to the Bank. The selected bidder and or his/their outsourced agents/subcontractors (if allowed by the Bank) shall facilitate the same. The Bank can make its expert assessment on the efficiency and effectiveness of the security, control, risk management, governance system and process created by the selected bidder. The selected bidder shall, whenever required by the Auditors, furnish all	We assume that the scope under this audit is restricted to the project	Bidders to comply with RFP/GeM bid terms and conditions

				relevant information, records/data to them. All costs for such audit shall be borne by the Bank.		

675	49	SECTION G - GENERAL CONDITIONS	17. Business Continuity Plan:	17.1. The service provider/vendor/ Bidder shall develop and establish a robust Business Continuity and Management of Disaster Recovery Plan if not already developed and established so as to ensure uninterrupted and continued services to the Bank and to ensure the agreed upon service level. 17.2. The service provider/vendor/ Bidder shall periodically test the Business Continuity and Management of Disaster Recovery Plan. The Bank may consider joint testing and recovery exercise with the Service provider/vendor.	This RFP has limited scope of the DC and DR, bidder in his limited role can't be expected to provide BCP as it involves operations of the DC and entire DC architecture & items; if it is still asked then there should be a separate scope and price in the bid. And giving plan should be a separate activity, not related to signoff of the hardware/software	Bidders to comply with RFP/GeM bid terms and conditions
676	43-44	SECTION G - GENERAL CONDITIONS	4. Human Resource Requirement	Entire Clause	Manpower requirement for the operation period is not mentioned in the RFP. Kindly specify the minimum resources required to maintain the Operation period OR It is left for the bidder to decide	Bidders to comply with RFP/GeM bid terms and conditions

677	64	Annexure-2 Pre-Qualification Criteria	Sl. No: 8	Pre-Qualification Criteria The Bidder/OEM should have successfully supplied minimum cumulative 500 Nos. of Servers in India in the last three years out of which the bidder should have successfully supplied Hardware and software as a service model at least 100 servers deployed at Customer's DC and DR in Indian Market in any 1 Scheduled Commercial Bank/ NBFC/ Insurance Company/ PSU/ Central Government Organization in India in the last three years as on the date of submission of bid for this RFP.	Requesting the bank to kindly consider 7 years of experience in supplying servers. Also kindly consider to include state government/agencies experience in criteria The additional condition of supplying 100 servers as a service model is purely incidental because not necessarily bidder would have gained experience in such financial modeling of project and moreover the current RFP is not on service model so additional condition of 100 servers through service model should be removed. The clause can be met by OEM or bidder in case of 500 servers, but looks like an omission when it is about experience of 100 servers as only bidder is mentioned.	Bidder to refer corrigendum-5.
678	75	Annexure-8 Scope of Work	Evaluation for Scope of Work for this project	Sl. No: 32 The Bidder should note that Servers & Other Items being procured shall be delivered at locations as per requirements of bank and the Bidder will be required to support all such installations. The Bank reserves the right to change location by giving prior notice.	Kindly share the list of locations where the infra to be installed / shifted.	Details will be shared with the selected bidder

679	75	Annexure-8 Scope of Work	Evaluation for Scope of Work for this project	Sl. No: 38 The proposed server network interfaces ports should be compatible for connecting bank CISCO switches.	Kindly confirm the make, model & network interfaces ports of existing Network Switch	Bidder to refer corrigendum-5.
680	75	Annexure-8 Scope of Work	Evaluation for Scope of Work for this project	Sl. No: 39 The proposed server FC HBA interface ports should be compatible for existing SAN Switch.	Kindly confirm the make, model & FC HBA interface ports of existing SAN Switch	Bidder to refer corrigendum-5.
681	74	Annexure-8 Scope of Work	Evaluation for Scope of Work for this project	Sl. No: 40 All hardware delivered to be rack mounted, powered on and configured properly including tape drive, tape library , server rack with PDU,TOR Switch etc., supplied as part of this RFP	Our understanding is that Bank will provision the power upto the rack PDU. Kindly confirm.	Required space and power will be provided by Bank.
682	75	Annexure-8 Scope of Work	Evaluation for Scope of Work for this project	Sl. No: 42. The Bidder will responsible for the following: k. SAN connectivity to bank existing SAN Switch	Kindly share the approx distance from existing SAN switch to the new SAN switch which to be supplied under this RFP	Bidder to refer corrigendum-5.
683	75	Annexure-8 Scope of Work	Evaluation for Scope of Work for this project	Sl. No: 42 The Bidder will responsible for the following: l. LAN connectivity to bank existing network switch	Kindly share the approx distance from existing SAN switch to the new Network switch which to be supplied under this RFP	Bidders to comply with RFP/GeM bid terms and conditions

684	76	Annexure-8 Scope of Work	Evaluation for Scope of Work for Storages	Sl. No: 3 Integrate storage systems with existing infrastructure including servers, networks, and backup solutions	Kindly share the details of existing infrastructure which to be integrated with new proposed Storage system.	Details will be shared with the selected bidder
685	77	Annexure-8 Scope of Work	Evaluation for Scope of Work for Hyper-V - Microsoft	Sl. No: 7 Configuration of failover clustering or network load balancing features.	Our understanding on "network load balancing features" is Hyper-V inbuilt feature, no additional NLB is required here. Kindly confirm	Hyper-V inbuilt clustering/load balancing features to be used
686	82	Annexure-8 Scope of Work	Evaluation for Scope of Work for TOR Switches	Sl. No: 9 Bidder should ensure use the IP address provided by Bank for any of the host without network architectural changes at DC and DRC	Our understanding is that IP addressing will be designed by bank and share to successful bidder. Kindly confirm	IP addressing will be taken care by Bank.
687	82	Annexure-8 Scope of Work	Evaluation for Scope of Work for TOR Switches	Sl. No: 13 Bidder has to Plan, Design considering various failovers scenarios, Migrate, Integrate with existing and future infrastructure, Implement day to day changes, maintain and coordinate with OEM at Bank Data Centre and at Data Recovery Centre.	Kindly confirm what is required to be migrated? Kindly share the details	Bidders to comply with RFP/GeM bid terms and conditions

688	82	Annexure-8 Scope of Work	Evaluation for Scope of Work for TOR Switches	Sl. No: 15 Bidder should ensure and demonstrate failover scenarios at DC and to ensure Disaster recovery Plan for Business Continuity.	Our understanding on demonstration of failover scenario is HA testing of DC devices. Kindly confirm.	Selected Bidder has to demonstrate all possible failover scenarios as per RFP clause.
689	82	Annexure-8 Scope of Work	Evaluation for Scope of Work for TOR Switches	Sl. No: 18 Bidder to submit Migration plan, implementation document, solution architecture, traffic flow, cabling diagram etc.	Kindly confirm what is required to be migrated? Kindly share the details	Bidders to comply with RFP/GeM bid terms and conditions
690	82	Annexure-8 Scope of Work	Evaluation for Scope of Work for TOR Switches	Sl. No: 25 Bidder to configure the device to integrate with SIEM, NBA etc.	Bidder is required to do the necessary configuration at TOR switch. Configuration at SIEM & NBA end to be done by the Bank.	Bidders to comply with RFP/GeM bid terms and conditions
691	82	Annexure-8 Scope of Work	Evaluation for Scope of Work for TOR Switches	Sl. No: 26 Bidder to configure uplink from Spine switch to Firewall with redundant 10/25/40/100Gbps links.	Firewall & Spine switch is not part of the rfp. Kindly suggest.	Bidders to comply with RFP/GeM bid terms and conditions
692	138	Annexure-9 Technical Specifications	Table-K Technical Specification of Network TOR Switches	A. Type 1 Switch - 14 numbers (07 numbers in DC and 07 numbers in DRC) - Mgmt. Sl. No: 24 The Switches must be supplied with Indian Standard Power cables.	Rack PDU socket requested is C13 & C19 type and here it is mentioned as Indian standard power cords. Request you to please clarify the required type of power cords, since Indian standard power cords will not fit to the PDUs requested.	Bidder to refer corrigendum-5.

693	142	Annexure-9 Technical Specifications	Table-K Technical Specification of Network TOR Switches	In addition to the above access switches Bidder to supply Distribution Switches in High availability with required capacity to connect all supplied access switches with dual uplink of 10/40/100 Gbps in active-active mode for redundancy and load sharing (DC - 2, DRC - 2)	* What is the uplink speed required to the core or the port speed availability in the core. * Will the management switch(Type1 switch) also get connected to the distribution switch itself? If Yes, request you to please add 40G uplinks also as option to the Specification of Type1 switch	Bidders to comply with RFP/GeM bid terms and conditions
694	NA	Generic	Generic	There is no clause on Limitation of liability CAP	Bidder's cumulative liability for its obligations under the contract shall not exceed the value of the charges payable by the Bank within the remaining duration of the contract term from the day claim is raised and selected agency shall not be liable for incidental, consequential, or indirect damages including loss of profit or saving	Bidders to comply with RFP/GeM bid terms and conditions
695	NA	Generic	Generic	Right to suspend and terminate by bidder	Bidder should have right to suspend the services if payments are delayed by 30 days and right to terminate, if payments are delayed by 60 days over and above 30 days credit period	Bidders to comply with RFP/GeM bid terms and conditions
696	18	SECTION C - DELIVERABLE AND SERVICE LEVEL AGREEMENTS	7. Penalties/Liqu idated Damages	7.2. Penalties/Liquidated damages for not maintaining uptime:7.2.1 & 7.2.2% of total cost* for every hour and total cost means total cost under annexure-16	We assume that penalty will be applied on the failed device, not the sum total of annexure 16 otherwise failure of 1hr for each server failure will mean reduction of half the cost of server [0.1%*500]Similary for other hardware	Bidders to comply with RFP/GeM bid terms and conditions

					as well, we assume penalty is applied on total cost of failed device	
697	41	SECTION F - OWNERSHIP &AWARDING OF CONTRACT	13. Order Cancellation/T ermination of Contract	13.1. Bank reserve the right to terminate the contract with or without assigning any reasons by serving notice to the vendor at least 30 days prior.	Request for deletion of clause as it allows termination without any fault of the bidder. This will make the whole business case for the project non viable as will carry the risk of cancellation throughout irrespective of any amount of good work done for the project	Bidders to comply with RFP/GeM bid terms and conditions
698	48	SECTION G - GENERAL CONDITIONS	14. Exit Management Plan	14.10. Successful bidder will provide shadow support for a minimum of 90 days or as decided by the Bank before the end of termination of notice period or expiry of the contract as applicable at no additional cost to the Bank.	The EXIT management period is 6 months, out of which last 90 days are kept for shadow support. What is the definition of shadow support, what will be the deliverables because if those are the same then bidder shuld be paid for the delievred services, as have been paid before the start of EXIT period	Bidders to comply with RFP/GeM bid terms and conditions
699	49	SECTION G - GENERAL CONDITIONS	19. Adherence to Banks IS Security/Cyber Security Policies:	19.2. In case of any security incident including but not limited to data breaches, denial of service, service unavailability, etc., the Bidder/vendor/Service Provider shall immediately report such incident to the Bank.	As bidder is not running managed services or operations for the bank hence such incidents will not be noticed by bidder's team but by DC operations team. Hence the clause should not be kept as bidder can't be made responsible for something bidder is not managing	Bidders to comply with RFP/GeM bid terms and conditions

700	52	SECTION G - GENERAL CONDITIONS	25. Force Majeure	25.4. In such a case, the time for performance shall be extended by a period (s) not less than the duration of such delay. If the duration of delay continues beyond a period of three months, the Bank and the selected bidder shall hold consultations with each other in an endeavor to find a solution to the problem. Notwithstanding above, the decision of the Bank shall be final and binding on the selected bidder.	If the duration of delays is beyond 3 months then bidder should have equal rights to decide. Bidder is not running away from the services but beyond a point (3 months), bidder has to decide looking at condition of the project. Please change it to "If the duration of delay continues beyond a period of three months, the Bank and the selected bidder shall hold consultations with each other in an endeavor to find a solution to the problem. Notwithstanding above, the decision of the Bank shall be final and binding on the selected bidder. Bidder will have right to exit the contract in case of situation not back to normal in 3 months	Bidders to comply with RFP/GeM bid terms and conditions
701	24	SECTION C - DELIVERABLE AND SERVICE LEVEL AGREEMENTS	10. Scope involved during Contract period	10.9. Any server for middleware, database, OS and database licenses to be provided by the successful bidder without any additional cost to the Bank.	Since the bid is published with all the required hardware, OS and Database software. Request Bank to clarify on this points	Bidders to comply with RFP/GeM bid terms and conditions

702	64	Annexure-2 Pre- Qualification Criteria	Sl. No. 6	Pre-Qualification Criteria: The bidder should have yearly average turnover of 300 Crores in India for the last three financial years 2020-2021, 2021-2022, 2022-2023 from their Indian operation as per the audited Financial Statements. This must be the individual company turnover and not of any group of companies.	We would request Bank to consider Gem/CVC Guidelines for Bids All Canara Bank previous Gem Bids have come with turnover as per gem guidelines we request you consider same for this bid. We request you to kindly amend the turnover as per gem/CVC guidelines or amend it as "The bidder/OEM should have yearly average turnover of 300 Crores in India for the last three financial years 2020-2021, 2021-2022, 2022-2023 from their Indian operation as per the audited Financial Statements. This must be the individual company turnover and not of any group of companies."	Bidders to comply with RFP/GeM bid terms and conditions
703	64	Annexure-2 Pre- Qualification Criteria	Sl. No: 8	Pre-Qualification Criteria The Bidder/OEM should have successfully supplied minimum cumulative 500 Nos. of Servers in India in the last three years out of which the bidder should have successfully supplied Hardware and software as a service model at least 100 servers deployed at Customer's DC and DR in Indian Market in any 1 Scheduled Commercial Bank/ NBFC/ Insurance Company/ PSU/ Central Government Organization	Request to change it as 9. The Bidder/OEM should have successfully supplied minimum cumulative 500 Nos. of Servers in India in the last three years out of which the Bidder/OEM should have successfully supplied Hardware and software as a service model at least 100 servers deployed at Customer's DC and DR in Indian Market in any 1 Scheduled Commercial Bank/ NBFC/ Insurance Company/ PSU/ Central Government Organization in India in the last three years as on the date of submission of bid for this RFP.	Bidder to refer corrigendum-5.

				in India in the last three years as on the date of submission of bid for this RFP.		
704	180	Annexure-16 Bill of Material	Table - G (Optional) Price details of Optional Items for 5 Years	8. Object Storage per TB Cost 9. Block Storage per TB Cost 10. Block Storage per controller cost 11. Object Storage per controller cost	As per OEM Policy Storage systems prices cannot be shared as components-wise (like TB cost and controller cost)	Bidders to comply with RFP/GeM bid terms and conditions
705	169	Annexure-16 Bill of Material	Table - A Price details of Hardware Items	Sl. No: 20 Distribution Switches in High availability with required capacity to connect all supplied access switches with dual uplink of 10/40/100 Gbps in active-active mode for redundancy and load	Please share us the detailed specifications of distribution switches	Bidders to comply with RFP/GeM bid terms and conditions

				sharing as per Technical Specification (Annexure-9)		
706	172	Annexure-16 Bill of Material	Table - C Price details of Software/License Items (Subscription based Licenses)	Sl. No: 8 File Sync Software instance base with support (Qty- 50)	Please share us the detailed specifications	Bidder to refer corrigendum-5. Details provided in Annexure-8 Scope of Work.
707	146	Annexure-16 Bill of Material	Table-M Technical Specification of Managed file transfer Solution:	Sl. No: 3 The MFT solution should support FTP, FTP/S, SSH/SFTP, SSH/SCP and should have capability to support, AS1,AS2,AS3 etc. for future requirements.	All file transfer is done over HTTPS. Data in flight is fully always encrypted using TLS 1.2 at a minimum, with strong ciphers. Kindly request you to amend accordingly	Bidders to comply with RFP/GeM bid terms and conditions
708	148	Annexure-9 Technical Specifications	Table-M Technical Specification of Managed file transfer Solution:	Sl. No: 29 The proposed solution should provide embedded database and should also support and option to deploy it on oracle DB.	Solution comes with an embedded database. Each OEM will come with their own Database.Request to kindly amend it Oracle or equivalent	Bidder to refer corrigendum-5.
709	148	Annexure-9 Technical Specifications	Table-M Technical Specification of Managed	Sl. No: 37 The solution should support oracle DB for transactional/ logs as well as file system database.	Each OEM will come with their own Database.Request to kindly amend it Oracle or equivalent	Bidder to refer corrigendum-5.

			file transfer Solution:			
710	146	Annexure-9 Technical Specifications	Table-M Technical Specification of Managed file transfer Solution:	Additional Query	The offer licensed per user, and we need to quote for how many number of users? Accordingly, we suggest the hardware requirement. Will customer provide the On prem infrastructure as per our requirement or we need to incorporate the same into our proposal.	On prem infrastructure will be provided for setting up the MFT solution
711	136	Annexure-9 Technical Specifications	Table-I Technical Specification of 27 server racks (19 Nos at DC - Single Phase, 8 Three Phase)	Sl. No. 7 (Rack Size) 600mm*1200mm *2100mm (600mm - Width , 1200mm Depth , 2100mm Height)	It is recommended for customer to specify that the racks to be supplied with air sealing kit to prevent cold air getting mixed with hot air , also these should not any vents on the top , bottom and side panels which will change the direction of the air flow. Customer to mention on brush panels cable glands on top and bottom so that there is no loose gaps even after pulling the cables to the rack .	Bidder to refer corrigendum-5.
712	136	Annexure-9 Technical Specifications	Table-I Technical Specification of 27 server racks (19 Nos at DC - Single Phase, 8 Three Phase)	Sl. No: 10- Over load protection MCB PDU rating approximate 14KVA per PDU for single phase with 63A (4 MCB) PDU rating approximate 22KVA per PDU for Three phase with 32A (6 MCB)	Recommended customer to use 24 sockets of C13 & 4 nos of C19 which will be each for branch wise distribution.	Bidders to comply with RFP/GeM bid terms and conditions

713	137	Annexure-9 Technical Specifications	Table-J Technical Specification of server racks (23 Nos with three phase at DR)	Sl. No. 7 (Rack Size) 600 mm*1200mm (600mm - Width , 1200mm Depth)	It is recommended for customer to specify that the racks to be supplied with air sealing kit to prevent cold air getting mixed with hot air , also these should not any vents on the top , bottom and side panels which will change the direction of the air flow. Customer to mention on brush panels cable glands on top and bottom so that there is no loose gaps even after pulling the cables to the rack .	Bidder to refer corrigendum-5.
714	171	Annexure-16 Bill of Material	Table - B Price details of Software/Lice nse Items (Perpetual)	Sl. No: 1. Windows 2022 Data Centre Edition 16 Corepack with Enterprise support. 2. Windows 2022 Standard Centre Edition 16 Core pack with Enterprise support. 3. Microsoft SQL 2022 standard edition two core pack with Enterprise support.	We request Bank to clarify the level of Enterprise Support required here. Since Microsoft Support Service level is offered in 3 packages and confirm about the existing Service agreement you have OR Bank is looking for the license with Software Assurance	Bidder to refer corrigendum-5.
715	86	Annexure-9 Technical Specifications	Table-A Technical Specification - 80 servers (41 DC and 39 DRC)	Sl. No. 6 Memory Ram Size- 128GB*16 = 2 TB	We request Canara Bank to change this to 2TB of Total Memory for better memory bandwidth, MII percentage and price / performance.	Bidder to refer corrigendum-5.
716	86	Annexure-9 Technical Specifications	Table-A Technical Specification - 80 servers (41 DC and 39 DRC)	Sl. No: 6- Memory Slot Count- Minimum 24 or higher, Minimum 8 free memory slots should be available.	-	Bidder to refer corrigendum-5.

717	88	Annexure-9 Technical Specifications	Table-A Technical Specification - 80 servers (41 DC and 39 DRC)	Sl. No: 17 PCI Slots- Minimum 4 - x16 PCIe Gen4 or higher free slots(Peripheral Component Interconnect Express)	We request this to be changed to Minimum 4 - PCIe Gen4 or higher free slots(Peripheral Component Interconnect Express)	Bidder to refer corrigendum-5.
718	94	Annexure-9 Technical Specifications	Table-B Technical Specification - 28 servers (17 DC and 11 DRC)	Sl. No: 17 PCI Slots- Minimum 4 - x16 PCIe Gen4 or higher free slots(Peripheral Component Interconnect Express)	We request this to be changed to Minimum 4 - PCIe Gen4 or higher free slots(Peripheral Component Interconnect Express)	Bidder to refer corrigendum-5.
719	97	Annexure-9 Technical Specifications	Table-C Technical Specification - 100 servers (60 DC and 40 DRC)	Sl. No: 5- Processor Socket Minimum 2 sockets i.e., 32*1 =32 core (1 Populated & 1 For future upgrade)	Since other requirements mentioned in the RFP for the server cannot be met via single socket configuraiton , namely - 1. PCI slot expansion ; PCI Cards required to be populated ; Memory required to be populated and free slots cannot be upgraded without additonal CPU etc.. We request Canara Bank to go with dual socket CPU and Ammend this clause with 16 Core DUAL CPU	Bidder to refer corrigendum-5.
720	99	Annexure-9 Technical Specifications	Table-C Technical Specification - 100 servers (60 DC and 40 DRC)	Sl. No: 9 SAN & Network	Required SAN and Network cards cannot be populated in single socket system.. We request the server to be changed to dual socket to meet these criteria. (total of 6 cards are required -- 2 nos of 1G, 2Nos of 10G and 2 Nos of FC).	Bidder to refer corrigendum-5.

721	100	Annexure-9 Technical Specifications	Table-C Technical Specification - 100 servers (60 DC and 40 DRC)	Sl. No: 17 PCI Slots- Minimum 4 - x16 PCIe Gen4 or higher free slots(Peripheral Component Interconnect Express)	This clause cannot be met in single socket system. We request the server to be moved to dual socket to abide these clause.	Bidder to refer corrigendum-5.
722	104	Annexure-9 Technical Specifications	Table-D Technical Specification - 54 servers (28 DC and 26 DRC)	Sl. No: 5- Processor Socket Minimum 2 sockets i.e., 24*1 =24 core (1 Populated & 1 For future upgrade)	Since other requirements mentioned in the RFP for the server cannot be met via single socket configuraiton , namely - 1. PCI slot expansion ; PCI Cards required to be populated ; Memory required to be populated and free slots cannot be upgraded without additional CPU etc.. We request Canara Bank to go with dual socket CPU and Ammend this clause with 16Core Dual CPU	Bidder to refer corrigendum-5.
723	105	Annexure-9 Technical Specifications	Table-D Technical Specification - 54 servers (28 DC and 26 DRC)	Sl. No: 9 SAN & Network	Required SAN and Network cards cannot be populated in single socket system.. We request the server to be changed to dual socket to meet these criteria. (total of 6 cards are required -- 2 nos of 1G, 2Nos of 10G and 2 Nos of FC).	Bidder to refer corrigendum-5.
724	107	Annexure-9 Technical Specifications	Table-D Technical Specification - 54 servers (28 DC and 26 DRC)	Sl. No: 17 PCI Slots- Minimum 4 - x16 PCIe Gen4 or higher free slots(Peripheral Component Interconnect Express)	This clause cannot be met in single socket system. We request the server to be moved to dual socket to abide these clause.	Bidder to refer corrigendum-5.

725	111	Annexure-9 Technical Specifications	Table-E Technical Specification - 226 servers (135 DC and 91 DRC)	Sl. No: SAN & Network 9	Required SAN and Network cards cannot be populated in single socket system.. We request the server to be changed to dual socket to meet these criteria. (total of 6 cards are required -- 2 nos of 1G, 2Nos of 10G and 2 Nos of FC).	Bidder to refer corrigendum-5.
726	113	Annexure-9 Technical Specifications	Table-E Technical Specification - 226 servers (135 DC and 91 DRC)	Sl. No: 17 PCI Slots- Minimum 4 - x16 PCIe Gen4 or higher free slots(Peripheral Component Interconnect Express)	This clause cannot be met in single socket system. We request the server to be moved to dual socket to abide these clause.	Bidder to refer corrigendum-5.
727	116	Annexure-9 Technical Specifications	Table-F Custom Technical Specification - 12 servers	Sl. No: 5- Processor Processor Make- Latest generation x86_64 bit architecture-based CPU's	We request Canara bank to Change this to 3rd generation or higher x86_64 bit architecturebased CPU's	Bidders to comply with RFP/GeM bid terms and conditions
728	116	Annexure-9 Technical Specifications	Table-F Custom Technical Specification - 12 servers	Sl. No: 5- Processor Socket Minimum 2 sockets i.e., 16*1 =16 core (1 Populated & 1 For future upgrade) - Type 1 Minimum 2 sockets i.e., 32*1 =32 core (1 Populated & 1 For future upgrade) - Type 2 Minimum 2 sockets i.e., 32*1 =32 core (1 Populated & 1 For future upgrade) - Type 3	Since other requirements mentioned in the RFP for the server cannot be met via single socket configuraiton , namely - 1. PCI slot expansion ; PCI Cards required to be populated ; Memory required to be populated and free slots cannot be upgraded without additonal CPU etc.. We request Canara Bank to go with dual socket CPU and Ammend this clause as : Minimum 2 sockets i.e., 16*2 =32 core - Type 1 Minimum 2 sockets i.e., 16*2 =32 core - Type 2 Minimum 2 sockets i.e., 16*2 =32 core - Type 3	Bidder to refer corrigendum-5.

729	117	Annexure-9 Technical Specifications	Table-F Custom Technical Specification - 12 servers	Sl. No: 6- Memory Ram Size- 128GB*16 = 2 TB	This clause cannot be met with one variant of x86 CPU with single socket populated. We request Canara Bank to change the server to dual socket to meet this criteria.	Bidder to refer corrigendum-5.
730	118	Annexure-9 Technical Specifications	Table-F Custom Technical Specification - 12 servers	Sl. No. 7 - SSD Slot Count 10 or higher, Minimum 4 free slots should be available for future upgrade - Type 1 12 or higher Minimum 4 free slots should be available for future upgrade - Type 2 38 or higher Minimum 4 free slots should be available for future upgrade - Type 2	We request Canara bank to have all servers with min 12 or higher disk slots. Type 3 - 38 slots are asked which are not possible in standard server and a JBOD may have to be provisioned .	Bidder to refer corrigendum-5.
731	118	Annexure-9 Technical Specifications	Table-F Custom Technical Specification - 12 servers	Sl. No: 9 SAN & Network	Required SAN and Network cards cannot be populated in single socket system.. We request the server to be changed to dual socket to meet these criteria. (total of 6 cards are required -- 2 nos of 1G, 2Nos of 10G and 2 Nos of FC).	Bidder to refer corrigendum-5.
732	120	Annexure-9 Technical Specifications	Table-F Custom Technical Specification - 12 servers	Sl. No: 17 PCI Slots- Minimum 4 - x16 PCIe Gen4 or higher free slots(Peripheral Component Interconnect Express)	This clause cannot be met in single socket system. We request the server to be moved to dual socket to abide these clause.	Bidder to refer corrigendum-5.

733	131	Annexure-9 Technical Specifications	Table-G Storage Technical Specifications: (Object Storage 2.0PB Usable Space: DC -1, DRC -1)	Sl. No. 38 Core technology - Object 1. Offered Object storage core technology shall be able to abstract the underlying servers, to create a uniformly scalable storage pool 2. There shall be No size limit for object or files which can be stored in the cluster. 3. Offered storage shall do automatic Rebalancing when adding a new server in the cluster 4. Offered storage shall allow capacity extensions done by adding disks to existing servers (scale-up) or adding additional servers to the system (scale-out).	Request bank to consider support for upto 16TB file size as optional on NAS Storage.	Bidder to refer corrigendum-5.
734	140	Annexure-9 Technical Specifications	Table-K Technical Specification of Network TOR Switches	B. Type 2 Switch - 24 numbers (12 DC+ 12 DRC) for Data Sl. No. 33 High Mean Time Between Failure values (>3.5 lakh hours) should be available to ensure long life of switch hardware.	Request you to change this to "High Mean Time Between Failure values (>2.7 lakh hours) should be available to ensure long life of switch hardware." Request Bank to change this value, as this is single OEM specific point . Higher MTBF values always donot provide the product reliability measurements	Bidder to refer corrigendum-5.

735	142	Annexure-9 Technical Specifications	Table-K Technical Specification of Network TOR Switches	C. Type 4 Switch - 4 numbers (2 DC+ 2 DRC) - Storage Sl. No. 33 High Mean Time Between Failure values (>3.5 lakh hours) should be available to ensure long life of switch hardware.	Request you to change this to "High Mean Time Between Failure values (>2.7 lakh hours) should be available to ensure long life of switch hardware. Request Bank to change this value, as this is single OEM specific point . Higher MTBF values always donot provide the product relaiability measurements	Bidder to refer corrigendum-5.
736	154	Annexure-9 Technical Specifications	Table-N Technical Specifications of 4 SAN Director (2 Nos at DC and 2 Nos at DR)	Sl. No: 21 Other Features The director class switch should provide Inter Chassis Link (ICL) for connecting multiple Chassis	The director class switch should provide Inter Chassis Link (ICL) or Inter Switch Link (ISL) for connecting multiple Chassis ICL is Single OEM specification , we provide the same capability using more open Industry standard ISL/Trunking . Request bank to change this remove or change this clause	Bidder to refer corrigendum-5.
737	77	Annexure-8 Scope of Work	Evaluation for Scope of Work For Open shift	Entire Clause	What is the Hardware configuration for Openshift hosting?	Details will be shared with the selected bidder
738	NA	Generic	Generic	Generic	What storage bank has present, does bank have Object, Block and File with certified Openshift CSI Driver? can same be used for Openshift Cluster?	Details will be shared with the selected bidder
739	NA	Generic	Generic	Generic	For Control Plane and Infrastructure Nodes (EFK, registry, Quay, ACS,ACM, Grafana, Prometheus) can you share the infra configuration bank is expecting to provide	Details will be shared with the selected bidder

740	NA	Generic	Generic	Generic	Bank to confirm if they intend the OEM to implement the solution for the mentioned scope of work	Bidders to comply with RFP/GeM bid terms and conditions
741	172	Generic	Generic	Generic	Please clarify on number of clusters considered to be delivered within 12 weeks.	Bidders to comply with RFP/GeM bid terms and conditions
742	138	Annexure-9 Technical Specifications	Table-K Technical Specification of Network TOR Switches	A. Type 1 Switch - 14 numbers (07 numbers in DC and 07 numbers in DRC) - Mgmt. Sl. No: 16 Switch should support duplicates port traffic (ingress and egress) to a local or remote monitoring port.	Need further clarity on this point	Switches must support port mirroring.
743	139	Annexure-9 Technical Specifications	Table-K Technical Specification of Network TOR Switches	B. Type 2 Switch - 24 numbers (12 DC+ 12 DRC) for Data Sl. No: 7 Latency should be less than 2 microsecond.	Need to understand the calculation for Latency	Bidders to comply with RFP/GeM bid terms and conditions
744	140	Annexure-9 Technical Specifications	Table-K Technical Specification of Network TOR Switches	B. Type 2 Switch - 24 numbers (12 DC+ 12 DRC) for Data Sl. No: 21 Switch should support duplicates port traffic (ingress and egress) to a	Need further clarity on this point	Switches must support port mirroring.

				local or remote monitoring port.		
745	140	Annexure-9 Technical Specifications	Table-K Technical Specification of Network TOR Switches	B. Type 2 Switch - 24 numbers (12 DC+ 12 DRC) for Data Sl. No. 33 High Mean Time Between Failure values (>3.5 lakh hours) should be available to ensure long life of switch hardware.	Need further clarity on this point	Bidder to refer corrigendum-5.
746	141	Annexure-9 Technical Specifications	Table-K Technical Specification of Network TOR Switches	C. Type 4 Switch - 4 numbers (2 DC+ 2 DRC) - Storage Sl. No: 6 Latency should be less than 1 microsecond.	Need to understand the calculation for Latency	Bidders to comply with RFP/GeM bid terms and conditions
747	85- 159	Annexure-9 Technical Specifications	Entire Clause	Entire Clause	Requesting Bank to clarify if the SSD capacity mentioned in the RFP include boot drive capacity or it needs to be added seperately.	Bidder to refer corrigendum-5.

748	Na	Annexure-9 Technical Specifications	Table-A Technical Specification - 80 servers (41 DC and 39 DRC) Table-B Technical Specification - 28 servers (17 DC and 11 DRC) Table-C Technical Specification - 100 servers (60 DC and 40 DRC) Table-D Technical Specification - 54 servers (28 DC and 26 DRC) Table-E Technical Specification - 226 servers (135 DC and 91 DRC)	Sl. No: 6- Memory Slot Count- Minimum 24 or higher, Minimum 8 free memory slots should be available.	Requesting bank to change it to minimum 16 memory slots per processor and minimum 50% free memory slots should be available so that bank has a better option for future expandability	Bidder to refer corrigendum-5.

749	87	Annexure-9 Technical Specifications	Table-A Technical Specification - 80 servers (41 DC and 39 DRC)	Sl. No: 9- SAN & Network cards 1 Gbps- 2*1Gbps - Two Network Cards, each equipped with at least two 1-gigabit network ports (Four Port of 1Gbase-T On-Board or separate NIC with supported minimum 5 meter of compatible Cat6/Cat7 UTP Cable)	Request bank to clarify on the number of actual 1GB network card required. We understand that the requirement is for 4 ports of 1 GB ethernet. We would request bank to look at 4 -port (embedded/PCIe) card instead of dual port card inorder to maintain empty PCI slot for future expandability	Bidder to refer corrigendum-5.
750	87,93,99,105,111 & 119	Annexure-9 Technical Specifications	Table-A Technical Specification - 80 servers (41 DC and 39 DRC) Table-B Technical Specification - 28 servers (17 DC and 11 DRC) Table-C Technical Specification - 100 servers (60 DC and 40 DRC) Table-D Technical Specification - 54 servers (28 DC and 26 DRC) Table-E Technical Specification -	Sl. No: 9 SAN & Network cards 10 Gbps 2*10Gbps -Two Network Cards, each equipped with at least two 10-gigabit network ports (Four Port BaseT NIC LOM or separate NIC with minimum 5 meter Cat6A/Cat7 UTP Cable.	Request bank to clarify on the number of actual 10 GB network card. We understand that the requirement is for 4 ports of 10 GB. We would request bank to look at 4 -port (embedded/PCIe) card instead of dual port card inorder to maintain empty PCI slot for future expandability	Bidder to refer corrigendum-5.

			226 servers (135 DC and 91 DRC) Table-F Custom Technical Specification - 12 servers			
751	87, 93, 99, 105, 112, 119	Annexure-9 Technical Specifications	Table-A Technical Specification - 80 servers (41 DC and 39 DRC) Table-B Technical Specification - 28 servers (17 DC and 11 DRC) Table-C Technical Specification - 100 servers (60 DC and 40 DRC) Table-D Technical Specification - 54 servers (28 DC and 26 DRC) Table-E Technical Specification - 226 servers (135 DC and 91 DRC)	Sl. No. 10. OS & Hypervisor Compatibility Windows Compatibility- 2016/2019/2022	Request Bank to kindly remove Windows 2016 since it is EoL, also latest generation of servers supports Windows 2019 and above.	Bidder to refer corrigendum-5.

			Table-F Custom Technical Specification - 12 servers			
752	87, 93, 99, 106, 112 & 119	Annexure- 9Technical Specifications	Table- A Technical Specification - 80 servers (41 DC and 39 DRC)Table- B Technical Specification - 28 servers (17 DC and 11 DRC)Table- C Technical Specification - 100 servers (60 DC and 40 DRC)Table- D Technical Specification - 54 servers (28 DC and 26 DRC)Table- E Technical Specification - 226 servers (135 DC and 91 DRC)Table- F Custom Technical	Sl. No: 10- OS & Hypervisor CompatibilityOther Latest Linux Flavours- Latest server operating versions of Centos, SUSE Linux, Oracle Linux, Ubuntu ,RHCOS	Request bank to remove CentOS since open source and community support is only available	Bidder to refer corrigendum-5.

			Specification - 12 servers			
753	87, 93, 99, 106, 112 & 119	Annexure-9 Technical Specifications	Table-A Technical Specification - 80 servers (41 DC and 39 DRC) Table-B Technical Specification - 28 servers (17 DC and 11 DRC) Table-C Technical Specification - 100 servers (60 DC and 40 DRC) Table-D Technical Specification - 54 servers (28 DC and 26 DRC) Table-E Technical Specification - 226 servers (135 DC and 91 DRC) Table-F Custom Technical Specification - 12 servers	Sl. No: 10- OS & Hypervisor Compatibility Other Latest Linux Flavours- Latest server operating versions of Centos, SUSE Linux, Oracle Linux, Ubuntu ,RHCOS	Requesting bank to make it RHCOS/ Redhat Openshift container platform. As there is no separate certification for RHCOS. RHCOS is a part of Redhat Openshift container platform	Bidder to refer corrigendum-5.

754	88, 94, 100, 106, 112 & 120	Annexure-9 Technical Specifications	Table-A Technical Specification - 80 servers (41 DC and 39 DRC) Table-B Technical Specification - 28 servers (17 DC and 11 DRC) Table-C Technical Specification - 100 servers (60 DC and 40 DRC) Table-D Technical Specification - 54 servers (28 DC and 26 DRC) Table-E Technical Specification - 226 servers (135 DC and 91 DRC) Table-F Custom Technical Specification - 12 servers	Sl. No: 14- Port 3 USB3.0 port and 1 VGA Port	Requesting bank to change it to USB 3.0 or higher and 1 VGA Port	Bidder to refer corrigendum-5.

755	89, 95, 101, 107, 113 & 121	Annexure- 9Technical Specifications	Table- ATechnical Specification - 80 servers (41 DC and 39 DRC)Table- BTechnical Specification - 28 servers (17 DC and 11 DRC)Table- CTechnical Specification - 100 servers (60 DC and 40 DRC)Table- DTechnical Specification - 54 servers (28 DC and 26 DRC)Table- ETechnical Specification - 226 servers (135 DC and 91 DRC)Table- FCustom Technical Specification - 12 servers	Sl. No: 18Remote Management-Telemetry Streaming, Idle Server Detection, Real-time power meter, temperature monitoring, customized administration and management of System Temperature and Cooling Sub-system.	Requesting bank to remove customized administration of System Temperature and Cooling Sub-system for wider participation of OEM	Bidder to refer corrigendum-5.

756	90, 96, 102, 108, 115 & 122	Annexure-9 Technical Specifications	Table-A Technical Specification - 80 servers (41 DC and 39 DRC) Table-B Technical Specification - 28 servers (17 DC and 11 DRC) Table-C Technical Specification - 100 servers (60 DC and 40 DRC) Table-D Technical Specification - 54 servers (28 DC and 26 DRC) Table-E Technical Specification - 226 servers (135 DC and 91 DRC) Table-F Custom Technical Specification - 12 servers	Sl. No: 19- System Management Solution 3. The system management solution should be provided: c. Bare-metal server deployment and cloning	Plesae clarify cloning functionality desired	Bidder to refer corrigendum-5.

757	97	Annexure-9 Technical Specifications	Table-C Technical Specification - 100 servers (60 DC and 40 DRC)	Sl. No: 5- Processor Socket Minimum 2 sockets i.e., 32*1 =32 core (1 Populated & 1 For future upgrade)	Requesting bank to modify the requirement to accommodate two processors of 32 core; in order to meet network interface card & the memory requirement as per RFP. For a single processor only 3 Nos of PCIE slots & 16 nos of DIMM slots will be available. Now as per the RFP the total nos of PCIE slot required is 6 Nos & 24 nos DIMM slot required which can only be complied by adding another processor	Bidder to refer corrigendum-5.
758	110	Annexure-9 Technical Specifications	Table-E Technical Specification - 226 servers (135 DC and 91 DRC)	Sl. No: 5- Processor Socket Minimum 2 sockets i.e., 16*1 =16 core (1 Populated & 1 For future upgrade)	Requesting bank to modify the requirement to accommodate two processors of 16 core; in order to meet network interface card requirement. For a single processor only 3 Nos of PCIE slots & 16 nos of DIMM slots will be available. Now as per the RFP the total nos of PCIE slot required is 6 Nos & 24 nos DIMM slot required which can only be complied by adding another processor	Bidder to refer corrigendum-5.
759	116	Annexure- 9Technical Specifications	Table-FCustom Technical Specification - 12 servers	Sl. No: 5- ProcessorSocket Minimum 2 sockets i.e., 16*1 =16 core (1 Populated & 1 For future upgrade) - Type 1	Requesting bank to modify the requirement to accommodate two processors of 16 core; in order to meet network interface card requirement For a single processor only 3 Nos of PCIE slots & 16 nos of DIMM slots will be available. Now as per the RFP the total nos of PCIE slot required is 6 Nos & 24 nos DIMM slot required which can only be complied by adding another processor	Bidder to refer corrigendum-5.

760	118	Annexure-9 Technical Specifications	Table-F Custom Technical Specification - 12 servers	Sl. No: 7- SSD Slot Count- 38 or higher Minimum 4 free slots should be available for future upgrade - Type 2	Slot count 38 has been mentioned with minimum 4 free slots in the RFP. As per our calculation 12 slots are occupied with 4 free slots, as a result of which the slot count should be 16. Requesting bank to change slot count to 16 or 24 with minimum 4 free slots for wider participation of OEM	Bidder to refer corrigendum-5.
761	132	Annexure-9 Technical Specifications	Table-H Storage Technical Specifications: (Enterprise Block Storage 2.0PB Usable Space: DC -2, DRC -2)	Sl. No: 10- Hard Disk Capacity Each hard disk Capacity should not be less than 15 TB and not more than 20 TB	Each TLC NVMe SSD Capacity should not be more than 16 TB	Bidder to refer corrigendum-5.
762	138	Annexure-9 Technical Specifications	Table-K Technical Specification of Network TOR Switches	A. Type 1 Switch - 14 numbers (07 numbers in DC and 07 numbers in DRC) - Mgmt.	-	Bidders to comply with RFP/GeM bid terms and conditions
763	140	Annexure-9 Technical Specifications	Table-K Technical Specification of Network TOR Switches	B. Type 2 Switch - 24 numbers (12 DC+ 12 DRC) for Data Sl. No. 33 High Mean Time Between Failure values (>3.5 lakh hours) should be available to ensure long life of switch hardware.	Request to change the clause to Min 2L Hours or above to qualify all the standard OEMs	Bidder to refer corrigendum-5.

764	140	Annexure-9 Technical Specifications	Table-K Technical Specification of Network TOR Switches B. Type 2 Switch - 24 numbers (12 DC+ 12 DRC) for Data	Additional Clause	is there any existing Spine switches? Can you please let us know the Spine details to understand, also please confirm the leaf to spine connectivity type and speed?	Details will be shared with the selected bidder
765	142	Annexure-9 Technical Specifications	Table-K Technical Specification of Network TOR Switches	C. Type 4 Switch - 4 numbers (2 DC+ 2 DRC) - Storage Sl. No. 33 High Mean Time Between Failure values (>3.5 lakh hours) should be available to ensure long life of switch hardware.	Request to change the clause to Min 2L Hours or above to qualify all the standard OEMs	Bidder to refer corrigendum-5.
766	140	Annexure-9 Technical Specifications	Table-K Technical Specification of Network TOR Switches C. Type 4 Switch - 4 numbers (2 DC+ 2 DRC) - Storage	Additional Clause- Proposed switches must support - iSCSI, Lossless iSCSI, RDMA over Converged Ethernet version 2 (RoCE v1 and v2) and Non- Volatile Memory Express (NVMe over Fabrics)	DC Storage switches, hence please consider the this storage related protocol.	Bidders to comply with RFP/GeM bid terms and conditions

767	142	Annexure-9 Technical Specifications	Table-K Technical Specification of Network TOR Switches	In addition to the above access switches Bidder to supply Distribution Switches in High availability with required capacity to connect all supplied access switches with dual uplink of 10/40/100 Gbps in active-active mode for redundancy and load sharing (DC - 2, DRC - 2)	Please clarify the Points.. What is the predominant Port speed ?	Bidders to comply with RFP/GeM bid terms and conditions
768	64	Annexure-2 Pre- Qualification Criteria	Sl. No. 6	Pre-Qualification Criteria: The bidder should have yearly average turnover of 300 Crores in India for the last three financial years 2020-2021, 2021-2022, 2022-2023 from their Indian operation as per the audited Financial Statements. This must be the individual company turnover and not of any group of companies.	Kindly request bank team to relax the turnover criteria of 300 Cr to 200 Cr and also to consider ORC in turnover calculation	Bidders to comply with RFP/GeM bid terms and conditions

769	64	Annexure-2 Pre- Qualification Criteria	Sl. No: 8	Pre-Qualification Criteria The Bidder/OEM should have successfully supplied minimum cumulative 500 Nos. of Servers in India in the last three years out of which the bidder should have successfully supplied Hardware and software as a service model at least 100 servers deployed at Customer's DC and DR in Indian Market in any 1 Scheduled Commercial Bank/ NBFC/ Insurance Company/ PSU/ Central Government Organization in India in the last three years as on the date of submission of bid for this RFP.	Kindly request Bank team to relax the minimum cumulative number of Servers to 300 Servers	Bidder to refer corrigendum-5.
770	77	Annexure-8 Scope of Work	Evaluation for Scope of Work For Open shift	Entire Clause	What is the Hardware configuration for Openshift hosting?	Details will be shared with the selected bidder
771	77	Annexure-8 Scope of Work	Evaluation for Scope of Work For Open shift	Entire Clause	What storage bank has present, does bank have Object, Block and File with certified Openshift CSI Driver? can same be used for Openshift Cluster?	Details will be shared with the selected bidder
772	32	SECTION D - BID PROCESS	6. Earnest Money Deposit (EMD)/Bank Guarantee in lieu of EMD	Entire Clause	Kindly request if Bank can consider Fixed Deposit with the Bank for the same amount	Bidders to comply with RFP/GeM bid terms and conditions

773	15	SECTION C - DELIVERABLE AND SERVICE LEVEL AGREEMENTS	3. Training:	The selected vendor has to give demo and explain operational guidelines of the product at the site of the installation to Bank's Officials.	Kindly share the No of Person and Training Location details	No separate training session is required, other than the training mentioned in the RFP document.
774	15	SECTION C - DELIVERABLE AND SERVICE LEVEL AGREEMENTS	2. Integration & Interfaces	2.1. The selected bidder has to work with different application vendors in order to integrate new solution to the existing workload or new workloads during contract period.	Please share the Migration details for SOW. What kind of application running	Details will be shared with the selected bidder
775	15	SECTION C - DELIVERABLE AND SERVICE LEVEL AGREEMENTS	2. Integration & Interfaces	2.1. The selected bidder has to work with different application vendors in order to integrate new solution to the existing workload or new workloads during contract period.	Please share the existing workload details	Details will be shared with the selected bidder

776	17	SECTION C - DELIVERABLE AND SERVICE LEVEL AGREEMENTS	7. Penalties/Liqu idated Damages	7.1. Penalties/Liquidated damages for delay in Supply, Installation, Configuration, Implementation Other related items would be as under:7.1.1. Non-compliance of the Supply/delivery of Hardware as per Table mentioned in clause 1.3, Section C will result in the Bank imposing penalty of 0.50% on delay in delivery per week or part thereof, on the Total cost of Servers & other Items mentioned in Table-A as per Bill of material Annexure-16, subject to the maximum of 10% of the Total Cost mentioned in Table - A.	Kindly amend this clause as the LD on undelivered products	Bidders to comply with RFP/GeM bid terms and conditions

777	20	SECTION C - DELIVERABLE AND SERVICE LEVEL AGREEMENTS	8. Payment Terms	8.1. The payment schedule for Hardware will be as under and will release after execution of contract agreement: Full Clause	After Completion of Warranty Period (i.e., three years). Warranty period.:10% Please changes to 10% against submisison of PBG of equivilent amount AMC HW half yearly in advance SW: ATS for SW yearly advance	Bidders to comply with RFP/GeM bid terms and conditions
778	64	Annexure-2 Pre- Qualification Criteria	Sl. No: 8	Pre-Qualification Criteria The Bidder/OEM should have successfully supplied minimum cumulative 500 Nos. of Servers in India in the last three years out of which the bidder should have successfully supplied Hardware and software as a service model at least 100 servers deployed at Customer's DC and DR in Indian Market in any 1 Scheduled Commercial Bank/ NBFC/ Insurance Company/ PSU/ Central Government Organization in India in the last three years as on the date of	Kindly amend this clause as cumulative 300 Nos. of Servers in India in the last Seven years	Bidder to refer corrigendum-5.

				submission of bid for this RFP.		
779	64	Annexure-2 Pre- Qualification Criteria	Sl. No: 8	Pre-Qualification Criteria The Bidder/OEM should have successfully supplied minimum cumulative 500 Nos. of Servers in India in the last three years out of which the bidder should have successfully supplied Hardware and software as a service model at least 100 servers deployed at Customer's DC and DR in Indian Market in any 1 Scheduled Commercial Bank/ NBFC/ Insurance Company/ PSU/ Central Government Organization in India in the last three years as on the date of submission of bid for this RFP.	This is purchase on CAPX request you to drop the requirement of 100 Servers on SAS mode. Also requires to Cumulative 500 nos. to 300 nos.	Bidder to refer corrigendum-5.
780	205	Appendix- GDRAFT CONTRACT AGREEMENT	17. CORRUPT AND FRAUDULENT PRACTICES:	17.2. Vendor/Service Provider shall ensure compliance of CVC guidelines issued or to be issued from time to time for selection of vendor for Supply, Implementation, Migration and Support of the hardware by the Bank.	If you can remove the Software IBM, Jboss etc. from this scope of this RFP	Bidders to comply with RFP/GeM bid terms and conditions

781	88	Annexure-9 Technical Specifications	Table-A Technical Specification - 80 servers (41 DC and 39 DRC)	Sl. No: 14 Port- 3 USB3.0 port and 1 VGA Port	We request the Bank to also add “RDX USB 3.0 External Removable RDX Drive with 5TB Media” with Each Server which gives these Servers an added technology & protects system & OS against Drive failure, System Crash , Virus Infection and ransomware . Previously, Banks used to buy DAT 160/DAT 320 etc along with the Server . , but those are Obsolete. *OS Volume and Configuration Bare Metal Restore for Quick Server OS Uptime and Serviceability. *Protect System and OS Configurations against Drive Failure, System Crash, Virus Infection or Ransomware Attack. *Removable Disk and Eject Technology provides a True Air-Gapped Data Protection Mechanism.	Bidder to refer corrigendum-5.
782	94	Annexure-9 Technical Specifications	Table-B Technical Specification - 28 servers (17 DC and 11 DRC)	Sl. No: 14 Port- 3 USB3.0 port and 1 VGA Port	We request the Bank to also add RDX USB 3.0 External Removable RDX Drive with 5TB Media with Each Server which gives these Servers an added technology & protects system & OS against Drive failure, System Crash , Virus Infection and ransomware . Previously, Banks used to buy DAT 160/DAT 320 etc along with the Server . , but those are Obsolete. OS Volume and Configuration Bare Metal Restore for Better Server OS Uptime and Serviceability. Protect Configurations against Drive Failure, System Crash, Virus Infection	Bidder to refer corrigendum-5.

					or Ransomware Attack. Removable Disk and Eject Technology provides a True Air-Gapped Data Protection Mechanism.	
783	100	Annexure-9 Technical Specifications	Table-C Technical Specification - 100 servers (60 DC and 40 DRC)	Sl. No: 14 Port- 3 USB3.0 port and 1 VGA Port	We request the Bank to also add RDX USB 3.0 External Removable RDX Drive with 5TB Media with Each Server which gives these Servers an added technology & protects system & OS against Drive failure, System Crash , Virus Infection and ransomware . Previously, Banks used to buy DAT 160/DAT 320 etc along with the Server . , but those are Obsolete. OS Volume and Configuration Bare Metal Restore for Better Server OS Uptime and Serviceability. Protect Configurations against Drive Failure, System Crash, Virus Infection or Ransomware Attack. Removable Disk and Eject Technology provides a True Air-Gapped Data Protection Mechanism.	Bidder to refer corrigendum-5.

784	106	Annexure-9 Technical Specifications	Table-D Technical Specification - 54 servers (28 DC and 26 DRC)	Sl. No: 14 Port- 3 USB3.0 port and 1 VGA Port	We request the Bank to also add RDX USB 3.0 External Removable RDX Drive with 5TB Media with Each Server which gives these Servers an added technology & protects system & OS against Drive failure, System Crash , Virus Infection and ransomware . Previously, Banks used to buy DAT 160/DAT 320 etc along with the Server . , but those are Obsolete. OS Volume and Configuration Bare Metal Restore for Better Server OS Uptime and Serviceability. Protect Configurations against Drive Failure, System Crash, Virus Infection or Ransomware Attack. Removable Disk and Eject Technology provides a True Air-Gapped Data Protection Mechanism.	Bidder to refer corrigendum-5.
785	112	Annexure-9 Technical Specifications	Table- ETechnical Specification - 226 servers (135 DC and 91 DRC)	Sl. No: 14Port- 3 USB3.0 port and 1 VGA Port	We request the Bank to also add RDX USB 3.0 External Removable RDX Drive with 5TB Media which gives these Servers an added technology & protects system & OS against Drive failure, System Crash , Virus Infection and ransomware . Previously, Banks used to buy DAT 160/DAT 320 etc along with the Server . , but those are Obsolete.OS Volume and Configuration Bare Metal Restore for Better Server OS Uptime and Serviceability.Protect Configurations against Drive Failure, System Crash, Virus Infection or Ransomware Attack.Removable Disk	Bidder to refer corrigendum-5.

					and Eject Technology provides a True Air-Gapped Data Protection Mechanism.	
786	87, 93, 99, 105, 111 & 118	Annexure-9 Technical Specifications	Table-A Technical Specification - 80 servers (41 DC and 39 DRC) Table-B Technical Specification - 28 servers (17 DC and 11 DRC) Table-C Technical Specification - 100 servers (60 DC and 40 DRC) Table-D Technical Specification - 54 servers (28 DC and 26 DRC) Table-E Technical Specification - 226 servers (135 DC and 91 DRC) Table-F Custom Technical Specification - 12 servers	Sl. No: 9 SAN & Network FC HBA CARD- Two FC Card with minimum 1 number of 32 Gbps FC ports in each card with Supported SFP+ transceivers (With NVME Capable)	Is the transceivers(optics)required are the native FC 32Gb transceivers or an SFP+ optic? And should it support NVME OF protocol?	Bidders to comply with RFP/GeM bid terms and conditions

787	132	Annexure-9 Technical Specifications	Table-H Storage Technical Specifications: (Enterprise Block Storage 2.0PB Usable Space: DC -2, DRC -2)	Sl. No: 10- Hard Disk Capacity Each hard disk Capacity should not be less than 15 TB and not more than 20 TB	Capacity restriction per drive applies only for near line drives or also for NVMe and SSD drives.	Bidder to refer corrigendum-5.
788	134	Annexure-9 Technical Specifications	Table-H Storage Technical Specifications: (Enterprise Block Storage 2.0PB Usable Space: DC -2, DRC -2)	Sl. No: 22- Uptime The storage should be able to provide availability parameter of 99.90 % from the date of acceptance of the Storage by Bank	Is it possible to specify the application which the object storage would be supporting?	
789	124- 125	Annexure-9 Technical Specifications	Table-G Storage Technical Specifications: (Object Storage 2.0PB Usable Space: DC -1, DRC -1)	Sl. No: 8 Capacity- Minimum usable storage 2 PB after RAID6/ Dual RAID6 Configuration.(Without considering any data reduction features such as compression, deduplication etc .,)	The usable space required can be considered as the effective capacity. That's after considering De-dupe and compression.	
790	154	Annexure-9 Technical Specifications	Table-N Technical Specifications of 4 SAN Director (2 Nos at DC and 2 Nos at DR)	Sl. No: 21 Other Features The director class switch should provide Inter Chassis Link (ICL) for connecting multiple Chassis	Do we provide FCIP routers for Storage based replication between DC and DR. If yes , pls specify the WAN Bandwidth between DC and DR and RPO details.	Bidder to refer corrigendum-5.

791	159	Annexure-9 Technical Specifications	Table-Q Technical Specifications of 2 LTO9 standalone Tape Drive (1 DC and 1 DRC)	Sl. No: 5 Tape Drive- One LTO-9 Drive with FC Connectivity to support 8Gbps or more.	One LTO-9 Drive with SAS/FC Connectivity to support 8Gbps FC or 12Gbps SAS or more to be provided , Bidder must provide the appropriate SAS HBA card on the Server directly & SAS/FC Cable by the Bidder STAND ALONE DRIVES are Not available in FC , all major brands provide Standalone drive in SAS model only. ELSE, Bank can ask bidders to provide 1U, 8 Slots Autoloader with LTO9 FC drive , each site can be provided if FC is mandatory Required .	Bidder to refer corrigendum-5.
792	159	Annexure-9 Technical Specifications	Table-Q Technical Specifications of 2 LTO9 standalone Tape Drive (1 DC and 1 DRC)	Sl. No: 6 Cables- Necessary OM3/OM4 FC cables of length 15 meters	Necessary OM3/OM4 FC cables of length 15 meters or SAS CABLE 12Gbps HD apprx 2 mtrs STAND ALONE DRIVES are Not available in FC , all major brands provide Standalone drive in SAS model only.	Bidder to refer corrigendum-5.

793	97	Annexure-9 Technical Specifications	Table-C Technical Specification - 100 servers (60 DC and 40 DRC)	Sl. No: 5- Processor Socket Minimum 2 sockets i.e., 32*1 =32 core (1 Populated & 1 For future upgrade)	Request you to kindly amend this clause to Dual Socket, i.e. 2* 32 Core, or we request to reduce the Quantity of Servers to 50 no.'s from 100 no.'s and increase processor socket to 2 no.'s per node, which will help OEMs to suffice other parameters mentioned in the Tender RFP such as Total no. of DIMM slots, PCI slots and Raid controller card. Please note: we have limitation on Single socket Processor, as it comes with 12DIMM Memory slots and 2 PCI Slot & RAID Card will be with no cache and supporting 0,1 Support, Hence we request you to kindly change it to dual socket i.e. 2*32 core from single socket or we request you to kindly reduce the node count by increasing the socket count per node, or else we will not be able to participate.	Bidder to refer corrigendum-5.

794	104	Annexure-9 Technical Specifications	Table-D Technical Specification - 54 servers (28 DC and 26 DRC)	Sl. No: 5- Processor Socket Minimum 2 sockets i.e., 24*1 =24 core (1 Populated & 1 For future upgrade)	Request you to kindly amend this clause to Dual Socket, i.e. 2* 24 Core, or we request to reduce the Quantity of Servers to 27 no.'s from 54 no.'s and increase processor socket count to 2 no.'s per node, which will help OEM's to suffice other parameters mentioned in the Tender RFP such as Total no. of DIMM slots, PCI slots and Raid controller card. Please note: we have limitation on Single socket Processor, as it comes with 12DIMM Memory slots and 2 PCI Slot & RAID Card will be with no cache and supporting 0,1 Support, Hence we request you to kindly change it to dual socket i.e. 2*24 core from single socket or we request you to kindly reduce the node count by increasing the socket count per node, or else we will not be able to participate.	Bidder to refer corrigendum-5.

795	110	Annexure-9 Technical Specifications	Table-E Technical Specification - 226 servers (135 DC and 91 DRC)	Sl. No: 5- Processor Socket Minimum 2 sockets i.e., 16*1 =16 core (1 Populated & 1 For future upgrade)	Request you to kindly amend this clause to Dual Socket, i.e. 2* 16 Core, or we request to reduce the Quantity of Servers to 113 no.'s from 226 no.'s and increase processor socket to 2 no.'s per node, which will help OEM's to suffice other parameters mentioned in the Tender RFP such as Total no. of DIMM slots, PCI slots and Raid controller card. Please note: we have limitation on Single socket Processor, as it comes with 12DIMM Memory slots and 2 PCI Slot & RAID Card will be with no cache and supporting 0,1 Support, Hence we request you to kindly change it to dual socket i.e. 2*16 core from single socket or we request you to kindly reduce the node count by increasing the socket count per node, or else we will not be able to participate.	Bidder to refer corrigendum-5.

796	116	Annexure-9 Technical Specifications	Table-F Custom Technical Specification - 12 servers	Sl. No: 5- ProcessorSocket Minimum 2 sockets i.e., 16*1 =16 core (1 Populated & 1 For future upgrade) - Type 1Minimum 2 sockets i.e., 32*1 =32 core (1 Populated & 1 For future upgrade) - Type 2Minimum 2 sockets i.e., 32*1 =32 core (1 Populated & 1 For future upgrade) - Type 3	Request you to kindly amend this clause to Dual Socket, i.e. 2* 16 Core, 2*32 Core, 2*32 Core, or we request to reduce the Quantity of Servers to 6 no.'s from 12 no.'s and increase processor socket to 2 no.'s per node; which will help OEM's to suffice other parameters mentioned in the Tender RFP such as Total no. of DIMM slots, PCI slots and Raid controller card.Please note: we have limitation on Single socket Processor, as it comes with 12DIMM Memory slots and 2 PCI Slot & RAID Card will be with no cache and supporting 0,1 Support, Hence we request you to kindly change it to dual socket i.e. 2*16 core, 2* 32 Core, 2* 32Core from single socket or we request you to kindly reduce the node count by increasing the socket count per node, or else we will not be able to participate.	Bidder to refer corrigendum-5.
797	NA	Generic	Generic	Generic	What is the expected performance from the set of 40 drives in the Tape library. Since the TL is a sequential write device, the writes need to be planned by the backup software so that the writes to the tape library are in parallel and backup is completed in the required time	Bidders to comply with RFP/GeM bid terms and conditions
798	NA	Generic	Generic	Generic	What is the type and average size of data that is being backed up as the performance of the tape depends on	Details will be shared with the selected bidder

					the data sizes. Small files take longer to backup	
799	NA	Generic	Generic	Generic	Is the backup software being considered capable of doing parallel writes to the tape drives to ensure that all the drives are engaged in the backup activity and the backup window is met	Bidders to comply with RFP/GeM bid terms and conditions
800	NA	Generic	Generic	Generic	As we see a request to supply LTO7 media, what is the plan to read LTO7 media. Since the LTO9 drives has a backward compatibility of one generation i.e. LTO8, we would need drives that are compatible to read LTO7 media	Bidders to comply with RFP/GeM bid terms and conditions
801	NA	Generic	Generic	Generic	There is a request to supply 400 LTO9 media, 1,900 LTO8 media and 100 LTO7 media per site and this requires a total of 2400 slots on the library, please let us know how the media will be managed	Details will be shared with the selected bidder
802	NA	Generic	Generic	Generic	Would there be a mix of different generation of media in the tape library (LTO9 and LTO8) if yes, we would appreciate if the split between the LTO8 and LTO9 in the TL is shared	Bidders to comply with RFP/GeM bid terms and conditions
803	NA	Generic	Generic	Generic	What is the Backup Policies and Backup Window planned along with Data Retention	Details will be shared with the selected bidder

Date: 20/06/2024
Place: Bengaluru

-SD-
Deputy General Manager

Corrigendum-5 to GeM Bid ref. no GEM/2024/B/4915191 dated 04/05/2024 for Selection of vendor for Supply, Installation, Configuration, Implementation and Maintenance of 500 Nos. of Servers and other IT Infra Components in Canara Bank.

It is decided to amend the following in respect of the above RFP:

e. GeM bid document (Bid End date/ Bid Opening Date, Page no. 1 of 7):

Description	Existing details	Amended details
Bid End Date/Time	21/06/2024, 15:00:00	<u>28/06/2024</u> , 15:00:00
Bid opening Date/Time	21/06/2024, 15:30:00	<u>28/06/2024</u> , 15:30:00

b.

Sl. No	Section/Annexure/Appendix of GeM Bid	Clause No.	Existing Clause	Amended Clause
1.	Section C - Deliverable and Service Level Agreements	6. Uptime	6.1. The selected bidder shall guarantee a 24x7x365 availability with monthly uptime of 99.90 % for block storage and 99.00% for all the other hardware and software as per Scope of Work (Annexure-8), during the contract period, which shall be calculated on monthly basis.	6.1. The selected bidder shall guarantee a 24x7x365 availability with monthly uptime of <u>99.99%</u> for block storage and 99.00% for all the other hardware and software as per Amended Scope of Work (Annexure-8), during the contract period, which shall be calculated on monthly basis.
2.	Section C - Deliverable and Service Level Agreements	8. Payment Terms	Clause 8.1. Table Sl. No: 8 Payment Stages: AMC as mentioned in Table-F. Condition/Remarks: Quarterly in arrears on submission of Quarterly Preventive Maintenance activity report and acceptance duly signed by Bank officials of the respective officials of the respective Branch/Office.	Clause 8.1. Table Sl. No: 8 Payment Stages: <u>AMC /ATS Cost for Hardware/Software/Licenses for 2 Years on post warranty as mentioned in Table-E of the Amended Annexure-16 Bill of Material.</u> Condition/Remarks: Quarterly in arrears on submission of Quarterly Preventive Maintenance activity report and acceptance duly signed by Bank officials of the respective officials of the respective Branch/Office. Or <u>Yearly in advance on submission of BG equivalent</u>

Sl. No	Section/Annexure/Appendix of GeM Bid	Clause No.	Existing Clause	Amended Clause
				<u>to the total AMC/ATS cost per year.</u> <u>Payment for IBM WebSphere support will be made Yearly in advance on submission of BG equivalent to the total support cost per year.</u>
3.	Section C - Deliverable and Service Level Agreements	13. Local Support	13.2. Response Time and Meantime to Restore [MTTR] 13.2.1. Response Time shall be 4 hours for DC, Bangalore and DRC, Mumbai. MTTR shall be within 24 hours.	13.2. Response Time and Meantime to Restore [MTTR] 13.2.1. Response Time shall be <u>6 hours</u> for DC, Bangalore and DRC, Mumbai. MTTR shall be within 24 hours.
4.	Annexure-2 Pre-Qualification Criteria	Sl.no 8.	Pre-Qualification Criteria: The Bidder/OEM should have successfully supplied minimum cumulative 500 Nos. of Servers in India in the last three years out of which the bidder should have successfully supplied Hardware and software as a service model at least 100 servers deployed at Customer's DC and DR in Indian Market in any 1 Scheduled Commercial Bank/ NBFC/ Insurance Company/ PSU/ Central Government Organization in India in the last three years as on the date of submission of bid for this RFP.	Pre-Qualification Criteria: The Bidder/OEM should have successfully supplied minimum cumulative 500 Nos. of Servers in India in the last three years. <u>Out of 500 servers the bidder should have successfully supplied Hardware cumulative of 100 servers deployed (irrespective of OEM) at Customer's DC/ DR in Indian Market in any of the Scheduled Commercial Bank/ NBFC/ Insurance Company/ PSU/ Central Government Organization in India in the last three years as on the date of submission of bid for this RFP.</u>
5.	Annexure-2 Pre-Qualification Criteria	Sl.no 4.	Pre-Qualification Criteria: Bidder should be the Original Equipment Manufacturer (OEM)/ Original Software Owner (OSO)/ Original Software Developer (OSD) of Hardware. (OR) An authorized dealer/distributor of the proposed Hardware	Pre-Qualification Criteria: Bidder should be the Original Equipment Manufacturer (OEM)/ Original Software Owner (OSO)/ Original Software Developer (OSD) of Hardware/ <u>Software.</u> (OR) <u>A dealer/ distributor/ Company authorized by the</u>

Sl. No	Section/Annexure/Appendix of GeM Bid	Clause No.	Existing Clause	Amended Clause
			Documents to be submitted In compliance with Pre-Qualification Criteria. If the applicant is OSD/OSO, an Undertaking Letter has to submit in this effect. (OR) If the bidder is an authorized dealer/distributor, an authorization letter from their OEM and OSO/ OSD to deal/market their product in India and it should be valid for entire contract period from the date of submission of the bid.	<u>OEM/OSD/OSO of the proposed Hardware/Software.</u> Documents to be submitted In compliance with Pre-Qualification Criteria. If the applicant is OEM/OSD/OSO, an Undertaking Letter has to submit in this effect. (OR) If the bidder is an authorized dealer/ distributor/ <u>Company</u> , an authorization letter from their OEM/OSO/ OSD to deal/market their product in India and it should be valid for entire contract period from the date of submission of the bid.
6.	Annexure-2 Pre-Qualification Criteria	Sl.no 5.	The Bidder should have an active and premium partnership with Hardware OEM to offer their Hardware and Software as a service to Bank Documents to be submitted In compliance with Pre-Qualification Criteria Copy of partnership certificate from OEM.	The Bidder should have an active <u>partnership with Hardware/Software OEM/OSO/OSD to provide timely support and services for the offered Hardware/Software</u> Documents to be submitted In compliance with Pre-Qualification Criteria <u>Copy of certificate from OEM/OSO/OSD should be submitted to this effect.</u>
7.	Section C - Deliverable and Service Level Agreements	10. Scope involved during Contract period	10.9. Any server for middleware, database, OS and database licenses to be provided by the successful bidder without any additional cost to the Bank.	This Clause stands deleted
8.	Annexure-8 Scope of Work	Full Annexure	Existing Annexure	Amended Annexure-8 Scope of Work attached to this Corrigendum.
9.	Annexure-9 Technical Specifications	Full Annexure	Existing Annexure	Amended Annexure-9 Technical Specifications attached to this Corrigendum.
10.	Annexure-16 Bill of Material	Full Annexure	Existing Annexure	Amended Annexure-16 Bill of Material attached to this Corrigendum.

Sl. No	Section/Annexure/Appendix of GeM Bid	Clause No.	Existing Clause	Amended Clause
11.	Section C - Deliverable and Service Level Agreements	1. Project Timelines	Existing Clause	Amended Project Timelines attached to this Corrigendum.

All the other instructions and terms & conditions of the above RFP shall remain unchanged.

Please take note of the above amendments while submitting your response to the subject RFP

Date: 20/06/2024
Place: Bengaluru

-SD-
Deputy General Manager

SECTION C - DELIVERABLE AND SERVICE LEVEL AGREEMENTS

1. Project Timelines

- 1.1. The Bidder should accept the Purchase Order within seven (7) days from the date of issuance of Purchase Order. In case of non-receipt of acceptance by the due date, the Purchase Order shall deem to have been accepted by the vendor.
- 1.2. 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.
- 1.3. The timelines **are mention in the below table**. It will be the sole responsibility of the vendor to submit any form required for release of shipment from the check post.

Sl. No.	Activity	Timelines from date of Acceptance of PO
1	Delivery of all Hardware and <u>software along with licenses</u>	Within 12 weeks from date of Acceptance of PO
2	Installation of all Hardware	Within 6 weeks from the date of delivery of hardware
3	Configuration, implementation and completion of all scope of work	Within 12 weeks from the date of delivery of hardware/Software

- 1.4. The Bidder shall ensure that the Renewal of Licenses/ Subscriptions/ Fees /AMC/ATS/ Support contracts as applicable, during the period of Contract is completed before expiry date of respective components and the renewal process should be initiated at least 6 months prior to the date of expiry.
- 1.5. Bank reserves the right to change/modify locations for supply of the items. In the event of any change/modification in the locations where the hardware items are to be delivered, the bidder in such cases shall Supply, Installation, Configuration, Implementation and Maintenance at the modified locations at no extra cost to the Bank. However, if the hardware items are already delivered, and if the modifications in locations are made after delivery, the bidder shall carry out Installation, Configuration, Implementation and Maintenance at the modified locations and the Bank in such cases shall bear the shifting charges/arrange shifting as mutually agreed. The Warranty/ATS/AMC and all RFP terms should be applicable to the altered locations also as per the Bank's requirement without any extra cost to the Bank during the full contract period.
- 1.6. The Installation will be deemed as incomplete if any component of the hardware/Software is not delivered or is delivered but not installed and / or not operational or not acceptable to the Bank after acceptance testing/ examination. In such an event, the supply and installation will be termed as incomplete and system(s) will not be accepted and the warranty period will not commence. The installation will be accepted only after complete commissioning of hardware.
- 1.7. Commissioning of the hardware and software will be deemed as complete only when the same is accepted by the Bank in accordance with the Terms & Conditions of this Tender.

- 1.8. If undue delay happens for delivery and / or installation of the ordered hardware/Software by the vendor, the same shall be treated as a breach of contract. In such case, the Bank may invoke the Performance Security/Forfeit the Security Deposit without any notice to the bidder.
- 1.9. The Bank will not arrange for any Road Permit / Sales Tax clearance for delivery of hardware to different locations and the selected bidder is required to make the arrangements for delivery of hardware to the locations as per the list of locations /items provided from time to time by the Bank. However, the Bank will provide letters / certificate / authority to the selected bidder, if required.
- 1.10. Partial or incomplete or damaged delivery of materials will not be considered as delivered of all the ordered materials. Date of delivery shall be treated as date of last material delivered to the ordered locations if materials are not damaged. In case materials are delivered with damage, Date of delivery shall be treated as date of replacement of damaged material with new one. Delivery payment shall be paid against completion of delivery of all the ordered materials without any damage and proof of delivery duly certified by Bank's Officials, along with delivery payment claim letter.

Annexure-8
Scope of Work

(Should be submitted on Company's letter head with company seal and signature of the authorized person)

SUB: Supply, Installation, Configuration, Implementation and Maintenance of 500 Nos. of Servers and other IT Infra Components in Canara Bank

Ref: GEM/2024/B/4915191 dated 04/05/2024

Sl. No.	Evaluation for Scope of Work for this project	Compliance
		(Yes/No)
1.	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 2 years ATS/AMC).	
2.	All necessary entitlements e.g. paper licenses/Key etc. for both hardware and software should be provided to the Bank.	
3.	The proposed bidder will need to ensure support of product & change of components @ zero cost in case of any part becoming obsolete/EOL & EOS during the warranty and AMC period	
4.	The bidder has to provide AMC/ATS for the all supplied Hardware and Software as per the Scope of Work post warranty period. During the warranty period and AMC period, the Bidder is bound to do all hardware spares replacement and update of proposed hardware 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.	
5.	All supplied Hardware should have redundant Power Supply and necessary cables and Rack mounting Kit.	
6.	The warranty for the proposed hardware will start on the date when the operating system and any other provided software are installed, as mentioned in the Scope of Work for the specific hardware.	
7.	Bidder has to coordinate with Bank System Integrator while implementing the solution and during any point of time when ever issue is raised by the Bank.	
8.	Bidder should keep the Bank explicitly informed about the end of support dates on related products/ hardware and should ensure support during warranty & AMC period.	
9.	The Bidder should note that servers and other items being procured shall be delivered at locations as per requirements of the Bank.	
10.	The Configuration as per the technical and other specifications offered of all equipment & other items must be functional and installed from the day one.	
11.	All necessary cables and other accessories required for successful installation of the hardware items as per the scope of work to be supplied by the Bidder and the cost of the same to be added along with the respective Hardware items while quoting.	
12.	Bidder should follow a standard development process to ensure that proposed servers meets functional, security performance and regulatory requirements of the bank.	

13.	Bidder should comply as per the IT related policies of the bank.	
14.	Bidder is responsible in installing the Hardware, Software and other items as per Technical Specifications and Scope of work in the bank environment. And as per the bank secure configuration documents	
15.	Bidder must generate and provide a complete holistic report before handover to ensure 100% serviceability of delivered hardware.	
16.	Bidder is responsible for collection of logs and submission of the logs for further analysis and providing the solution to resolve any hardware incidents.	
17.	Bidder must engage Bidder professional team/services onsite to implement/install Hardware, Software & other items.	
18.	Bidder is responsible to inform if any new stable version/update/Service pack/firmware/code upgrade/upgrade of proposed hardware is available by OEM, to the bank within seven days (7 days) of the release and provide the upgrade solution (software) within one month of such releases without any cost to the bank during the period of contract.	
19.	If any more additional licenses are procured by the bank through the successful bidder all such licenses are to be maintained by the bidder.	
20.	Bidder has to provide the escalation matrix to escalate any incident.	
21.	Bidder is responsible to provide the periodic reports of the proposed hardware health as per the bank requirement.	
22.	All installed hardware firmware must be of stable version and all recommended patches should be installed by the bidder and the same to be submitted to the bank on quarterly basis.	
23.	Bidder shall conduct preventive maintenance as may be necessary from time to time to ensure that equipment is in efficient running condition so as to ensure trouble free functioning.	
24.	All the connectivity for the hardware i.e. LAN and SAN switches need to be ensured by the bidder.	
25.	All proposed equipment's are required to connect existing SAN infrastructure.	
26.	The proposed hardware should be free from any kind of vulnerabilities.	
27.	Bidder should keep the bank explicitly informed the end of support dates on the related products/Hardware and should ensure a support during the warranty and AMC period.	
28.	Bidder must also provide the necessary power cables, LAN cables, FC cables from source to their provided rack as per the guideline of the Bank.	
29.	The Selected Bidder has to coordinate with existing vendor for the SAN cable lay, connectivity and Zoning of the SAN ports as required connecting the Proposed Hardware and Software.	
30.	Bidder support should include advice and help the bank in implementing controls for the risk advised by regulators/Govt. of India.	
31.	For delivery location, the Bidder has to provide items with the related hardware, all subsystems, operating systems, system software, software drivers and manuals etc.	
32.	The Bidder should note that Servers & Other Items being procured shall be delivered at locations as per requirements of bank and the Bidder will	

	be required to support all such installations. The Bank reserves the right to change location by giving prior notice.	
33.	The Hardware and Software installation and configuration for the entire set up to be handled by the qualified/experienced personnel only.	
34.	During installation if the bank requires any new Software/OS/Utility, Bidder has to install without any cost where the licenses of the software are with the Bank.	
35.	The Bidder shall conform the integrity of the software supplied i.e. the software is free from bugs, malware, covert channels in code etc.	
36.	Bank will not provide any remote session like Team Viewer, WebEx etc. for any kind of installation, bug fixing, update and upgrade in entire project tenure.	
37.	The bidder should provide email, telephonic and onsite support.	
38.	The proposed server network interfaces ports should be compatible with the network switches provided in this part of rfp	
39.	The proposed server FC HBA interface ports should be compatible with the SAN switches provided in this part of rfp.	
40.	All hardware delivered to be rack mounted, powered on and configured properly including tape drive, tape library , server rack with PDU,TOR Switch etc., supplied as part of this RFP	
41.	The proposed file sync software should be compatible with windows, Linux , oracle Linux and AIX for syncing the files between the servers through manual and auto scheduler	
42.	Bidder to carry out Internal structured cabling both Copper(CAT 6/CAT 7 and Fibre(OM4) for devices supplied by successful bidder, with sufficient redundancy where ever applicable/required within server racks, network racks .	
43.	Bidder to carry out the internal cabling/laying only through a certified vendor and to share the test report to Bank for acceptance.All the cables to be properly labelled, tagged and color coded as per industry standards. Cable laying, labeling and dressing will be done by bidder without any additional cost to Bank.	
44.	Structured Cabling to be used from OEM's like Amp/CommScope SYSTIMAX/ Panduit.	
45.	The Bidder will responsible for the following:	
A	Delivery of proposed hardware to Bank locations specified in BID.	
B	Safely Unpacking of shipped boxes at staging area.	
C	Physical movement of supplied hardware from staging area to Server Farm.	
D	Identification and labelling of hardware assets as per delivery invoices.	
E	Rack assembling, installation and power connectivity from industrial sockets and testing of required power rating.	
F	Mounting of servers, storages and network switches to server rack as per industry best practices.	
G	Server power on and cable dressing.	
H	Server Management connectivity.	
I	LAN and SAN Cable lay with proper labelling, tagging and cable dressing.	

J	Configuration of RAID as per requirement of bank in supplied Servers and storages	
K	LAN connectivity to bank existing network switch	
L	All activities related to Storage Administration assigned during the implementation period and till the project tenure (Warranty and AMC/ATS, if contracted) without any extra cost.	
Sl. No.	Evaluation for Scope of Work for Servers	Compliance
		Yes/No
1	Bidder has to install / re-install the operating system (if required), other software in the serves and support the same during warranty and AMC period without any extra cost to the Bank.	
2	Deployment of servers requires co-ordination with different project application vendors. The bidder should co-ordinate with the software vendors while installing and ensure installation and commissioning for running the applications for which these servers are procured.	
3	The Bidder should setup the partition as required by the Bank. The details of the setup will be provided during the setup to the successful bidder.	
4	The proposed hardware should be compatible with red hat Linux 8/9 or later and Windows 2016/2019/2022 and VMware hypervisor 7.X/8.x or later and Microsoft Hypervisor 2019 or later	
5	Hardening of the servers as per the bank secure configuration document based on the OS, Hypervisor and hardware flavours	
Sl. No.	Evaluation for Scope of Work for Storages	Compliance
		Yes/No
1	The proposed bidder needs to configure/implement the Storage as per the BANK policy. Need to provide the SOP with step by step procedure to BANK technical personnel. Need to provide document for each feature how to use/configure/admin it.	
2	Install & configure storage hardware and software components	
3	Integrate storage systems with existing infrastructure including servers, networks, and backup solutions	
4	Showcase the Monitor storage performance metrics including throughput, latency, and IOPS.	
5	Identify performance bottlenecks and implement optimization strategies such as load balancing, caching, or tiering.	
6	Tune storage configurations and parameters to maximize efficiency and responsiveness.	
7	Design and implement data protection strategies including backup, replication, and snapshotting.	
8	Implement security controls to protect sensitive data and prevent unauthorized access.	
9	Configure access controls, encryption, and authentication mechanisms according to industry best practices and regulatory requirements.	
10	Showcase Generate regular reports on storage capacity, utilization trends, and performance metrics as per bank requirement	
11	documentation on storage configurations, procedures, and troubleshooting guidelines.	
12	performing code upgrade on quarterly basis.	

Sl. No.	Evaluation for Scope of Work for MSSQL - Microsoft SQL	Compliance
		(Yes/No)
1	Installation and Configuration: Set up SQL Server databases and configure settings to ensure optimal performance and security.	
2	Security Management: Implement and maintain robust security measures to protect sensitive data from unauthorized access during the initial setup	
3	Disaster Recovery: DR Setup creation and replication to be configured	
4	Install and configure the Database as per banks security configuration document	
5	Setting up Microsoft SQL Server High Availability: Failover Cluster Instances as per requirement at DC and DRC sites	
6	Documentation: Maintain detailed documentation of database configurations, architectures, and best practices.	
7	Vendor Liaison: Work with vendors to resolve issues related to database products and services during the initial setup creation	
8	Documentation & Handover: Preparing the implementation and configuration handover documentation and providing handholding to our onsite team	
Sl. No.	Evaluation for Scope of Work for Hyper-V - Microsoft	Compliance
		(Yes/No)
1	Implementing a Hyper-V environment with clustering or load balancing for deploying applications	
2	Installation of Windows Server operating system	
3	Enabling Hyper-V role on the server.	
4	Configuring Hyper-V settings such as memory, networking, and storage.	
5	Setting up virtual switches and network adapters.	
6	Configuration of Hyper-V Clustering (Active/Active and Active/Passive) or Load Balancing	
7	Configuration of failover clustering or network load balancing features.	
8	Setting up shared storage (SAN or SMB) for clustered virtual machines.	
9	Configuring Cluster Shared Volumes (CSV) for improved storage management.	
10	Validation of cluster setup and resolving any issues.	
11	Creation of virtual machines as per bank Requirements	
12	Installation and configuration of operating systems within virtual machines.	
13	Installation of necessary software	
14	Configuration of network settings within virtual machines.	
15	Install and configure as per bank secure configuration document	
16	Implementation of security best practices for Hyper-V environments.	
17	Configuration of alerts for critical events or performance thresholds.	
18	Creation of documentation for installation, configuration, and maintenance procedures.	
19	Comprehensive testing of all components, including failover and load balancing scenarios.	
	Evaluation for Scope of Work For Open shift	Compliance

Sl. No.		(Yes/No)
1	Discover & Implementation Activities for - OCP Quay ACM ACS CICD Application On boarding - OnPrem	
	- Network - IP Segment, DNS	
	- integration of endpoints (LDAP,SMTP etc.)	
	- Storage Mapping and segregation	
	CICD Components and Flow	
2	Prepare prerequisite document(Ex.: Firewall/Port requirements, Traffic direction, etc.) document for deployment.	
3	Design Walkthrough & sign-off (LLD)	
4	ConfigureVM based Bastion/utility node.	
5	Create and configure Mirror image registry - OCP Repo registry for Disconnected Installation	
6	<u>Deployment of OCP Hub Cluster Install & RHACM :</u>	
	Create base image availability, host definition, high availability configuration	
	For Storage - Integration with Storage (RWO/RWX)	
	Configuring monitoring operators: Prometheus, Grafana and Alert Manager - Configure Integral monitoring parameters and alerting mechanism	
	Deploy metrics capabilities for collecting resource information for OCP Cluster as per bank requirements	
	<u>Install RHACM hub operator in the respective Clusters :</u>	
	Add 1x OCP Cluster to the HUB Cluster	
	Showcase Grafana Integration with RHACM to get cluster visibility	
	Showcase Red Hat's sample governance policies creation multi cluster	
7	install Quay	
	Configure Container Security Operator and Quay Bridge Operator	
	Integration with Storage	
	Configure Replication	
8	Installation & Configuration of RHACS OCP clusters	
	Showcase Red Hat sample Use/Create/Modify Policies	
	Showcase compliance scans and reports	
	Alerts/Notification Integration	
9	<u>Deployment of OCP :</u>	
	Creation of Quota objects, persistent volume provisioning, base image availability, host definition, high availability	
	For Storage - Integration with Storage (RWO/RWX)	
	Configuring Out Of Box monitoring operators: Prometheus, Grafana and Alert Manager	
	Deploy metrics capabilities for collecting resource information. Out of the Box metrics will be configured.	
	Configuration of egress IP for integration with external services	
	Configure ingress/egress routers	
	LDAP Integration with OCP GUI.	

	Configure namespaces -	
	Configure OCP Native Logging - EFK logging stack. (or) forward to External Logging system as per requirement of bank	
	Configure internal registry	
	Deploy Continuous Delivery components (ArgoCD) and CI Pipelines (Components)	
	Prepare and demonstrate pods, services, routes, SSL with known Red Hat working samples.	
10	Collaborate with various teams for Info Security fixes (OCP Platform specific)	
11	Configuration of worker nodes	
12	Create CI/CD pipeline for 1x Micro service Service endpoint	
13	Configure, EFK components, SSL certificates, secrets, config maps from Application perspective.	
14	Post deployment validation and sanity checks for Red Hat OCP	
15	Documentation for OCP Cluster implementation	
16	Knowledge transfer for OCP Cluster & Clarify queries pertaining to Implementation/Configuration.	
17	Open Shift virtualization installation, configuration, and deployment of applications in a cluster or load balancer configuration	
18	Configure the Open Shift cluster with appropriate settings for networking, storage, and authentication	
19	Set up monitoring and logging solutions for tracking the performance and health of the cluster.	
20	Enable the Open Shift virtualization feature, allowing the cluster to run virtual machines (VMs) alongside containers	
21	Configure networking for virtual machines, including defining networks, subnets, and VLANs.	
22	Set up storage for VMs, utilizing storage classes and persistent volumes within Open Shift.	
23	Define resource quotas and limits for VMs to ensure fair resource allocation across the cluster.	
24	Implement load balancing for distributing traffic across multiple instances of the application using Open Shift's built-in capabilities or external load balancers	
25	Test the deployment to ensure that applications are running correctly within the cluster	
26	Set up monitoring tools such as Prometheus and Grafana to monitor the performance and health of the cluster and applications	
27	Implement automated backups and disaster recovery procedures to ensure data integrity and availability.	
Sl. No.	Evaluation for Scope of Work for Apache Tomcat	Compliance (Yes/No)
1	Apache Tomcat web & application server installation, configuration, and deployment in a cluster or load balancer configuration.	
2	Providing step-by-step documentation for installing Apache HTTP server	

3	modify basic settings such as server name, port, and document root.	
4	Configuring the apache server as per bank secure configuration document	
5	Configuring cluster for scalability, reliability, and fault tolerance	
6	configuring Apache as a load balancer using modules like mod_proxy_balancer or mod_jk or through external load balancer as per the requirement	
7	configuring virtual hosts to host multiple applications.	
8	deploying web applications on the Apache cluster/load balancer setup	
9	testing procedures to ensure the cluster and load balancer configurations are functioning correctly	
10	Domain configuration: Customize domain settings such as ports, SSL certificates, and resource limits	
Sl. No.	Evaluation for Scope of Work for Managed File Transfer	Compliance (Yes/No)
1	The Bidder has to provide Managed File Transfer Solution covering software & services to ensure availability, scalability, redundancy and performance and to meet technical and functional requirements as per the terms of the RFP.	
2	Solution should provide unlimited users access / privilege to have multiple files transfer using this solution.	
3	The successful bidder will be expected to provide all necessary tools, software licenses (required software for the solution) implement, train and handover the solution to the IT Team.	
4	The bidder should configure encryption and MFA as per the requirement.	
5	The solution provider should provide a detailed Plan of action (POA) for implementation of Managed File Transfer Solution. It should include the approach, risk, benefits and downtime	
6	Full documentation of the project is to be included in the deliverables by the successful bidder	
7	Standard Operating Procedures and Industry Best Practice Use cases and customization to be shared	
8	Proposed solution should be in three tier architecture	
Sl. No.	Evaluation for Scope of Work for Backup Solution	Compliance (Yes/No)
1	proposed backup solution installation, configuration, and deployment of an application in a cluster or load balancer configuration	
2	Ensuring data integrity, minimizing downtime, and optimizing performance through load balancing	
3	prerequisites or dependencies required for the installation to be shared	
4	Installing backup solution on the designated servers or systems	
5	Configure the backup solution to perform regular backups	
6	Configuring backup policies, including backup frequency, retention periods, and storage locations	
7	Implement encryption and authentication mechanisms to ensure the security of backup data	
8	Design the architecture for deploying the application in a clustered or load-balanced configuration.	

9	Install and configure the necessary infrastructure components, such as servers, databases, and networking resources	
10	Configure the cluster or load balancer to distribute incoming traffic evenly across the backup application servers	
11	Implement health checks and failover mechanisms to ensure high availability and fault tolerance	
12	Fine-tune the configuration to optimize performance and scalability	
13	Develop test cases to validate the backup solution and the clustered/load-balanced application deployment.	
14	Prepare comprehensive documentation, including installation guides, configuration manuals, and troubleshooting procedures.	
15	Coordinate with stakeholders to schedule deployment activities and minimize disruption to ongoing operations	
16	Identify potential risks and mitigation strategies associated with the backup solution installation and application deployment.	
Sl. No.	Evaluation for Scope of Work for JBoss solution	Compliance (Yes/No)
1	Install, configure, and deploy applications in a clustered or load-balanced configuration using JBoss Application Server	
2	Set up the infrastructure for the JBoss cluster or load balancer configuration, including servers, networking, and storage.	
3	Install JBoss Application Server on each node in the cluster. Ensure that the versions are compatible and all necessary dependencies are met.	
4	Configure JBoss to work in a clustered environment. This involves setting up cluster nodes, configuring cluster communication, and enabling session replication if needed.	
5	Set up a load balancer to distribute incoming traffic across the JBoss cluster nodes. Configure load balancing algorithms, health checks, and session persistence as required.	
6	Package the application for deployment on JBoss. Deploy the application to each node in the cluster using the appropriate deployment methods (e.g., CLI, management console, or automation scripts)	
7	Perform thorough testing to ensure that the cluster configuration and load balancing setup are working as expected. Test failover scenarios, scalability, and performance under load.	
8	Set up monitoring and management tools to monitor the health and performance of the JBoss cluster and individual nodes. Configure alerts and dashboards for proactive management.	
9	Document the installation, configuration, and deployment processes for future reference. Knowledge transfer sessions to the operations team for maintaining the JBoss environment.	
Sl. No.	Evaluation for Scope of Work for TOR Switches	Compliance (Yes/No)
1	Bidder has to supply, install, commission, integrate, implement, manage and maintain the Switches along with required license for a period of 5 years (warranty and AMC included) at Bank DC and DRC.	
2	Bidder has to take Back-to-Back OEM support for all Hardware/Appliance, software, licenses etc.	
3	Bidder should ensure planning and designing for proposed solution.	

4	Bidder should ensure that proposed solution should work for Data, Voice and Video	
5	Bidder should adopt best practices to implement the solution and should ensure that there should not be any degradation in performance of any application due to implementation of proposed solution. If there is any degradation of performance, Bidder should replace/Upgrade the required hardware without any additional cost to Bank.	
6	Bidder should carry out all the configuration changes as per the proposal with minimum downtime.	
7	Bidder should carry out required switching in the proposed solution	
8	Bidder should deliver all equipment with latest IOS/Patches etc.	
9	Bidder should ensure use the IP address provided by Bank for any of the host without network architectural changes at DC and DRC	
10	Bidder should ensure that solution is interoperable with different OEMs for Open standard technology Deployment	
11	Bidder should ensure that proposed solution work for alternate service provider in Load balancing/Load sharing/Auto fall back in the LAN	
12	Bidder has to act as a single point of contact for the execution of the project. Initiate project kick-off meeting between their Solution Architect and Bank Project Manager. Develop project plan and track the progress against the project plan. Manage project resources, risks and issues as per project plan. Conduct regular progress meeting with Customers Project Manager	
13	Bidder has to Plan, Design considering various failovers scenarios, Integrate with existing and future infrastructure, Implement day to day changes, maintain and coordinate with OEM at Bank Data Centre and at Data Recovery Centre.	
14	Design includes low & high level diagrams, planning of the implementation and should be aimed at ensuring that a new network or service meets the needs of the Bank.	
15	Bidder should ensure and demonstrate failover scenarios at DC and to ensure Disaster recovery Plan for Business Continuity.	
16	Bidder should ensure high resilience, scalability, high security, and high availability without any single point of failure.	
17	The above mentioned HA should take care of Hardware/Software/Device/Power/Interface failure.	
18	Bidder to submit Migration plan, implementation document, solution architecture, traffic flow, cabling diagram etc.	
19	Bidder should advise and help Bank in optimizing network security, implementing security control for the risk advised by regulators, Govt. of India etc. for Provided Hardware and Software.	
20	Bidder should ensure there should be 24x7x365 TAC Support from direct OEM for any technical issue with Committed Response time to Severity-1 issues should be less then equal to 30 minutes from OEM.	
21	The Bidder should ensure RMA Shipment should be within four hours after confirmation from OEM TAC.	
22	Bidder to assign IP address and host name to all the proposed switches.	
23	Bidder to set modes of port (Duplex, Half Duplex, Auto) and assign them to the VLANs as per the implementation plan document.	

24	Bidder to Configure the Security hardening like ACL, AAA, NTP, SNMP, Net flow & Logging etc.	
25	Bidder to configure the device to integrate with SIEM, NBA etc.	
26	Bidder to configure uplink from Spine switch to Firewall with redundant 10/25/40/100Gbps links.	
27	Bidder to ensure all the Leaf/Access switches must be connected to Distribution Switch and further Spine/Core Switch with redundant 40/100 Gbps Uplink.	
28	Bidder to Create the L2 VLAN on the switch wherever required.	
29	Bidder to configure high availability features such as power supply redundancy, fabric engine redundancy etc.	
30	Bidder to Install the proposed transceivers in to router and switches and connect the uplink cables. (1/10/40G fiber)	
31	Bidder to assign the VLAN/Trunk on the respective interface connecting to Server form switch.	
32	Bidder to configure the required user/Server/Switch interface with respective VLANs.	
33	The equipment provided by Bidder should not reach End of Life or End of Support date by the OEM within the contract period. In the event of the supplied equipment reaching as EOL or EOS within the period of 5 years from the date of commissioning of the equipment, Bidder has to replace the equipment with equipment having equivalent or higher configurations. Bidder should keep the Bank explicitly informed about the end of support dates on related products/License/hardware/Software and should ensure support during contract period.	
34	Bidder to design & plan IP/network schema with the Bank team for the proposed architecture.	
35	Install the proposed switches in the Rack and do the Power on Self-Test.	
36	Bidder should ensure Mounting, Installation, commissioning should be done without impacting Bank exiting Network setup	
37	Bidder to take the configuration backup for all Switches.	
38	All the equipment must support on dual stack IPv4 plus IPv6.	
39	Bidder to Perform and document ping or connectivity tests to demonstrate the correct installation of the Router and Switches, validate the configuration and share the report of ping test and port configuration, high availability features etc.	
40	Bidder should deliver Final Connectivity Document, Configuration Document, Inventory documents, Acceptance test documents, Training attendance sheets and feedback forms.	
41	Bidder has to ensure proposed switches support with 802.1X proxies, NAC solutions, and any other source of user identity information.	
42	Bidder should ensure that during various phases of implementation, the performance, security, etc. of the existing network/Security setup is not compromised.	
43	Bidder has to provide equipment & peripherals with rack mounting kit to accommodate all components in the rack space provided in the Bank's Data centres.	
44	All necessary entitlements e.g. paper licenses/Key etc. for both hardware and software should be provided to the Bank.	

45	Bidder shall arrange to provide certified training from OEM to the Bank's nominated persons. Training plan, scope and duration of the same to be shared with the Bank and has to be mutually agreed before finalizing the training course.	
46	Bidder should Upgrade/Provide/inform Bank about all release /version change of patches/ upgrades/updates of Hardware/software/OS/signatures product development path, etc. of the proposed solution as and when released by the OEM. Wherever required, Bank may seek help/support from the System Integrator.	
47	Bidder has to own the responsibility of making the solution run as desired by the Bank.	
48	Bidder must provide detailed SOP, troubleshooting steps of the provided solution along with the Installation and Administration guide for reference, which must include High level Design (HLD) and Low Level Design (LLD) documents at no extra cost to the Bank.	
49	Bidder should ensure all devices should have redundant power supply and network connectivity is dual homed.	
50	Bidder should support and integrate Switches as per Bank's network architecture requirements.	
Sl. No.	Technical Specification & Evaluation for Scope of Work for File Sync Software	Compliance (Yes/No)
1.	Bandwidth Efficiency: Implementing intelligent algorithms to optimize data transfer and minimize bandwidth usage ensures efficient synchronization, particularly for large files or frequent updates.	
2.	Multi-OS Support: Compatibility with AIX, Windows, and Linux operating systems all version and editions to ensures versatility and meets the diverse infrastructure requirements of businesses.	
3.	Centralized Dashboard: A centralized dashboard provides administrators with real-time insights into sync status, allowing for proactive monitoring, troubleshooting, and reporting across all connected devices and platforms.	
4.	Sync Options: Offering both one-to-one and one-to-many synchronization options provides flexibility for different use cases, whether it's syncing files between individual devices or distributing updates across multiple endpoints simultaneously.	
5.	Scheduled File Sync: Allowing admin to schedule file synchronization at specific times or intervals ensures consistency and minimizes manual intervention. This feature is particularly syncing files during off-peak hours or custom timing as per the user requirements	
6.	Real-Time Sync: Real-time sync ensures that changes made to files are immediately propagated across all connected devices, guaranteeing up-to-date data sync	
7.	Secure Protocols: Implementing industry-standard encryption protocols such as SSL/TLS or SSH ensures that data transferred between devices is encrypted, preventing unauthorized access or interception by malicious actors.	
8.	Bidder should install and configure the file sync software and provide necessary supporting documents.	

We comply with the above Scope of Work, Non-compliance to any of the scope of work will lead to disqualification of the bidder in Technical proposal.

Date:

Signature with seal

Name:

Designation :

Annexure-9
Technical Specifications

(Should be submitted on Company's letter head with company seal and signature of the authorized person)

SUB: Supply, Installation, Configuration, Implementation and Maintenance of 500 Nos. of Servers and other IT Infra Components in Canara Bank.

Ref: GEM/2024/B/4915191 dated 04/05/2024.

Note:	
(d)	If the bidder feels that certain features offered are superior to what has been specified by the Bank, it shall be highlighted separately. Information regarding any modification required in the proposed solution to meet the intent of the specifications and state-of-the-art technology shall be provided. However, the Bank reserves the right to adopt the modifications /superior features suggested/ offered.
(e)	The bidder shall provide all other required equipments and/or services, whether or not explicitly mentioned in this RFP, to ensure the intent of specification, completeness, operability, maintainability and upgradability.
(f)	The selected bidder shall own the responsibility to demonstrate that the product offered are as per the specification/performance stipulated in this RFP and as committed by the bidder either at site or in bidder's work site without any extra cost to the Bank.

All points mentioned under are mandatory to comply and non-compliance to any of the point lead to disqualification of the bidder during evaluation.

Technical Specifications for 500 servers (287 DC and 213 DRC)

Table-A
Technical Specification - 80 servers (41 DC and 39 DRC)

Technical Details		Technical Specification - 80 servers (41 DC and 39 DRC)	Bidder's Compliance (Yes/No)
Sl. No.	Technical Factor	Description	
1	Make	Bidder to specify	
2	Model	Bidder to specify	
3	Power Factor	Bidder to specify	
4	Form Factor	1U / 2U	
5	Processor		
	Processor Architecture	CISC	
	Processor Make	Latest generation x86_64 bit architecture-based CPU's	
	Processor	2.7 GHz (gigahertz) or above	

	Socket	Minimum 2 populated sockets i.e., 32*2 =64 core	
	Cores per socket	32	
	Cache	32 MB L3 Cache or higher	
	Cooling	Heat Sink	
	Platform Controller Hub & Main Board	Latest Chipset / System on Chip (SoC) design. Supporting x86_64 & Suitable server class Main Board or equivalent	
6	Memory		
	RAM Type	DDR5 DIMM or Higher	
	Ram Size	64G*32/96GB*22/128G*16= approx 2TB	
	Slot Count	Minimum 24 or higher.	
	Speed	Minimum 2933 MHz or higher (memory speed should be compatible with process speed to provide better performance)	
	Features	Advanced ECC (Error Correcting Code) type or similar technology	
7	SSD		
	Types of interface for SSD	SSD/NVMe	
	Total Capacity for SATA SSD	960GB * 2 SSD or Higher with RAID 1 1.92TB * 4 SSD or Higher (to support RAID 1,5,6,10)	
	Slot Count	12 or higher, Minimum 6 free slots should be available for future upgrade	
	Usable Space	Minimum 850 GB approximately with 960GB*2SSD After RAID 1. Minimum 3.5 TB approximately with 1.92TB * 4SSD after RAID 10.	
8	RAID Controller		
	RAID Controller	Should support RAID 1, 5, 6, 10 or higher	
	RAID Battery	RAID 1, 5, 6, 10 or higher with 2GB or higher battery backed write cache	
	Cooling	Heat Sink	

	Alarm Buzzer	Alarm Buzzer or error indication alerts or equivalent	
	Storage Health Inspector	Storage Health Inspector or tools to monitor Storage/disk health	
	Features	Automatic and configurable RAID Rebuilding / Single-RAID or Multi-RAID Arrays per Controller	
9	SAN & Network		
	FC HBA CARD	Two FC Card with minimum 1 number of 32 Gbps FC ports in each card with Supported SFP+ transceivers (With NVME Capable)	
	FC Cables	2 Nos of minimum 15 Meter OM3/OM4 FC cables or higher for SAN Connectivity (FC HBA & transceivers should Support 16 Gbps & 32Gbps Switch)	
	Network cards 1 Gbps	2*1Gbps - Two Network Cards, each equipped with at least two 1-gigabit network ports (Four Port of 1Gbase-T On-Board or separate NIC)	
	Network cards 10 Gbps	2*10Gbps -Two Network Cards, each equipped with at least two 10-gigabit network ports (Four Port BaseT NIC LOM or separate NIC).	
	Network cards Management port	Dedicate One Port of 1GBps-management port chassis card.	
10	OS & Hypervisor Compatibility		
	Virtualization compatibility	All latest version of Microsoft-HyperV, VMware, Red Hat virtualization, Open shift virtualization and other industry standard hypervisors, Open Shift, Kubernetes	
	Windows Compatibility	2019/2022	
	RHEL Compatibility	8.x & 9.x & Higher versions	
	Other Latest Linux Flavours	Latest server operating versions of SUSE Linux, Ubuntu ,RHCOS/Redhat Open Shift Container Platform	

11	Power Supply	Redundant hot swappable power supply, with required power cables	
12	BIOS	UEFI (Unified Extensible Firmware Interface) based system and firmware that supports secure boot)	
13	Warranty And Support	3 Years onsite warranty+ 2 years AMC, On-Site Support Warranty including part replacement/repairs within 6 hours of reporting, and Firmware support for updates, upgrades, patches, and bug fixes for supplied h/w from OEM 24 x 7 x 365 days. SSD drives should be covered for irrespective of read/writes on them. In case of Disk failure, the faulty disk will be maintained /destroyed / Degauss by Canara Bank. Proactive storage monitoring & support from OEM should be enabled. The proposed bidder will need to ensure support of product & change of components @ zero cost in case of any part becoming obsolete/EOL & EOS. Faulty Disks would not be retuned back to OEM/Vendor or faulty disks will be destroyed before returning.	
14	Port	3 USB3.0 port or higher and 1 VGA Port or higher	
15	Serviceability	Light path diagnostic LED or equivalent visual alerts	
16	Security	Silicon root of trust, authenticated BIOS, signed firmware updates and BIOS Live Scanning for malicious firmware Secure Boot, Disk encryption, TPM 2.0 (Trusted Platform Module), Hardware root of trust, malicious code free design.	
17	PCI Slots	Minimum 6 -PCIe Gen4 or higher slots(Peripheral Component Interconnect Express)	

18	Remote Management	1) Management of hardware and software components, Power on/off, boot process, Management log, dedicated Management ports. Should be able to integrate with industry wide KVM (Kernel-based Virtual Machine) solution. Monitoring fan, power supply, memory, CPU, RAID, NIC for failures.	
		Telemetry Streaming, Idle Server Detection. 2) Management software should provide Role Based Security through LDAP or Local and able to provide pre-failure alarms for CPU, Memory & HDD by SMTP.	
19	System Management Solution	4. The system management solution is required. The system management solution should collect system information (including impending component failure) from the device that generated the alert and sends the information securely to OEM to Support to troubleshoot the issue and provide an appropriate solution. 5. The system management solution should support browser based graphical remote console along with Virtual Power button, remote boot using USB/CD/DVD Drive. It should be capable of offering upgrade of software and patches from a remote client using Media/image/folder; It should support server power capping and historical reporting and	

		should have support for multifactor authentication. 6. The system management solution should be provided: a. Firmware and configuration baselines for compliance monitoring and enable automated updates on schedule. b. Scope based access control to limit Users to specific group of devices c. Bare-metal server deployment d. Power and thermal Monitoring, alarm, and automatically execute rules based remediation. e. Manage remote devices and control power	
20	Monitoring and Analytics	3. Offered servers shall have monitoring an analytics engine for proactive management. All required licenses for same shall be included in the offer. 4. Monitoring and analytics engine shall have the capability to provide the following: i. Health and system security monitoring and notification emails	

		ii. Performance monitoring and anomaly detection iii. REST API for integrating data with automation, ticketing, and other tools iv. Visualize server telemetry including key performance, environmental, and power metrics v. Displays health, inventory, alerts, performance, and warranty status	
21	Drivers & Accessories	Drivers for the compatible OS, Add on cards and other accessories to be Provided.	
22	FAN	Server should have redundant fully populated Hot swappable fans	

Table-B
Technical Specification - 28 servers (17 DC and 11 DRC)

Technical Details		Technical Specification - 28 servers (17 DC and 11 DRC)	Bidder's Compliance (Yes/No)
Sl. No.	Technical Factor	Description	
1	Make	Bidder to specify	
2	Model	Bidder to specify	
3	Power Factor	Bidder to specify	
4	Form Factor	1U / 2U	
5	Processor		
	Processor Architecture	CISC	
	Processor Make	Latest generation x86_64 bit architecture-based CPU's	
	Processor	2.7 GHz (gigahertz) or above	
	Socket	Minimum 2 populated sockets i.e., 32*2 =64 core	

	Cores per socket	32	
	Cache	32 MB L3 Cache or higher	
	Cooling	Heat Sink	
	Platform Controller Hub & Main Board	Latest chipset/system on clip(SoC)design supporting x 86_64& suitable server class main board or equivalent.	
6	Memory		
	RAM Type	DDR5 DIMM or Higher	
	Ram Size	64GB*8 = 512 GB	
	Slot Count	Minimum 24 or higher, Minimum 16 free memory slots should be available.	
	Speed	Minimum 2933 MHz or higher (memory speed should be compatible with process speed to provide better performance)	
	Features	Advanced ECC (Error Correcting Code) type or similar technology	
7	SSD		
	Types of interface for SSD	SSD/NVM e	
	Total Capacity for SATA SSD	960GB * 2 SSD or Higher with RAID 1 1.92TB * 4 SSD or Higher (to support RAID 1,5,6,10)	
	Slot Count	12 or higher, Minimum 6 free slots should be available for future upgrade	
	Usable Space	Minimum 850 GB approximately with 960GB*2SSD After RAID 1. Minimum 3.5 TB approximately with 1.92TB * 4SSD after RAID 10.	
8	RAID Controller		
	RAID Controller	Should support RAID 1, 5, 6, 10 or higher	
	RAID Battery	RAID 1, 5, 6, 10 or higher with 2GB or higher battery backed write cache	
	Cooling	Heat Sink	

	Alarm Buzzer	Alarm Buzzer or error indication alerts or equivalent	
	Storage Health Inspector	Storage Health Inspector or tools to monitor Storage/disk health	
	Features	Automatic and configurable RAID Rebuilding / Single-RAID or Multi-RAID Arrays per Controller	
9	SAN & Network		
	FC HBA CARD	Two FC Card with minimum 1 number of 32 Gbps FC ports in each card with Supported SFP+ transceivers (With NVME Capable)	
	FC Cables	2 Nos of minimum 15 Meter OM3/OM4 FC cables or higher for SAN Connectivity (FC HBA & transceivers should Support 16 Gbps & 32Gbps Switch)	
	Network cards 1 Gbps	2*1Gbps - Two Network cards, each equipped with at least two 1-gigabit network ports (Four Port of 1Gbase-T On-Board or separate NIC)	
	Network cards 10 Gbps	2*10Gbps -Two Network Cards, each equipped with at least two 10-gigabit network ports (Four Port BaseT NIC LOM or separate NIC .	
	Network cards Management port	Dedicate One Port of 1GBps-management port chassis card.	
10	OS &Hypervisor Compatibility		
	Virtualization compatibility	All latest version of Microsoft-HyperV,VMware, Red Hat virtualization, Open shift virtualization and other industry standard hypervisors, Open Shift, Kubernetes	
	Windows Compatibility	2019/2022	
	RHEL Compatibility	8.x & 9.x & Higher versions	
	Other Latest Linux Flavours	Latest server operating versions of SUSE Linux, Ubuntu ,RHCOS/Redhat Open Shift Container Platform	

11	Power Supply	Redundant hot swappable power supply, with required power cables	
12	BIOS	UEFI (Unified Extensible Firmware Interface) based system and firmware that supports secure boot)	
13	Warranty And Support	3 Years onsite warranty+ 2 years AMC, On-Site Support Warranty including part replacement/repairs within 6 hours of reporting, and Firmware support for updates, upgrades, patches, and bug fixes for supplied h/w from OEM 24 x 7 x 365 days. SSD drives should be covered for irrespective of read/writes on them. In case of Disk failure, the faulty disk will be maintained /destroyed / Degauss by Canara Bank. Proactive storage monitoring & support from OEM should be enabled. The proposed bidder will need to ensure support of product & change of components @ zero cost in case of any part becoming obsolete/EOL & EOS. Faulty Disks would not be retuned back to OEM/Vendor or faulty disks will be destroyed before returning.	
14	Port	3 USB3.0 port or higher and 1 VGA Port or higher	
15	Serviceability	Light path diagnostic LED or equivalent visual alerts	
16	Security	Secure Boot, Disk encryption, TPM 2.0 (Trusted Platform Module), Hardware root of trust, malicious code free design.	
17	PCI Slots	Minimum 6 --PCIe Gen4 or higher slots(Peripheral Component Interconnect Express)	
18	Remote Management	1) Management of hardware and software components, Power on/off, boot process, Management log, dedicated Management	

		ports. Should able to integrate with industry wide KVM (Kernel-based Virtual Machine) solution. Monitoring fan, power supply, memory, CPU, RAID, NIC for failures. Telemetry Streaming, Idle Server Detection. 2)Management software should provide Role Based Security through LDAP or Local and able to provide pre-failure alarms for CPU, Memory & HDD by SMTP.	
19	System Management Solution	4. The system management solution is required. The system management solution should collect system information (including impending component failure) from the device that generated the alert and sends the information securely to OEM to Support to troubleshoot the issue and provide an appropriate solution. 5. The system management solution should support browser based graphical remote console along with Virtual Power button, remote boot using USB/CD/DVD Drive. It should be capable of offering upgrade of software and patches from a remote client using Media/image/folder; It should support server power capping and historical reporting and should have support for multifactor authentication.	

		6. The system management solution should be provided: a. Firmware and configuration baselines for compliance monitoring and enable automated updates on schedule. b. Scope based access control to limit Users to specific group of devices c. Bare-metal server deployment d. Power and thermal Monitoring, alarm, and automatically execute rules based remediation. e. Manage remote devices and control power	
20	Monitoring and Analytics	3. Offered servers shall have monitoring an analytics engine for proactive management. All required licenses for same shall be included in the offer. 4. Monitoring and analytics engine shall have the capability to provide the following: i. Health and system security monitoring and notification emails ii. Performance monitoring and anomaly detection	

		iii. REST API for integrating data with automation, ticketing, and other tools iv. Visualize server telemetry including key performance, environmental, and power metrics Displays health, inventory, alerts, performance, and warranty status	
21	Drivers & Accessories	Drivers for the compatible OS, Add on cards and other accessories to be Provided.	
22	FAN	Server should have redundant fully populated Hot swappable fans	

Table-C
Technical Specification - 100 servers (60 DC and 40 DRC)

Technical Details		Technical Specification - 100 servers (60 DC and 40 DRC)	Bidder's Compliance (Yes/No)
Sl. No.	Technical Factor	Description	
1	Make	Bidder to specify	
2	Model	Bidder to specify	
3	Power Factor	Bidder to specify	
4	Form Factor	1U / 2U	
5	Processor		
	Processor Architecture	CISC	
	Processor Make	Latest generation x86_64 bit architecture-based CPU's	
	Processor	2.7 GHz (gigahertz) or above	
	Socket	Minimum 2 sockets i.e., 16*2=32 core	
	Cores per socket	16	
	Cache	32 MB L3 Cache or higher	
	Cooling	Heat Sink	
	Platform Controller Hub & Main Board	Latest chipset/System on chip (SoC) design supporting x86_64 & suitable server	

		classmain board or equivalent.	
6	Memory		
	RAM Type	DDR5 DIMM or Higher	
	Ram Size	64GB*16 = 1024 GB	
	Slot Count	Minimum 24 or higher, Minimum 8 free memory slots should be available.	
	Speed	Minimum 2933 MHz or higher (memory speed should be compatible with process speed to provide better performance)	
	Features	Advanced ECC (Error Correcting Code) type or similar technology	
7	SSD		
	Types of interface for SSD	SSD/NVM e	
	Total Capacity for sata SSD	960GB * 2 SSD or Higher with RAID 1 1.92TB * 4 SSD or Higher (to support RAID 1,5,6,10)	
	Slot Count	12 or higher, Minimum 6 free slots should be available for future upgrade	
	Usable Space	Minimum 850 GB approximately with 960GB*2SSD After RAID 1. Minimum 3.5 TB approximately with 1.92TB * 4SSD after RAID 10.	
8	RAID Controller		
	RAID Controller	Should support RAID 1, 5, 6, 10 or higher	
	RAID Battery	RAID 1, 5, 6, 10 or higher with 2GB or higher battery backed write cache	
	Cooling	Heat Sink	
	Alarm Buzzer	Alarm Buzzer or error indication alerts or equivalent	
	Storage Health Inspector	Storage Health Inspector or tools to monitor Storage/disk health	
	Features	Automatic and configurable RAID Rebuilding / Single-RAID	

		or Multi-RAID Arrays per Controller	
9	SAN & Network		
	FC HBA CARD	Two FC Card with minimum 1 number of 32 Gbps FC ports in each card with Supported SFP+ transceivers (With NVME Capable)	
	FC Cables	2 Nos of minimum 15 Meter OM3/OM4 FC cables or higher for SAN Connectivity (FC HBA & transceivers should Support 16 Gbps & 32Gbps Switch)	
	Network cards 1 Gbps	2*1Gbps - Two Network cards, each equipped with at least two 1-gigabit network ports (Four Port of 1Gbase-T On-Board or separate NIC)	
	Network cards 10 Gbps	2*10Gbps -Two Network Cards, each equipped with at least two 10-gigabit network ports (Four Port BaseT NIC LOM or separate NIC.	
	Network cards Management port	Dedicate One Port of 1GBps-management port chassis card.	
10	OS &Hypervisor Compatibility		
	Virtualization compatibility	All latest version of Microsoft-HyperV,VMware, Red Hat virtualization, Open shift virtualization and other industry standard hypervisors, Open Shift, Kubernetes	
	Windows Compatibility	2019/2022	
	RHEL Compatibility	8.x & 9.x & Higher versions	
	Other Latest Linux Flavours	Latest server operating versions of SUSE Linux, Ubuntu ,RHCOS/Redhat Open Shift Container Platform	
11	Power Supply	Redundant hot swappable power supply, with required power cables	
12	BIOS	UEFI (Unified Extensible Firmware Interface) based system and firmware that supports secure boot)	

13	Warranty And Support	3 Years onsite warranty+ 2 years AMC, On-Site Support Warranty including part replacement/repairs within 6 hours of reporting, and Firmware support for updates, upgrades, patches, and bug fixes for supplied h/w from OEM 24 x 7 x 365 days. SSD drives should be covered for irrespective of read/writes on them. In case of Disk failure, the faulty disk will be maintained /destroyed / Degauss by Canara Bank. Proactive storage monitoring & support from OEM should be enabled. The proposed bidder will need to ensure support of product & change of components @ zero cost in case of any part becoming obsolete/EOL & EOS. Faulty Disks would not be retuned back to OEM/Vendor or faulty disks will be destroyed before returning.	
14	Port	3 USB3.0 port or higher and 1 VGA Port or higher	
15	Serviceability	Light path diagnostic LED or equivalent visual alerts	
16	Security	Secure Boot, Disk encryption, TPM 2.0 (Trusted Platform Module), Hardware root of trust, malicious code free design.	
17	PCI Slots	Minimum 6 - PCIe Gen4 or higher slots(Peripheral Component Interconnect Express)	

18	Remote Management	1. Management of hardware and software components, Power on/off, boot process, Management log, dedicated Management ports. Should able to integrate with industry wide KVM (Kernel-based Virtual Machine) solution. Monitoring fan, power supply, memory, CPU, RAID, NIC for failures. Telemetry Streaming, Idle Server Detection. 2)Management software should provide Role Based Security through LDAP or Local and able to provide pre-failure alarms for CPU, Memory & HDD by SMTP.)	
19	System Management Solution	4. The system management solution is required. The system management solution should collect system information (including impending component failure) from the device that generated the alert and sends the information securely to OEM to Support to troubleshoot the issue and provide an appropriate solution. 5. The system management solution should support browser based graphical remote console along with Virtual Power button, remote boot using USB/CD/DVD Drive. It should be capable of	

		offering upgrade of software and patches from a remote client using Media/image/folder; It should support server power capping and historical reporting and should have support for multifactor authentication. 6. The system management solution should be provided: a. Firmware and configuration baselines for compliance monitoring and enable automated updates on schedule. b. Scope based access control to limit Users to specific group of devices c. Bare-metal server deployment d. Power and thermal Monitoring, alarm, and automatically execute rules based remediation. e. Manage remote devices and control power	
20	Monitoring and Analytics	3. Offered servers shall have monitoring an analytics engine for proactive management. All required licenses for same shall be included in the offer. 4. Monitoring and analytics engine shall have the	

		capability to provide the following: i. Health and system security monitoring and notification emails ii. Performance monitoring and anomaly detection iii. REST API for integrating data with automation, ticketing, and other tools iv. Visualize server telemetry including key performance, environmental, and power metrics Displays health, inventory, alerts, performance, and warranty status	
21	Drivers & Accessories	Drivers for the compatible OS, Add on cards and other accessories to be Provided.	
22	FAN	Server should have redundant fully populated Hot swappable fans	

Table-D
Technical Specification - 54 servers (28 DC and 26 DRC)

Technical Details		Technical Specification - 54 servers (28 DC and 26 DRC)	Bidder's Compliance (Yes/No)
Sl. No.	Technical Factor	Description	
1	Make	Bidder to specify	
2	Model	Bidder to specify	
3	Power Factor	Bidder to specify	
4	Form Factor	1U / 2U	
5	Processor		
	Processor Architecture	CISC	
	Processor Make	Latest generation x86_64 bit architecture-based CPU's	
	Processor	2.7 GHz (gigahertz) or above	
	Socket	Minimum 2 sockets i.e., 16*2 =32 core	
	Cores per socket	16	
	Cache	32 MB L3 Cache or higher	
	Cooling	Heat Sink	
	Platform Controller Hub & Main Board	Latest Chipset / System on Chip (SoC) design. Supporting x86_64 & Suitable server class Main Board or equivalent	
6	Memory		
	RAM Type	DDR4 DIMM or Higher	
	Ram Size	32G*8=256GB	
	Slot Count	Minimum 24 or higher, Minimum 16 free memory slots should be available.	
	Speed	Minimum 2933 MHz or higher (memory speed should be compatible with process speed to provide better performance)	
	Features	Advanced ECC (Error Correcting Code) type or similar technology	
7	SSD		

	Types of interface for SSD	SSD/NVM e	
	Total Capacity for SATA SSD	960GB * 2 SSD or Higher with RAID 1 1.92TB * 4 SSD or Higher (to support RAID 1,5,6,10)	
	Slot Count	12 or higher, Minimum 6 free slots should be available for future upgrade	
	Usable Space	Minimum 850 GB approximately with 960GB*2SSD After RAID 1. Minimum 3.5 TB approximately with 1.92TB * 4SSD after RAID 10.	
8	RAID Controller		
	RAID Controller	Should support RAID 1, 5, 6, 10 or higher	
	RAID Battery	RAID 1, 5, 6, 10 or higher with 2GB or higher battery backed write cache	
	Cooling	Heat Sink	
	Alarm Buzzer	Alarm Buzzer or error indication alerts or equivalent	
	Storage Health Inspector	Storage Health Inspector or tools to monitor Storage/disk health	
	Features	Automatic and configurable RAID Rebuilding / Single-RAID or Multi-RAID Arrays per Controller	
9	SAN & Network		
	FC HBA CARD	Two FC Card with minimum 1 number of 32 Gbps FC ports in each card with Supported SFP+ transceivers (With NVME Capable)	
	FC Cables	2 Nos of minimum 15 Meter OM3/OM4 FC cables or higher for SAN Connectivity (FC HBA & transceivers should Support 16 Gbps & 32Gbps Switch)	
	Network cards 1 Gbps	2*1Gbps -Two Network cards, each equipped with at least two 1-gigabit network ports (Four Port of 1Gbase-T On-Board or separate NIC)	

	Network cards 10 Gbps	2*10Gbps -Two Network Cards, each equipped with at least two 10-gigabit network ports (Four Port BaseT NIC LOM or separate NIC.	
	Network cards Management port	Dedicate One Port of 1GBps-management port chassis card.	
10	OS &Hypervisor Compatibility		
	Virtualization compatibility	All latest version of Microsoft-HyperV,VMware, Red Hat virtualization, Open shift virtualization and other industry standard hypervisors, Open Shift, Kubernetes	
	Windows Compatibility	2019/2022	
	RHEL Compatibility	8.x & 9.x & Higher versions	
	Other Latest Linux Flavours	Latest server operating versions of SUSE Linux, Ubuntu ,RHCOS/RedhatOpen Shift Container Platform	
11	Power Supply	Redundant hot swappable power supply, with required power cables	
12	BIOS	UEFI (Unified Extensible Firmware Interface) based system and firmware that supports secure boot)	
13	Warranty And Support	3 Years onsite warranty+ 2 years AMC, On-Site Support Warranty including part replacement/repairs within 6 hours of reporting, and Firmware support for updates, upgrades, patches, and bug fixes for supplied h/w from OEM 24 x 7 x 365 days. SSD drives should be covered for irrespective of read/writes on them. In case of Disk failure, the faulty disk will be maintained /destroyed / Degauss by Canara Bank. Proactive storage monitoring & support from OEM should be enabled. The proposed bidder will	

		need to ensure support of product & change of components @ zero cost in case of any part becoming obsolete/EOL & EOS. Faulty Disks would not be retuned back to OEM/Vendor or faulty disks will be destroyed before returning.	
14	Port	3 USB3.0 port or higher and 1 VGA Port or higher	
15	Serviceability	Light path diagnostic LED or equivalent visual alerts	
16	Security	Secure Boot, Disk encryption, TPM 2.0 (Trusted Platform Module), Hardware root of trust, malicious code free design.	
17	PCI Slots	Minimum 6 - PCIe Gen4 or higher slots(Peripheral Component Interconnect Express)	
18	Remote Management	1) Management of hardware and software components, Power on/off, boot process, Management log, dedicated Management ports. Should able to integrate with industry wide KVM (Kernel-based Virtual Machine) solution. Monitoring fan, power supply, memory, CPU, RAID, NIC for failures. Telemetry Streaming, Idle Server Detection. 2)Management software should provide Role Based Security through LDAP or Local and able to provide pre-failure alarms for CPU, Memory & HDD by SMTP.	
19	System Management Solution	4. The system management solution is required. The system management solution should collect system information (including impending component failure) from	

		the device that generated the alert and sends the information securely to OEM to Support to troubleshoot the issue and provide an appropriate solution. 5. The system management solution should support browser based graphical remote console along with Virtual Power button, remote boot using USB/CD/DVD Drive. It should be capable of offering upgrade of software and patches from a remote client using Media/image/folder; It should support server power capping and historical reporting and should have support for multifactor authentication. 6. The system management solution should be provided: - Firmware and configuration baselines for compliance monitoring and enable automated updates on schedule. - Scope based access control to limit Users to specific group of devices - Bare-metal server deployment - Power and thermal Monitoring, alarm, and automatically execute rules	

		based remediation. e. Manage remote devices and control power	
20	Monitoring and Analytics	3. Offered servers shall have monitoring an analytics engine for proactive management. All required licenses for same shall be included in the offer. 4. Monitoring and analytics engine shall have the capability to provide the following: i. Health and system security monitoring and notification emails ii. Performance monitoring and anomaly detection iii. REST API for integrating data with automation, ticketing, and other tools iv. Visualize server telemetry including key performance, environmental, and power metrics Displays health, inventory, alerts, performance, and warranty status	
21	Drivers & Accessories	Drivers for the compatible OS, Add on cards and other accessories to be Provided.	
22	FAN	Server should have redundant fully populated Hot swappable fans	

Table-E
Technical Specification - 226 servers (135 DC and 91 DRC)

Technical Details		Technical Specification - 226 servers (135 DC and 91 DRC)	Bidder's Compliance (Yes/No)
Sl. No.	Technical Factor	Description	
1	Make	Bidder to specify	
2	Model	Bidder to specify	
3	Power Factor	Bidder to specify	
4	Form Factor	1U / 2U	
5	Processor		
	Processor Architecture	CISC	
	Processor Make	Latest generation x86_64 bit architecture-based CPU's	
	Processor	2.7 GHz (gigahertz) or above	
	Socket	Minimum 2 sockets i.e., 16*1 =16 core (1 Populated & 1 For future upgrade) or 8*2 = 16 core	
	Cores per socket	Refer above socket details	
	Cache	32 MB L3 Cache or higher	
	Cooling	Heat Sink	
	Platform Controller Hub & Main Board	Latest Chipset / System on Chip (SoC) design. Supporting x86_64 & Suitable server class Main Board or equivalent	
6	Memory		
	RAM Type	DDR5 DIMM or Higher	
	Ram Size	64GB*8 = 512 GB	
	Slot Count	Minimum 12 or higher, Minimum 4 free memory slots should be available.	
	Speed	Minimum 2933 MHz or higher (memory speed should be compatible with process speed to provide better performance)	

	Features	Advanced ECC (Error Correcting Code) type or similar technology	
7	SSD		
	Types of interface for SSD	SSD/NVMe	
	Total Capacity for sata SSD	960GB * 2 SSD or Higher after RAID 1 1.92TB * 4 SSD or Higher after RAID 1 (other raid configuration preferable)	
	Slot Count	12 or higher, Minimum 6 free slots should be available for future upgrade	
	Usable Space	Minimum 850 GB approximately after 960GB*2SSD After RAID 1. Minimum 3.5 TB approximately after 1.92TB * 4SSD after RAID 1.	
8	RAID Controller		
	RAID Controller	Should support RAID 1 other raid configuration preferable	
	Cooling	Heat Sink	
	Alarm Buzzer	Alarm Buzzer or error indication alerts or equivalent	
	Storage Health Inspector	Storage Health Inspector or tools to monitor Storage/disk health	
	Features	Automatic and configurable RAID Rebuilding / Single-RAID	
9	SAN & Network		
	FC HBA CARD	One FC Card with minimum 2 number of 32 Gbps FC ports in each card with Supported SFP+ transceivers (With NVMe Capable)	
	FC Cables	2 Nos of minimum 15 Meter OM3/OM4 FC cables or higher for SAN Connectivity (FC HBA & transceivers should Support 16 Gbps & 32Gbps Switch)	
	Network cards 10 Gbps	One Network Cards equipped with at least two number of 10-gigabit network ports (two Port BaseT NIC LOM or separate NIC.	

	Network cards Management port	Dedicate One Port of 1GBps- management port chassis card.	
10	OS & Hypervisor Compatibility		
	Virtualization compatibility	All latest version of Microsoft-HyperV, VMware, Red Hat virtualization, Open shift virtualization and other industry standard hypervisors, Open Shift, Kubernetes	
	Windows Compatibility	2019/2022	
	RHEL Compatibility	8.x & 9.x & Higher versions	
	Other Latest Linux Flavours	Latest server operating versions of SUSE Linux, Ubuntu , RHCOS/Redhat Open Shift Container Platform	
11	Power Supply	Redundant hot swappable power supply, with required power cables	
12	BIOS	UEFI (Unified Extensible Firmware Interface) based system and firmware that supports secure boot)	
13	Warranty And Support	3 Years onsite warranty+ 2 years AMC, On-Site Support Warranty including part replacement/repairs within 6 hours of reporting, and Firmware support for updates, upgrades, patches, and bug fixes for supplied h/w from OEM 24 x 7 x 365 days. SSD drives should be covered for irrespective of read/writes on them. In case of Disk failure, the faulty disk will be maintained /destroyed / Degauss by Canara Bank. Proactive storage monitoring & support from OEM should be enabled. The proposed bidder will need to ensure support of product & change of components @ zero cost in case of any part becoming obsolete/EOL & EOS. Faulty Disks would not be retuned back to OEM/Vendor or	

		faulty disks will be destroyed before returning.	
14	Port	3 USB3.0 port or higher and 1 VGA Port or higher	
15	Serviceability	Light path diagnostic LED or equivalent visual alerts	
16	Security	Secure Boot, Disk encryption, TPM 2.0 (Trusted Platform Module), Hardware root of trust, malicious code free design.	
17	PCI Slots	Minimum 2 - PCIe Gen4 or higher slots(Peripheral Component Interconnect Express	
18	Remote Management	1) Management of hardware and software components, Power on/off, boot process, Management log, dedicated Management ports. Should able to integrate with industry wide KVM (Kernel-based Virtual Machine) solution. Monitoring fan, power supply, memory, CPU, RAID, NIC for failures. Telemetry Streaming, Idle Server Detection. 2)Management software should provide Role Based Security through LDAP or Local and able to provide pre-failure alarms for CPU, Memory & HDD by SMTP.	

19	System Management Solution	4. The system management solution is required. The system management solution should collect system information (including impending component failure) from the device that generated the alert and sends the information securely to OEM to Support to troubleshoot the issue and provide an appropriate solution. 5. The system management solution should support browser based graphical remote console along with Virtual Power button, remote boot using USB/CD/DVD Drive. It should be capable of offering upgrade of software and patches from a remote client using Media/image/folder; It should support server power capping and historical reporting and should have support for multifactor authentication. 6. The system management solution should be provided: - Firmware and configuration baselines for compliance monitoring and enable automated updates on schedule. - Scope based access control to limit	

		Users to specific group of devices c. Bare-metal server deployment d. Power and thermal Monitoring, alarm, and automatically execute rules based remediation. e. Manage remote devices and control power	
20	Monitoring and Analytics	3. Offered servers shall have monitoring an analytics engine for proactive management. All required licenses for same shall be included in the offer. 4. Monitoring and analytics engine shall have the capability to provide the following: i. Health and system security monitoring and notification emails ii. Performance monitoring and anomaly detection iii. REST API for integrating data with automation, ticketing, and other tools iv. Visualize server telemetry including key performance, environmental, and power metrics v. Displays health, inventory, alerts,	

		performance, and warranty status	
21	Drivers & Accessories	Drivers for the compatible OS, Add on cards and other accessories to be Provided.	
22	FAN	Server should have redundant fully populated Hot swappable fans	

Table-F
Custom Technical Specification - 12 servers

Technical Details		Custom Technical Specification - 12 servers (6 DC and 6 DRC) (Type 1 - 2 DC, 2 DRC; Type 2 - 2 DC, 2 DRC; Type 3 - 2 DC, 2 DRC)	Bidder's Compliance (Yes/No)
Sl. No.	Technical Factor	Description	
1	Make	Bidder to specify	
2	Model	Bidder to specify	
3	Power Factor	Bidder to specify	
4	Form Factor	1U / 2U / 4U	
5	Processor		
	Processor Architecture	CISC	
	Processor Make	Latest generation x86_64 bit architecture-based CPU's	
	Processor	2.7 GHz (gigahertz) or above	
	Socket	Minimum 2 sockets i.e., 16*1 =16 core (1 Populated & 1 For future upgrade) or 8*2=16 core - Type 1 Minimum 2 sockets i.e., 16*2 = 32 core- Type 2 Minimum 2 sockets i.e., 16*2 = 32 core- Type 3	
	Cores per socket	Refer above socket details	
	Cache	32 MB L3 Cache or higher	
	Cooling	Heat Sink	

	Platform Controller Hub & Main Board	Latest Chipset / System on Chip (SoC) design. Supporting x86_64 & Suitable server class Main Board or equivalent	
6	Memory		
	RAM Type	DDR5 DIMM or Higher	
	Ram Size	64GB*4 = 256 GB - Type 1 64GB*16 = 1024 GB - Type 2 64GB*16 = 1024 GB - Type 3	
	Slot Count	Minimum 12 or higher, Minimum 8 free memory slots should be available. - Type Minimum 24 or higher, Minimum 8 free memory slots should be available. - Type 2 Minimum 24 or higher, Minimum 8 free memory slots should be available. - Type 3	
	Speed	Minimum 2933 MHz or higher (memory speed should be compatible with process speed to provide better performance)	
	Features	Advanced ECC (Error Correcting Code) type or similar technology	
7	SSD		
	Types of interface for SSD	NVMe	
	Total Capacity for SATA SSD	960GB * 2 SSD or Higher to support RAID 1- For all types 1.92TB * 4 SSD or Higher to support RAID 1 (Other RAID Configuration Preferable)- Type 1 1.92TB * 6 SSD or Higher (to support RAID 1,5,6,10)- Type 2 3.84TB * 18 SSD or Higher (to support RAID 1,5,6,10)- Type 3	

	Slot Count	12 or higher, Minimum 6 free slots should be available for future upgrade - Type1 12 or higher, Minimum 4 free slots should be available for future upgrade - Type2 24 or higher, Minimum 4 free slots should be available for future upgrade - Type3	
	Usable Space	Minimum 3.5TB approx. after RAID 1 - Type 1 Minimum 7.5 TB approx. After RAID 10 - Type 2 Minimum 34 TB approx. After RAID 10 - Type 3	
8	RAID Controller		
	RAID Controller	Should support RAID 1 or other RAID configuration preferable - Type 1 Should support RAID 1, 5, 6, 10 or higher - Type 2 & Type3	
	RAID Battery	RAID 1, 5, 6, 10 or higher with 2GB or higher battery backed write cache - Type 2 & Type 3	
	Cooling	Heat Sink	
	Alarm Buzzer	Alarm Buzzer or error indication alerts or equivalent	
	Storage Health Inspector	Storage Health Inspector or tools to monitor Storage/disk health	
	Features	Automatic and configurable RAID Rebuilding / Single-RAID or Multi-RAID Arrays per Controller	
9	SAN & Network		

	FC HBA CARD	One FC Card with minimum 2 number of 32 Gbps FC ports in each card with Supported SFP+ transceivers (With NVME Capable) - Type 1 Two FC Card with minimum 1 number of 32 Gbps FC ports in each card with Supported SFP+ transceivers (With NVME Capable) - Type 2 & Type 3	
	FC Cables	2 Nos of minimum 15 Meter OM3/OM4 FC cables or higher for SAN Connectivity (FC HBA & transceivers should Support 16 Gbps & 32Gbps Switch) -Type1& Type 2 & Type 3	
	Network cards 1 Gbps	Two Network Cards, each equipped with at least two 1-gigabit network ports (Four Port of 1Gbase-T On-Board or separate NIC)- Type 2 & Type3	
	Network cards 10 Gbps	One Network Cards equipped with at least two number of 10-gigabit network ports (two Port BaseT NIC LOM or separate NIC. - Type 1 Two Network Cards, each equipped with at least two 10-gigabit network ports (Four Port BaseT NIC LOM or separate NIC.- Type 2 & Type3	
	Network cards Management port	Dedicate One Port of 1GBps-management port chassis card.	
10	OS & Hypervisor Compatibility		
	Virtualization compatibility	All latest version of Microsoft-HyperV,VMware, Red Hat virtualization, -Open shift virtualization and other industry standard hypervisors, Open Shift, Kubernetes	
	Windows Compatibility	2019/2022	
	RHEL Compatibility	8.x & 9.x & Higher versions	

	Other Latest Linux Flavours	Latest server operating versions of SUSE Linux, Ubuntu ,RHCOS/RedhatOpen Shift Container Platform	
11	Power Supply	Redundant hot swappable power supply, with required power cables	
12	BIOS	UEFI (Unified Extensible Firmware Interface) based system and firmware that supports secure boot)	
13	Warranty And Support	3 Years onsite warranty+ 2 years AMC, On-Site Support Warranty including part replacement/repairs within 6 hours of reporting, and Firmware support for updates, upgrades, patches, and bug fixes for supplied h/w from OEM 24 x 7 x 365 days. SSD drives should be covered for irrespective of read/writes on them. In case of Disk failure, the faulty disk will be maintained /destroyed / Degauss by Canara Bank. Proactive storage monitoring & support from OEM should be enabled. The proposed bidder will need to ensure support of product & change of components @ zero cost in case of any part becoming obsolete/EOL & EOS. Faulty Disks would not be retuned back to OEM/Vendor or faulty disks will be destroyed before returning.	
14	Port	3 USB3.0 port or higher and 1 VGA Port or higher	
15	Serviceability	Light path diagnostic LED or equivalent visual alerts	
16	Security	Secure Boot, Disk encryption, TPM 2.0 (Trusted Platform Module), Hardware root of trust, malicious code free design.	
17	PCI Slots	Minimum 2 - PCIe Gen4 or higher slots(Peripheral Component Interconnect Express) - Type 1	

		Minimum 6 - PCIe Gen4 or higher slots(Peripheral Component Interconnect Express) - Type2 & Type3	
18	Remote Management	1) Management of hardware and software components, Power on/off, boot process, Management log, dedicated Management ports. Should able to integrate with industry wide KVM (Kernel-based Virtual Machine) solution. Monitoring fan, power supply, memory, CPU, RAID, NIC for failures. Telemetry Streaming, Idle Server Detection. 2)Management software should provide Role Based Security through LDAP or Local and able to provide pre-failure alarms for CPU, Memory & HDD by SMTP.	
19	System Management Solution	4. The system management solution is required. The system management solution should collect system information (including impending component failure) from the device that generated the alert and sends the information securely to OEM to Support to troubleshoot the issue and provide an appropriate solution. 5. The system management solution should support browser based graphical remote	

		console along with Virtual Power button, remote boot using USB/CD/DVD Drive. It should be capable of offering upgrade of software and patches from a remote client using Media/image/folder; It should support server power capping and historical reporting and should have support for multifactor authentication. 6. The system management solution should be provided: - Firmware and configuration baselines for compliance monitoring and enable automated updates on schedule. - Scope based access control to limit Users to specific group of devices - Bare-metal server deployment - Power and thermal Monitoring, alarm, and automatically execute rules based remediation. - Manage remote devices and control power	
20	Monitoring and Analytics	3. Offered servers shall have monitoring an analytics engine for proactive management. All required licenses for	

		same shall be included in the offer. 4. Monitoring and analytics engine shall have the capability to provide the following: i. Health and system security monitoring and notification emails ii. Performance monitoring and anomaly detection iii. REST API for integrating data with automation, ticketing, and other tools iv. Visualize server telemetry including key performance, environmental, and power metrics Displays health, inventory, alerts, performance, and warranty status	
21	Drivers & Accessories	Drivers for the compatible OS, Add on cards and other accessories to be Provided.	
22	FAN	Server should have redundant fully populated Hot swappable fans	

Below table to be consider for the above 500 servers minimum cabling requirement

Ethernet CAT6/7			
Length	DRC Qty	DC Qty	Cable Color
3M	84		RED/GREEN
5M	114	280	RED/GREEN
7M	162		RED/GREEN
10M	168	250	RED/GREEN
3M	42		orange color
5M	42		orange color
7M	42		orange color
10M	84		orange color
15M	42	250	orange color

Table-G

Storage Technical Specifications: (Object Storage 2.0PB Usable Space: DC -1, DRC -1)

Sl. No.	Particulars	Detailed Configuration	Bidder's Compliance
			(Yes/No)
1.	Make	Bidders to specify	
2.	Model	Bidders to specify	
3.	Form Factor	Bidders to specify	
4.	Power Factor	Bidder to specify	

5.	Architecture	Controllers shall be active-active so that all volumes are automatically load balanced without needing administrative intervention for manual balancing of workloads/volumes. Connectivity -Object interface would be scalable S3. its architecture shall include the following: - o S3-Server: S3 API Server for Buckets/Objects and more - o Scale-Out "any-to-any" access - o Security model S3-Bucket: Security service for Accounts a. Multi-tenant, Support for S3 IAM - Identity and Access Management. b. Bucket & Object ACLs - o S3-Metadata: Distributed Metadata Engine - o S3 Object Lock - o Transparent Bucket-Level At-REST Encryption - o S3 Console: GUI Web interface to manage accounts, users, policy and monitor usage. - o S3 Browser: GUI Web interface to create buckets and upload objects. - o Quota for S3. Connectivity -File Interface - o Capability to write simultaneously to the same folder from different file connectors (folder scale out). - o Seamless load balancing and failover among the file connectors. - o Federated Access "Single Sign On" to S3 Connector. - o Compatible with LDAP, Active Directory and Kerberos. - o Volume protection feature (can't modify/delete files once written to the volume). - o Quota for file. - o Supports mixed environment Windows & Linux. - o Built in load balancing	
6.	Type	Near Line Drives & SSD Disk for meta handling	
7.	Memory & Cache	Minimum 64 GB per controller/node	
8.	Capacity	Minimum usable storage 2 PB after erasure coding/industry standard applicable disk redundancy	

9.	Drives	2.5" to 3.5" drives	
10.	Hard Disk Capacity	Each hard disk Capacity should not be less than 15 TB	
11.	Scalability	Up to 10PB with scale out architecture. The cluster scales by adding additional nodes without sacrificing performance, which allows a more cost-effective linear storage expansion than fork-lift upgrades. New Nodes & Failed nodes and disks can be swapped out without downtime.	
12.	Performance	object stores can provide high sequential throughput performance, which makes them great for streaming large files. Also, object storage services help eliminate networking limitations. Files can be streamed in parallel over multiple pipes, boosting usable bandwidth	
13.	Disk and Node Redundancy	The proposed storage should support erasure coding to protect against atleast 3 or more drive /Node failures concurrently. The Proposed storage should be able to add disks/Nodes and automatically balance the data across all the nodes.	
14.	Encryption	should have native encryption capabilities as per PCI DSS standards and encryption should not add any performance overheads	
15.	Backup	During power failure, Data in the cache should be safely written to the disks prior to performing a graceful shutdown. Data loss in storage should be zero due to any issues noticed in the Datacenter or any natural calamities.	
16.	Services	Proposed storage array should include storage based compression, storage to storage replication for the entire supported capacity of the storage array from day one. All the required or necessary licenses must be perpetual and provided for the Full capacity of each storage from Day one. This should include licenses for Management and monitoring module and all the storage features such as Replication etc. Upgrade in capacity should not incur any additional license cost. Offered storage system have online and historical performance reporting capability. Offered storage system have online and historical	

		performance reporting capability. At least 1 year of historical performance information should be available online for capacity and performance forecasting, trend analysis etc. In case this capability is not available natively, then necessary software subscription shall be provided for the entire duration of the contract.	
17.	Protocol Support	HTTPS, ,RESTAPIs,FTP, S3 Protocol & all kinds of rest full APIs. Vendor shall configure the licenses all interfaces All above protocol shall be native to cluster and shall not require any additional gateway. Vendor can provision additional gateway if required from performance perspective but capability shall be native to main nodes only.	
18.	Operating System Support	Support for multiple Operating Systems versions connecting to it, including but not restricted to Windows 2019,2022 or later, UNIX (AIX & Solaris & HP Unix), Linux (Red hat, SUSE & OEL), Red Hat OpenShift Container Platform Plus, Hypervisor (vSphere, Hyper V, red hat virtualization, Oracle virtualization) Support for multiple hardware environment but not limited to X86 machines and IBM power machines	
19.	Ports	Minimum 4 Number of 10/25 Gigabit for IP Traffic per node and Minimum 2 Number of 10/25 Gbps for Replication (Network). Minimum Two Management Ports of 1Gbps	
20.	Warranty and Support	3 Years, Comprehensive, On-Site Support Warranty with 2 years AMC including part replacement /repairs within 6 hours of reporting, and Software support for updates, upgrades, patches, and bug fixes for supplied s/w from OEM 24 x 7 x 365 days. In case of Disk failure, the faulty disk will be destroyed/ degaussed on replacement. Proactive storage monitoring & support from OEM should be enabled. The proposed bidder will need to ensure support of product & change of components @ zero cost in case of any part becoming obsolete/EOL & EOS during the warranty period.	

21.	Other Features	The proposed storage system should support SNMP, Address resolution protocol, Network Time Protocol, LDAP. The Storage array should be licensed with Performance monitoring tools should be offered with the storage array. The proposed storage system shall support a browser based GUI built in management. All objects stored in Object Storage have a URL. All objects have their own metadata. Developers interact with the object storage system through a RESTful HTTP API. Object data can be located anywhere in the cluster. Backup & Recovery: Data backup and recovery rely on accessible and reliable storage. Object-based storage provides the infrastructure for secure data backup and efficient recovery procedures. There shall be no separate and dedicated control node or metadata node in the cluster. In case, nodes are separate then vendor shall over Metadata / control nodes in HA using active / active approach. Offered solution shall be completely redundant and there shall be no single point of failure. Offered solution shall have file integrity checking when reading the file and automatic rebuilt if an error is detected.	
22.	Uptime	The storage should be able to provide availability parameter of 99.99% from the date of acceptance of the Storage by Bank	
23.	Power Supply	Storage should be provided with Redundant hot swappable Power supplies. The Power supplies should be FCC class A certified.	
24.	No Single point of Failure	Offered Storage Array should be based on a No Single Point of Failure (NSPOF) architecture with complete redundancy of controllers, power, cooling, etc.	
25.	Global Hot Spare	Offered Storage Array shall support distributed Global hot Spare capacity for offered Disk drives.	
26.	Software	Management software must include both GUI and CLI tools. Management of the storage system should	

		be through single management tool. The GUI must be able to configure all features, monitor the status and health of the storage system. If licensed, separately, the vendor needs to provide necessary licenses for full capacity. Vendor should provide storage array management software for configuration, administration and monitoring. Vendor shall offer the enterprise version of the software if there are multiple versions of the software. Software shall be able to manage all arrays of the same family. The performance monitoring should be real-time and historical providing IOPS response time and utilization of individual components within the storage array. Log Maintenance facility should be available. Storage should be compatible to integrate with Bank monitoring tool	
27.	Remote Replication	2-way replication with zero data loss	
28.	End of Sale & End of Support	The proposed Hardware and Software generation should be latest from the date of RFP submission and the proposed Hardware and Software should not become End of Sales for Three years from the date of delivery of hardware & End of support for 6 years from the date of delivery of hardware	
29.	Controller & Availability	Minimum four controllers are required to provide 2.0PB usable space, hot swappable controllers for high availability, load balancing and redundant modes. Minimum 20 core should be available per controller Offered Storage array should be an enterprise class storage system with 100% Data Availability guarantee.	
30.	Data Management Features	1. it shall be possible to tag and search S3 Metadata. 2. Lifecycle Management - It shall be possible to automatically transition and expiration of data based on criteria. 3. it shall be possible to asynchronously replicate/copy bucket to several Cloud targets	

		4. Offered storage shall support multi-tenancy and data isolation	
31.	Ease of USE	1. Offered storage shall have full management and control with Supervisor and CLI • Powerful graphing capabilities & dashboards and Graphical Usage Monitoring • Auditing capabilities. • REST APIs For monitoring & management 2. Offered storage shall support role Based Access Control (RBAC)	
32.	Compliance	1. Offered storage shall ensure that Data must be tamper-proof. 2. Data must be kept for a specified period which means offered storage shall provide retention mechanism. 3. Offered storage shall have capability to migrate the data to an alternative media like tapes or any another cloud/on premises object storage.	
33.	Simplifying operations and management	The proposed Hardware and Software generation should be latest from the date of RFP submission and the proposed Hardware and Software should not become End of Sales for Three years from the date of delivery of hardware & End of support for 6 years from the date of delivery of hardware Offered storage shall be have Simplified Operations & Management and shall provide: • Software Upgrades, Server replacements, or Capacity Extensions don't stop the system • Automated disk failure detection • Automatically rebuild for failed drive • Automated storage rebalancing • Disk replacement utility • Easily add servers or hard drives in the server • The system shall automatically rebuild the missing data in case of a hardware component failure.	

34.	Multi-cloud	1. Offered storage shall provide the following features: • Shall Support writing data to any Cloud (Amazon S3, Google Cloud Storage, Microsoft Azure, Wasabi) via a single S3 API. • Shall have Open-Source interface allows developers to quickly test compatibility. • Shall Preserves native format of the data on any Cloud for providing the ability to read data directly on the public Clouds. • Shall support Replicating one to many so that a given bucket can be replicated/copied to several private and public Cloud targets. • Shall support Lifecycle data to any Cloud for automatic transition and expiration of data based on criteria. • Shall support Out of band updates especially when data is directly updated on the public cloud, related metadata information is synchronized to the multi-cloud controller. • Shall have GUI Web interface to manage multi-cloud environment. 2. In case vendor doesn't support above features natively then vendor shall provision the complete cloud automation suite in their bid and shall provide the complete documentation in the bid.	
35.	Node failures	Object storage should withstand minimum two node or 25% percent of total node (whichever is higher) failures without data loss.	
36.	Disk Failures	Object storage should withstand minimum four disk failures without data loss.	
37.	Cables	Necessary compatible power, network, fiber cables with required length to be supplied along with storage.	
38.	Core technology - Object	1. Offered Object storage core technology shall be able to abstract the underlying servers, to create a uniformly scalable storage pool 2. There shall be No size limit for object or files which can be stored in the cluster. 3. Offered storage shall do automatic Rebalancing when adding a new server in the cluster 4. Offered storage shall allow capacity extensions done by adding disks to existing servers (scale-up)	

		or adding additional servers to the system (scale-out).	
39.	Peer to peer connectivity	1. Any change in the connecting topology, like adding the nodes, shall broadcast the change to few/all nodes in the cluster. 2. Overall cluster shall provide the self-healing processes to monitor and automatically resolve component failures using re-build, proxy and rebalance aspects.	

Table-H

Storage Technical Specifications: (Enterprise Block Storage 2.0PB Usable Space: DC -2, DRC - 2)

Sl. No.	Particulars	Detailed Configuration	Bidder's Compliance
			(Yes/No)
1.	Make	Bidders to specify	
2.	Model	Bidders to specify	
3.	Form Factor	Bidders to specify	
4.	Power Factor	Bidder to specify	
5.	Architecture	Controllers shall be active-active so that all volumes are automatically load balanced without needing administrative intervention for manual balancing of workloads/volumes.	
6.	Type	NVMe based SSD	
7.	Memory & Cache	Minimum 512 GB Cache per controller , Cache should be dynamically allocated for reads and writes without any fixed allocation.	
8.	Capacity	Minimum usable storage 2 PB after RAID6 or Dual RAID6 Configuration. (Without considering any data reduction features such as compression, deduplication etc .)	
9.	Drives	2.5" to 3.5" drives	
10.	Hard Disk Capacity	Each hard disk Capacity should not be less than 15 TB and not more than 20 TB	
11.	Scalability	Each storage up to 4PB(Scale UP) and 4 Controllers (Scale Out) DIP(data in-place) upgrade capability	
12.	Performance	Capable of delivering sustained minimum 10GB/s throughput and 5,00,000 IOPS in (read: write) (70:30) ratio with microsecond response time.	

		Taking the 16kb block size into consideration for above throughput.	
13.	RAID Support	RAID array supporting raid6/Dual raid / better levels. It should support a mix and match of RAID levels behind a pair of controllers. The storage array should allow online expansion of existing RAID Groups / Storage Disk Pools.	
14.	Encryption	should have native encryption capabilities as per PCI DSS standards and encryption should not add any performance overheads	
15.	Backup	During power failure, Data in the cache should be safely written to the disks prior to performing a graceful shutdown. Data loss in storage should be zero due to any issues noticed in the Datacenter or any natural calamities.	
16.	Services	Proposed storage array should include storage based Thin Provisioning, compression, inline Deduplication Synchronous-Asynchronous Replication, Snapshot, and Volume cloning features for the entire supported capacity of the storage array from day one. All the required or necessary licenses must be perpetual and provided for the Full capacity of each storage from Day one. This should include licenses for Management and monitoring module and all the storage features such as Snapshot, Cloning, Sync and Async Replication etc. Upgrade in capacity should not incur any additional license cost Offered Storage management console shall be able to manage multiple arrays from a single console is preferred. Management console shall provide following functionalities: Offered storage system have online and historical performance reporting capability. At least 1 year of historical performance information should be available online for capacity and performance forecasting, trend analysis etc. In case this capability is not available natively, then necessary	
		software subscription shall be provided for the entire duration of the contract.	
17.	Protocol Support	Fiber Channel & iSCSI	

18.	Operating System Support	Support for multiple Operating Systems versions connecting to it, including but not restricted to Windows 2019,2022 or later, UNIX (AIX & Solaris & HP Unix), Linux (Red hat, SUSE & OEL), Red Hat OpenShift Container Platform Plus, Hypervisor (vSphere, Hyper V, Red hat Virtualization, Oracle virtualization) Support for multiple hardware environment but not limited to X86 machines and IBM power machines	
19.	Ports	Minimum 16 number of FC Ports of 32/64 Gbps each (SAN), Minimum 4 Number of 10/25 Gbps for IP Traffic (iSCSI) and 2 Number of 10/25 Gbps for Replication (Network).Minimum two management Ports of 1Gbps. Storage should support FC-NVMe: 32Gb/s	
20.	Warranty and Support	3 Years, Comprehensive, On-Site Support Warranty and 2 years AMC including part replacement /repairs within 6 hours of reporting, and Software support for updates, upgrades, patches, and bug fixes for supplied s/w from OEM 24 x 7 x 365 days. In case of Disk failure, the faulty disk will be destroyed/ degaussed on replacement. Proactive storage monitoring & support from OEM should be enabled. The proposed bidder will need to ensure support of product & change of components @ zero cost in case of any part becoming obsolete/EOL & EOS during the warranty and AMC period.	
21.	Other Features	The proposed storage system should support SNMP, Address resolution protocol, Network Time Protocol, LDAP. The Storage array should be licensed and Performance monitoring tools should be offered with the storage array. The proposed storage system shall support a browser-based GUI built in management. The proposed storage should able to create multiple array pools so that same storage can be used for server virtualization and for database pools.	
22.	Uptime	The storage should be able to provide availability parameter of 99.99% from the date of acceptance of the Storage by Bank	
23.	Power Supply	Storage should be provided with Redundant hot swappable Power supplies. The Power supplies should be FCC class A certified.	

24.	No Single point of Failure	Offered Storage Array should be based on a No Single Point of Failure (NSPOF) architecture with complete redundancy of controllers, power, cooling, etc.	
25.	Global Hot Spare	Offered Storage Array shall support distributed Global hot Spare capacity for offered Disk drives.	
26.	Software	Management software must include both GUI and CLI tools. Management of the storage system should be through single management tool. The GUI must be able to configure all features, monitor the status and health of the storage system. If licensed, separately, the vendor needs to provide necessary licenses for full capacity. Vendor should provide storage array management software for configuration, administration and monitoring. Vendor shall offer the enterprise version of the software if there are multiple versions of the software. Software shall be able to manage all arrays of the same family. The performance monitoring should be real-time and historical providing IOPS response time and utilization of individual components within the storage array. Log Maintenance facility should be available. Storage should be compatible to integrate with Bank monitoring tool	
27.	Remote Replication	Offered Storage array should provide both Synchronous and Asynchronous replication across 2 storage arrays natively. Offered Storage array shall support 2 Data Center solution natively where Primary site shall be able to replicate synchronously to near-by / Bunker location and at the same time shall be able to replicate to Far location asynchronously. Necessary replication licenses/Infrastructure required for replication should be provided with the array	
28.	End of Sale & End of Support	The proposed Hardware and Software generation should be latest from the date of RFP submission and the proposed Hardware and Software should not become End of Sales for Three years from the date of delivery of hardware & End of support for 6 years from the date of delivery of hardware	
29.	Controller & Availability	Storage should have minimum two active controllers, hot swappable controllers for high availability, load balancing and redundant modes.	

		Offered Storage array should be an enterprise class storage system with 100 % Data Availability guarantee. The offered array should be an end-to-end NVMe storage system and capable of supporting NVMeoF over Fibre Channel for Hosts. Controllers shall be active-active so that all volumes are automatically load balanced without needing administrative intervention for manual balancing of workloads/volumes.	
30.	Quality of service	Offered storage array shall support quality of service for critical applications so that response time requirements can be defined for specific applications / LUNS. Quality of service feature should allow definition of minimum and maximum cap for required IOPS / bandwidth for a given volume or set of volumes.	
31.	Capacity Efficiency features	Offered storage array should support thin provisioning It should also support inline data reduction (deduplication & compression) for maximizing flash storage capacity The array should offer the flexibility to enable / disable the data reduction on a per-volume basis	
32.	Snapshots / Point in time copies	The storage array should have support for controller-based snapshots (At-least 128 copies for a given volume). The snapshots should be capable of being designated either as Read Only or Read/Write as required	
33.	Multipathing	Multipathing across two controllers. Data path should work consistently on active-active and NOT in hot standby. All LUNs should have visibility through all controllers and data flow should happened through them.	

Table-I

Technical Specification of 27 server racks (19 Nos at DC - Single Phase, 8 Three Phase)

Sl. No.	Particulars	Detailed Configuration(DC)	Bidder's Compliance

			Yes/No
1.	Make	Bidders to specify	
2.	Model	Bidders to specify	
3.	Power Factor	PDU Single Phase with 63A Server rack mount power distribution unit 1Ph,230V,63A 50/60Hz with redundancy. PDU Three Phase with 32A Server rack mount power distribution unit 3Ph,440V,63A 50/60Hz with redundancy.	
4.	Form Factor	42 U Rack Frame with all necessary side panels	
5.	Colour	Black Colour	
6.	Wheels	Rack wheels for rack movement	
7.	Rack Size	600 mm*1200mm *2100mm (600mm - Width , 1200mm Depth , 2100mm Height)	
8.	Lock Mechanism	Mechanical lock with key for both front and back door	
9.	PDU Socket details	Zero U standard with minimum 20 x C13 (20 power sockets with C13 type) and minimum 4 x C19 (4 power socket with C19 type) Per PDU Dual PDU should be made available for each rack	
10.	Over load protection MCB	PDU rating approximate 14KVA per PDU for single phase with 63A (4 MCB) PDU rating approximate 22KVA per PDU for Three phase with 32A (6 MCB)	
11.	Bottom feed	Minimum 3 Meters IEC 309 input plug top	
12.	Others	Levelers Required Ganging kits and necessary tool for mounting PDU with side doors and necessary Cable organizer. Adjustable screw legs - 4 No. Rack filler to be provided upto half rack size.	
13.	Fan	fans on the top side of rack (desirable)	
14.	Compatibility	Rack should be compatible to mount all the hardware's supplied in this RFP	
15.	Cable Loops	Minimum Eight cable loops to be provided per rack for cable dressing	
16.	Certification	UL certified	
17.	Mounting	The bidder shall have to mount new as well as existing servers and other devices in the rack and will have to provide the rack mounting kit accordingly	
18.	Grounding	Copper based Electrical Grounding / Earthing Strip	

Table-J

Technical Specification of server racks (23 Nos with three phase at DR)

Sl. No.	Particulars	Detailed Configuration(DR)	Bidder's Compliance
			Yes/No

1.	Make	Bidders to specify	
2.	Model	Bidders to specify	
3.	Power Factor	PDU Three Phase with 32A Server rack mount power distribution unit 3Ph,230V,32A 50/60Hz with redundancy.	
4.	Form Factor	45 U Rack Frame with all necessary side panels	
5.	Colour	Black Colour	
6.	Wheels	Rack wheels for rack movement	
7.	Rack Size	600 mm*1200mm (600mm - Width , 1200mm Depth)	
8.	Lock Mechanism	Mechanical lock with key for both front and back door	
9.	PDU Socket details	Zero U standard with minimum 20 x C13 (20 power sockets with C13 type) and minimum 4 x C19 (4 power socket with C19 type) Per PDU. Dual PDU should be available for each rack.	
10.	Over load protection MCB	16A MCB X 2 circuits - PDU rating approximate 8KVA	
11.	Bottom feed	Minimum 3 Meters IEC 309 input plug top	
12.	Others	Levelers Required Ganging kits and necessary tool for mounting PDU with side doors and necessary Cable organizer. Rack filler to be provided upto half rack size.	
13.	Fan	fans on the top side of rack (desirable)	
14.	Compatibility	Rack should be compatible to mount all the hardware's supplied in this RFP	
15.	Cable Loops	Minimum Eight cable loops to be provided per rack for cable dressing	
16.	Certification	UL certified	
17.	Mounting	The bidder shall have to mount new as well as existing servers and other devices in the rack and will have to provide the rack mounting kit accordingly	
18.	Grounding	Copper based Electrical Grounding / Earthing Strip	

Table-K
Technical Specification of Network TOR Switches

Sl. No.	DC and DRC Switch Technical Specification:	Compliance(Y/N)
A	Type 1 Switch - 14 numbers (07 numbers in DC and 07 numbers in DRC) - Mgmt.	
1.	Switch must have 48 Gig Ethernet ports and 2 x 10G SFP+ for uplink on single chassis.	
2.	Switching capacity should be equal to greater than 100 Gbps.	
3.	Mac address table size should be equal to greater than 16000.	
4.	Switch must be supplied with compatible Trans receiver for Fiber ports and should be from same OEM.	

5.	Switch must have redundant Power Supply.	
6.	Switch should have USB/Ethernet management interfaces.	
7.	Switch should have minimum Flash memory 128 Mb.	
8.	Switch should have minimum DRAM 512 Mb.	
9.	Switch should be managed in an IPv6 network(IPv6 Device IP)	
10.	Switch should support Dual stack (IPv4 and IPv6) transitions from IPv4 to IPv6, support connectivity for both protocols	
11.	Switches should support Spanning Tree Protocol (STP)	
12.	Switch should support link aggregation control protocol (LACP) and port trunking.	
13.	Switch should support VLAN support and tagging support IEEE 802.1Q.	
14.	Switch should support Simple Network Management Protocol (SNMPv2 and SNMPv3).	
15.	Implement Access Lists on the switch to ensure SNMP access only to the SNMP manager or the NMS workstation.	
16.	Switch should support duplicates port traffic (ingress and egress) to a local or remote monitoring port.	
17.	Implementation of multiple Privilege Levels should be supported.	
18.	Switch should Support for authentication, authorization, and accounting (AAA) using RADIUS and TACACS+.	
19.	Switch should support FTP, TFTP, and SFTP.	
20.	Switch should support Extensive debugging capabilities to assist in hardware/Configuration problem resolution, should supports ping and traceroute for both IPv4 and IPv6.	
21.	Switch should support integration for Network Time Protocol (NTP), SIEM.	
22.	The Switch must be able to generate Syslog Messages with timestamp, which can be exported to a Syslog Server.	
23.	The Switch shall integrate with centralized network management software.	
24.	The Switches must be supplied with Compatible Power cables for the PDU supplied with the rack.	
25.	The switch shall have management security features like SSHv2 / Secure copy, encrypted user passwords, and authentication via AAA and RADIUS / TACACS+ to prevent unauthorized management access"	
26.	Switch should have Custom banner display.	
27.	Proposed Switches must integrate seamlessly with active - active ports for redundancy and high availability from two core/distributed switches from day one with our existing infrastructure of Cisco/Juniper Datacenter router/switches.	
28.		

	24*7*365 days Technical support with response time of 30 minutes.	
29.	Four hours RMA support in case of any hardware failure.	
B.	Type 2 Switch - 24 numbers (12 DC+ 12 DRC) for Data	Compliance(Y/N)
1.	Switch must be Data Center grade switch. Switch should be configurable/deployable with other switches to utilize all available links through multi-path forwarding.	
2.	Switch must have 48 fixed 10-G BASE-T ports	
3.	6 fixed 40/100-Gbps QSFP+ ports for uplink connectivity with fully populated trans receivers on single chassis.	
4.	48 downlink ports should be configured to work as 1 & 10Gbps.	
5.	Switch should support EVPN and Virtual Extensible LAN (VXLAN) to create Fabric. Fabric should be capable to integrate with SDDC like Open stack, VMWare etc. Switch should support In Service Software Upgrade.	
6.	Switch throughput should be more than equal to 1 bpps.	
7.	Latency should be less than 2 microsecond.	
8.	Mac address table size should be equal to greater than 2 lakhs.	
9.	Switch should support more than 4000 Vlan.	
10.	Switch must be supplied with compatible Trans receiver for all Optical/Fiber ports and should be from same OEM.	
11.	Switch must have redundant Fan and Power Supply.	
12.	Switch should provide flexibility for 10GbE top-of-rack deployment.	
13.	Switch should have USB/Ethernet management interfaces.	
14.	Switch should be managed in an IPv6 network(IPv6 Device IP)	
15.	Switch should support Dual stack (IPv4 and IPv6) transitions from IPv4 to IPv6, support connectivity for both protocols	
16.	Switches should support Spanning Tree Protocol (STP)	
17.	Switch should support link aggregation control protocol (LACP) and port trunking IEEE 802.1AX-2008.	
18.	Switch should support VLAN support and tagging support IEEE 802.1Q.	
19.	Router should support Simple Network Management Protocol (SNMPv2 and SNMPv3).	
20.	Implement Access Lists on the switch to ensure SNMP access only to the SNMP manager or the NMS workstation.	
21.	Switch should support duplicates port traffic (ingress and egress) to a local or remote monitoring port.	
22.	Implementation of multiple Privilege Levels should be supported.	
23.	Switch should Support for authentication, authorization, and accounting (AAA) using RADIUS and TACACS+.	
24.	Switch should support FTP, TFTP, and SFTP.	
25.	Switch should support Extensive debugging capabilities to assist in hardware/Configuration problem resolution, should supports ping and traceroute for both IPv4 and IPv6.	

26.	Switch should support integration for Network Time Protocol (NTP), SIEM.	
27.	The Switch must be able to generate Syslog Messages with timestamp, which can be exported to a Syslog Server.	
28.	The Switch shall integrate with centralized network management software.	
29.	The Switches must be supplied with Compatible Power cables for the PDU supplied with the rack.	
30.	The switch shall have management security features like SSHv2 / Secure copy, encrypted user passwords, and authentication via AAA and RADIUS / TACACS+ to prevent unauthorized management access"	
31.	Proposed Switches must integrate seamlessly with active - active ports for redundancy and high availability from two core/distributed switches from day one with our existing infrastructure of Cisco/Juniper Datacenter router/switches.	
32.	Switch should have Custom banner display.	
33.	High Mean Time Between Failure values (>2 Lakh hours) should be available to ensure long life of switch hardware.	
34.	24*7*365 days Technical support with response time of 30 minutes.	
35.	Four hours RMA support in case of any hardware failure.	
C.	Type 4 Switch - 4 numbers (2 DC+ 2 DRC) - Storage	Compliance(Y/N)
1.	Switch must be Data Center grade switch. Switch should be configurable/deployable with other switches to utilize all available links through multi-path forwarding.	
2.	Switch must have 48 x 25-Gbps fiber downlink ports and 6 x 100-Gbps Quad Small Form-Factor Pluggable 28 (QSFP28) uplink ports with fully populated trans receivers on single chassis.	
3.	48 downlink ports should be configured to work as 25 Gbps.	
4.	Switch should support EVPN and Virtual Extensible LAN (VXLAN) to create Fabric. Fabric should be capable to integrate with SDDC like Open stack, VMWare etc. Switch should support In Service Software Upgrade.	
5.	Switch throughput should be more than equal to 2 bpps.	
6.	Latency should be less than 1 microsecond.	
7.	Mac address table size should be equal to greater than 2 lakhs.	
8.	Switch should support more than 4000 Vlans.	
9.	Switch must be supplied with compatible Trans receiver for all Fiber ports and should be from same OEM.	
10.	Switch must have redundant Fan and Power Supply.	
11.	Switch should provide flexibility for 25GbE top-of-rack deployment.	
12.	Switch should have USB/Ethernet management interfaces.	
13.	Switch should be managed in an IPv6 network(IPv6 Device IP)	

14.	Switch should support Dual stack (IPv4 and IPv6) transitions from IPv4 to IPv6, support connectivity for both protocols	
15.	Switches should support creation of one virtual resilient switch from up to two switches by using standard LACP for automatic load balancing and high availability or by other equivalent method.	
16.	Switches should support Spanning Tree Protocol (STP)	
17.	Switch should support link aggregation control protocol (LACP) and port trunking IEEE 802.1AX-2008.	
18.	Switch should support VLAN support and tagging support IEEE 802.1Q.	
19.	Switch should support Simple Network Management Protocol (SNMPv2 and SNMPv3).	
20.	Implement Access Lists on the switch to ensure SNMP access only to the SNMP manager or the NMS workstation.	
21.	Switch should support duplicates port traffic (ingress and egress) to a local or remote monitoring port.	
22.	Implementation of multiple Privilege Levels should be supported.	
23.	Switch should Support for authentication, authorization, and accounting (AAA) using RADIUS and TACACS+.	
24.	Switch should support FTP, TFTP, and SFTP.	
25.	Switch should support Extensive debugging capabilities to assist in hardware/Configuration problem resolution, should supports ping and traceroute for both IPv4 and IPv6.	
26.	Switch should support integrate Network Time Protocol (NTP), SIEM	
27.	The Switch must be able to generate Syslog Messages with timestamp, which can be exported to a Syslog Server.	
28.	The Switch shall integrate with centralized network management software.	
29.	The Switches must be supplied with Compatible Power cables for the PDU supplied with the rack.	
30.	The switch shall have management security features like SSHv2 / Secure copy, encrypted user passwords, and authentication via AAA and RADIUS / TACACS+ to prevent unauthorized management access"	
31.	Proposed Switches must integrate seamlessly with active - active ports for redundancy and high availability from two core/distributed switches from day one with our existing infrastructure of Cisco/Juniper Datacenter router/switches.	
32.	Switch should have Custom banner display.	
33.	High Mean Time Between Failure values (>2 Lakh hours)should be available to ensure long life of switch hardware.	

34.	24*7*365 days Technical support with response time of 30 minutes.	
35.	Four hours RMA support in case of any hardware failure.	

Below table to be consider to provide uplink for above access switches as minimum cabling requirement.

Fiber(OM4)		
Length	DRC Qty	DC Qty
30M	40	25
20M	15	
15M		25
10M	20	25

In addition to the above access switches Bidder to supply Distribution Switches in High availability with required capacity to connect all supplied access switches with dual uplink of 10/40/100 Gbps in active-active mode for redundancy and load sharing (DC - (MZ-2,DMZ-2, DRC - (MZ-2,DMZ-2)) , Also Distributed Switch must be supplied with compatible Transceiver for Fiber ports and should be from same OEM with redundant power supply

Table-L

Backup Software for 500 Servers at DC and DRC

Sl. No.	Detailed Configuration-Backup Software	Bidder's Compliance
		(Yes/No)
1.	Make - Bidders to specify	
2.	Backup Software version - Bidders to specify	
3.	Backup Management Solution should support backup of Physical, Virtual and Micro services (container) environments	
4.	Backup software should support agent/agentless backups of applications residing in VMs like SQL, Exchange, SharePoint, Oracle, etc. with non-staged granular recovery of all these applications. It should support crash consistent VM level backup for all other workloads	
5.	Backup software should be a Hardware Agnostic software and it should support snapshot integration with hypervisors like VMware and Hyper-V and support de-duplication on any storage target. It should be able to backup data to tapes (like LTO) as well for long term retention..	
6.	The proposed Backup software must offer instance based licenses with no restrictions on type of arrays (protecting heterogeneous storage technologies), front end production	

	capacity or backup to disk target capacity restrictions. Licenses and associated software should be supplied for both primary and DR site.	
7.	Required License should be supplied to protect virtual machines, physical servers, NAS workload, Endpoints and multi cloud workload including all database applications running on these platforms	
8.	Backup software should have Capability to do trend analysis for capacity planning of backup environment, extensive alerting and reporting with pre-configured and customizable formats. Any specialized reporting modules needed must be quoted along with associated hardware to achieve this functionality. All necessary hardware resources required to run this module should be supplied.	
9.	Proposed solution should support 24x7 real-time monitoring, with at-a-glance and drill-down views of backup items to check the backup status like backup size, backup files count, backup servers count, backup timings , number of times backed up etc.,	
10.	Backup software should provide Backup and Replication capabilities in one console only and also allow users to integrate with RBAC capabilities of the hypervisor, so that users can initiate backup and restore only those VMs to which they have access, without administrator intervention, thereby delivering self-serve capabilities.	
11.	Proposed solution should support automated action for popular alarms (automated or semi-automated), with at-a-glance and drill-down view (e.g., Backup failed alerts with details of its failure)	
12.	The proposed backup software should be capable to take backups on object storage.	
13.	The Proposed solution should not have any limitation on the number of incremental backups that could be taken post a Full backup.	
14.	Backup software should support instant file share recovery in NAS storages to allow users to access files fast after disaster. Backup software should support instant VM and NAS recoveries.	
15.	Proposed backup software should have the ability to perform staged restores to enable admins to comply to regulations by selectively deleting files / records which should not be restored from the backup copies. This will help in complying to "right to be forgotten "regulations like GDPR, where user data is deleted from restored backup copies in an auditable manner. Backup software should secure the system from eavesdropping of staged data as well as by prohibiting any deletions/modifications to backup copies.	

16.	Backup Software should be able to extend the backup repository to a public cloud service provider by moving older files to any S3 Compatible Object storage or Azure BLOB repositories. The Backup Software should support copying of data directly into all industrial standard object storages like ECS,HCP,SCALITY etc.,	
17.	The software must has the functionality to back up on-prem data directly into cloud repositories such as AWS S3 or Microsoft Blob.	
18.	The proposed backup software should have approval flow for any backup deletion.	
19.	The Proposed backup Software should support Syslog and Service Now integration.	
20.	Recovery verification should include bare metal restore of server from backup and should have capability to verify and validate the integrity of the data. Also publish automated reports to be used in backup / recovery audits.	
21.	Backup software should support Multi factor authentication for accessing Backup console and console auto log-off functionality.	
22.	The proposed backup software should have a native solution to protect Kubernetes/Container workloads; without the need of a 3rd party solution.	
23.	The proposed backup software should provide Instant recoveries for any backup to VMware or Hyper-V Virtual machine	
24.	Backup software must have a feature of data validation, whereby a workload (VM with OS and application) is powered-on in a sandbox environment and tested for its recoverability	
25.	Backup software should support file level recovery from any backup of any VM.	
26.	Container Environment	
	Offered backup solution should support/ open integration multiple kubernetes distributions including RHOS, VMware Tanzu, SUSE Rancher, Ezmeral Runtime etc.	
27.	Proposed backup software should be scalable to any number of worker nodes	
28.	Backup software should have the ability to take application consistent backup at granular level for micro-services	
29.	It should support integration with relational and no-sql databases.	
30.	Proposed software should have cloud storage integration	
31.	Proposed solution have role base access control on the backup server	
32.	The offered solution should support policy based backup architecture with calendar/frequency based scheduling.	
33.	Should preferably support auto-discovery of applications needing protection and provide alerting capability	
34.	Should support CSI integration and leverage underlying storage capabilities such as snapshots and replication of leading storage	

	vendors including Dell EMC, HPE, Hitachi etc. Compatibility list to be provided	
35.	The proposed Backup software should protect from ransomware attacks	
36.	Should provide both GUI (dashboard) access as well as CLI using kubectl APIs.	
37.	Should support multiple independent k8s clusters	
38.	Backup software should support immutable backups for protecting backups from ransomware and malicious attacks. The immutability should be controllable from the backup management specification itself.	
39.	The backup software should have native storage integrations with all leading Storage platforms from Dell EMC, HPE, IBM, Hitachi, Netapp etc.	
40.	The backup software should support multiple types of backup repositories including Purpose built backup alliances, S3 Object Storage, Hardened NFS repositories etc. Compatibility list to be provided.	
41.	Backup software should be compatible with backup target types - VTL & NAS (NFS & CIFS).	
42.	Backup software shall have the ability to configure multiple Tape Libraries & NAS targets.	
43.	The proposed Software generation should be latest version the date of RFP submission and the proposed Software should not become End of Sales for three years from the date of the submission of the RFP and End of Life for 6 years from the date of the submission of the RFP	

Table-M

Technical Specification of Managed file transfer Solution:

Sl. No.	Detailed Specification	Compliance(Y/N)
1.	The proposed solution should be On-Premise deployment in three tier architecture DMZ secure gateway that allows files to be shared without being stored in the DMZ. The Gateway should be coordinate with the MFT to exchange secure data with the external SFTP Client	
2.	The proposed solution must centrally manage all file transfers in a secure manner.	
3.	The MFT solution should support FTP, FTP/S, SSH/SFTP, SSH/SCP, HTTPS and should have capability to support, AS1,AS2,AS3 etc. for future requirements.	
4.	The proposed solution should provide strong file encryption mechanism to encrypt data at rest and in transit	

5.	The solution should also provide a Web browser-based interface that enables users to upload/download files.	
6.	Users should view recent activity and status for file transfers they participated in, Generate reports for activity they participated in, Change their password, Subscribe to notifications.	
7.	The proposed solution should be able to support multiple file transfer job simultaneously	
8.	The proposed solution should provide a mechanism to allow external and internal entities to participate in file transfers within the same centralized server system.	
9.	The proposed solution should support automated file transfer job.	
10.	The proposed solution should be capable of sending alerts for failed task job to respective job owner	
11.	The software should support predefining the business processes for common behaviors in file-transfer scenarios, reducing the need for customization	
12.	The proposed solution should allow downloading a file multiple times.	
13.	The proposed solution should be able to restrict the file transfer based on file extension, IP, file size, header body parameter validation.	
14.	The proposed solution should support manual intervention of file retention timelines, business process retentions.	
15.	The proposed solution should provide inbuilt authentication options, including IP address, user ID and password, digital certificates, SSH keys.	
16.	The proposed solution should have mechanism to configure different password policies for external entities within the same solution	
17.	All SFTP users passwords should have option to change their password on their own as and when needed or when password expires as per policy	
18.	The proposed solution should have time based access control for external entities	
19.	The proposed solution should be able to provide successful access audit, failed access, configuration change logs, end to end transaction monitoring and troubleshooting.	
20.	The proposed solution should be able to allow blacklisting of IP's basis region, Set of IP's	
21.	The proposed solution should have capability to keep transaction/log data separate from the file system data. It should have also capability to store file system, transaction DB on the cloud.	

22.	The proposed solution should be able to terminate the session while the user is inactive for predefined time.	
23.	The proposed solution should prevent direct communications between external and internal sessions by establishing secure session breaks in the DMZ using SSL or TLS encryption	
24.	The proposed solution should support configuring data retention policy for at least 6 months.	
25.	The software should allow to automate purge or archive files.	
26.	The proposed solution should have support of Peer to Peer (Point to Point) deployments	
27.	The proposed solution should support all major industry operating systems (Windows, Linux, AIX, Solaris) and hardware (X-86 & Power, IBM Z, HP-UX)	
28.	The proposed solutions should allow addition of infrastructure/hardware to support higher usage for future requirement.	
29.	The proposed solution should provide embedded database and should also support and option to deploy it on oracle DB.	
30.	The proposed solution should have a separate dashboard to monitor real time file transfer jobs, alerts, warnings.	
31.	The proposed solution should provide proactive notification for at-risk business processes in the form of emails, SNMP traps, and alerts	
32.	The proposed solution should allow to configure email to send schedule compliance reports.	
33.	The proposed solution should be support MFA (Multi Factor Authentication) solution.	
34.	The Proposed solution should have inbuilt mechanism to validate external entities in the DMZ using multiple authentication mechanism before they enter the green zone	
35.	The proposed solution should support high available architecture/deployments link Active-Active, Active-Passive.	
36.	The proposed solution should not restrict adding user as and when required.	
37.	The solution should support oracle DB or equivalent for transactional/ logs as well as file system database.	
38.	The solution should support deploying HA at DR and DC-DR architecture	
39.	The proposed solution should support sending file in encryption form and should have an option receive it encrypted or decrypted at the destination.	
40.	The proposed solution should allow user to send a file to multiple users in different protocols at a same time.	
41.	The solution should provide option to integrate with existing antivirus to scan file before it enters internal/ green zone.	

42.	Application should have a capability to transfer file at multiple locations at the same time.	
43.	Required license to run in active- active setup and for entire solution of total 16 core to be supplied.	
44.	The solution should possess the capability to seamlessly integrate with Active Directory	
45.	The solution should support sharing of files with all file extensions and sizes, ensuring versatility and flexibility for users' needs.	
46.	The solution should possess the capability to create shared folders for each group, department, or team, with customizable access levels and storage size restrictions.	
47.	Users should have the ability to securely send files to recipients by generating a link and then emailing the link to the intended receiver.	
48.	The solution should be capable of supporting both on-premises and cloud storage repositories, offering flexibility and compatibility with various storage environments. The solution should support any brand and models of storage and hardware.	
49.	The solution should support automated data cleanup based on specified criteria such as number of days.	
50.	The solution should include comprehensive audit logging capabilities, capturing all activities such as data upload, share, download, cut, copy, paste, and rename. These logs must be stored in a non-tamperable format to ensure the integrity and reliability of the recorded information for compliance and security purposes.	
51.	The solution should allow for customizable validity periods for shared links based on specific dates and times. This feature enables administrators or users to set expiration dates and times for shared links, ensuring that access is limited to the desired timeframe.	
52.	The solution should offer command-line support, enabling seamless integration with external workflows and automation processes.	

Table-N

Technical Specifications of 4 SAN Director (2 Nos at DC and 2 Nos at DR)

Sl. No.	Detailed Configuration	Specification	Bidder's compliance (Yes/No)
1.	Bidder to specify make		
2.	Bidder to specify model		
3.	Bidder to specify form factor		

4.	Bidder to specify the power factor		
5.	SAN Director should be configured with minimum 3Blades*48 ports= 144 FC SAN ports with populated 32Gbps SFP Transceiver Modules and should be negotiable speed with 16/32 Gbps. SAN Director should support 64GBps trans receiver compatibility for future upgrade		
6.	Scalable further with 48 port*5 blades =240 FC SAN ports.		
7.	SAN director should have Dual Controllers		
8.	The switch should have 3Tbps BW per port blade providing line rate performance with 64G Line card in every Slot.		
9.	The switch should support 512 Gbps BW for ISL Trunking Necessary Licenses to be provided by the bidder.		
10.	The switch should auto-negotiate with 64/32/16 Gbps FC speed		
11.	Switch should support multiprotocol architecture such as FC, FICON, FCIP and FCR		
	Support for multiple Operating Systems versions connecting to it, including but not restricted to Windows 2016 or later, UNIX (AIX & Solaris & HP Unix), Linux (Red hat, SUSE & OEL), Hypervisor (vSphere, Hyper V , Red hat Virtualization, Oracle virtualization & Nutanix),RHCOS. Support for multiple hardware environment but not limited to X86 machines and IBM power machines		
12.	<u>Maintenance:</u>		
13.	Warranty and Support	3 Years, Comprehensive, On-Site Support Warranty and 2 Year AMC including part replacement /repairs within 6 hours of reporting, and	

		Software support for updates, upgrades, patches, and bug fixes for supplied s/w from OEM 24 x 7 x 365 days. The proposed bidder will need to ensure support of product & change of components @ zero cost in case of any part becoming obsolete/EOL & EOS during the warranty and AMC period.	
14.	Uptime	The SAN Switch should be able to provide availability parameter of 99.90 % from the date of acceptance of the Storage by Bank	
15.	Power Supply	SAN Switch should be provided with Redundant hot swappable Power supplies. The Power supplies should be FCC class A certified	
16.	Cables	Necessary compatible power, network, Fiber cables with required length to be supplied along with storage.	
17.	Throughput	The aggregate backplane bandwidth of switch should be scalable more than 24Tbps of Fiber channel throughput for fully populated director	
18.	No Single point of Failure	The switch should have No Single Point of Failure (SPOF) and all the components should be hot swappable without even scheduled down time.	
19.	Monitoring	The switch should have Real time performance monitoring reporting tool	
20.	Diagnostics	The switch should have support for POST & online diagnostics	
21.	Other Features		
		The switch should have capability to interface with host based adapters (HBA) of multiple OEM, supporting multiple Operating Systems	

		The switch should have support of all leading SAN / NAS disk arrays and tape libraries	
		The switch should have Inter Switch linking feature to connect two or more FC switches	
		The switch should have trunking capability. The required software license should be supplied with switch	
		The switch should Provide Adaptive Networking services such as Quality of Service (QoS)	
		The switch should have high availability feature with no performance degradation of switching operation even when one of the processor card fails	
		The Switch should have Analytics and telemetry capabilities within the Switch	
		The Information generated by SAN Analytics should include at least counters and indicators related to latency, completion time, Outstanding I/Os, I/O block size etc.	
		The solution should be used to monitor storage traffic patterns for extended durations. This information should be used to profile the applications for their storage needs. Recommendation based on storage traffic patterns of the same application to other virtual machines or hosts should be provided for future expansion	
		The Analytics solution should provide performance metrics	

		of the available LUNs to enhance the storage provisioning	
		The solution should have auditability It should be able to generate multiple performance and error metrics for the complete storage fabric using a holistic approach to perform audits in the storage infrastructure.	
		The Information generated by SAN Analytics should include at least counters and indicators related to latency, completion time, Outstanding I/O's, I/O block size etc.	
		FCIP interface should have compression feature	
		SAN Switches should support NVME/ NVME-oF	
		All the ports shall be activated on day one and all necessary licenses and SFP shall be provided	
		The Switches should be IPv4/IPv6 Compliant	
		Any SAN Switch level configuration required for integration of the storage with any new applications in future to be carried out by the bidder during implementation and warranty and AMC period with no extra cost (as many times as may be required)	
		The switch should have following security features	
		Must have hardware & Software zoning	
		Centralized fabric management	
		Authentication protocol	
		RADIUS, SSH, SNMP	
		Port binding	

		The switch should support offline diagnostics, including electrical/optical loopback, link traffic/latency/distance including environmental monitoring, FCping and Pathinfo (FC traceroute), 256 bit encryption, compression, frame viewer, non-disruptive daemon restart, port mirroring	
		Switch should provide advanced zoning capabilities and allow health and performance monitoring capabilities. Support for web based management and should also support CLI	
		The director class switch should provide Inter Switch Link (ISL) for connecting multiple SAN Switches.	
		The director class switch should support non-disruptive Microcode/ firmware Upgrades and hot code activation.	
		It should be possible to isolate the high bandwidth data flows traffic to specific ISLs/trunks by simply using Zoning.	
		Switch should support Virtual Fabrics feature that enables partitioning of a physical SAN into logical fabrics and isolation by application, business group, customer, or traffic type.	
		Switch should provide advanced zoning capabilities and allow health and performance monitoring capabilities. Support for web based management and should also support CLI.	

		Should support features such as Quality of Service (QoS) to help optimize application performance in consolidated, virtual environments. It should be possible to define high, medium and low priority QoS zones to expedite high-priority traffic.	
		It shall be possible to configure the switches with alerts based on threshold values for temperature, fan status, Power supply status, port status.	
		Switch shall support diagnostics features such as port mirroring, Syslog, Online system health, Port-level statistics etc.	
22.	Port Types	The switch shall support different port types such as U_Port, , F_Port, E_Port, SIM port, EX_Port, D_Port (Diagnostic Port) & M_Port (Mirror Port)	
23.	Firmware Upgrades	The director class switch should support non-disruptive Microcode/ firmware Upgrades and hot code activation.	

Table-O
Technical Specifications of 10 SAN Switch (6 Nos at DC and 4 Nos at DR)

Sl. No.	Detailed Configuration	Specification	Bidder's compliance
			(yes/No)
1.	Bidder to specify make		
2.	Bidder to specify model		
3.	Bidder to specify form factor		
4.	Bidder to specify the power factor		

5.	SAN Switch should be configured with minimum 96 FC SAN ports with populated 32Gbps SFP Transceiver Modules and should be negotiable speed with 16/32 Gbps- (DC -4, DR -4). SAN Switch should be configured with minimum 48 FC SAN ports with populated 32Gbps SFP Transceiver Modules out of which it should contain 8 longwave sfps in each switch and it should be negotiable speed with 16/32 Gbps - (DC - 2) ISL Trunking connectivity and Cut Thru/Store Forward Switching. Necessary Licenses to be provided by the bidder. SAN Switch should support 64GBps trans receiver compatibility for future upgrade		
6.	Operating System Support	Support for multiple Operating Systems versions connecting to it, including but not restricted to Windows 2016 or later, UNIX (AIX & Solaris & HP Unix), Linux (Redhat, SUSE & OEL), Hypervisor (vSphere, Hyper V, Redhat Virtualization, Oracle virtualization & Nutanix), RHCOS.	
		Support for multiple hardware environment but not limited to X86 machines and IBM power machines	
7.	Maintenance	Should Support online upgrade of firmware and other components.	
8.	Warranty and Support	3 Years, Comprehensive, On-Site Support Warranty and 2 Year AMC including part replacement /repairs within 6 hours of reporting, and Software support for updates, upgrades, patches, and bug fixes for supplied s/w from OEM 24 x 7 x 365 days. The proposed bidder will need to ensure support of product & change of components @ zero cost in case of any part becoming obsolete/EOL & EOS during the warranty and AMC period.	
9.	Uptime	The SAN Switch should be able to provide availability parameter of 99.90 % from the date of acceptance of the Storage by Bank	
10.	Power Supply	SAN Switch should be provided with Redundant hot swappable Power supplies. The Power supplies should be FCC class A certified.	
11.	Cables	Necessary compatible power, network, Fiber cables with required length to be supplied along with storage.	

12.	No Single point of Failure	The switch should have No Single Point of Failure (SPOF) and all the components should be hot swappable without even scheduled down time.	

Table-P

**Technical Specifications of 2 LTO9 Tape Library (1 Nos at DC and 1Nos at DR)
and 200 LTO7 & 3800 LTO8 & 800 LTO9 Tapes & 200 No. of LTO9 Cleaning Cartridge**

Sl. No.	Detailed Configuration	Specification	Bidder's Compliance (Yes/No)
1.	Bidder to specify make		
2.	Bidder to specify model		
3.	Bidder to specify form factor		
4.	Bidder to specify power factor		
5.	Tape Drive	Minimum 40 LTO-9 Drive with FC Connectivity to support 8Gbps or more.	
6.	Free Slots	Minimum 250 Free tape slots should be available in library to accommodate the tapes.	
7.	Cables	Necessary OM3/OM4 FC cables of length 15 meters	
8.	LTO7 & LTO 8 & LTO 9 Tapes Up to LTO 9 Cleaning cartridges	3800 quantities (1900 DC & 1900 DRC) of LTO-8 standard tapes with custom Bar Codes compatible with the proposed Tape Library.	
		800 quantities (400 DC & 400 DRC) of LTO-9 standard tapes with custom Bar Codes compatible with the proposed Tape Library.	
		200 quantities (100 DC & 100 DRC) of LTO-7 standard tapes with custom Bar Codes.	
		200 quantities (100 DC & 100 DRC) up to LTO9 Cleaning Cartridge with custom Bar Codes. Tapes replacement warranty for defects in manufacturing and material defects for the full life of the product, or until end of support of the product	

9.	Warranty and Support	3 Years, Comprehensive, On-Site Support Warranty and 2 Years AMC including part replacement /repairs within 6 hours of reporting, and Software support for updates, upgrades, patches, and bug fixes for supplied s/w from OEM 24 x 7 x 365 days. The proposed bidder will need to ensure support of product & change of components @ zero cost in case of any part becoming obsolete/EOL & EOS during the warranty and AMC period.	Internal
10.	Uptime	The storage should be able to provide availability parameter of 99.0 % from the date of acceptance of the Storage by Bank	
11.	Power Supply	Storage should be provided with Redundant hot swappable Power supplies. The Power supplies should be FCC class A certified.	
12.	Cables	Necessary compatible power, network, fiber cables with required length to be supplied along with storage.	

Table-Q
Technical Specifications of 2 LTO9 standalone Tape Drive (1 DC and 1 DRC)

Sl. No.	Detailed Configuration	Specification	Bidder's Compliance
1.	Bidder to specify make		
2.	Bidder to specify model		
3.	Bidder to specify form factor		
4.	Bidder to specify power factor		
5.	Tape Drive	Minimum 8 Slots Autoloader with LTO9 FC drive to support 8Gbps or more	
6.	Cables	Necessary OM3/OM4 FC cables of length 15 meters	
7.	Warranty and Support	3 Years, Comprehensive, On-Site Support Warranty and 2 Years AMC including part replacement /repairs within 6 hours of reporting, and Software support for updates, upgrades, patches, and bug fixes for supplied s/w from OEM 24 x 7 x 365 days. The proposed bidder will need to ensure support of product & change of components @ zero cost in case of any part becoming obsolete/EOL & EOS during the warranty and AMC period.	

8.	Cables	Necessary compatible power, network, fiber cables with required length to be supplied along with storage.	

We comply with the above Technical and Functional requirements, Non-compliance to any of the above requirement will lead to disqualification of the bidder in Technical proposal.

Date:

Signature with Seal

Name:

Designation:

Annexure-16
Bill of Material

SUB: Supply, Installation, Configuration, Implementation and Maintenance of 500 Nos. of Servers and other IT Infra Components in Canara Bank

Ref: GEM/2024/B/4915191 dated 04/05/2024.

Notes

9. These details should be on the letter head of Bidder and each & every page should be signed by an Authorized Signatory with Name and Seal of the Company.
10. Please be guided by RFP terms, subsequent amendments and replies to pre-bid queries (if any) while quoting.
11. Do not change the structure of the format nor add any extra items.
12. No counter condition/assumption in response to commercial bid will be accepted. Bank has a right to reject such bid.

Table - A
Price details of Hardware Items

[Amount in Indian Rupees]							
Sl. No.	Item Details	Unit Price with Three years Comprehensive onsite warranty and support (Excl. of Taxes)	Qty.	Total Cost Price with Three years Comprehensive onsite warranty and support (Excl. of Taxes)	Tax for Column c		Total Cost Price with Three years Comprehensive onsite warranty and support (Incl. of Taxes)
					% of Tax	Tax Amt.	
		a	b	c=a*b	d	e	f=c+e
45.	Servers With 64 core and 2 TB Memory and Minimum 3.5 TB SSD usable space Local Disk with RAID 10 and minimum 900GB SSD usable space local Disk with RAID1 as mentioned in Tech Spec (Amended Annexure-9)		80				

Sl. No.	Item Details	Unit Price with Three years Comprehensive onsite warranty and support (Excl. of Taxes)	Qty.	Total Cost Price with Three years Comprehensive onsite warranty and support (Excl. of Taxes)	Tax for Column c		Total Cost Price with Three years Comprehensive onsite warranty and support (Incl. of Taxes)
		a		c=a*b	% of Tax	Tax Amt.	f=c+e
46.	Servers With 64 core and 512 GB Memory and 3.5 TB SSD usable space Local Disk with RAID 10 as and minimum 900GB SSD usable space local Disk with RAID1 as mentioned in Tech Spec (Amended Annexure-9)		28				
47.	Servers With 32 core and 1 TB Memory and 3.5 TB SSD usable space Local Disk with RAID 10 and minimum 900GB SSD usable sace local Disk with RAID1 as mentioned in Tech Spec (Annexure-9)		100				
48.	Servers With 32 core and 256GB Memory and 3.5 TB SSD Local Disk with RAID 10 and minimum 900GB SSD usable space local Disk with RAID1 as mentioned in Tech Spec (Annexure-9)		54				
49.	Servers with 16 core and 512GB Memory and 3.5 TB SSD usable space Local Disk with RAID 1 and minimum 900GB SSD usable space local Disk with RAID1 as mentioned in Tech Spec (Annexure-9)		226				

Sl. No.	Item Details	Unit Price with Three years Comprehensive onsite warranty and support (Excl. of Taxes)	Qty.	Total Cost Price with Three years Comprehensive onsite warranty and support (Excl. of Taxes)	Tax for Column c		Total Cost Price with Three years Comprehensive onsite warranty and support (Incl. of Taxes)
					% of Tax	Tax Amt.	
		a	b	c=a*b	d	e	f=c+e
50.	Servers With 16 core and 256GB Memory and 3.5 TB SSD usable space Local Disk with RAID 1 and minimum 900GB SSD usable space local Disk with RAID1 as mentioned in Tech Spec (Annexure-9)		4				
51.	Servers With 32 core and 1 TB Memory and 7.5 TB NVME SSD usable Local Disk with RAID 10 and minimum 900GB SSD usable space local Disk with RAID1 as mentioned in Tech Spec (Annexure-9)		4				
52.	Servers With 32 core and 1 TB Memory and 34 TB NVME SSD usable Local Disk with RAID 10 and minimum 900GB SSD usable space local Disk with RAID1 as mentioned in Tech Spec (Annexure-9)		4				
53.	Server Rack for placing Servers, storage, Library and SAN and Network switches and as per Technical Specification (Annexure-9)		50				

Sl. No.	Item Details	Unit Price with Three years Comprehensive onsite warranty and support (Excl. of Taxes)	Qty.	Total Cost Price with Three years Comprehensive onsite warranty and support (Excl. of Taxes)	Tax for Column c		Total Cost Price with Three years Comprehensive onsite warranty and support (Incl. of Taxes)
					% of Tax	Tax Amt.	
		a	b	c=a*b	d	e	f=c+e
54.	PDU for the supplied RACKS and as per Technical Specification (Annexure-9)		100				
55.	SAN Director (48*3=144 FC SAN ports with 16&32Gbps SFP) and as per Technical Specification (Annexure-9)		4				
56.	SAN Switches (32G SAN with 96 port) Switch and as per Technical Specification (Annexure-9)		8				
57.	SAN Switches (32G SAN with 48 port) Switch and as per Technical Specification (Annexure-9)		2				
58.	Object Storage of 2.0PB Usable Space and as per Technical Specification (Annexure-9)		2				
59.	Enterprise Block Storage of 2.0PB Usable Space and as per Technical Specification (Annexure-9)		4				
60.	Tape Library with 40 Tape Drives and 250 Free slots and as per Technical Specification (Annexure-9)		2				
61.	LTO-9 Stand Alone Tape Drive and as per Technical Specification (Annexure-9)		2				

Sl. No.	Item Details	Unit Price with Three years Comprehensive onsite warranty and support (Excl. of Taxes)	Qty.	Total Cost Price with Three years Comprehensive onsite warranty and support (Excl. of Taxes)	Tax for Column c		Total Cost Price with Three years Comprehensive onsite warranty and support (Incl. of Taxes)
					% of Tax	Tax Amt.	
		a	b	c=a*b	d	e	f=c+e
62.	48 Gig Ethernet ports and 2 x 10G SFP+ for uplink on single chassis TOR Switch as per Technical Specification (Annexure-9)		14				
63.	48 fixed 10-G BASE-T ports and 6 fixed 40/100-Gbps QSFP+ ports for uplink with fully populated transceivers connectivity on single chassis TOR switch as per Technical Specification (Annexure-9)		24				
64.	48 x 25-Gbps fiber downlink ports and 6 x 100-Gbps Quad Small Form-Factor Pluggable 28 (QSFP28) uplink ports with fully populated transceivers on single chassis TOR Switch as per Technical Specification (Annexure-9)		4				
65.	Distribution Switches in High availability with required capacity to connect all supplied access switches with dual uplink of 10/40/100 Gbps in active-active mode for redundancy and load sharing as per Technical Specification (Annexure-9)		8				

Sl. No.	Item Details	Unit Price with Three years Comprehensive onsite warranty and support (Excl. of Taxes)	Qty.	Total Cost Price with Three years Comprehensive onsite warranty and support (Excl. of Taxes)	Tax for Column c		Total Cost Price with Three years Comprehensive onsite warranty and support (Incl. of Taxes)
					% of Tax	Tax Amt.	
		a		b	c=a*b	d	e
66.	Total Cost for Hardware (Sum of Sl. No. 1 to 21)						

Table - B
Price details of Software/License Items (Perpetual)

[Amount in Indian Rupees]

Sl. No.	Item Details	Unit Price with Comprehensive warranty and support (Excl. of Tax)	Qty.	Total Cost with Comprehensive warranty and support (Excl. of Tax)	Tax for Column c		Total Cost with Comprehensive warranty and support (Incl. of Tax)
		a		c=a*b	% of Tax	Tax Amt.	f=c+e
11.	Windows 2022 Data Centre Edition 16 Corepack with standard support		160				
12.	Windows 2022 Standard Centre Edition 16 Core pack with standard support		187				
13.	Microsoft SQL 2022 standard edition two core pack with standard support		156				
14.	IBM WebSphere ND 9.5 PVU.		17920				
15.	Total Cost for Software/Licenses (Sum of Sl. No. 1 to 4)						

Table - C
Price details of Software/License Items (Subscription based Licenses)

[Amount in Indian Rupees]							
Sl. No.	Item Details	Unit Price with Comprehensive warranty and support for 5 Years (Excl. of Tax)	Qty.	Total Cost with Comprehensive warranty and support for 5 Years (Excl. of Tax)	Tax for		Total Cost with Comprehensive warranty and support for 5 Years (Incl. of Tax)
				Column c			
		% of Tax		Tax Amt.			
		a	B	c=a*b	d	e	f=c+e
29.	RHEL 9 Virtual DataCentre with premium support		20				
30.	RHEL 9 with premium support		150				
31.	RHEL 9 High Availability with premium support - X86 machines		30				
32.	RedHat OpenShift Container Platform Plus- RHCOS latest version subscription with premium support		3				
33.	RedHat OpenShift Container Platform Plus- RHCOS latest version subscription with standard support		3				
34.	Apache Tomcat Enterprise Edition with support - instance base		5				
35.	Managed File Transfer Solution core based		16				
36.	File Sync Software instance base with support		50				
37.	Backup Software instance based with support		500				
38.	Jboss Enterprise Application Platform (16 core Pack) with premium support		2				

39.	Jboss Enterprise Application Platform (16 core Pack) with standard support		1				
40.	Jboss web server (16 core Pack) with premium support		2				
41.	Jboss web server (16 core Pack) with standard support		1				
42.	Total Cost (Sum of Sl. No. 1 to 13)						

Table - D
Price details of Linear Tape Open Cartridges (5000 nos.)

[Amount in Indian Rupees]

Sl. No.	Requirement Details	Unit Price (Excl. of Tax)	Quantity	Total Cost Price (Excl. of Tax)	Tax for Column C		Total Price (Incl. of Tax)
		a			% of Tax	Tax Amt.	
			b	c=a*b	d	e	f=c+e
11.	LTO-7 standard tapes with customized barcodes		200				
12.	LTO-8 standard tapes with customized barcodes		3800				
13.	LTO-9 standard tapes with customized barcodes		800				
14.	LTO-9 Cleaning Cartridges with customized barcodes		200				
15.	Total cost for 5000 Linear Tape Open Cartridges (Sum of Sl. No. 1 to 4)						

Table - E
AMC /ATS Cost for Hardware/Software/Licenses for 2 Years on post warranty

[Amount in Indian Rupees]

Sl. No.	Item Details	Cost for AMC for 2 years (Excl. of Tax)		Qty.	Total AMC Cost (Excl. of Tax)	Tax for Column d		Total AMC Cost (Incl. of Tax)
		4 th Year	5 th Year			% of Tax	Tax Amt.	
		a	b			c	d=(a+b)*c	
A.	Hardware							
47.	Servers With 64 core and 2 TB Memory and 3 TB SSD usable space Local Disk with RAID 10 as per Technical Specification (Annexure-9)			80				
48.	Servers With 64 core and 512 GB Memory and 3 TB SSD usable space Local Disk with RAID 10 as mentioned as per Technical Specification (Annexure-9)			28				
49.	Servers With 32 core and 1 TB Memory and 3 TB SSD usable space Local Disk with RAID 10 as per Technical Specification (Annexure-9)			100				
50.	Servers With 16 core and 512GB Memory and 3 TB SSD usable space Local Disk with RAID 10 as per Technical Specification (Annexure-9)			226				
51.	Servers With 24 core and 256GB Memory and 1.5 TB SSD Local Disk as per Technical Specification (Annexure-9)			54				
52.	Servers With 16 core and 256GB Memory and 4 TB SSD usable			4				

Sl. No.	Item Details	Cost for AMC for 2 years (Excl. of Tax)		Qty.	Total AMC Cost (Excl. of Tax)	Tax for Column d		Total AMC Cost (Incl. of Tax)
		4 th Year	5 th Year			% of Tax	Tax Amt.	
		a	b			e	f	
	space Local Disk with RAID 10 as per Technical Specification (Annexure-9)				$d=(a+b)*c$			$g=(d+f)$
53.	Servers With 32 core and 1 TB Memory and 8 TB NVME SSD usable Local Disk with RAID 10 as per Technical Specification (Annexure-9)			4				
54.	Servers With 32 core and 1 TB Memory and 32 TB NVME SSD usable Local Disk with RAID 10 as per Technical Specification (Annexure-9)			4				
55.	Server Rack for placing Servers, storage, Library and SAN and Network switches and as per Technical Specification (Annexure-9)			50				
56.	PDU for the supplied RACKS and as per Technical Specification (Annexure-9)			100				
57.	SAN Director (48*3=144 FC SAN ports with 16&32Gbps SFP) and as per Technical Specification (Annexure-9)			4				
58.	SAN Switches (32G SAN with 96 port) Switch and as per			8				

Sl. No.	Item Details	Cost for AMC for 2 years (Excl. of Tax)		Qty.	Total AMC Cost (Excl. of Tax)	Tax for Column d		Total AMC Cost (Incl. of Tax)
		4 th Year	5 th Year			% of Tax	Tax Amt.	
		a	b			e	f	
	Technical Specification (Annexure-9)				$d=(a+b)*c$			$g=(d+f)$
59.	SAN Switches (32G SAN with 48 port) Switch and as per Technical Specification (Annexure-9)			2				
60.	Object Storage of 2.0PB Usable Space and as per Technical Specification (Annexure-9)			2				
61.	Enterprise Block Storage of 2.0PB Usable Space and as per Technical Specification (Annexure-9)			4				
62.	Tape Library with 40 Tape Drives and 250 Free slots and as per Technical Specification (Annexure-9)			2				
63.	LTO-9 Stand Alone Tape Drive and as per Technical Specification (Annexure-9)			2				
64.	48 Gig Ethernet ports and 2 x 10G SFP+ for uplink on single chassis TOR Switch as per Technical Specification (Annexure-9)			14				
65.	48 fixed 10-G BASE-T ports and 6 fixed 40/100-Gbps QSFP+ ports for uplink with fully populated			24				

Sl. No.	Item Details	Cost for AMC for 2 years (Excl. of Tax)		Qty.	Total AMC Cost (Excl. of Tax)	Tax for Column d		Total AMC Cost (Incl. of Tax)
		4 th Year	5 th Year			% of Tax	Tax Amt.	
		a	b			e	f	
	transceivers connectivity on single chassis TOR switch as per Technical Specification (Annexure-9)							
66.	48 x 25-Gbps fiber downlink ports and 6 x 100-Gbps Quad Small Form-Factor Pluggable 28 (QSFP28) uplink ports with fully populated transceivers on single chassis TOR Switch as per Technical Specification (Annexure-9)			4				
67.	Distribution Switches in High availability with required capacity to connect all supplied access switches with dual uplink of 10/40/100 Gbps in active-active mode for redundancy and load sharing as per Technical Specification (Annexure-9)			8				
B.	Software							
Sl. No.	Item Details	ATS cost for 5 years (Excl. of Tax)		Qty.	Total AMC Cost (Excl. of Tax)	Tax for Column c		Total AMC Cost (Incl. of Tax)
		a	b			% of Tax	Tax Amt.	
		a	b		c= (a*b)	d	e	f=c+e

Sl. No.	Item Details	Cost for AMC for 2 years (Excl. of Tax)		Qty.	Total AMC Cost (Excl. of Tax)	Tax for Column d		Total AMC Cost (Incl. of Tax)
		4 th Year	5 th Year			% of Tax	Tax Amt.	
		a	b			e	f	
					$d=(a+b)*c$			$g=(d+f)$
68.	Support charge for IBM WebSphere ND 9.5 PVU			17920				
69.	Total Cost for AMC for Hardware/Software/Licenses (Sum of Sl. No. 1 to 22)							

Table - F
One-time Implementation charges

Sl. No.	Item Details		Unit Price (Excl. of Tax)	No. of Units	Total Price (Excl. of Tax)	Tax for Column c		Total Price (Incl. of Tax)
						% of Tax	Tax Amt.	
						d	e	
			a	b	$c=a*b$			$f=c+e$
33.	Servers Installation and Configurations with OS	Per Server		500				
34.	Managed file transfer solution Implementation	Per Site		2				
35.	Backup Solution implementation	Per server		500				
36.	Jboss server implementation	Per Server		3				
37.	Apache Tomcate server implementation	Per Server		5				
38.	MSSQL Setup installation per server with cluster configuration (for 24 Servers - in 2 node cluster)	Per server		24				
39.	RHCOS Setup installation and configuration for three cluster (Three nodes in one Cluster)	Per Cluster		3				

Sl. No.	Item Details		Unit Price (Excl. of Tax)	No. of Units	Total Price (Excl. of Tax)	Tax for Column c		Total Price (Incl. of Tax)
			a	b	c=a*b	% of Tax d	Tax Amt. e	f=c+e
40.	Installation of TOR switches	Per Switch		42				
41.	Installation of Distribution Switches	Per Switch		8				
42.	Implementation charges for SAN Director with ISL	Per Director		4				
43.	Implementation charges for SAN switch with ISL	Per Switch		10				
44.	Object Storage implementation Cost	Per storage		2				
45.	Block Storage Implementation Cost	Per storage		4				
46.	Rack and PDU implementation	Per Rack		50				
47.	Tape Library implementation cost	Per Library		2				
48.	Total Cost for Optional Items (Sum of Sl. No. 1 to 15)							

Table - G (Optional)
Price details of Optional Items for 5 Years

[Amount in Indian Rupees]

Sl. No.	Item Details	Unit Price (Excl. of Tax)	Tax for Column a		Total Price (Incl. of Tax)
			% of Tax	Tax Amt.	
		a	b	C	d=a+c
42.	1.92 TB SSD with 3 year warranty (Compatible with the proposed server)				
43.	One CPU of 16 core				
44.	One CPU of 24 core				
45.	One CPU of 32 core				
46.	One CPU of 64 core				
47.	One Memory Stick of 64 GB				
48.	One Memory Stick of 128 GB				
49.	Object Storage per TB Cost				
50.	Block Storage per TB Cost				
51.	Block Storage per controller cost				
52.	Object Storage per controller cost				
53.	One FC Card with minimum 1 number of 32 Gbps FC ports in each card				
54.	One Network Cards, each equipped with at least one 10-gigabit network ports				
55.	One Network Cards, each equipped with at least two 1-gigabit network ports				
56.	San Director 32G SFP Module				
57.	San Director 64G SFP Module				
58.	San Switch 32G SFTP Module				
59.	San Switch 64G SFP Module				
60.	San Switch Long Wave 32G SFP Module				

Sl. No.	Item Details	Unit Price (Excl. of Tax)	Tax for Column a		Total Price (Incl. of Tax)
			% of Tax	Tax Amt.	
		a	b	C	d=a+c
61.	San Switch Long Wave 64G SFP Module				
62.	SAN Director per Blade Cost				
63.	SAN Director Blade Cost with fully populate SFTP				
64.	CAT 6 UTP Copper Cable length of 3 mtrs				
65.	CAT 6 UTP Copper Cable length of 5 mtrs				
66.	CAT 6 UTP Copper Cable length of 7 mtrs				
67.	CAT 6 UTP Copper Cable length of 10 mtrs				
68.	CAT 6 UTP Copper Cable length of 15 mtrs				
69.	CAT 7 UTP Copper Cable length of 3 mtrs				
70.	CAT 7 UTP Copper Cable length of 5 mtrs				
71.	CAT 7 UTP Copper Cable length of 7 mtrs				
72.	CAT 7 UTP Copper Cable length of 10 mtrs				
73.	CAT 7 UTP Copper Cable length of 15 mtrs				
74.	CAT 7 UTP Copper Cable length of 25 mtrs				
75.	Fiber cables Cable length OM4 of 5 mtrs				
76.	Fiber cables Cable length OM4 of 10 mtrs				
77.	Fiber cables Cable length OM4 of 15 mtrs				
78.	Fiber cables Cable length OM4 of 20 mtrs				
79.	Fiber cables Cable length OM4 of 25 mtrs				
80.	Fiber cables Cable length OM4 of 30 mtrs				
81.	Total Cost for Optional Items (Sum of Sl. No. 1 to 39)				

The cost mentioned in column “a” of Table-F will be the fixed price for 5 years (i.e., Unit Price mentioned will be fixed for the entire contract period). Bank may procure the above items mentioned in Table-F with the same cost for the entire contract period.

The items brought during the contract period should be co-terminus with the base hardware.

Bank may issue Purchase order(s) to procure items mention in Table-G as per the necessary quantities as and when required by the Bank during the initial purchase or during the entire Contract Period. However, the bidder has to provide the optional items at the same cost mentioned in the Table-G.

Table - H
Total Cost of the Hardware, Software and optional items for 5 Years

[Amount in Indian Rupees]

Sl. No.	Requirement Details	Total Cost of the Hardware, Software and optional items for 5 Years (Incl. of Taxes)
1.	Total cost of Table-A (Price details of Hardware Items for three year warranty period)	
2.	Total cost of Table-B (Price details of Software/License Items (Perpetual))	
3.	Total cost of Table-C (Price details of Software/License Items (Subscription based))	
5.	Total cost of Table-D (Price details of Linear Tape Open Cartridges)	
6.	Total cost of Table-E (Two year contract for AMC /ATS Cost for Hardware/Software/Licenses)	
7.	Total cost of Table-F (One-time Implementation charges)	
8.	Total cost of Table-G (Price details of Optional Items for 5 Years)	
9.	Total Cost of Ownership for 5 Years (Sum of Sl. No. 1 to 8)	

Declaration:

- k. Bill of material is submitted on the letter head and is signed by an Authorized Signatory with Name and Seal of the Company.
- l. We confirm that we have gone through RFP clauses, subsequent amendments and replies to pre-bid queries (if any) and abide by the same.
- m. We have not changed the structure of the format nor added any extra items. We note that any such alternation will lead to rejection of Bid.



- n. We agree that no counter condition/assumption in response to commercial bid will be accepted by the Bank. Bank has a right to reject such bid.
- o. We are agreeable to the payment schedule as per “Payment Terms” of the RFP.

Date:
Place:

Authorized signatory
Name:
Designation:
Company seal:

Corrigendum-4 to GeM Bid ref. no GEM/2024/B/4915191 dated 04/05/2024 for Selection of vendor for Supply, Installation, Configuration, Implementation and Maintenance of 500 Nos. of Servers and other IT Infra Components in Canara Bank.

It is decided to amend the following in respect of the above RFP:

f. GeM bid document (Bid End date/ Bid Opening Date, Page no. 1 of 7):

Description	Existing details	Amended details
Bid End Date/Time	12/06/2024, 15:00:00	<u>21/06/2024</u> , 15:00:00
Bid opening Date/Time	12/06/2024, 15:30:00	<u>21/06/2024</u> , 15:30:00

All the other instructions and terms & conditions of the above RFP shall remain unchanged.

Please take note of the above amendments while submitting your response to the subject RFP

Date: 11/06/2024
Place: Bengaluru

-SD-
Deputy General Manager

Corrigendum-3 to GeM Bid ref. no GEM/2024/B/4915191 dated 04/05/2024 for Selection of vendor for Supply, Installation, Configuration, Implementation and Maintenance of 500 Nos. of Servers and other IT Infra Components in Canara Bank.

It is decided to amend the following in respect of the above RFP:

g. GeM bid document (Bid End date/ Bid Opening Date, Page no. 1 of 7):

Description	Existing details	Amended details
Bid End Date/Time	28/05/2024, 15:00:00	<u>12/06/2024</u> , 15:00:00
Bid opening Date/Time	28/05/2024, 15:30:00	<u>12/06/2024</u> , 15:30:00

All the other instructions and terms & conditions of the above RFP shall remain unchanged.

Please take note of the above amendments while submitting your response to the subject RFP

Date: 28/05/2024
Place: Bengaluru

-SD-
Deputy General Manager

Corrigendum-2 to GeM Bid ref. no GEM/2024/B/4915191 dated 04/05/2024 for Selection of vendor for Supply, Installation, Configuration, Implementation and Maintenance of 500 Nos. of Servers and other IT Infra Components in Canara Bank.

It is decided to amend the following in respect of the above GeM bid:

a. GeM Bid Document, Bid Details (Pre-Bid Date/Time, Page no. 4 of 7):

Description	Existing details	Amended details
Pre-Bid Date and Time	20-05-2024 @ 15:00:00	<u>23-05-2024 @ 15:00:00</u>

All the other instructions and terms & conditions of the above GeM Bid shall remain unchanged.

Please take note of the above amendments while submitting your response to the subject GeM bid.

Date: 18/05/2024
Place: Bengaluru

-SD-
Deputy General Manager

Corrigendum-1 to GeM Bid ref. no GEM/2024/B/4915191 dated 04/05/2024 for Selection of vendor for Supply, Installation, Configuration, Implementation and Maintenance of 500 Nos. of Servers and other IT Infra Components in Canara Bank.

It is decided to amend the following in respect of the above GeM bid:

b. GeM Bid Document, Bid Details (Pre-Bid Date/Time, Page no. 4 of 7):

Description	Existing details	Amended details
Pre-Bid Date and Time	15-05-2024 @ 15:00:00	<u>20-05-2024 @ 15:00:00</u>
Pre-Bid Venue	1. Pre-bid meeting will be held on the date and time mentioned in the GeM Bid Documents. Venue: Pre Bid meeting will be held Online and participants are requested to attend the meeting Online. Those who are interested in participating the pre-bid meeting should share the participant details to dittenders@canarabank.com. Upon perusal of the same, the link / meeting id will be shared to the participant to participate in the virtual meeting. 2. Pre bid queries should be submitted as per format available in clause 1.1 of Section D. 3. Pre-bid Queries should be sent to E-mail dittenders@canarabank.com and must reach us on or before 13/05/2024, Monday at 5.00 PM. Subject of the email should be given as "Pre Bid Queries for GEM/2024/B/4915191 dated 04/05/2024". 4. Queries reaching afterwards will not be entertained.	1. Pre-bid meeting will be held on the date and time mentioned in the GeM Bid Documents. Venue: Pre Bid meeting will be held Online and participants are requested to attend the meeting Online. Those who are interested in participating the pre-bid meeting should share the participant details to dittenders@canarabank.com. Upon perusal of the same, the link / meeting id will be shared to the participant to participate in the virtual meeting. 2. Pre bid queries should be submitted as per format available in clause 1.1 of Section D. 3. Pre-bid Queries should be sent to E-mail dittenders@canarabank.com and must reach us on or before <u>17/05/2024, Friday at 5.00 PM.</u> Subject of the email should be given as "Pre Bid Queries for GEM/2024/B/4915191 dated 04/05/2024". 4. Queries reaching afterwards will not be entertained.

All the other instructions and terms & conditions of the above GeM Bid shall remain unchanged.

Please take note of the above amendments while submitting your response to the subject GeM bid.

Date: 13/05/2024

Place: Bengaluru

-SD-

Deputy General Manager



REQUEST FOR PROPOSAL [RFP]

FOR

**SUPPLY, INSTALLATION, CONFIGURATION, IMPLEMENTATION AND MAINTENANCE OF
500 NOS. OF SERVERS AND OTHER IT INFRA COMPONENTS IN CANARA BANK**

Issued by: Canara Bank,
Centralized Procurement and Vendor Management Wing,
1st Floor, Naveen Complex, 14, MG Road,
Bengaluru -560 001
Phone No: 080 - 25584873, 25590070
Email Id: dittenders@canarabank.com

A. BID SCHEDULE& ABBREVIATIONS

1. Bid Schedule

Sl. No.	Description	Details
1.	RFP No. and Date	GEM/2024/B/4915191 dated 04/05/2024
2.	Name of the Wing	Centralized Procurement and Vendor Management Wing
3.	Brief Description of the RFP	Selection of vendor for Supply, Installation, Configuration, Implementation and Maintenance of 500 Nos. of Servers and other IT Infra Components in Canara Bank.
4.	Bank's Address for Communication	Deputy General Manager, Canara Bank, Centralized Procurement and Vendor Management Wing, 1st Floor, Naveen Complex, 14, MG Road, Bengaluru - 560 001
		Senior Manager, Centralized Procurement and Vendor Management Wing, 1st Floor, Naveen Complex, 14, MG Road, Bengaluru - 560 001 Tel - 080 - 25584873, 25590070 Fax- 080-25596539 Email: dttenders@canarabank.com
5.	Date of Issue of RFP	As per GeM Bid Document
6.	Earnest Money Deposit (Refundable)	As per GeM Bid Document
7.	Performance Bank Guarantee/Bid Security	As per GeM Bid Document
8.	Last Date, Time and Venue for Submission of Bids	Bid End Date/Time as per GeM Bid Document. Response should be submitted in GeM portal and physical documents should be submitted at below mentioned address before due date/time: Canara Bank, Centralized Procurement and Vendor Management Wing, Naveen Complex, 14, MG Road, Bengaluru -560 001
9.	Date, Time & Venue for opening of Part A - Technical Proposals.	Bid Opening Date/Time as per GeM Bid Documents. Bid will be opened in GeM portal.
10.	Date, Time & Venue for opening of Part B - Commercial Proposals	Bid Opening Date/Time as per GeM Bid Documents. Bid will be opened in GeM portal.

11.	Pre-bid Meeting Date & Time	1. Pre-bid meeting will be held on the date and time mentioned in the GeM Bid Documents. Venue: Pre Bid meeting will be held Online and participants are requested to attend the meeting Online. Those who are interested in participating the prebid meeting should share the participant details to dittenders@canarabank.com. Upon perusal of the same, the link / meeting id will be shared to the participant to participate in the virtual meeting. 2. Pre bid queries should be submitted as per format available in clause 1.1 of Section D. 3. Pre-bid Queries should be sent to E-mail dittenders@canarabank.com and must reach us on or before 13/05/2024, Monday at 5.00 PM. Subject of the email should be given as “Pre Bid Queries for GEM/2024/B/4915191 dated 04/05/2024”. Queries reaching afterwards will not be entertained.
12.	Other Details	1. Subsequent changes made based on the suggestions and clarifications as per pre-bid meeting shall be deemed to be part of the RFP document and shall be shared with all the bidders. 2. No suggestions or queries shall be entertained after pre-bid meeting.
13.	This document can be downloaded from following website https://canarabank.com/tenders.aspx & https://gem.gov.in/. Any Amendments, Modifications, Pre Bid Replies, Clarifications & any communication etc. will be uploaded in the Bank's website (i.e. https://canarabank.com/tenders.aspx & https://gem.gov.in/). No individual communication will be sent to the individual bidders.	

2. Abbreviations used in this Document:

Sl. No.	Abbreviations	Expansion
1.	AAA	Authentication, Authorization, and Accounting
2.	ACS	Association for Computing Machinery
3.	AD	Active Directory
4.	ADM	Application Develop Management
5.	AMC	Annual Maintenance Contract
6.	ATS	Annual Technical Support
7.	BCP	Business Continuity Plan
8.	CO	Circle Office
9.	CSP	Communication Service Providers
10.	CSV	Cluster Shared Volumes
11.	CVC	Central Vigilance Commission
12.	DC	Data Centre
13.	DCM	Data Centre Management
14.	DD	Demand Draft
15.	DIMM	Dual in-line Memory Module
16.	DR	Disaster Recovery
17.	DRC	Disaster Recovery Centre
18.	EMD	Earnest Money Deposit
19.	EOL	End-of-Life
20.	EOS	End-of-Support
21.	GeM	Government e-Marketplace
22.	GST	Goods and Service Tax
23.	GSTIN	Goods and Services Tax Identification Number
24.	GUI	Graphical User Interface
25.	HA	High availability
26.	HBA	Host Bus Adapter
27.	HO	Head Office
28.	HSN	Harmonized System of Nomenclature
29.	HTTP	Hypertext Transfer Protocol
30.	ICT	Information and Communications Technology
31.	IFSC	Indian Financial System Code
32.	IMPS	Immediate Mobile Payment System
33.	IOPS	Input/output Operations Per Second
34.	IOS	Internetwork Operating System
35.	IP	Internet Protocol
36.	IS	Information Security
37.	IT	Information Technology
38.	LAN	Local Area Network
39.	LC	Local Content
40.	LD	Liquidated Damages
41.	LDAP	Lightweight directory access protocol
42.	LLD	Low-level design
43.	LTO	Linear Tape-Open

Sl. No.	Abbreviations	Expansion
44.	MFA	Multi-factor authentication
45.	MIS	Management Information System
46.	MSE	Micro and Small Enterprises
47.	MSSQL	Microsoft SQL
48.	MTBF	Mean Time Between Failures
49.	MTTR	Meantime to Restore
50.	NAS	Network-Attached Storage
51.	NBA	Network Behaviour Analysis
52.	NEFT	National Electronic Funds Transfer
53.	NI Act	Negotiable Instruments Act
54.	NTP	Network Time Protocol
55.	OCP	OpenShift Container Platform
56.	OEM	Original Equipment Manufacturer
57.	OS	Operating System
58.	OSD	Original Software Developer
59.	OWASP	Open Web Application Security Project
60.	PDU's	Power Distribution Units
61.	PM	Preventive Maintenance
62.	PO	Purchase Order
63.	POC	Proof of Concept
64.	RAID	Redundant Array of Inexpensive/Independent Disks
65.	RBI	Reserve Bank of India
66.	RFP	Request For Proposal
67.	RTGS	Real Time Gross Settlement
68.	RWO	ReadWriteOnce
69.	RWX	ReadWriteMany
70.	SAN	Storage Area Network
71.	SFMS	Structured Financial Messaging System
72.	SFTP	Secure File Transfer Protocol
73.	SIEM	Security information and event management
74.	SLA	Service Level Agreement
75.	SMB	Server Message Block
76.	SMTP	Simple Mail Transfer Protocol
77.	SNMP	Simple Network Management Protocol
78.	SOP	Standard Operating Procedures
79.	SOW	Scope of Work
80.	SSL	Secure Sockets Layer
81.	TAC	Technical Assistance center
82.	TCO	Total Cost of Ownership
83.	TDS	Tax Deducted at Source
84.	TOR	Top-of-rack
85.	VGA	Video Graphics Array
86.	VLAN	Virtual Local Area Network
87.	VM	Virtual Machine

DISCLAIMER

The information contained in this Request for Proposal (“RFP”) document or information provided subsequently to bidders or applicants whether verbally or in documentary form by or on behalf of Canara Bank (or Bank), is provided to the bidder(s) on the terms and conditions set out in this RFP document and all other terms and conditions subject to which such information is provided. This RFP document is not an agreement and is not an offer or invitation by Canara Bank to any parties other than the applicants who are qualified to submit the bids (hereinafter individually and collectively referred to as “Bidder” or “Bidders” respectively). The purpose of this RFP is to provide the Bidders with information to assist the formulation of their proposals. This RFP does not claim to contain all the information each Bidder requires. Each Bidder may conduct its own independent investigations and analysis and is free to check the accuracy, reliability and completeness of the information in this RFP. Canara Bank makes no representation or warranty and shall incur no liability under any law, statute, rules or regulations as to the accuracy, reliability or completeness of this RFP. The information contained in the RFP document is selective and is subject to updating, expansion, revision and amendment. It does not purport to contain all the information that a Bidder requires. Canara Bank does not undertake to provide any Bidder with access to any additional information or to update the information in the RFP document or to correct any inaccuracies therein, which may become apparent.

Canara Bank reserves the right of discretion to change, modify, add to or alter any or all of the provisions of this RFP and/or the bidding process, without assigning any reasons whatsoever. Such change will be published on the Bank's Website (<https://canarabank.com/tenders.aspx> & <https://gem.gov.in/>) and it will become part and parcel of RFP.

The information provided by the bidders in response to this RFP Document will become the property of the Bank and will not be returned. This RFP document prepared by Canara Bank should not be reused or copied or used either partially or fully in any form.

Canara Bank in its absolute discretion, but without being under any obligation to do so, update, amend or supplement the information in this RFP. Canara Bank reserves the right to reject any or all Request for Proposals received in response to this RFP document at any stage without assigning any reason whatsoever. The decision of Canara Bank shall be final, conclusive and binding on all the parties.

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SECTION B - INTRODUCTION

1. About Canara Bank

- 1.1. CANARA BANK is one of the largest Public Sector Banks owned by Government of India. Canara Bank is a body Corporate and a premier Public Sector Bank established in the Year 1906 by Shri. Ammembal Subba Rao Pai and nationalized under the Banking Companies (Acquisition and Transfer of Undertakings) Act, 1970. Canara Bank Head office is located at 112, J C Road Bengaluru-560002 and Centralized Procurement & Vendor Management Wing located at Naveen Complex, No.14, M G Road, Bengaluru-560001.
- 1.2. The Bank is having pan India presence of more than 9604 branches, 26 Circle offices and 177 Regional Offices situated across the States. The Bank also has offices abroad in London, Dubai and New York.
- 1.3. The Bank is a forerunner in implementation of IT related products, services and continuously making efforts to provide the state of art technological products to its customers.

2. Definitions

- 2.1. 'Bank' means, unless excluded by and repugnant to context or the meaning thereof, shall mean 'Canara Bank', described in more detail in paragraph 1 above and which has invited bids under this RFP and shall be deemed to include its successors and permitted assigns.
- 2.2. 'GeM' means Government e-Marketplace wherein the whole bidding process shall be conducted online.
- 2.3. 'RFP' means Request for Proposal for "Supply, Installation, Configuration, Implementation and Maintenance of 500 Nos. of Servers and other components with three years' warranty and two years AMC" in Canara Bank.
- 2.4. The eligible vendor submitting the proposal in response to this RFP shall hereinafter be referred to as 'Bidder'.
- 2.5. 'Services' means "Supply, Installation, Configuration, Implementation and Maintenance of 500 Nos. of Servers and other IT Infra Components in Canara Bank' warranty and two years AMC" in Canara Bank as per RFP terms.
- 2.6. 'Proposal' means the response (including all necessary documents) submitted by the eligible Bidder in response to this RFP.
- 2.7. 'Contract' means the agreement signed by successful Bidder and the Bank at the conclusion of bidding process, wherever required.
- 2.8. 'Contract Price' means the value of the total purchase order including GST/ GeM Sanction order issued by the Bank.
- 2.9. 'Successful Bidder' / 'Selected Bidder' / 'L1 Bidder' means the Bidder who is found to be the lowest quoted Bidder after conclusion of the bidding process, subject to compliance to all the Terms and Conditions of the RFP.

3. About RFP

- 3.1. Bank intends to onboard vendor for Supply, Installation, Configuration, Implementation and Maintenance of 500 Nos. of Servers and other IT Infra Components in Canara Bank as per the terms and conditions, technical requirements and scope of work described elsewhere in this document.
- 3.2. The bidder has to go through the following clauses and other terms & conditions described elsewhere in this document:

Sl. No.	Description
1.	Scope of Work as per Annexure-8 for Supply, Installation, Configuration, Implementation and Maintenance of 500 Nos. of Servers and other IT Infra Components in Canara Bank
2.	Technical Specifications as per Annexure-9 for Supply, Installation, Configuration, Implementation and Maintenance of 500 Nos. of Servers and other IT Infra Components in Canara Bank.
3.	Delivery timelines as per clause 1 of Section C of this RFP
4.	Penalties as per clause 7 of Section C of this RFP
5.	Payment terms as clause 9 of Section C of this RFP

- 3.3. The selected Bidder has to provide the services in India at DC & DRC of the Bank.
- 3.4. The RFP document is not a recommendation or invitation to enter the contract, agreement or any other arrangement in respect of the service, unless a purchase order or notification of award is published by Canara Bank if any, as an end result of this RFP process. The provision of the service is subject to compliance to selection process and appropriate documentation being agreed between the Bank and selected Bidder as identified by the Bank after completion of the selection process.

4. Objective

- 4.1. Canara Bank invites bids from reputed Bidders to submit their response who fulfills the Qualification Criteria as per Annexure-2.
- 4.2. The objective of this RFP is to procure 500 Nos. of Servers and other IT Infra Components in Canara Bank.
- 4.3. The Bidder satisfying the Qualification Criteria as per the RFP and having experience in Supply, Installation, Configuration, Implementation and Maintenance of Servers in any of the Central / State Governments/ PSUs/ BFSI Sector/ Public Sector Enterprises in India may respond.

5. Requirement Details

- 5.1. Bank invites proposal/offers ('Technical cum Eligibility' and 'Commercial Bid') in GeM portal from prospective bidders for Supply, Installation, Configuration, Implementation and Maintenance of 500 Nos. of Servers and other IT Infra Components as per the terms & conditions, scope of work and functional & technical specifications/ requirements described elsewhere in this document.
- 5.2. The term of contract will be for a period of five (05) years. However, Bank reserves the right to have an annual review on completion of 12 months the date of acceptance of

purchase order. If the services are found to be unsatisfactory Bank reserves the right to discontinue the Services.

- 5.3. The detailed implementation plan will be discussed and agreed by the Bank with the selected Bidder, covering the scope of work and key deliverables as defined in this RFP. However, the selected Bidder have to comply with the timelines explained elsewhere in this document.

6. Participation methodology:

- 6.1. In this RFP either the authorized bidder on behalf of the Principal/OEM/OSD or Principal/OEM/OSD itself can bid but both cannot bid simultaneously for the same item/product. If participated, the bids of Principal/OEM/OSD and the authorized bidder/s are liable for rejection.
- 6.2. If a bidder bids on behalf of the Principal/OEM/OSD, the same bidder shall not submit a bid on behalf of another Principal/OEM/OSD in this RFP for the same item/product/service.
- 6.3. If any product of Principal/OEM/OSD is being quoted in this RFP, the Principal/OEM/OSD cannot bid for any other Principal's/OEM's/OSD's product. If participated, the bids of Principal/OEM/OSD and the authorized bidder/s are liable for rejection.
- 6.4. In the event of the bidder being not able to perform the obligations as per the provisions of the contract, the OEM/OSD/principal should assume complete responsibility on behalf of the bidder for providing service i.e., technology, personnel, financial and any other infrastructure that would be required to meet intent of this RFP at no additional cost to the bank. To this effect bidder should provide a dealer/distributor certificate for the proposed hardware as per Annexure-15.

7. Pre-Qualification Criteria

- 7.1. Bidder's meeting the Pre-Qualification Criteria as mentioned in Annexure-2 of this RFP may respond.
- 7.2. Non-compliance to any of Pre-Qualification Criteria would result in outright rejection of the Bidder's proposal. The Bidder is expected to provide proof for each of the points for Pre-Qualification Criteria evaluation. The proof provided must be in line with the details mentioned in "Documents to be submitted for Pre-Qualification Criteria Compliance". Any credential detail mentioned in "Pre-Qualification Criteria Compliance" not accompanied by relevant proof documents will not be considered for evaluation.
- 7.3. Canara Bank, reserves the right to verify/evaluate the claims made by the Bidder independently and seek further documents without any limitation for evaluating the offer. Any deliberate misrepresentation will entail rejection of the offer.

8. Scope of Work

- 8.1. The Broad Scope of work shall include but not be limited as mentioned in Annexure-8. Bidder has to conform compliance to the Scope of Work as mentioned in Annexure-8. The bidders are required to go through the complete RFP document thoroughly. The obligation / responsibilities mentioned elsewhere in the document, if any, shall be the integral part of the scope.

8.2. Bank reserves the right to modify the scope due to change in regulatory instructions, market scenario and internal requirement within the overall objective of Supply, Installation, Configuration, Implementation and Maintenance of Servers.

8.3. During the course of the project, there might be related areas which Bank would like the selected Bidder to undertake which may not have envisaged earlier.

8.4. **Project Completion and Management**

8.4.1. For smooth completion of project, the selected bidder should identify one or two of its representatives at Bengaluru as a single point of contact for the Bank.

8.4.2. Project implementation team should be conversant with all rules and conditions to resolve the issues, if any.

The bidder shall comply with the scope of work as narrated in Annexure-8 and adhere to the guidelines issued by RBI and other Regulatory bodies. The bidder should also maintain confidentiality of information shared with them during the tenure and post tenure of the contract.

SECTION C - DELIVERABLE AND SERVICE LEVEL AGREEMENTS

2. Project Timelines

- 2.1. The Bidder should accept the Purchase Order within seven (7) days from the date of issuance of Purchase Order. In case of non-receipt of acceptance by the due date, the Purchase Order shall deem to have been accepted by the vendor.
- 2.2. 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.
- 2.3. The timelines for the delivery and installation of all Hardware and Software should be completed within **24 weeks** from the date of acceptance of the Purchase Order or **25 weeks** from the date of Purchase Order 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.

Sl. No.	Activity	Timelines from date of Acceptance of PO
1	Delivery of all Hardware and software	Within 12 weeks from date of Acceptance of PO
2	Installation of all Hardware	Within 6 weeks from the date of delivery of hardware
3	Configuration, implementation and completion of all scope of work	Within 12 weeks from the date of delivery of hardware/Software

- 2.4. The Bidder shall ensure that the Renewal of Licenses/ Subscriptions/ Fees /AMC/ATS/ Support contracts as applicable, during the period of Contract is completed before expiry date of respective components and the renewal process should be initiated at least 6 months prior to the date of expiry.
- 2.5. Bank reserves the right to change/modify locations for supply of the items. In the event of any change/modification in the locations where the hardware items are to be delivered, the bidder in such cases shall Supply, Installation, Configuration, Implementation and Maintenance at the modified locations at no extra cost to the Bank. However, if the hardware items are already delivered, and if the modifications in locations are made after delivery, the bidder shall carry out Installation, Configuration, Implementation and Maintenance at the modified locations and the Bank in such cases shall bear the shifting charges/arrange shifting as mutually agreed. The Warranty/ATS/AMC and all RFP terms should be applicable to the altered locations also as per the Bank's requirement without any extra cost to the Bank during the full contract period.
- 2.6. The Installation will be deemed as incomplete if any component of the hardware/Software is not delivered or is delivered but not installed and / or not operational or not acceptable to the Bank after acceptance testing/ examination. In such an event, the supply and installation will be termed as incomplete and system(s) will not be accepted and the warranty period will not commence. The installation will be accepted only after complete commissioning of hardware.

- 2.7. Commissioning of the hardware and software will be deemed as complete only when the same is accepted by the Bank in accordance with the Terms & Conditions of this Tender.
- 2.8. If undue delay happens for delivery and / or installation of the ordered hardware/Software by the vendor, the same shall be treated as a breach of contract. In such case, the Bank may invoke the Performance Security/Forfeit the Security Deposit without any notice to the bidder.
- 2.9. The Bank will not arrange for any Road Permit / Sales Tax clearance for delivery of hardware to different locations and the selected bidder is required to make the arrangements for delivery of hardware to the locations as per the list of locations /items provided from time to time by the Bank. However, the Bank will provide letters / certificate / authority to the selected bidder, if required.
- 2.10. Partial or incomplete or damaged delivery of materials will not be considered as delivered of all the ordered materials. Date of delivery shall be treated as date of last material delivered to the ordered locations if materials are not damaged. In case materials are delivered with damage, Date of delivery shall be treated as date of replacement of damaged material with new one. Delivery payment shall be paid against completion of delivery of all the ordered materials without any damage and proof of delivery duly certified by Bank's Officials, along with delivery payment claim letter.

3. Integration & Interfaces

- 3.1. The selected bidder has to work with different application vendors in order to integrate new solution to the existing workload or new workloads during contract period.
- 3.2. The selected bidder has to work with different teams of Bank & application OEMs to understand the policies requirement and configurations of respective applications for the offered service.

4. Training:

The selected vendor has to give demo and explain operational guidelines of the product at the site of the installation to Bank's Officials.

5. Security

- 5.1. The selected bidder has to use standard procedures like hardening, dedicated configuration in order to comply security standards including cyber security.
- 5.2. The Bank will not provide any remote session and direct internet connectivity to the equipment in terms of support which may leads to the vulnerability of the system.
- 5.3. The selected bidder will ensure the software delivered is in conformity with security standards and is without any security vulnerability.
- 5.4. The Bank may conduct security audit in the proposed hardware after complete implementation.
- 5.5. The selected bidder has to do necessary changes in the configuration directed by security team of the bank after security audits like VAPT, Code Audit etc., without

disturbing the production and existing backed up copies and at no additional cost to the Bank.

- 5.6. The selected bidder has to follow the industry best practices in configuration of Operating System and other Software.
- 5.7. Any kind of change like update, upgrades etc. in the system after complete installation will not lead into any commercial during contract period.
- 5.8. The selected bidder should take adequate security measures to ensure confidentiality, integrity and availability of the information.
- 5.9. The selected bidder is liable for not meeting the security standards or desired security aspects of all the ICT resources as per Bank's IT/Information Security / Cyber Security Policy.
- 5.10. The selected bidder will have to establish all the necessary procedures/infrastructure/technology /personnel to ensure the Information System Security as per the guidelines prescribed by RBI and the policies of the Bank.

6. Acceptance

- 6.1. The Bank shall finalize the installation and acceptance format mutually agreed by the Bidder. The Bidder shall strictly follow the mutually agreed format and submit the same for claiming installation and acceptance payment.
- 6.2. Bank will evaluate the offered hardware implemented by the selected bidder. If the hardware experiences no failures and functions according to the requirements of the RFP as determined by the Bank during the implementation period, then the hardware will be accepted by the Bank and the project will be considered as deemed signed-off.
- 6.3. The warranty will cover all supplied components includes Hardware, software and other items will start after project acceptance & Signoff.

7. Uptime

- 7.1. The selected bidder shall guarantee a 24x7x365 availability with monthly uptime of 99.90 % for block storage and 99.00% for all the other hardware and software as per Scope of Work (Annexure-8), during the contract period, which shall be calculated on monthly basis.
- 7.2. The "Uptime" is, for calculation purposes, equals to the total contracted minutes in a month less Downtime. The "Downtime" is the time between the Time of Failure and Time of Restoration within the contracted minutes. "Failure" is the condition that renders the Bank unable to perform any of the defined functions on the Hardware. "Restoration" is the condition when the selected bidder demonstrates that the Hardware is in working order and the Bank acknowledges the same.
- 7.3. If the selected bidder is not able to attend the troubleshooting calls on Hardware/Software working due to closure of the office/non-availability of access to the Hardware/Software, the response time/uptime will be taken from the opening of the office for the purpose of uptime calculation. The selected bidder shall provide the Monthly uptime reports during the warranty period/AMC period and ATS period, if contracted.

7.4. The downtime calculated shall not include any failure due to bank, third party and Force Majeure.

7.5. The percentage uptime is calculated on monthly basis (excluding planned downtime) as follows:

$$\frac{(\text{Total contracted minutes in a month} - \text{Downtime minutes within contracted minutes})}{\text{Total contracted minutes in a month}} \times 100$$

7.6. Contracted minutes of a month = No. of days in that month X 24 X 60.

8. Penalties/Liquidated Damages

8.1. **Penalties/Liquidated damages for delay in Supply, Installation, Configuration, Implementation Other related items would be as under:**

8.1.1. Non-compliance of the Supply/delivery of Hardware as per Table mentioned in **clause 1.3, Section C** will result in the Bank imposing penalty of 0.50% on delay in delivery per week or part thereof, on the Total cost of Servers & other Items mentioned in Table-A as per Bill of material Annexure-16, subject to the maximum of 10% of the Total Cost mentioned in Table - A.

8.1.2. Non-compliance of the Supply/delivery of Perpetual Licenses as per Table mentioned in **clause 1.3, Section C** will result in the Bank imposing penalty of 0.50% on delay in delivery per week or part thereof, on the Total cost of Software/License Items (perpetual) mentioned in Table-B as per Bill of material Annexure-16, subject to the maximum of 10% of the Total Cost mentioned in Table - B.

8.1.3. Non-compliance of the Supply/delivery of Subscription based Licenses as per Table mentioned in **clause 1.3, Section C** will result in the Bank imposing penalty of 0.50% on delay in delivery per week or part thereof, on the Total cost of Software/License Items (subscription) mentioned in Table-C as per Bill of material Annexure-16 subject to the maximum of 10% of the Total Cost mentioned in Table - C.

8.1.4. Non-compliance of the Supply/delivery of Linear Tape Open Cartridges (LTO) as per Table mentioned in **clause 1.3, Section C** will result in the Bank imposing penalty of 0.50% on delay in delivery per week or part thereof, on the Total cost of Linear Tape Open Cartridges mentioned in Table-D as per Bill of material Annexure-16 , subject to the maximum of 10% of the Total Cost mentioned in Table - D.

8.1.5. Non-Compliance of the Installation, configuration, implementation and completion of all scope of work as per Table mentioned in **clause 1.3, Section C** will result in the Bank imposing penalty of 0.50% on delay in installation per week or part thereof, on the Total Implementation Cost mentioned in Table-F as per Bill of material Annexure-16 subject to the maximum of 10% of the Total Cost mentioned in Table - F.

8.1.6. However, the total Penalty/LD to be recovered under above clauses **7.1.1 to 7.1.5** shall be restricted to **10%** of the total Contract Value as mention in Table-H.

8.2. Penalties/Liquidated damages for not maintaining uptime:

- 8.2.1. The selected bidder has to maintain the guaranteed monthly uptime during Warranty and AMC period (if contracted), of Servers, Network Devices, Object Storage and any other Hardware items / Software Items under ATS supplied as per the below table.

Table -A

Level of availability calculated on monthly basis	Penalty Amount
99.00% and above	No penalty
98.00% to 98.99%	0.10% on total cost* for every hour or part thereof.
97.00% to 97.99%	0.20% on total cost* for every hour or part thereof.
96.00% to 96.99%	0.30% on total cost* for every hour or part thereof.
95.00% to 95.99%	0.40% on total cost* for every hour or part thereof.

* Total cost of Ownership excluding AMC/ATS cost as per Annexure-16 Bill of material

- 8.2.2. The selected bidder has to maintain the guaranteed monthly uptime during Warranty and AMC period (if contracted), of Block Storage supplied as per the below table.

Table-B

Level of availability calculated on monthly basis	Penalty Amount
99.90% and above	No penalty
98.90% to 99.89%	0.10% on total cost* for every hour or part thereof.
97.90% to 98.89%	0.20% on total cost* for every hour or part thereof.
96.90% to 97.89%	0.30% on total cost* for every hour or part thereof.
96.50% to 96.89%	0.40% on total cost* for every hour or part thereof.

* Total cost of Ownership excluding AMC/ATS cost as per Annexure-16 Bill of material

- 8.2.3. The selected bidder has to maintain the guaranteed monthly uptime during Warranty and AMC period (if contracted), as per the below table.

Table-C

Sl. No.	Description	Timelines
1.	Mean Time to Respond (Physical Infrastructure Network and ATS Support)	Not more than 4 hour in DC, DRC
2.	Mean Time to Rectify/Repair (Physical Infrastructure Network and ATS Support)	Not more than 24 hours in DC/DRC

3. Mean time to report, respond and rectify is applicable even when failure of equipment does not result in denial of service to end users.
If the failure of any component in any hardware/ network equipment / product occurs more than 3 times in 6 months,
 4. such hardware/ network equipment, the System Integrator to recommend replacement of the subject hardware/network device.
For any Hardware not repaired as defined under MTTR, LD or penalty will be charged as 0.5% for every calendar week on total value of the hardware cost
 - 5.
- 8.2.4. The maximum penalty levied under above clause 7.2.1 to 7.2.3 shall not be more than 10% of the Total Cost of Ownership as per Annexure-16 (Bill of Material).
- 8.2.5. If monthly uptime is less than 95% for clause 7.2.1 and 96.50 for clause 7.2.2, the Bank shall levy penalty as above and shall have full right to terminate the contract under this RFP and invoke PBG. The right of termination shall be in addition to the penalty. The above penalty shall be deducted from any payments due to the selected bidder during contract period.
- 8.3. **Penalties/Liquidated Damages for non-performance:** If the selected bidder does not meet the specifications/terms of the RFP during various tests/stages, the selected bidder shall rectify the same at bidders cost to comply with the specifications/terms of the RFP immediately to ensure the committed uptime/terms, failing which the Bank reserves its right to withhold the payment, impose penalty and invoke the Performance Security/ nullify the contract.
- 8.4. The selected bidder shall perform its obligations under the agreement entered into with the Bank, in a professional manner.
- 8.5. If any act or failure by the selected 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.
- 8.6. If the selected bidder fails to complete the due performance of the contract in accordance with the specification and conditions of the offer document, the Bank reserves the right either to cancel the order or to recover a suitable amount as deemed reasonable as Penalty / Liquidated Damage for non-performance.
- 8.7. Any financial loss to the Bank on account of fraud taking place due to selected bidder, its employee or their services provider's negligence shall be recoverable from the selected bidder along with damages if any with regard to the Bank's reputation and goodwill.
- 8.8. Bank may impose penalty to the extent of damage to its any equipment, if the damage was due to the actions directly attributable to the staff of the selected bidder.
- 8.9. The liquidated damages shall be deducted / recovered by the Bank from any money due or becoming due to the selected bidder under this purchase contract or may be recovered by invoking of Bank Guarantees or otherwise from selected bidder or from any other amount payable to the selected bidder in respect of other Purchase Orders

issued under this contract, levying liquidated damages without prejudice to the Bank's right to levy any other penalty where provided for under the contract.

8.10. All the above LDs are independent of each other and are applicable separately and concurrently.

8.11. LD is not applicable for the reasons attributable to the Bank and Force Majeure.

9. Payment Terms

9.1. The payment schedule for Hardware will be as under and will release after execution of contract agreement:

Sl. No.	Payment Stages	Percentage of Payment	Condition/Remarks
1.	On Supply/delivery of all the of Hardware as per RFP	50%	On delivery of Hardware on production of relevant documents like delivery signoff and invoice with product serial number of the items supplied and after deducting applicable penalties and Liquidated damages (if any) as per GeM Terms & conditions. Please note that Originals of invoices (plus One Copy) reflecting Taxes & Duties, Proof of delivery duly signed by Bank officials of the respective Branch/office should be submitted while claiming payment in respect of orders placed.
2.	Installation of all Hardware	20%	After successful installation, of Hardware as per Scope of Work and Technical requirements and after deducting applicable penalties and Liquidated damages (if any) as per GeM Terms & conditions. The vendor has to submit installation reports duly signed by the Bank officials of DC and DRC, while claiming payment. The invoice and installation report should contain the product serial number of the items installed/Configured.
3.	Configuration, implementation and	20%	After successful configuration and implementation of

	completion of all scope of work		Hardware and software as per Scope of Work and Technical requirements and after deducting applicable penalties and Liquidated damages (if any) as per GeM Terms & conditions. The vendor has to submit scope of work completion reports duly signed by the Bank officials of the respective DC and DRC, while claiming payment. The invoice and scope of work completion report should contain the product serial number of the items Configured.
4.	After Completion of Warranty Period (i.e., three years). Warranty period.	10%	After Completion of warranty period of 3 years and after deducting applicable penalties and Liquidated damages (if any) as per GeM Terms. Or On submission of a bank guarantee for equivalent to 10% of the cost of Hardware/Software.
5.	On Supply and Installation of all the of Software/ Licenses as per RFP	100%	On supply and installation of software on production of relevant documents like delivery signoff and invoice of the items supplied and after deducting applicable penalties and Liquidated damages (if any) as per GeM Terms & conditions. Please note that Originals of invoices (plus One Copy) reflecting Taxes & Duties, Proof of delivery duly signed by Bank officials of the respective Branch/office should be submitted while claiming payment in respect of orders placed.
6.	Delivery of Linear Tape Open Cartridges with customized Barcodes	100%	100% on delivery on submission of proof of delivery duly signed by Bank officials of the respective Branch/Office.

7.	Implementation charges	100%	100% on implementation of the respective items as per Table-G
8.	AMC as mentioned in Table-F.	Quarterly in arrears on submission of Quarterly Preventive Maintenance activity report and acceptance duly signed by Bank officials of the respective officials of the respective Branch/Office.	

- 9.2. Bank will release the payment on completion of activity and on production of relevant documents/invoices. Please note that Originals of invoices (plus One Copy) reflecting GST, GSTIN, State Code, HSN Code, State Name, Taxes & Duties, Proof of delivery duly signed by Bank officials of the respective Branch/office and Manufacturer's / Supplier's Warranty Certificate should be submitted while claiming payment in respect of orders placed.
- 9.3. The selected bidder has to submit installation report/Sign off report duly signed by the Bank officials of the respective Branch/offices in originals while claiming payment. The invoice and installation report should contain the product serial number of the items supplied.
- 9.4. Bank will not pay any amount in advance unless otherwise specified in this RFP.
- 9.5. Payment shall be released within 30 days from the date of submission of relevant documents as per RFP terms.
- 9.6. The Bank shall finalize the installation and acceptance format mutually agreed by the selected bidder. The selected bidder shall strictly follow the mutually agreed format and submit the same for each location wise while claiming installation and acceptance payment.
- 9.7. The payments will be released through NEFT / RTGS after deducting the application LD/Penalty, TDS if any, by centrally by Head Office at Bengaluru and the selected bidder has to provide necessary Bank Details like Account No., Bank's Name with Branch, IFSC Code etc.

10. Warranty

- 10.1. The selected bidder warrants that the Hardware & Software will be free of defects in workmanship and materials for a period of time consistent with industry standards and the nature of the Hardware & Software ("Warranty Period").
- 10.2. The selected bidder has to provide comprehensive On-site warranty for Three (3) years for proposed Hardware from the date of installation of the Hardware, System Software, OS, licenses etc., supplied.
- 10.3. Firmware and software upgrade to be carried out
- 10.4. During the warranty period, the selected bidder shall provide the comprehensive support and necessary services for all Hardware/Software components to the Bank at 24x7x365 for assistance with the operation of the Hardware/Software.
- 10.5. If the Hardware/Software does not perform in accordance with the Contract during the Warranty Period, then the selected bidder shall take such steps as necessary to repair

or replace the Hardware/ Software. Such warranty service shall be provided at the selected bidder's expense and shall include all media, parts, labour, freight and insurance to and from the Department's site.

- 10.6. Warranty service may be provided by a third party, provided such third party is authorized to perform warranty service by the selected bidder or, if the selected bidder is not the Manufacturer, by the Manufacturer prior to the RFP closing date and time.
- 10.7. If any defect in the Hardware/Software is not rectified by the selected bidder before the end of the Warranty Period, the Warranty Period shall be extended until, in the opinion of the Bank: a) the defect has been corrected; and b) the Hardware/Software functions in accordance with the Contract for a reasonable period of time.
- 10.8. Despite any other provision, the Bank, may return a defective Hardware/ Software to the selected bidder within Sixty (60) days of delivery of the Hardware/ Software and the selected bidder shall immediately provide full exchange or refund. For the purpose of this section, "defective Hardware/Software " includes, but is not limited to: a) broken seals; b) missing items; and c) Software that are not the most current version at the time of shipping.
- 10.9. The selected bidder shall be fully responsible for the manufacturer's warranty in respect of proper design, quality and workmanship. The selected bidder must warrant all components, accessories, spare parts etc., against any manufacturing defects during the warranty period.

11. Scope involved during Contract period

During the period of contract, the selected Bidder shall perform the following:

- 11.1. The selected Bidder should inform Bank about all release/version change of patches/ upgrades/ updates of software/ OS/ middleware etc., as and when released by the selected Bidder /OSD.
- 11.2. If any software, license updates provided by the OSD as free of cost, it should be provided and installed & configured by the selected Bidder free of cost to the Bank during Contract Period.
- 11.3. Any corruption in the software/License/media shall be rectified during the full period of the contract, at no extra cost to the Bank.
- 11.4. The selected bidder shall make availability of spare parts/services, components etc. as and when required, and complete maintenance of the hardware/software/solution during Contract Period.
- 11.5. The support shall be given on site.
- 11.6. Only licensed copies of software shall be supplied. The selected Bidder shall grant an irrevocable perpetual license to the Bank for applicable softwares. Further, all software supplied shall be of latest version.
- 11.7. The selected Bidder shall provide centralized complaint booking/lodging facility to the bank and the dash board shall be provided to the Bank. The method of booking complaints shall be E-mail, Toll-free no, on line portal, web, etc.

- 11.8. Escalation matrix as per Annexure-14 should be provided for post-delivery operational support, technical support, project related issues, etc.
- 11.9. Any server for middleware, database, OS and database licenses to be provided by the successful bidder without any additional cost to the Bank.

12. Scope involved during Contract period including Warranty and AMC/ATS:

During the period of contract, the selected bidder shall perform the following:

- 12.1. During the period of contract up to completion of Warranty and also during AMC/ATS [if contracted], the bidder should apply and upgrade all release/version change of patches/ upgrades/ updates of hardware/software/ OS/ middleware etc. as and when released by the bidder/OSD and inform the Bank.
- 12.2. If any software, license updates provided by the OSD as free of cost, it should be provided and installed & configured by the selected bidder free of cost to the Bank during Warranty and AMC support [If contracted].
- 12.3. Any corruption in the software/License shall be rectified during the full period of the contract, at no extra cost to the Bank.
- 12.4. The selected bidder shall make availability of spare parts/services, components etc. as and when required, and complete maintenance of the software during Contract Period.
- 12.5. If any of the peripherals / components is not available during contract period, the substitution shall be carried out with peripherals/components of equivalent or higher capacity at no extra cost to the bank.
- 12.6. The support shall be given on site.
- 12.7. Only licensed copies of software shall be supplied. The bidder shall grant an irrevocable perpetual license to the Bank to use the software. Further, all software supplied shall be of latest version.
- 12.8. The bidder shall provide centralized complaint booking/lodging facility to the bank and the dash board, if available, shall be provided to the Bank. The method of booking complaints shall be E-mail, Toll-free no, on line portal, web, etc.
- 12.9. Escalation matrix should be provided for support, technical, project etc. as per Annexure-14.
- 12.10. Bidder should keep the Bank explicitly informed about the end of support dates on related products/ hardware and should ensure support during warranty period.
- 12.11. Any server for middleware, database, OS and database licenses to be provided by the successful bidder without any additional cost to the Bank.

13. Annual Maintenance Contract (AMC) / Annual Technical Support (ATS) (if contracted):

- 13.1. At the time of submission of bids, the Bidder has to quote AMC/ATS for Hardware (including OS), software, License Items for two (2) years after completion of three (3) year warranty period, in the commercial Bid separately for comprehensive maintenance contract.

- 13.2. 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.
- 13.3. Support for maintenance of solution (including Hardware, Software, OS and software license) supplied should be available for a minimum period of Three (3) years, covering all parts, maintenance and support, after expiry of warranty period.
- 13.4. 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.
- 13.5. During the Warranty and AMC/ATS (if contracted) period, the Bidder should extend On Site Service and Support whenever and wherever required. The scope of Warranty and AMC (if contracted) shall include:
- 13.5.1. Rectification of Bugs/defects if any.
 - 13.5.2. Ensuring uptime of 99.90%
 - 13.5.3. Preventive Maintenance.
 - 13.5.4. Maintenance of Hardware/Software/License supplied.
- 13.6. It may be noted that the Bank reserves the right to demand additional performance Bank Guarantee (as per Appendix-G) to the tune of 15% of the value of the Purchase Order, if AMC/ATS charges quoted by the bidder are abnormally low (i.e. AMC/ATS Cost percentage per annum should not be less than 5% of the cost of Hardware, software and License). The Bank has discretion to consider such offer or for seeking clarification from the bidder to decide for consideration. This Bank Guarantee will be towards contractual/AMC/ATS obligations of the bidder. Bidder shall quote the charges of AMC/ATS as per the Bill of Material (**Annexure-16**). This Bank guarantee shall be submitted within 15 days from the date of acceptance of the order which shall cover warranty and AMC/ATS period with a claim period of 2 months. The bidder has to submit this Bank guarantee in addition to the Security Deposit/Bank Guarantee as specified in **Appendix-G**. The selected bidder shall be responsible for extending the validity date and claim period of the Bank guarantees as and when it is due, on account of incompleteness of the project and warranty period.

14. Local support

- 14.1. The selected bidder should be capable of meeting the service & support standards as specified in this Bid.
- 14.2. The selected bidder shall provide Warranty and AMC support [if contracted] 24x7x365 for all the locations.
- 14.3. **Response Time and Meantime to Restore [MTTR]**
- 14.3.1. Response Time shall be 4 hours for DC, Bangalore and DRC, Mumbai. MTTR shall be within 24 hours.
 - 14.3.2. Time specified above is from lodging of complaint.
- 14.4. However, penalties will be applied as per clause 7 of Section C.

15. Mean Time Between Failures (MTBF)

If during the warranty period and AMC/ATS period [If contracted], any hardware and/or software items fails on three or more occasions in a quarter, such hardware/Software items shall be replaced by equivalent / superior new hardware/Software items by the bidder at no additional cost to the Bank.

16. Software, Drivers and Manuals

- 16.1. The selected bidder shall supply along with each item all the related documents, Software Licenses loaded in the Hardware items without any additional cost. The documents shall be in English. These will include but not restricted to User Manual, Operation Manual, Other Software and Drivers etc.
- 16.2. All related documents, manuals, catalogues and information furnished by the selected bidder shall become the property of the Bank.

17. Documents, Standard Operating Procedures and Manuals

All related documents, manuals, Standard Operating Procedures (SOPs), best practice documents and information furnished by the bidder shall become the property of the Bank.

18. 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 period of the contract, the selected 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.

19. Subcontracting

- 19.1. Principle bidder only can participate and bidder should not sub-contract to any other company/firm/trust. After Selection process of the bidder and order placement, resources deployed should be employed with the selected bidder and they should be on the payroll of the selected bidder.
- 19.2. The selected bidder shall not subcontract or permit anyone other than its personnel 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.
- 19.3. In case subcontracting is warranted in interest of the project, the selected bidder should take consent of the Bank before undertaking any such agreement. The selected bidder should further ensure subcontracting agreement is vetted by the Bank.
- 19.4. Even if the selected bidder gets into subcontracting, accountability and responsibility of the resource provided shall lie with selected bidder only. Bank shall hold correspondence only with the selected bidder.
- 19.5. The selected Bidder shall not subcontract or permit anyone other than its personnel 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. The selected Bidder should not sub-contract works to any contractor from a country which shares a land border with India unless such contractor is registered with the Competent Authority (refer: F/No.6/18/2019-PPD dated 23/07/2020 of Public Procurement Division, Department of Expenditure, Ministry of Finance). Any false declaration and non-

compliance of the above would be a ground for immediate termination of the contract and further legal action in accordance with the laws.

20. Right to Audit

- 20.1. The selected bidder has to get itself annually audited by internal/ external empaneled Auditors appointed by the Bank/inspecting official from the Reserve Bank of India or any regulatory authority, covering the risk parameters finalized by the Bank /such auditors in the areas of products (IT hardware/software) and services etc., provided to the Bank and the selected bidder is required to submit such certification by such Auditors to the Bank. The selected bidder and or his/their outsourced agents/subcontractors (if allowed by the Bank) shall facilitate the same. The Bank can make its expert assessment on the efficiency and effectiveness of the security, control, risk management, governance system and process created by the selected bidder. The selected bidder shall, whenever required by the Auditors, furnish all relevant information, records/data to them. All costs for such audit shall be borne by the Bank.
- 20.2. Where any deficiency has been observed during audit of the selected bidder on the risk parameters finalized by the Bank or in the certification submitted by the Auditors, the selected bidder shall correct/resolve the same at the earliest and shall provide all necessary documents related to resolution thereof and the auditor shall further certify in respect of resolution of the deficiencies. The resolution provided by the selected bidder shall require to be certified by the Auditors covering the respective risk parameters against which such deficiencies have been observed.
- 20.3. The selected bidder shall, whenever required by the Bank, furnish all relevant information, records/data to such auditors and/or inspecting officials of the Bank /Reserve Bank of India and or any regulatory authority. The Bank reserves the right to call and/or retain for any relevant material information/reports including auditor review reports undertaken by the selected bidder (e.g., financial, internal control and security reviews) and findings made on selected bidder in conjunction with the services provided to the Bank.

SECTION D - BID PROCESS

1. Clarification to RFP and Pre-Bid Queries

- 1.1. The bidder should carefully examine and understand the specifications, terms and conditions of the RFP and may seek clarifications, if required. The bidders in all such cases should seek clarification in writing in the same serial order as that of the RFP by mentioning the relevant page number and clause number of the RFP as per the below mentioned format.

Sl. No.	Page No.	Section / Annexure / Appendix	RFP Clause	Sub-Clause/Technical Specification	Bidder's Query
1					
2					
3					
4					
5					
-					

- 1.2. All communications regarding points requiring clarifications and any doubts shall be given in writing to The Deputy General Manager, Canara Bank, Centralized Procurement and Vendor Management Wing, HO (Annexe), #14, Naveen Complex, MG Road, Bengaluru -560001 in email to dittenders@canarabank.com by the intending bidders as per the bid schedule.
- 1.3. No queries will be entertained from the bidders after the due date and time mentioned in the RFP document.
- 1.4. No oral or individual consultation will be entertained.

2. Pre-Bid meeting

- 2.1. A pre-bid meeting of the intending bidders will be held online on the date & time specified in the GeM Bid document to clarify any point/doubt raised by them in respect of this tender. No separate communication will be sent for this meeting.
- 2.2. If the meeting date is declared as a holiday under NI Act by the Government subsequent to issuance of RFP, the next working day will be deemed to be the pre-bid meeting day. Authorized representatives of interested bidders shall be present during the scheduled time. In this connection, Bank will allow maximum of Two (2) representatives from each bidder to participate in the pre-bid meeting.
- 2.3. Bank has the discretion to consider any other queries raised by the bidder's representative during the pre-bid meeting.
- 2.4. Bank will have liberty to invite its technical consultant or any outside agency, wherever necessary, to be present in the pre-bid meeting to reply to the technical queries of the bidders in the meeting.
- 2.5. The Bank will consolidate all the queries and any further queries during the pre-bid meeting and the replies for the queries shall be made available in the Bank's website (<https://canarabank.com/tenders.aspx>) and GeM portal. No individual correspondence

shall be made. The clarification of the Bank in response to the queries raised by the bidder/s, and any other clarification/ amendments/ corrigendum furnished thereof will become part and parcel of the RFP and it will be binding on the bidders.

- 2.6. Non-reply to any of the queries raised by the bidders during pre-bid Meeting shall not be considered as acceptance of the query/issue by the Bank.

3. Amendment to Bidding Document

- 3.1. At any time prior to deadline for submission of Bids, the Bank, for any reason, whether, at its own initiative or in response to a clarification requested by prospective bidder, may modify the bidding document, by amendment.
- 3.2. Notification of amendments will be made available on the GeM/Bank's website only (i.e. www.canarabank.com) and will be binding on all bidders and no separate communication will be issued in this regard.
- 3.3. In order to allow prospective bidders reasonable time in which to take the amendment into account in preparing their bids, the Bank, at its discretion, may extend the deadline for a reasonable period as decided by the Bank for submission of Bids.

4. Bid System Offer

This is two bid system which has following 2 (Two) parts:

- 4.1. **Technical Proposal:** Indicating the response to the Pre-Qualification Criteria, Scope of Work and Technical and functional requirements and other terms & conditions for Supply, Installation, Configuration, Implementation and Maintenance of 500 Nos. of Servers and other IT Infra Components in Canara Bank.
- 4.2. **Commercial Bid:** Furnishing all relevant information as required as per Bill of Material as per Annexure-16.

5. Preparation of Bids

5.1. Technical Proposal

- 5.1.1. Before submitting the bid, the bidders should ensure that they conform to the Pre-Qualification Criteria as stated in **Annexure-2** of RFP. Only after satisfying themselves of the Pre-Qualification Criteria, the Offer should be submitted.
- 5.1.2. Technical cum eligibility Proposal should be submitted as per the format in **Appendix-A**. Relevant technical details and documentation should be provided along with Technical cum Eligibility Proposal.
- 5.1.3. It is mandatory to provide the compliance to the scope required by the bank in the exact format of **Annexure-9** of this RFP.
- 5.1.4. The offer may not be evaluated and may be rejected by the Bank without any further reference in case of non-adherence to the format or partial submission of technical information as per the format given in the offer.
- 5.1.5. The Bank shall not allow / permit changes in the technical/functional requirements once it is submitted.

- 5.1.6. The relevant Product information, brand, and Product offered, printed product brochure, technical/functional specification sheets etc. should be submitted along with the Offer. Failure to submit this information along with the offer may result in disqualification.
- 5.1.7. The Technical cum Eligibility Proposal should be complete in all respects and contain all information sought for, as per **Appendix-A**. Masked Bill of Material must be attached in Technical Offer and should not contain any price information. The Technical cum Eligibility Proposal should be complete and should cover all products and services. Technical cum Eligibility Proposal without masked Bill of Materials will be liable for rejection.
- 5.1.8. Masked Bill of Material which is not as per below instruction will make Bid liable for rejection
 - 5.1.8.1. Should be replica of Bill of Material except that it should not contain any price information (with Prices masked).
 - 5.1.8.2. It should not provide any price information like, unit price, tax percentage, tax amount etc.

5.2. Commercial Bid

- 5.2.1. Commercial Bid (indicative) should be submitted as per instruction in **Appendix-B**.
- 5.2.2. Commercial Bid shall be submitted as per Bill of Material and other terms and conditions of RFP on prices. The Commercial Bid should give all relevant price information as per **Annexure-16**. Any deviations from the Bill of Material / non submission of prices as per the format shall make the bid liable for rejection.
- 5.2.3. The Bill of Material must be attached in Technical cum Eligibility Proposal as well as Commercial Bid. The format will be identical for both Technical cum Eligibility Proposal and Commercial Bid, except that the Technical cum Eligibility Proposal should not contain any price information (with Prices masked). Any change in the Bill of Material format may render the bid liable for rejection.
- 5.2.4. Bidder must take care in filling price information in the Commercial Offer, to ensure that there are no typographical or arithmetic errors. All fields must be filled up correctly.
- 5.2.5. Any change in the Bill of Material format may render the bid liable for rejection. The Commercial Bids that are incomplete or conditional are liable to be rejected.
- 5.2.6. The Bidder should indicate the individual taxes, and its applicable rate along with the estimated tax amounts to be paid by the Bank.
- 5.2.7. The Commercial Bid (Indicative) of only those bidders who are qualified in Technical cum Eligibility Proposal will be opened online as per GeM Terms & Conditions.

6. Earnest Money Deposit (EMD)/Bank Guarantee in lieu of EMD

- 6.1. The bidder shall furnish Non interest earning Earnest Money Deposit (EMD) amount as mentioned in the Bid Schedule by way of Demand Draft drawn on any Scheduled Commercial Bank in India in favour of Canara Bank, payable at Bengaluru.
- 6.2. In case the EMD is submitted in the form of Bank Guarantee the same should be valid for bid offer validity with additional claim period of 3 months from the last date for submission of offer. Bank at its discretion can demand for extension for the validity of EMD. The format for submission of EMD in the form of Bank Guarantee is as per Appendix-D.
- 6.3. The Bank Guarantee issued by the issuing Bank on behalf of Bidder in favour of Canara Bank shall be in paper form as well as issued under the "Structured Financial Messaging System" (SFMS). The format for submission of EMD in the form of Bank Guarantee is as per Appendix-D. Any bank guarantee submitted in physical mode, including EMD/bid guarantee which cannot be verifiable through SFMS will be rejected summarily.
- 6.4. The bidder has the provision to remit the Earnest Money Deposit through online mode to below mentioned account for this RFP:

Account Name : DIT Procurement
Account No : 0792201002351
IFSC Code : CNRB0000792
Narration : EMD FOR <RFP REF NO.>

Bidders are requested to clearly mention the Name of the Firm with RFP No. in the Narration field.

- 6.5. Non submission of EMD with Technical Proposal leads to rejection of Bid.
- 6.6. The EMD of the Bidders not qualified under Technical Proposal will be returned within 15 days after opening the Commercial Proposals of the bidders qualified under Technical Proposal. The EMD of Technically Qualified bidders except the selected bidder will be returned within 30 days after opening the Commercial Proposals of the bidders qualified under Technical Proposal. The EMD of the selected bidder will be returned within 15 days after submission of Performance Security.
- 6.7. The EMD may be forfeited/ Bank Guarantee may be invoked:
 - 6.7.1. If the bidder withdraws or amends the bid during the period of bid validity specified in this document.
 - 6.7.2. If the selected bidder fails to accept the purchase order within 7 days or fails to sign the contract or fails to furnish performance guarantee in accordance with the terms of the RFP.

7. Make and Models

It is mandatory to provide Technology, make & model of all the items and their subcomponents as has been sought in the technical specification. The Offer may not be evaluated and / or will be liable for rejection in case of non-submission or partial submission of make, model of the items offered. Please note that substituting required information by just brand name is not enough. Bidder should not quote Technology which is already End of Sale.

8. Software Version

The bidder should ensure usage of latest licensed software with proper update/patches and their subcomponents as has been sought in the technical/functional requirements. The Offer may not be evaluated and / or will be liable for rejection in case of non-submission or partial submission of Software Version of the items offered. Please note that substituting required information by just software name is not enough. Bidder should not quote Software which is already End of Sale. Bidder also should not quote Software which are impending End of Sale.

9. Documentation

Technical information in the form of Brochures / Manuals / CD etc. of the most current and updated version available in English must be submitted in support of the Technical Offer made without any additional charges to the bank. The Bank is at liberty to reproduce all the documents and printed materials furnished by the Bidder in relation to the RFP for its own use.

10. Costs & Currency

The Offer must be made in Indian Rupees only as per Bill of Material (Annexure-16).

11. Erasures or Alterations

The Offers containing erasures or alterations or overwriting may not be considered. There should be no hand-written material, corrections or alterations in the offer. Technical details must be completely filled in. Correct technical information of the product being offered must be filled in. Filling up of the information using terms such as “OK”, “accepted”, “noted”, “as given in brochure/manual” is not acceptable. The Bank may treat such Offers as not adhering to the RFP guidelines and as unacceptable.

12. Assumptions/Presumptions/Modifications

The Bank would like to expressly state that any assumption, presumptions, modifications, terms, conditions, deviation etc., which the bidder includes in any part of the Bidder’s response to this RFP, will not be taken into account either for the purpose of evaluation or at a later stage, unless such assumptions, presumptions, modifications, terms, conditions deviations etc., have been accepted by the Bank and communicated to the bidder in writing. The bidder at a later date cannot make any plea of having specified any assumption, terms, conditions, deviation etc., in the bidder’s response to this RFP document. No offer can be modified or withdrawn by a bidder after submission of Bid/s.

13. Submission of Bids

13.1. The bidder has to submit their response in GeM portal before the bid end date & time mentioned in the GeM bid document. The physical documents (viz., EMD, Integrity Pact etc.,) should be submitted to the below mentioned officials before the bid end date & time at the Venue specified in the Bid Schedule.

First Official	Alternate Official
Senior Manager Canara Bank Centralized Procurement and Vendor Management Wing, First Floor, Naveen Complex, #14, M G Road, Bengaluru - 560 001. Tel - 080 25590070	Divisional Manager Canara Bank Centralized Procurement and Vendor Management Wing, First Floor, Naveen Complex, #14, M G Road, Bengaluru - 560 001. Tel - 080 25590832

- 13.2. The Name and address of the Bidder, RFP No. and Due Date of the RFP are to be specifically mentioned on the Top of the envelope containing physical documents.

14. Bid Opening

- 14.1. The Technical Proposal shall be opened online, on the Date & Time specified in the GeM Bid Schedule.
- 14.2. The Bidders may note that no further notice will be given in this regard. Further, in case the bank does not function on the aforesaid date due to unforeseen circumstances or declared as holiday then the bids will be opened on the next working.
- 14.3. The Technical Proposal submitted by the bidder will be evaluated based on the documents submitted as per Appendix-A.
- 14.4. The Commercial Bid of only those bidders who are qualified in Technical Proposal will be opened for further evaluation.

SECTION E - SELECTION OF BIDDER

1. Preliminary Scrutiny

- 1.1. The Bank will scrutinize the bid/s received to determine whether they are complete in all respects as per the requirement of RFP, whether the documents have been properly signed, whether items are offered as per RFP requirements and whether technical documentation as required to evaluate the offer has been submitted.
- 1.2. Prior to detailed evaluation, the Bank will determine the substantial responsiveness of each bid to the bidding document. Substantial responsiveness means that the bid conforms to all terms and conditions, scope of work and technical requirements and bidding document is submitted without any deviations.

2. Clarification of Offers

- 2.1. During the process of scrutiny, evaluation and comparison of offers, the Bank may, at its discretion, seek clarifications from all the bidders/any of the bidders on the offer made by them. The bidder has to respond to the bank and submit the relevant proof /supporting documents required against clarifications, if applicable. The request for such clarifications and the bidders response will necessarily be in writing and it should be submitted within the time frame stipulated by the Bank.
- 2.2. The Bank may, at its discretion, waive any minor non-conformity or any minor irregularity in the offer. Bank's decision with regard to 'minor non-conformity' is final and the waiver shall be binding on all the bidders and the Bank reserves the right for such waivers.

3. Evaluation of Bids

- 3.1. The Bank will evaluate the bids submitted by the bidders under this RFP. The bids will be evaluated by a Committee of officers of the Bank. If warranted, the Bank may engage the services of external consultants for evaluation of the bids. It is Bank's discretion to decide at the relevant point of time.

3.2. Technical Proposal:

- 3.2.1. **Technical Proposal** submitted by the bidder will be evaluated for the documents submitted as per **Appendix-A**. Bank will seek clarifications, if required.
- 3.2.2. Bank will evaluate the responses provided by the Bidders for compliance to Scope of Work, Technical evaluation criteria and other terms & conditions as stipulated in the RFP.

3.3. Commercial Bid:

The Commercial Proposals (Indicative) of only those bidders who qualified in **Technical Proposal** will be opened with due communication by the Bank. The **Commercial Bid** submitted by the bidder will be evaluated based on Bill of material submitted by the Bidder. Subsequently Online Reverse Auction will be conducted in the GeM portal for those bidders qualified as per the GeM bid terms and condition.

4. Normalization of Bids

- 4.1. The Bank may go through a process of technical evaluation and normalization of the bids to the extent possible and feasible to ensure that, shortlisted bidders are more or less on the same technical ground. After the normalization process, if the Bank feels that, any of the Bids needs to be normalized and that such normalization has a bearing on the price bids; the Bank may at its discretion request all the technically shortlisted bidders to re-submit the technical and Commercial Bids once again for scrutiny. The resubmissions can be requested by the Bank in the following manner;

4.1.1. Incremental bid submission in part of the requested clarification by the Bank

OR

4.1.2. Revised submissions of the entire bid in the whole

- 4.2. The Bank can repeat this normalization process at every stage of bid submission till Bank is satisfied. The shortlisted bidders agree that, they have no reservation or objection to the normalization process and all the technically shortlisted bidders will, by responding to this RFP, agree to participate in the normalization process and extend their co-operation to the Bank during this process.

- 4.3. The shortlisted bidders, by submitting the response to this RFP, agree to the process and conditions of the normalization process.

5. Intimation to Qualified/Successful Bidders

The Bank will prepare a list of qualified bidders at each stage on the basis of evaluation of Technical cum Eligibility Proposal and Commercial Bid (Indicative). The names of qualified bidders at each stage would be announced in GeM. Commercial Bids of only technical qualified bidders shall be opened. Online Reverse Auction will be conducted in the GeM portal for those bidders qualified as per the GeM bid terms and condition Final list of the bidders (L1, L2 etc.) will be announced as indicated above. No separate intimation will be sent to successful Bidder.

6. Selection of successful Bidder

- 6.1. The bidder/s who quotes the lowest price (L1) after the reverse auction will be referred as the successful bidder/ bidders and will be notified through the GeM portal. No separate intimation will be sent to the bidder in this regard.
- 6.2. However, the Bank does not bind itself to accept the lowest or any Bid and reserves the right to reject any or all bids at any point of time prior to the order without assigning any reasons whatsoever.
- 6.3. The Bank reserves the right to re-tender without assigning any reasons whatsoever. The Bank shall not incur any liability to the affected bidder(s) on account of such rejection. Bank shall not be obliged to inform the affected bidder(s) of the grounds for the Bank's rejection
- 6.4. The Bank reserves the right to modify any terms, conditions and specifications of the RFP and Bank reserves the right to obtain revised price bids from the bidders with regard to change in RFP clauses. The Bank reserves the right to accept any bid in whole or in part.
- 6.5. The bidder/s who is L1 after the reverse auction will be referred as the selected bidder / successful bidder.

SECTION F - OWNERSHIP &AWARDING OF CONTRACT

1. Bid Validity Period

The Offer submitted and the prices quoted therein shall be valid for 180 days from the date of opening of Commercial Bid. Bid valid for any shorter period shall be rejected by the Bank.

2. Proposal Ownership

The proposal and all supporting documentation submitted by the bidder shall become the property of the Bank. As the bidder's proposal is central to the evaluation and Selection process, it is important that, the bidder carefully prepares the proposal as per the prescribed format only. Bidders must provide categorical and factual replies to specific questions. Bidders may provide additional technical literature relating to their proposal but in a separate Annexure. Correct and current technical details must be completely filled in. The Appendices/Annexures to this RFP shall form integral part of the RFP.

3. Project Ownership

3.1. If the bidder is offering Hardware/solutions/products/services from other bidders/principals, as required in this RFP, they shall detail the responsibilities of the parties involved and also submit a letter of undertaking from the parties mentioning their consent and assurance for satisfactory performance of the project. The bidder must specify any and all relationships with third parties in respect of the ownership and also maintenance & support of all hardware and software related to Solution/Service which are relevant to this RFP.

3.2. Ownership letter by the bidder to be submitted (Undertaking letter by the bidder taking the ownership of the project execution) in case third party also involved in project execution either fully or partially. The bidder shall also submit the ownership certificate issued by the third party clearly mentioning the extent of ownership.

3.3. The bidder also has to submit a certificate/Letter from OEM that the proposed services any other related software offered by the bidder to the Bank are correct, viable, technically feasible for implementation and it will work without any hassles.

4. Acceptance of Offer

4.1. The Bank reserves its right to reject any or all the offers without assigning any reason thereof whatsoever.

4.2. The Bank will not be obliged to meet and have discussions with any bidder and/or to entertain any representations in this regard.

4.3. The bids received and accepted will be evaluated by the Bank to ascertain the best and lowest bid in the interest of the Bank. However, the Bank does not bind itself to accept the lowest or any bid and reserves the right to reject any or all bids at any point of time prior to the order without assigning any reasons whatsoever. The bank reserves the right to re-tender the RFP with or without modifications. Bank shall not be obliged to inform the affected bidder(s) of the grounds for the Bank's rejection.

4.4. The bidder including those, whose tender is not accepted shall not be entitled to claim any costs, charges, damages and expenses of and incidental to or incurred by him through or in connection with his submission of tenders, even though the Bank may elect to modify/withdraw the tender.

5. Award of Contract

- 5.1. The Bidder who is L1 after the reverse auction will be referred as the selected Bidder and Bank will notify the name of the selected Bidder/s in GeM portal.
- 5.2. The contract shall be awarded and the order shall be placed on selected L1 Bidder/s. Bank may release the order either in Full or in part or place more than one order towards the contract based on project plan.
- 5.3. The selected bidder/s shall submit the acceptance of the order within seven days from the date of receipt of the order. No conditional or qualified acceptance shall be permitted. The effective date for start of provisional contract with the selected Bidder shall be the date of acceptance of the order by the bidder.
- 5.4. In case of non-receipt of acceptance by the due date, the Purchase Order shall have deemed to have been accepted by the vendor.
- 5.5. Bank reserves its right to consider at its sole discretion the late acceptance of the order by selected Bidder.

6. Effective Date

- 6.1. The effective date shall be date of acceptance of the order by the selected bidder. However, the bidder shall submit the acceptance of the order within seven days from the date of receipt of order.
- 6.2. Failure to accept the order within **seven days** from the date of receipt of the order, makes the EMD liable for forfeiture at the discretion of the Bank.

7. Project Execution

The entire project needs to be completed expeditiously. The Bank and the selected bidder shall nominate a Project Manager each immediately on acceptance of the order, who shall be the single point of contact for the project at Bengaluru. However, for escalation purpose, details of other persons shall also be given. The project manager nominated by the bidder should have prior experience in implementing similar project. Project Kick-Off meeting should happen within 7 days from the date of acceptance of purchase order. The bidder shall submit a Weekly progress report to the Bank as per format, which will be made available to the selected bidder.

8. Fixed Price

The prices quoted in the tender response will be fixed for the period of the contract.

9. Expenses

It may be noted that Bank will not pay any amount/expenses/charges/fees/traveling expenses/boarding expenses/lodging/ expenses/conveyance expenses / out of pocket expenses other than the Agreed Professional fee.

10. Performance Security

- 10.1. The successful bidder should submit a Security Deposit / Performance Bank Guarantee equivalent to 5% of the Total Cost of Ownership (TCO) value as specified in Bid Schedule within 15 days from the date of acceptance of the Purchase Order with the validity period of 60 months from the date of acceptance of order and shall be retained till the completion of Contract period. The guarantee should also contain a claim period of 2 months from the last date of validity.
- 10.2. The selected bidder shall be responsible for extending the validity date and claim period of the Bank guarantees as and when it is due, on account of incompleteness of the project and contract period.
- 10.3. If the Security Deposit /Performance Guarantee is not submitted within the time stipulated above, penalty at 0.50% for each completed calendar week of delay or part thereof on the total value of the order will be deducted from the delivery payment or from any other payments for the delay in submission of Bank Guarantee. The total penalty under this clause shall be restricted to 2.5% of the total order value.
- 10.4. Security Deposit should be submitted by way of DD drawn on Canara Bank payable at Bengaluru / Bank Guarantee may be obtained from any of the Scheduled Banks (other than Canara Bank).
- 10.5. The Bank Guarantee issued by the issuing Bank on behalf of Bidder in favour of Canara Bank shall be in paper form as well as issued under the "Structured Financial Messaging System" (SFMS). However, it should be as per Appendix-D. Any bank guarantee submitted in physical mode, including EMD/bid guarantee which cannot be verifiable through SFMS will be summarily rejected.
- 10.6. The security deposit / bank guarantee will be returned to the bidder on completion of Contract Period.
- 10.7. The Bank shall invoke the Bank guarantee before the expiry of validity, if work is not completed and the guarantee is not extended, or if the selected bidder fails to complete his obligations under the contract. The Bank shall notify the selected bidder in writing before invoking the Bank guarantee.

11. Execution of Agreement

- 11.1. Within 21 days from the date of acceptance of the Purchase Order or within 30 days from the date of issue of Purchase Order whichever is earlier, the selected bidder shall sign a stamped "Agreement" with the Bank at Bengaluru as per Appendix-G. Failure to execute the Agreement makes the EMD liable for forfeiture at the discretion of the Bank and also rejection of the selected bidder.
- 11.2. The Agreement shall include all terms, conditions and specifications of RFP and also the Bill of Material and Price, as agreed finally after bid evaluation. The Agreement shall be executed in English language in one original, the Bank receiving the duly signed original and the selected bidder receiving the photocopy. The Agreement shall be valid till all contractual obligations are fulfilled.
- 11.3. The Integrity Pact Agreement submitted by the bidder during the bid submission will automatically form a part of the Contract Agreement till the conclusion of the contract.

12. Pricing & Payments

- 12.1. No escalation in price quoted is permitted for any reason whatsoever. Prices quoted must be firm till the completion of the contract period.
- 12.2. From the date of placing the order till the delivery of the systems, if any changes are brought in the duties such as excise/customs etc., by the Government resulting in reduction of the cost of the systems, the benefit arising out of such reduction shall be passed on to the Bank.

13. Order Cancellation/Termination of Contract

- 13.1. Bank reserve the right to terminate the contract with or without assigning any reasons by serving notice to the vendor at least 30 days prior.
- 13.2. The Bank reserves its right to cancel the entire / unexecuted part of the Purchase Order at any time by assigning appropriate reasons and recover expenditure incurred by the Bank in addition to recovery of liquidated damages in terms of the contract, in the event of one or more of the following conditions:
 - 13.2.1. Delay in delivery of services/Execution of order as per the RFP terms.
 - 13.2.2. Serious discrepancies noted in the inspection.
 - 13.2.3. Breaches in the terms and conditions of the Order.
 - 13.2.4. Non submission of acceptance of order within 7 days of order.
 - 13.2.5. The selected Bidder commits a breach of any of the terms and conditions of the bid.
 - 13.2.6. The Bidder goes in to liquidation voluntarily or otherwise.
 - 13.2.7. An attachment is levied or continues to be levied for a period of 7 days upon the effects of the bid.
 - 13.2.8. The progress made by the selected Bidder is found to be unsatisfactory.
 - 13.2.9. If deductions on account of liquidated Damages exceeds more than 10% of the total contract price.
 - 13.2.10. If found blacklisted by any Govt. Department / PSU / other Banks / CERT-In, during the course of contracted period.
 - 13.2.11. Non satisfactory performance of the Project in terms of affecting the Core Systems of the Bank or the Core Business of the Bank and the functioning of the Branches/Offices of the Bank.
- 13.3. In case the selected Bidder fails to conduct an event as per stipulated schedule, the Bank reserves the right to get it conducted by alternate sources at the risk, cost and responsibility of the selected Bidder by giving 7 days prior notice to the Bidder.
- 13.4. After the award of the contract, if the selected Bidder does not perform satisfactorily or delays execution of the contract, the Bank reserves the right to get the balance contract executed by another party of its choice by giving one-month notice for the same. In this event, the selected Bidder is bound to make good the additional expenditure, which the Bank may have to incur to carry out for the execution of the balance of the order/contract. Such additional expenditure shall be incurred by the bank within reasonable limits & at comparable price prevailing in the market. This clause is also applicable, if for any reason, the contract is cancelled.

- 13.5.** The Bank reserves the right to recover any dues payable by the selected Bidder from any amount outstanding to the credit of the selected Bidder, including the pending bills and security deposit, if any, under this contract.
- 13.6.** In addition to the cancellation of purchase order, the Bank reserves its right to invoke the Bank Guarantee or foreclose the Security Deposit given by the Bidder towards non-performance/non-compliance of the terms and conditions of the contract, to appropriate towards damages.

SECTION G - GENERAL CONDITIONS

1. General Order Terms

Normally, the Order will be placed on the selected bidder as per the details given in the bid document. But, if there is any change in name/address/constitution of the bidding Firm/Company at any time from the date of bid document, the same shall be informed by the bidders to the Bank immediately. This shall be supported with necessary documentary proof or Court orders, if any. Further, if the bidding Firm/Company is undergoing any re-organization/ restructuring/ merger/ demerger and on account such a change the Firm/Company is no longer performing the original line of business, the same shall be informed to the Bank. There shall not be any delay in this regard. The decision to place orders or otherwise under such situation shall rest with the Bank and the decision of the Bank shall be final.

2. Roles & Responsibility during Project Implementation

- 2.1. All tools, tackles, testing instruments, consumables, vehicles, etc., as required during all operations such as transport, installation, testing, commissioning maintenance during contract period shall be provided by the selected bidder at no extra cost to the Bank for completing the scope of work as per this RFP.
- 2.2. The selected bidder shall take all steps to ensure safety of bidder's and the Bank's personnel during execution of the contract and also be liable for any consequences due to omission or act of the selected bidder or their sub-bidders.
- 2.3. In case of any damage of Bank's property during execution of the work is attributable to the bidder, bidder has to replace the damaged property at his own cost.
- 2.4. The selected bidder has to resubmit the Undertaking of Authenticity for the proposed Hardware as per **Annexure-11** along with invoice.

3. Responsibilities of the Selected Bidder

- 3.1. The selected bidder has to inform change in the management of the company, if any, to the Bank within 30 days from the date of such change during contract period.
- 3.2. The Bank will call for Audited Balance Sheet of the selected bidder at any point of time during contract period and the selected bidder shall provide the same.
- 3.3. The selected bidder shall submit updated Escalation Matrix for the product/services on a Half-Yearly basis as at the end of 31st March and 30th September during contract period.

4. Human Resource Requirement

The selected bidder by executing the agreement shall be deemed to have unconditionally agreed as under:

- 4.1. The selected bidder shall provide a contingent of well trained personnel and extend necessary mentoring and operational support to the intermediary network of agents, etc. as part of the Hardware/service.
- 4.2. The selected bidder shall confirm that every person deployed by them on the project has been vetted through a third-party background check prior to their engagement. The

bidder shall manage the activities of its personnel or others engaged in the project, etc. and shall be accountable for all the personnel deployed/engaged in the project.

- 4.3. In case the performance of the bidder/their CSP/agent/employees engaged in the project is not satisfactory or is detrimental to the interests of the Bank, the bidder shall have to replace the said person within the time limits stipulated by the Bank. Where the bidder fails to comply with the Bank's request, the Bank may replace the said person or their agents/employees on its own.
- 4.4. No right to employment in the Bank shall accrue or arise to the employees or agents of the bidder, by virtue of engagement of employees, agents, etc. of the bidder for any assignment under this project. It is further clarified that the arrangement herein with the bidder is a contract for service.
- 4.5. The selected bidder shall exercise due diligence and only engage persons having established identity, integrity, requisite qualifications and skills and deployment experience for all critical activities.
- 4.6. The selected bidder has to submit following KYC documents of resources engaged:
 - 4.6.1 Resume latest (Candidate Photograph should be part of Resume only) and Print should be in color only.
 - 4.6.2 Address Proof (Local and Permanent)- Duly attested photocopy by candidate and bidder HR.
 - 4.6.3 Aadhaar Card - Duly attested photocopy by candidate and bidder HR.
 - 4.6.4 Passport - Duly attested photocopy by candidate and bidder HR.
 - 4.6.5 Background Police Verification report - Duly attested photocopy by candidate and bidder HR.
- 4.7. The selected bidder shall extend all of the outsourced banking and financial services by deploying such personal that have high integrity and meet the qualifications and other criteria stipulated by the Reserve Bank of India , Government or the Bank from time to time and agrees and undertake that during the subsistence of this agreement they will not employ any personnel/individual below the Minimum Wages fixed by appropriate Government on this behalf from time to time ,as per the provisions of Minimum Wages Act 1948.

5. Responsibility for Completeness

- 5.1. The selected bidder shall ensure that the Hardware provided meets all the technical and functional requirements as envisaged in the scope of the RFP.
- 5.2. The selected bidder shall deliver, install, configure the supplied Hardware/service as per Technical specification and Scope of Work described elsewhere in the RFP and arrange for user level demo at bidder's cost as per accepted time schedules. The bidder is liable for penalties levied by Bank for any deviation in this regard. The bidder shall provide for all drivers/software required to install, customize and test the system without any further charge, expense and cost to Bank.
- 5.3. The selected bidder shall be responsible for any discrepancies, errors and omissions or other information submitted by him irrespective of whether these have been approved,

reviewed or otherwise accepted by the bank or not. The bidder shall take all corrective measures arising out of discrepancies, error and omission other information as mentioned above within the time schedule and without extra cost to the bank.

6. Inspection of Records

Bank at its discretion may verify the accounts and records or appoint third party for verification including an auditor for audit of accounts and records including Hardware, Software & other items provided to the Bank under this RFP and the selected bidder shall extend all cooperation in this regard.

7. Negligence

In connection with the work or contravenes the provisions of General Terms, if the selected bidder neglects to execute the work with due diligence or expedition or refuses or neglects to comply with any reasonable order given to him in writing by the Bank, in such eventuality, the Bank may after giving notice in writing to the selected bidder calling upon him to make good the failure, neglect or contravention complained of, within such times as may be deemed reasonable and in default of the said notice, the Bank shall have the right to cancel the Contract holding the selected bidder liable for the damages that the Bank may sustain in this behalf. Thereafter, the Bank may make good the failure at the risk and cost of the selected bidder.

8. Assignment

8.1. The selected bidder shall not assign to any one, in whole or in part, its obligations to perform under the RFP/contract, except with the Bank's prior written consent.

8.2. If the Bank undergoes a merger, amalgamation, take-over, consolidation, reconstruction, change of ownership etc., this RFP shall be considered to be assigned to the new entity and such an act shall not affect the rights and obligations of the selected bidder under this RFP.

9. Publicity

Any publicity by the bidder in which the name of the Bank is to be used will be done only with the explicit written permission of the Bank.

10. Insurance

The Hardware to be supplied will be insured by the bidder against all risks of loss or damages from the date of shipment till such time, the same is delivered and installed at site and handed over to the Bank/Office. The Bidder has to obtain transit insurance cover for the items to be delivered from their factory/godown to the location and such insurance cover should be available till installation of the Hardware. If there is any delay in the installation which could be attributed to Bank, in such an event the insurance must be available for minimum 30 days from the date of delivery of Hardware.

11. Guarantees

The bidder should guarantee that the hardware items delivered to the Bank are brand new, including all components. In the case of software, the bidder should guarantee that the software supplied to the Bank includes all patches, updates etc., and the same are licensed and legally obtained. All hardware and software must be supplied with their original and complete printed documentation.

12. Intellectual Property Rights

- 12.1. Bidder warrants that the inputs provided shall not infringe upon any third party intellectual property rights, including copyrights, patents and other intellectual property rights of any nature whatsoever. Bidder warrants that the deliverables shall not infringe upon any third party intellectual property rights, including copyrights, patents and other intellectual property rights of any nature whatsoever. The bidder should ensure that the Hardware and Software supplied to the Bank shall not infringe the third party intellectual property rights, if any. The bidder has to ensure that third party rights are not infringed even in case of equipment /software supplied on behalf of consortium as bidder.
- 12.2. In the event that the Deliverables become the subject of claim of violation or infringement of a third party's intellectual property rights, bidder shall at its choice and expense: [a] procure for Bank the right to continue to use such deliverables; [b] replace or modify such deliverables to make them non-infringing, provided that the same function is performed by the replacement or modified deliverables as the infringing deliverables; or [c] if the rights to use cannot be procured or the deliverables cannot be replaced or modified, accept the return of the deliverables and reimburse bank for any amounts paid to bidder for such deliverables, along with the replacement costs incurred by Bank for procuring an equivalent equipment in addition to the penalties levied by Bank. However, Bank shall not bear any kind of expense, charge, fees or any kind of costs in this regard. Notwithstanding the remedies contained herein, the bidder shall be responsible for payment of penalties in case service levels are not met because of inability of the bank to use the proposed Hardware/service:
- 12.3. The indemnification obligation stated in this clause apply only in the event that the indemnified party provides the indemnifying party prompt written notice of such claims, grants the indemnifying party sole authority to defend, manage, negotiate or settle such claims and makes available all reasonable assistance in defending the claims [at the expenses of the indemnifying party]. Notwithstanding the foregoing, neither party is authorized to agree to any settlement or compromise or the like which would require that the indemnified party make any payment or bear any other substantive obligation without the prior written consent of the indemnified party. The indemnification obligation stated in this clause reflects the entire liability of the parties for the matters addressed thereby.
- 12.4. The bidder acknowledges that business logics, work flows, delegation and decision making processes of Bank are of business sensitive nature and shall not be disclosed/referred to other clients, agents or distributors of Hardware/Software.

13. Confidentiality and Non-Disclosure

- 13.1. The bidder shall take all necessary precautions to ensure that all confidential information is treated as confidential and not disclosed or used other than for the purpose of project execution. Bidder shall suitably defend, indemnify Bank for any loss/damage suffered by Bank on account of and to the extent of any disclosure of the confidential information. The bidder shall furnish an undertaking as given in Annexure-10.

- 13.2. No media release/public announcement or any other reference to the RFP or any program there under shall be made without the written consent of the Bank, by photographic, electronic or other means.

14. Exit Management Plan

- 14.1. Successful bidder shall submit a structured & detailed Exit Management plan along with Training and Knowledge transfer for its exit initiated by the Bank.
- 14.2. Successful bidder shall update the Transition and Exit management on half yearly basis or earlier in case of major changes during the entire contract duration. The plan and the format shall be discussed and approved by the Bank.
- 14.3. The exit Management plan shall deal with the following aspects but not limited to of exit management in relation to the Service Level as a whole and in relation to in scope applications, interfaces, infrastructure and network and the scope of work.
- 14.4. A detailed program of the transfer process that could be used in conjunction with a replacement vendor including details of the means to be used to ensure continuing provision of the services throughout the transfer process or until the cessation of the services and of the management structure to be used during the transfer.
- 14.5. Plans for provision of contingent support to the Project and replacement Vendor/Service Provider for a reasonable period (minimum three month and maximum as per mutual agreement) after transfer or as decided by Canara Bank.
- 14.6. Plans for training of the Replacement Service Provider/Canara Bank staff to run the operations of the project. This training plan along with the training delivery schedule should be approved by Canara Bank. The delivery of training along with handholding support and getting the sign off on the same would be the responsibility of Successful bidder.
- 14.7. At the end of the contract period or during the contract period, if any other Service Provider is identified or selected for providing services related to Successful bidder scope of work, they shall ensure that a proper and satisfactory handover is made to the replacement Service Provider.
- 14.8. All risk during transition stage shall be properly documented by Successful bidder and mitigation measures shall be planned to ensure a smooth transition without any service disruption. Vendor/Service Provider must ensure that hardware supplied by them shall not reach end of support products (software/ hardware) at time of transition. Successful bidder shall inform well in advance end of support products (software/hardware) for the in-scope applications and infrastructure.
- 14.9. The transition & exit management period will start minimum six (6) months before the expiration of the contract or as decided by Canara Bank.
- 14.10. Successful bidder will provide shadow support for a minimum of 90 days or as decided by the Bank before the end of termination of notice period or expiry of the contract as applicable at no additional cost to the Bank.
- 14.11. In case of termination, the exit management period will start from effective date of termination, or such other date as may be decided by Canara Bank and communicated to Successful bidder.

14.12. Successful bidder must ensure closing off all critical open issues, any audit observation as on date of exit. All other open issues as on date of Exit shall be listed and provided to Canara Bank.

14.13. Successful bidder needs to comply with Banks requirements and any statutory or regulatory guidelines during the reverse transition period.

15. Training and Handholding

15.1. Successful bidder shall provide necessary knowledge transfer and transition support to the satisfaction of the Bank. The deliverables as indicated below but not limited to:

15.1.1. Entire back-up History but not limited to archive policies, retention policies, restore policies, schedules, target storage, backup history.

15.1.2. Change Request Logs

15.2. Assisting the new Service Provider/Bank with the complete audit of the system including licenses and physical assets

15.3. Detailed walk-throughs and demos for the Hardware.

15.4. During the exit management period, the Vendor/Service Provider shall use its best efforts to deliver the services.

15.5. Successful bidder shall hold technical knowledge transfer sessions with designated technical team of Business and/or any replacement Service Provider in at least last three (3) months of the project duration or as decided by Bank.

15.6. During Reverse Transition Bank will not pay any additional cost to the Vendor/Service Provider for doing reverse transition.

16. Service Levels:

During the term of the contract, the bidder/ vendor shall maintain the Service Levels as detailed in RFP/GeM Bid/PO. In case the vendor fails to maintain the Service Levels, Liquidated damages as detailed in RFP/GeM Bid/PO shall be imposed on the Bidder/Vendor/Service provider.

17. Business Continuity Plan:

17.1. The service provider/vendor/ Bidder shall develop and establish a robust Business Continuity and Management of Disaster Recovery Plan if not already developed and established so as to ensure uninterrupted and continued services to the Bank and to ensure the agreed upon service level.

17.2. The service provider/vendor/ Bidder shall periodically test the Business Continuity and Management of Disaster Recovery Plan. The Bank may consider joint testing and recovery exercise with the Service provider/vendor.

18. Hiring of Bank Staff or Ex-Staff:

The BIDDER/VENDOR/ SERVICE PROVIDER or subcontractor(s) shall not hire any of the existing/ ex/retired employee of the Bank during the contract period or after the closure/termination

of contract even if existing/ ex/retired employee actively seek employment from the Bidder/VENDOR/ SERVICE PROVIDER or sub-contractor(s). The period /duration after the date of resignation/ retirement/ termination after which the existing/ex/retired employee shall be eligible for taking up such employment shall be governed by regulatory guidelines/HR policies of the Bank.

19. Adherence to Banks IS Security/Cyber Security Policies:

- 19.1. BIDDER/VENDOR/ SERVICE PROVIDER shall comply with Bank's various policies like Information Security policy and Cyber Security Policy, Internet Policy, Information System Audit Policy, E-Mail policy and Guidelines.
- 19.2. In case of any security incident including but not limited to data breaches, denial of service, service unavailability, etc., the Bidder/vendor/Service Provider shall immediately report such incident to the Bank.

20. Protection of Data:

- 20.1. The BIDDER/VENDOR/ SERVICE PROVIDER warrants that at all times, when delivering the Deliverables and providing the Services, use appropriate procedures and care to avoid loss or corruption of data. However, in the event that any loss or damage to Bank data occurs as a result of Bidder/Vendor/Service provider failure to perform its responsibilities in the RFP, Bidder/ Vendor/Service Provider will at Bank's request correct or cause to be corrected any loss or damage to Bank data. Further, the cost of the any corrective action in relation to data loss of any nature will be borne by Bidder/Vendor/Service Provider, if such loss or damage was caused by any act or omission of Bidder/Vendor/Service provider or its officers, employees, contractors or agents or other persons under Bidder/ Vendor/Service provider control.
- 20.2. Where the terms of the RFP/Gem Bid/PO require any data to be maintained by the Bank, the Bank agrees to grant, Bidder/Vendor/Service provider such access and assistance to such data and . other materials as may be required by Bidder/Vendor/Service Provider, for the purposes of correcting loss or damage to Bank data.
- 20.3. The BIDDER/VENDOR/ SERVICE PROVIDER is required to adhere to RBI guidelines for storage of data in India as per regulatory requirements, also to provide complete details of data captured, processed and stored, maintain confidentiality of the bank's and its customer's data and report same to the bank, Bidder/Vendor/Service provider will be liable to bank for any event for security breach and leakage of data/information
- 20.4. The BIDDER/VENDOR/ SERVICE PROVIDER should ensure that it is complying with applicable guidelines issued by regulatory bodies on Digital Data Protection Act 2023 and its future amendments and communications.

21. Amendments to Contract:

The terms and conditions of this Agreement may be modified by Parties by mutual agreement from time to time. No variation of or amendment to or waiver of any of the terms of this Agreement shall be effective and binding on the Parties unless evidenced in writing and signed by or on behalf of each of the Parties.

22. Indemnity

- 22.1. The BIDDER/VENDOR/ SERVICE PROVIDER shall keep and hold the Bank indemnified and harmless from time to time and at all times against all actions, proceedings, claims,

suits, liabilities (including statutory liability), penalties, demands, charges, costs (including legal costs) and expenses, damages, losses and any other expenses which may be caused to or suffered by or made or taken against the Bank arising out of:

- 22.1.1. The breach, default or non-performance of undertakings, warranties, covenants or obligations by the BIDDER/VENDOR/ SERVICE PROVIDER;
- 22.1.2. Any contravention or Non-compliance with any applicable laws, regulations, rules, statutory or legal requirements by the BIDDER/VENDOR/ SERVICE PROVIDER;
- 22.1.3. Fines, penalties, or punitive damages levied on Bank resulting from supervisory actions due to breach, default or non-performance of undertakings, warranties, covenants, or obligations by the BIDDER/VENDOR/ SERVICE PROVIDER.
- 22.2. The BIDDER/VENDOR/ SERVICE PROVIDER shall indemnify, protect and save the Bank against all claims, losses, costs, damages, expenses, action, suits and other proceedings, resulting from infringement of any law pertaining to patent, trademarks, copyrights etc. or such other statutory infringements in respect of service provided by them.
- 22.3. All Employees engaged by the BIDDER/VENDOR/ SERVICE PROVIDER shall be in sole employment of the BIDDER/VENDOR/ SERVICE PROVIDER and the BIDDER/VENDOR/ SERVICE PROVIDER shall be solely responsible for their salaries, wages, statutory payments etc. That under no circumstances shall the Bank be liable for any payment or claim or compensation (including but not limited to compensation on account of injury / death / termination) of any nature to the employees and personnel of the BIDDER/VENDOR/ SERVICE PROVIDER.
- 22.4. All indemnities shall survive notwithstanding expiry or termination of the contract and bidder shall continue to be liable under the indemnities.
- 22.5. BIDDER/VENDOR/ SERVICE PROVIDER aggregate liability shall be subject to an overall limit of the total Cost of the project.
- 22.6. The limits specified in above clauses shall not apply to claims made by the Bank/third parties in case of infringement of Intellectual property rights or loss caused due to breach of confidential obligations or applicable data protection laws or commission of any fraud by the bidder or its employees or agents or for claims relating to the loss or damage to real property and tangible personal property and for bodily injury or death and in these cases the liability will be unlimited.

23. Conflict of Interest:

- 23.1. BIDDER/VENDOR/ SERVICE PROVIDER represents and warrants that it has no business, professional, personal, or other interest, including, but not limited to, the representation of other clients, that would conflict in any manner or degree with the performance of its obligations under this Agreement.
- 23.2. BIDDER/VENDOR/ SERVICE PROVIDER represents and warrants that if any such actual or potential conflict of interest arises under this Agreement, Vendor/Service Provider shall immediately inform the Bank in writing of such conflict.
- 23.3. BIDDER/VENDOR/ SERVICE PROVIDER acknowledges that if, in the reasonable judgment of the Bank, such conflict poses a material conflict to and with the performance of

VENDOR/ SERVICE PROVIDER's obligations under this Agreement, then the Bank may terminate the Agreement immediately upon Written notice to VENDOR/ SERVICE PROVIDER; such termination of the Agreement shall be effective upon the receipt of such notice by VENDOR/ SERVICE PROVIDER

24. General Conditions to Contract:

- 24.1. The BIDDER/VENDOR/ SERVICE PROVIDER shall during the validity of this contract, provide access to all data, books, records, information, logs, alerts and business premises relevant to the service provided under this agreement to the Bank.
- 24.2. The BIDDER/VENDOR/ SERVICE PROVIDER shall adhere to RBI guidelines for storage of data in India as per regulatory requirements, also to provide complete details of data captured, processed and stored, maintain confidentiality of the bank's and its customer's data and report same to the bank, Vendor/Service Provider shall be liable to bank for any event for security breach and leakage of data/information
- 24.3. The BIDDER/VENDOR/ SERVICE PROVIDER shall abide/comply with applicable guidelines issued by RBI on Outsourcing of IT services vide master direction note no:RBI/2023-24/102 DoS.CO.CSITEG/SEC.1/31.01.015/2023-24 dated 10/04/2023 and its future amendments and communications.
- 24.4. No forbearance, indulgence, relaxation or inaction by any Party [BANK or VENDOR/ SERVICE PROVIDER] at any time to require the performance of any provision of Contract shall in any way affect, diminish, or prejudice the right of such Party to require the performance of that or any other provision of Contract.
- 24.5. No waiver or acquiescence of any breach, or any continuing or subsequent breach of any provision of Contract shall be construed as a waiver of any right under or arising out of Contract or an acquiescence to or recognition of any right and/or any position other than that expressly stipulated in the Contract.
- 24.6. All remedies of either BANK or BIDDER/VENDOR/ SERVICE PROVIDER under the Contract whether provided herein or conferred by statute, civil law, common law, custom, or trade usage, are cumulative and not alternative may be enforced successively or concurrently.
- 24.7. If any provision of Contract or the application thereof to any person or Party [BANK/ BIDDER/VENDOR/ SERVICE PROVIDER] is or becomes invalid or unenforceable or prohibited by law to any extent, this Contract shall be considered divisible as to such provision, and such provision alone shall be inoperative to such extent and the remainder of the Contract shall be valid and binding as though such provision had not been included. Further, the Parties [BANK and BIDDER/VENDOR/ SERVICE PROVIDER] shall endeavour to replace such invalid, unenforceable or illegal provision by one that is valid, enforceable, and legal and achieve substantially the same economic effect as the provision sought to be replaced.
- 24.8. None of the provisions of Contract shall be deemed to constitute a partnership between the Parties [BANK and BIDDER/VENDOR/ SERVICE PROVIDER] and neither Party [BANK nor BIDDER/VENDOR/ SERVICE PROVIDER] shall have any right or authority to bind the other as the other's agent or representative and no Party shall be deemed to be the agent of the other in any way.

- 24.9. Contract shall not be intended and shall not be construed to confer on any person other than the Parties [BANK and BIDDER/ VENDOR/ SERVICE PROVIDER] hereto, any rights or remedies herein.

25. Force Majeure

- 25.1. The selected bidder shall not be liable for default or non-performance of the obligations under the contract, if such default or non-performance of the obligations under this contract is caused by any reason or circumstances or occurrences beyond the control of the bidder, i.e. Force Majeure.
- 25.2. For the purpose of this clause, “Force Majeure” shall mean an event beyond the control of the selected bidder, due to or as a result of or caused by acts of God, wars, insurrections, riots, earth quake and fire, events not foreseeable but does not include any fault or negligence or carelessness on the part of the selected bidder, resulting in such a situation.
- 25.3. In the event of any such intervening Force Majeure, the selected bidder shall notify the Bank in writing of such circumstances and the cause thereof immediately within five calendar days. Unless otherwise directed by the Bank, the selected bidder shall continue to perform / render / discharge other obligations as far as they can reasonably be attended / fulfilled and shall seek all reasonable alternative means for performance affected by the Event of Force Majeure.
- 25.4. In such a case, the time for performance shall be extended by a period (s) not less than the duration of such delay. If the duration of delay continues beyond a period of three months, the Bank and the selected bidder shall hold consultations with each other in an endeavor to find a solution to the problem. Notwithstanding above, the decision of the Bank shall be final and binding on the selected bidder.

26. Responsibilities of the Bidder

By submitting a signed bid/response to this RFP the Bidder certifies that:

- 26.1. The Bidder has arrived at the prices in its bid without agreement with any other bidder of this RFP for the purpose of restricting competition.
- 26.2. The prices in the bid have not been disclosed and shall not be disclosed to any other bidder of this RFP.
- 26.3. No attempt by the Bidder to induce any other bidder to submit or not to submit a bid for restricting competition has occurred.
- 26.4. Each Bidder must indicate whether or not they have any actual or potential conflict of interest related to contracting services with CANARA BANK. In case such conflicts of interest do arise, the Bidder must indicate the manner in which such conflicts can be resolved.
- 26.5. The bidder represents and acknowledges to the Bank that it possesses necessary experience, expertise and ability to undertake and fulfill its obligations, under all phases involved in the performance of the provisions of this RFP. The bidder represents that all software and hardware to be supplied in response to this RFP shall meet the requirement of the Hardware/service proposed by the bidder. The bidder shall be required to independently arrive at a solution, which is suitable for the Bank, after taking into consideration the effort estimated for implementation of the same. If any

services, functions or responsibilities not specifically described in this RFP are an inherent, necessary or customary part of the deliverables or services and are required for proper performance or provision of the deliverables or services in accordance with this RFP, they shall be deemed to be included within the scope of the deliverables or services, as if such services, functions or responsibilities were specifically required and described in this RFP and shall be provided by the bidder at no additional cost to the Bank. The bidder also acknowledges that the Bank relies on this statement of fact, therefore neither accepting responsibility for, nor relieving the bidder of responsibility for the performance of all provisions and terms and conditions of this RFP, the Bank expects the bidder to fulfill all the terms and conditions of this RFP.

26.6. The selected bidder should abide by guidelines issued by RBI Master Direction on Outsourcing of IT Services.

26.7. The selected bidder should also abide by the provisions of Digital Data Protection Bill.

27. Corrupt and Fraudulent Practices

27.1. As per Central Vigilance Commission (CVC) directives, it is required that Bidders /Suppliers / Contractors observe the highest standard of ethics during the procurement and execution of such contracts in pursuance of this policy.

27.2. "Corrupt Practice" means the offering, giving, receiving or soliciting of anything of values to influence the action of an official in the procurement process or in contract execution and "Fraudulent Practice" means a misrepresentation of facts in order to influence a procurement process or the execution of contract to the detriment of the Bank and includes collusive practice among bidders (prior to or after bid submission) designed to establish bid prices at artificial non-competitive levels and to deprive the Bank of the benefits of free and open competition

27.3. The Bank reserves the right to reject a proposal for award if it determines that the bidder recommended for award has engaged in corrupt or fraudulent practices in competing for the contract in question.

27.4. The Bank reserves the right to declare a firm ineligible, either indefinitely or for a stated period of time, to be awarded a contract if at any time it determines that the firm has engaged in corrupt or fraudulent practices in competing for or in executing the contract.

27.5. The decision of Bank in determining the above aspects will be final and binding on the all the Bidders. No Bidder shall contact through any means of communication the Bank or any of its employees on any matter relating to its Bid, from the time of Bid opening to the time the contract is awarded. If the bidder wishes to bring additional information to the notice of the Bank, it may do so in writing.

27.6. Any effort/attempt by a bidder to influence the Bank in its decision on bid evaluation, bid comparison or contract award may result in rejection of the Bidder's bid and/or blacklisting the Bidder. The Bidder agrees not to hire, solicit or accept solicitation either directly or through a third party from any of the employees of the Bank directly involved in this contract during the period of contract and one year thereafter, except as the parties may agree on the case to case basis.

27.7. The selected bidder shall ensure compliance of CVC guidelines issued or to be issued from time to time for Hardware/service by the Bank.

28. Adoption of Integrity Pact

- 28.1. The Pact essentially envisages an agreement between the prospective bidders and the Bank, committing the persons/ officials of both sides, not to resort to any corrupt practices in any aspect/ stage of the contract.
- 28.2. Only those bidders, who commit themselves to the above pact with the Bank, shall be considered eligible to participate in the bidding process.
- 28.3. The Bidders shall submit signed Pre Contract integrity pact (Hard Copy) as per Appendix-F along with Part A - Technical cum Eligibility. Those Bids which are not containing the above are liable for rejection.
- 28.4. Foreign Bidders to disclose the name and address of agents and representatives in India and Indian Bidders to disclose their foreign principles or associates.
- 28.5. Bidders to disclose the payments to be made by them to agents/ brokers or any other intermediary. Bidders to disclose any transgressions with any other company that may impinge on the anti-corruption principle.
- 28.6. Integrity Pact in respect this contract would be operative from the stage of invitation of the Bids till the final completion of the contract. Any violation of the same would entail disqualification of the bidders and exclusion from future business dealings.
- 28.7. The Integrity Pact Agreement submitted by the bidder during the Bid submission will automatically form the part of the Contract Agreement till the conclusion of the contract i.e. the final payment or the duration of the Warranty/ Guarantee/ AMC if contracted whichever is later.
- 28.8. Integrity Pact, in respect of a particular contract would be operative stage of invitation of bids till the final completion of the contract. Any violation of the same would entail disqualification of the bidders and exclusion from future business dealings.
- 28.9. Integrity pact shall be signed by the person who is authorized to sign the Bid.
- 28.10. The Name and Contact details of the Independent External Monitor (IEM) nominated by the Bank are as under:

Smt. Dolly Chakrabarty Email : dollychakrabarty@gmail.com	Sri. Hem Kumar Pande Email : hempande@hotmail.com

29. Amendments to the Purchase Order

Once purchase order is accepted by the selected bidder, no amendments or modifications of order and no waiver of any of the terms or conditions thereof shall be valid or binding unless made in writing and mutually agreed by the parties.

30. Amendments to the Agreement

Once agreement is executed with the selected bidder, no amendments or modifications of agreement and no waiver of any of the terms or conditions thereof shall be valid or binding unless made in writing and mutually agreed by the parties.

31. Modification/Cancellation of RFP

The bank reserves the right to modify/cancel/re-tender without assigning any reasons whatsoever. The bank shall not incur any liability to the affected bidder(s) on account of such rejection. Bank shall not be obliged to inform the affected bidder(s) of the grounds for the Bank's rejection/cancellation.

32. Social Media Policy

- 32.1.** No person of the bank or the contractors and third parties shall violate the social media policy of the bank.
- 32.2.** The following acts on the part of personnel of the bank or the contractors and third parties shall be construed as violation of social media policy:
 - 32.2.1.** Non-adherence to the standards/guidelines in relation to social media policy issued by the Bank from time to time.
 - 32.2.2.** Any omission or commission which exposes the Bank to actual or potential monetary loss or otherwise, reputation loss on account of non-adherence of social media related systems and procedures.
 - 32.2.3.** Any unauthorized use or disclosure of Bank's confidential information or data.
 - 32.2.4.** Any usage of information or data for purposes other than for Bank's normal business purposes and / or for any other illegal activities which may amount to violation of any law, regulation or reporting requirements of any law enforcement agency or government body.

33. Resolution of Disputes

All disputes and differences of any kind whatsoever, arising out of or in connection with this Contract or in the discharge of any obligation arising under this Contract (whether during the course of execution of the order or after completion and whether beyond or after termination, abandonment or breach of the Agreement) shall be resolved amicably. In case of failure to resolve the disputes and differences amicably the matter may be referred to a sole arbitrator mutually agreed upon after issue of at least 30 days' notice in writing to the other party clearly setting out there-in the specific disputes. In the event of parties failing to consent upon a single arbitrator than BOTH PARTIES shall approach Court of Law for the appointment of sole arbitrator as provided under the Arbitration and Conciliation Act 1996. Place of Arbitration shall be Bengaluru, INDIA which will be governed by Indian Arbitration and Conciliation Act 1996. Proceedings of Arbitration shall be conducted in English language only.

34. Legal Disputes and Jurisdiction of the court

- 34.1.** The Bank Clarifies that the Bank shall be entitled to an injunction, restraining order, right for recovery, specific performance or such other equitable relief as a court of competent jurisdiction may deem necessary or appropriate to restrain bidder/prospective bidder from committing any violation or enforce the performance of the covenants, obligations and representations contained in this RFP. These injunctive remedies are cumulative and are in addition to any other rights and remedies the Bank may have at law or in equity, including without limitation a right for recovery of any amounts and related costs and a right for damages.
- 34.2.** All disputes and controversies between Bank and bidder shall be subject to the exclusive jurisdiction of the courts in Bengaluru and the parties agree to submit themselves to

the jurisdiction of such court as this RFP/Contract agreement shall be governed by the laws of India.

35. Bidder Conformity

- 35.1.** Bidder should ensure that, it is complying with applicable guidelines issued by RBI on outsourcing of IT services vide master direction note no: RBI/2023_24/102DoS.CO.CSITEG/SEC.1/31.01.015/2023-24 dated 10/04/2023 and its future amendments and communications.
- 35.2.** Bidder should ensure to adhere applicable regulatory guidelines for storage of data in India as per regulatory requirements, also to provide complete details of data captured, processed and stored, maintain confidentiality of the bank's and its customer's data and report same to the bank, Vendor will be liable to bank for any event for security breach and leakage of data/information.
- 35.3.** Bidder should ensure that, it is complying with applicable guidelines issued by regulatory bodies on Digital Personal Data Protection Act 2023 and its future amendments and communications.

SECTION H- PURCHASE PREFERENCE

Purchase Preference to Micro and Small Enterprises (MSEs), Startups and Purchase Preference linked with Local Content (PP-LC) shall be applicable subject to full compliance of other terms and conditions of the RFP and Contract. Following are the conditions applicable as per the Government of India Guidelines on Purchase Preference.

1. Micro & Small Enterprises [MSEs]:

Procurement through MSEs (Micro & Small Enterprises) will be done as per the Policy guidelines issued by the Ministry of Micro, Small & Medium Enterprises vide Gazette notification no. D.L.-33004/99 dated 23.03.2012 and as amended from time to time. Following are the conditions applicable as per the Government of India Guidelines

- 1.1. MSEs should provide proof of their being registered as MSE for the item under RFP along with their offer, with any agency mentioned in the Notification, including:
 - 1.1.1. District Industries Centres or
 - 1.1.2. Khadi Village Industries Commission or
 - 1.1.3. Khadi & Village Industries Board or
 - 1.1.4. Coir Board or National Small Industries Corporation or
 - 1.1.5. Directorate of Handicrafts & Handloom or
 - 1.1.6. Any other body specified by the Ministry of Micro, Small & Medium Enterprises.
 - 1.1.7. Udyam Registration Certificate
- 1.2. MSEs are exempted from paying EMD, subject to furnishing of Valid certificate for claiming Exemption.
- 1.3. Bidder has to submit as self-declaration accepting that if they are awarded the contract and they fail to sign the contract, or to submit a performance security before the deadline defined in the RFP, they will be suspended for the period of two years from being eligible to submit Bids for contracts with Canara Bank as per Annexure-4.
- 1.4. The aforesaid Policy is meant for procurement of only goods produced and Services rendered by MSEs and not for any trading activities by them. An MSE unit will not get any Purchase Preference over any other MSE Unit.
- 1.5. The details are available on web site dcmsme.gov.in. Interested vendors are requested to go through the same for details.
- 1.6. Additionally, the terms and conditions of the GTC (GeM terms & conditions) with regard to the MSEs exemption enshrined in the GeM portal (gem.gov.in) shall be applicable.

2. Startup:

- 2.1. Applicable for Indian Bidders only as defined in gazette notification no. D.L-33004/99 dated 11.04.2018 of Ministry of Commerce and Industry and as amended from time to time.
- 2.2. As mentioned in Section-II of O.M. No.F.20/2/2014-PPD(Pt.) dated 20.09.2016 of Procurement Policy Division, Department of Expenditure, Ministry of Finance on Prior turnover and prior experience, relaxations may be applicable for all Startups [whether Micro & Small Enterprises (MSEs) or otherwise] subject to meeting of the quality and technical specifications specified in RFP document.

- 2.3. Further, the Startups are also exempted from submission of EMDs.
- 2.4. For availing the relaxations, bidder is required to submit requisite certificate towards Startup enterprise registration issued by Department of Industrial Policy and Promotion, Ministry of Commerce and the certificate should be certified by the Chartered Accountant (not being an employee or a Director or not having any interest in the bidder's company/firm) and notary public with legible stamp.
- 2.5. Bidder has to submit as self-declaration accepting that if they are awarded the contract and they fail to sign the contract, or to submit a performance security before the deadline defined in the RFP, they will be suspended for the period of two years from being eligible to submit Bids for contracts with Canara Bank as per Annexure-4.

3. **Procurement through Local Suppliers (Make in India):**

Department of Industrial Policy and Promotion under Ministry of Commerce and Industry vide letter no. P-45021/2/2017-PP (BE-II) dated 16.09.2020 has notified revised guidelines to be followed to promote manufacturing and production of goods and services in India under "Make in India" initiative.

- 3.1. "Local content" means the amount of value added in India which shall, unless otherwise prescribed by the Nodal Ministry, be the total value of the item procured (excluding net domestic indirect taxes) minus the value of imported content in the item (including all customs duties) as a proportion of the total value, in percent.
- 3.2. "Class-I Local Supplier" means a supplier or service provider whose goods, services or works offered for procurement meets the minimum local content as prescribed for Class-I local supplier under this order.
- 3.3. "Class -II Local Supplier means a supplier or service provider, whose goods, services or works offered for procurement, meets the minimum local content as prescribed for 'Class -II Local supplier' but less than that prescribed for 'Class -I Local supplier' under this order.
- 3.4. 'Non-Local Supplier' means a supplier or service provider, whose goods, services or works offered for procurement has local content less than that prescribed for 'Class-II Local Supplier' under this order.
- 3.5. The 'local content' requirement to categorize a supplier as 'Class I Local Supplier' is minimum 50%. For 'Class-II Local supplier' the 'local content' requirement is minimum 20%.
- 3.6. The margin of Purchase preference shall be 20%.
- 3.7. Purchase preference for local supplier, self-certification, compliance, monitoring and other terms & conditions shall be as per the aforesaid Guidelines/Notifications. The Guidelines may be treated as an integral part of the tender documents.
- 3.8. The 'Class -I Local supplier'/'Class -II Local supplier' at the time of tender, bidding or solicitation shall be required to indicate percentage of local content and provide self-certification that the item offered meets the local content requirement for 'Class -I Local supplier'/'Class-II Local supplier' as the case may be. They shall also give details of the location(s) at which the local value addition is made.

- 3.9. In cases of procurement for a value in excess of Rs.10 Crores, the 'Class-I Local supplier'/'Class -II local supplier' shall be required to provide a certificate from the statutory auditor or cost auditor of the company (in case of companies) or from a practicing cost account or practicing chartered accountant (in respect of suppliers other than companies) giving the percentage of local content.
- 3.10. False declarations will be in breach of the Code of Integrity under Rule 175(1)(i)(h) of the General Financial Rules issued by the Ministry of Finance for which a bidder or its successors can be debarred for up to two years as per Rule 151 (iii) of the General Financial Rules along with such other actions as may be permissible under law.
- 3.11. All the relevant documents/information regarding claim for preferential treatment under this policy must be submitted along with offer by the tenderers. Post tender submission of these information/documents shall not be considered. Further firms seeking these considerations shall be completely responsible for the truthfulness and authenticity of their claim for these benefits.
- 3.12. The bidders complying with all the guidelines in this regard and providing supporting documents along with the bid can only participate in this bid.
- 3.13. Canara Bank shall also have the authority to audit as well as witness production processes to certify the achievement of the requisite local content and/or to obtain complete back up calculation.

Annexure-1
Bid Covering Letter

(Should be submitted on Company's letter head with company seal and signature of the authorized person)

Reference No:

Date:

The General Manager,
Canara Bank,
Centralized Procurement & Vendor Management Wing,
Naveen Complex,
14 M G Road, Bengaluru - 560 001, Karnataka

Dear Sir,

SUB: Supply, Installation, Configuration, Implementation and Maintenance of 500 Nos. of Servers and other IT Infra Components in Canara Bank

Ref: GEM/2024/B/4915191 dated 04/05/2024.

We have examined the above-mentioned RFP document including all annexures the receipt of which is hereby duly acknowledged and subsequent pre-bid clarifications/modifications/amendments, if any, furnished by the Bank and we, the undersigned, offer for subject items are in conformity with the said RFP in accordance with the schedule of prices indicated in the commercial offer and made part of this offer.

The undersigned is authorized to sign on behalf of the Bidder Company and the necessary supporting documents delegating this authority is enclosed to this letter.

If our offer is accepted, we undertake to complete the formalities of deliverables as per timelines mentioned in the RFP for each ordered locations.

If our offer is accepted, we undertake to provide Technical consultancy / Service support / Guidance for the specified scope as per the above referred RFP, during contract period. We enclose a Demand Draft /Bank Guarantee in lieu of EMD as per RFP in favour of Canara Bank as EMD or Exemption certificate in lieu of EMD.

We agree to abide by this offer till 180 days from the date of Commercial Bid opening and for such further period as mutually agreed between the bank and selected Bidder, and agreed to in writing by the selected Bidder. We also agree to keep the Earnest Money Deposit/Bank Guarantee in lieu of EMD during the entire validity period of the RFP. However, if we withdraw our offer within the said validity period, you shall have the right to forfeit the EMD/invoke the Bank Guarantee in lieu of EMD, without reference to us. We agree to abide by and fulfil all the terms and conditions of the RFP and in default thereof, to forfeit and pay to you or your successors, or authorized nominees such sums of money as are stipulated in the conditions contained in RFP together with the return acceptance of the contract.

We accept all the Instructions, Terms and Conditions and Scope of Work of the subject RFP. We understand that the Bank is not bound to accept the lowest or any offer the Bank may receive without assigning any reason whatsoever.

We hereby unconditionally accept that Bank can at its absolute discretion apply whatever criteria it deems appropriate, not just limiting to those criteria set out in the RFP, in shortlisting of Bidders.

We will not sub-contract works to any contractor from a country which shares a land border with India unless such contractor is registered with the Competent Authority (refer: F/No.6/18/2019-PPD dated 23/07/2020 of Public Procurement Division, Department of Expenditure, Ministry of Finance). We further understand that any false declaration and non-compliance of the above would be a ground for immediate termination of the contract and further legal action in accordance with the laws.

We also confirm that, we will not sub contract part or complete assignment Consultancy to any other agency or individual without obtaining prior permission of the Bank.

All the details mentioned by us are true and correct and if Bank observes any misrepresentation of facts on any matter at any stage, Bank has the absolute right to reject the proposal and disqualify us from the selection process. Bank reserves the right to verify /evaluate the claims made by the Bidder independently.

We confirm that we have noted the contents of the RFP and have ensured that there is no deviation in filing our response to the RFP and that the Bank will have the right to disqualify us in case of any such deviations.

Date:

Signature with seal

Name:

Designation:

Annexure-2
Pre-Qualification Criteria

(Should be submitted on Company's letter head with company seal and signature of the authorized person)

SUB: Supply, Installation, Configuration, Implementation and Maintenance of 500 Nos. of Servers and other IT Infra Components in Canara Bank

Ref: GEM/2024/B/4915191 dated 04/05/2024.

We have carefully gone through the contents of the above referred RFP along with replies to prebid queries & amendment, if any and furnish the following information relating to Pre-Qualification Criteria.

Table-A

Sl. No.	Pre-Qualification Criteria	Documents to be submitted In compliance with Pre-Qualification Criteria	Bidders Response
1.	Signing of Pre-Contract Integrity Pact	The bidder should submit signed Pre Contract integrity pact on Non Judicial Stamp Paper of Rs.500/- or more (as per respective state Stamp Act) as per Appendix-F.	
2.	The bidder (including OEM and OSD/OSO, if any) should either be Class-I or Class-II local supplier as defined in Public Procurement (Preference to Make in India) Revised Order (English) dated 16/09/2020.	Certificate of local content to be submitted as per Annexure-5 as applicable.	
3.	The Bidder should be a partnership firm registered under LLP Act, 2008/Indian Partnership Act, 1932 Or Company in India as per Indian Companies Act, 1956 Or Indian Companies Act, 2013 and should have been in operation for a period of at least five years as on RFP date.	Copy of Certificate of LLP registration. (OR) Copy of Certificate of Incorporation and Certificate of Commencement of business in case of Public Limited Company (OR) Certificate of Incorporation in case of Private Limited Company, issued by the Registrar of Companies.	
4.	Bidder should be the Original Equipment Manufacturer (OEM)/ Original Software Owner (OSO)/ Original Software Developer (OSD) of Hardware. (OR) An authorized dealer/distributor of the proposed Hardware	If the applicant is OSD/OSO, an Undertaking Letter has to submit in this effect. (OR) If the bidder is an authorized dealer/ distributor, an authorization letter from their OEM and OSO/ OSD to deal/market their product in India and it should be valid for entire contract period from the date of submission of the bid.	

5.	The Bidder should have an active and premium partnership with Hardware OEM to offer their Hardware and Software as a service to Bank.	Copy of partnership certificate from OEM.	
6.	The bidder should have yearly average turnover of 300 Crores in India for the last three financial years 2020-2021, 2021-2022, 2022-2023 from their Indian operation as per the audited Financial Statements. This must be the individual company turnover and not of any group of companies.	Bidder should submit Audited Balance Sheet copies for last 3 financial years i.e., 2020-21, 2021-22 & 2022-23 along with certificate from the Company's Chartered Accountant to this effect with Unique Document Identification Number.	
7.	The bidder should have positive Net Worth as on 31/03/2023 and also should have not eroded by more than 30% in the last three financial years.	The bidder should submit certificate from the Company's Chartered Accountant with UDIN to this effect.	
8.	The Bidder/OEM should have successfully supplied minimum cumulative 500 Nos. of Servers in India in the last three years out of which the bidder should have successfully supplied Hardware and software as a service model at least 100 servers deployed at Customer's DC and DR in Indian Market in any 1 Scheduled Commercial Bank/ NBFC/ Insurance Company/ PSU/ Central Government Organization in India in the last three years as on the date of submission of bid for this RFP.	Copy of the purchase order/ Work order/ Satisfactory performance letter/ Certificate of completion of the work. The Bidder should also furnish letter from the institution quoting the period and nature of services provided.	
9.	The bidder should submit the detailed bill of material covering all the Hardware and software components being supplied as part of the solution with details of the required infrastructure from the Bank.	Detailed bill of material covering all the Hardware and software components being supplied as part of the solution to be furnished along with the technical bid.	
10.	The bidder should have support office and Service Center at Bangalore and Mumbai.	The Bidder should submit the details viz., address, phone no., email id and contact person Name & Mobile no. etc.,	
11.	The bidder should provide confirmation that any person/ Partnership/ LLP/ Company including any subsidiary or holding company/ proprietorship connected to bidder directly or	The bidder should submit self-declaration on the Company's letter head to this effect.	

	indirectly has not participated in the bid process.		
12.	Bidders should not be under debarment/blacklist period for breach of contract/fraud/corrupt practices by any Scheduled Commercial Bank/ Public Sector Undertaking / State or Central Government or their agencies/ departments on the date of submission of bid for this RFP.	The bidder should submit self-declaration on the Company's letter head to this effect.	
13.	Any bidder (including OEM and OSD/OSO, if any) from a country which shares a land border with India will be eligible to bid, only if the bidder (including OEM and OSD/OSO) are registered with the Competent Authority. Bidder (entity) from a country which shares a land border with India means: a. An entity incorporated, established or registered in such a country; or b. A subsidiary of an entity incorporated, established or registered in such a country; or c. An entity substantially controlled through entities incorporated, established or registered in such a country; or d. An entity whose beneficial owner is situated in such a country; or e. An Indian (or other) agent of such an entity; or f. A natural person who is a citizen of such a country; or g. A consortium or joint venture where any member of the consortium or joint venture falls under any of the above.	A declaration stating "We have read the clause regarding restrictions on procurement from a bidder of a country which shares a land border with India. We further certify that we and our OEM are not from such a country or if from such a country, has been registered with Competent Authority. We hereby certify that we and our OEM fulfills all requirements in this regard and are eligible to be considered" to be submitted in Company's letter head. [Where applicable, evidence of valid registration by the Competent Authority shall be attached.]	
14.	Authorization Certificate - Whether the Bid is authenticated by authorized person.	Bidder to submit a copy of the Power of Attorney or the Board Resolution and KYC documents evidencing the authority delegated to the authorized signatory.	

Table-B

General Conditions		
Sl. No.	Description	Compliance Yes/No
1.	ALL AMC/ATS Support back to back engagement proof with OEM to be shared with bank for reference.	
2.	The proposed Hardware/Software generation in this RFP should be latest version the date of RFP submission and the proposed Hardware and Software should not become End of Sales for three years from the date of the submission of the RFP and End of Support/ Life for 6 years from the date of the submission of the RFP.	
3.	For all the hardware supplied in this project should have dual power and required cable rack mounting kits to be supplied.	

We confirm that the information furnished above is true and correct. We also note that, if there are any inconsistencies in the information furnished above, the bid is liable for rejection. All documentary evidence / certificates confirming compliance to Pre-Qualification Criteria should be part of the RFP.

Date:
Place:

Signature with seal
Name:
Designation:

Annexure-3
Bidder's Profile

(Should be submitted on Company's letter head with company seal and signature of the authorized person)

SUB: Supply, Installation, Configuration, Implementation and Maintenance of 500 Nos. of Servers and other IT Infra Components in Canara Bank

Ref: GEM/2024/B/4915191 dated 04/05/2024.

Sl. No.	Particulars	Details
1)	Name of the Bidder Firm/ Company	
2)	Constitution (Ltd./ Pvt. Ltd./ Firm etc.)	
3)	Date of Incorporation and / or Commencement of business with supporting documents	
4)	Certificate of Incorporation Number (CIN)	
5)	Whether registered as MSE for the item under the RFP? (Proof of registration as MSE for the item under the RFP)	
6)	Whether recognized as a Startup by Department of Industrial Policy and Promotion (DIPP)? (Proof of such recognition, indicating terminal validity date of registration and Certificate from CA that the Turnover of the entity complies with Startup guidelines)	
7)	Whether in technical collaboration with Foreign Company? If so give details	
8)	Number of Years in the Business	
9)	Number of years of experience in Handling large projects for Banks.	
10)	Address for Correspondence: Registered Office: Corporate Office:	
11)	Single Point of contact for this RFP Name: Designation: Mobile No.: Landline No.: Fax: Email-ID (any changes in the above should be informed in advance to Bank)	
12)	Domestic Customer Base (Number of Clients where Consultancy Service have been provided in India)	
13)	<u>Details of Service Net Work</u> Bengaluru: Mumbai:	

14)	PAN number GSTIN <u>Beneficiary Bank Details</u> Beneficiary Name Beneficiary Account Number Type of Account (OD/OCC etc.) IFSC Name of the Bank and Branch address	

Wherever applicable submit documentary evidence to facilitate verification.

We hereby declare that the information submitted above is true to the best of our knowledge. We understand that in case any discrepancy is found in the information submitted by us our Bid is liable to be rejected.

Date:

Signature with seal

Name:

Designation:

Annexure-4
Bid Security Declaration

(Should be submitted by eligible MSEs/Startups on Company's letter head with company seal and signature of the authorized person)

To,

The General Manager,
Canara Bank,
Centralized Procurement & Vendor Management Wing,
Naveen Complex,
14, M G Road, Bengaluru - 560 001, Karnataka

SUB: Supply, Installation, Configuration, Implementation and Maintenance of 500 Nos. of Servers and other IT Infra Components in Canara Bank

Ref: GEM/2024/B/4915191 dated 04/05/2024

Dear Sir,

We declare that if we withdraw or modify our bid during the period of validity, or if we are awarded the contract and we fail to sign the contract, or to submit a performance security before the deadline defined in the RFP, we note that we will be suspended for the period of two years from being eligible to submit bids for contracts with Canara Bank.

Date:
Place:

[Signature of Authorized Signatory]
Name:
Designation:
Seal:

Annexure-5
Make in India Certificate

(Should be submitted on Company's letter head with company seal and signature of the authorized person)

Bidder's Reference No. _____

Date.....

To,

The General Manager,
Canara Bank,
Centralized Procurement & Vendor Management Wing,
Naveen Complex,
14 M G Road, Bengaluru - 560 001, Karnataka

SUB: Supply, Installation, Configuration, Implementation and Maintenance of 500 Nos. of Servers and other IT Infra Components in Canara Bank

Ref: GEM/2024/B/4915191 dated 04/05/2024

Dear Sir/Madam,

(To be certified by statutory auditor or cost auditor of the company (in the case of companies) for a tender value above Rs.10 crores giving the percentage of local content.)

1. In line with Government Public Procurement Order No. P-45021/2/2017-PP (BE-II) dated 16.09.2020 and its amendments, we hereby certify that we M/s _____ are local supplier meeting the requirement of minimum local content i.e., _____% against Canara Bank Tender No..... dated..... We qualify as a _____ (Class-I or Class II) local supplier. Details of location at which local value addition will be made as follows: _____.
2. We also understand, false declarations will be in breach of the code of integrity under rule 175(1)(i)(h) of the General Financial Rules for which a bidder or its successors can be debarred for up to two years as per Rule 151(iii) of the General Financial Rules along with such other actions as may be permissible under law.
3. We have submitted the details indicating total cost value of inputs used, total cost of inputs which are locally sourced and cost of inputs which are imported, directly or indirectly with the commercial proposal.

Place:

Date:

[Signature of Authorized Signatory of Bidder]

Name:

Designation:

Seal

Annexure-6

List of Major Customers of the bidder in last 3 Years and references in providing related Services

(Should be submitted on Company's letter head with company seal and signature of the authorized person)

SUB: Supply, Installation, Configuration, Implementation and Maintenance of 500 Nos. of Servers and other IT Infra Components in Canara Bank

Ref: GEM/2024/B/4915191 dated 04/05/2024

Sl. No.	Name and complete Postal Address of the Customer	Name, Designation, Telephone, Fax, Telex Nos., e-mail address of the contact person (customer)	Nature and Description of the business during last 3 years	Satisfactory Letter from customer to be Enclosed or Purchase Orders to be enclosed
1	2	3	4	5

(Enclose necessary documentary proof)

Place:

Date:

[Signature of Authorized Signatory of Bidder]

Name:

Designation:

Seal

Annexure-7
Office Details

(Should be submitted on Company's letter head with company seal and signature of the authorized person)

SUB: Supply, Installation, Configuration, Implementation and Maintenance of 500 Nos. of Servers and other IT Infra Components in Canara Bank

Ref: GEM/2024/B/4915191 dated 04/05/2024

Sl. No.	Name of the Office	Address and Telephone Nos.	E-mail ID of office	Number of employees under the jurisdiction
1.	Bengaluru			
2.	Mumbai			
3.	Others (specify)			

Date:

Signature with seal

Name:

Designation:

Annexure-8
Scope of Work

(Should be submitted on Company's letter head with company seal and signature of the authorized person)

SUB: Supply, Installation, Configuration, Implementation and Maintenance of 500 Nos. of Servers and other IT Infra Components in Canara Bank

Ref: GEM/2024/B/4915191 dated 04/05/2024

Sl. No.	Evaluation for Scope of Work for this project	Compliance
		(Yes/No)
46.	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 2 years ATS/AMC).	
47.	All necessary entitlements e.g. paper licenses/Key etc. for both hardware and software should be provided to the Bank.	
48.	The proposed bidder will need to ensure support of product & change of components @ zero cost in case of any part becoming obsolete/EOL & EOS during the warranty and AMC period	
49.	The bidder has to provide AMC/ATS for the all supplied Hardware and Software as per the Scope of Work post warranty period. During the warranty period and AMC period, the Bidder is bound to do all hardware spares replacement and upgrade/update of proposed hardware 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.	
50.	All supplied Hardware should have redundant Power Supply and necessary cables and Rack mounting Kit.	
51.	The warranty for the proposed hardware will start on the date when the operating system and any other provided software are installed, as mentioned in the Scope of Work for the specific hardware.	
52.	Bidder has to coordinate with Bank System Integrator while implementing the solution and during any point of time when ever issue is raised by the Bank.	
53.	Bidder should keep the Bank explicitly informed about the end of support dates on related products/ hardware and should ensure support during warranty & AMC period.	
54.	The Bidder should note that servers and other items being procured shall be delivered at locations as per requirements of the Bank.	
55.	The Configuration as per the technical and other specifications offered of all equipment & other items must be functional and installed from the day one.	
56.	All necessary cables and other accessories required for successful installation of the hardware items as per the scope of work to be supplied by the Bidder and the cost of the same to be added along with the respective Hardware items while quoting.	

57.	Bidder should follow a standard development process to ensure that proposed servers meets functional, security performance and regulatory requirements of the bank.	
58.	Bidder should comply as per the IT related policies of the bank.	
59.	Bidder is responsible in installing the Hardware, Software and other items as per Technical Specifications and Scope of work in the bank environment. And as per the bank secure configuration documents	
60.	Bidder must generate and provide a complete holistic report before handover to ensure 100% serviceability of delivered hardware.	
61.	Bidder is responsible for collection of logs and submission of the logs for further analysis and providing the solution to resolve any hardware incidents.	
62.	Bidder must engage Bidder professional team/services onsite to implement/install Hardware, Software & other items.	
63.	Bidder is responsible to inform if any new version/update/Service pack/firmware/code upgrade/upgrade of proposed hardware is available by OEM, to the bank within seven days (7 days) of the release and provide the upgrade solution (software) within one month of such releases without any cost to the bank during the period of contract.	
64.	If any more additional licenses are procured by the bank through the successful bidder all such licenses are to be maintained by the bidder.	
65.	Bidder has to provide the escalation matrix to escalate any incident.	
66.	Bidder is responsible to provide the periodic reports of the proposed hardware health as per the bank requirement.	
67.	All installed hardware firmware must be of stable version and all recommended patches should be installed by the bidder and the same to be submitted to the bank on quarterly basis.	
68.	Bidder shall conduct preventive maintenance as may be necessary from time to time to ensure that equipment is in efficient running condition so as to ensure trouble free functioning.	
69.	All the connectivity for the hardware i.e. LAN and SAN switches need to be ensured by the bidder.	
70.	All proposed equipment's are required to connect existing SAN infrastructure.	
71.	The proposed hardware should be free from any kind of vulnerabilities.	
72.	Bidder should keep the bank explicitly informed the end of support dates on the related products/Hardware and should ensure a support during the warranty and AMC period.	
73.	The proposed solution should provide embedded database and should also support and option to deploy it on oracle DB	
74.	The Selected Bidder has to coordinate with existing vendor for the SAN cable lay, connectivity and Zoning of the SAN ports as required connecting the Proposed Hardware and Software.	
75.	Bidder support should include advice and help the bank in implementing controls for the risk advised by regulators/Govt. of India.	
76.	For delivery location, the Bidder has to provide items with the related hardware, all subsystems, operating systems, system software, software drivers and manuals etc.	

77.	The Bidder should note that Servers & Other Items being procured shall be delivered at locations as per requirements of bank and the Bidder will be required to support all such installations. The Bank reserves the right to change location by giving prior notice.	
78.	The Hardware and Software installation and configuration for the entire set up to be handled by the qualified/experienced personnel only.	
79.	During installation if the bank requires any new Software/OS/Utility, Bidder has to install without any cost where the licenses of the software are with the Bank.	
80.	The Bidder shall conform the integrity of the software supplied i.e. the software is free from bugs, malware, covert channels in code etc.	
81.	Bank will not provide any remote session like Team Viewer, WebEx etc. for any kind of installation, bug fixing, update and upgrade in entire project tenure.	
82.	The bidder should provide email, telephonic and onsite support.	
83.	The proposed server network interfaces ports should be compatible for connecting bank CISCO switches.	
84.	The proposed server FC HBA interface ports should be compatible for existing SAN Switch.	
85.	All hardware delivered to be rack mounted, powered on and configured properly including tape drive, tape library , server rack with PDU,TOR Switch etc., supplied as part of this RFP	
86.	The proposed file sync software should be compatible with windows, Linux , oracle Linux and AIX for syncing the files between the servers through manual and auto scheduler	
87.	The Bidder will responsible for the following:	
a	Delivery of proposed hardware to Bank locations specified in BID.	
b	Safely Unpacking of shipped boxes at staging area.	
c	Physical movement of supplied hardware from staging area to Server Farm.	
d	Identification and labelling of hardware assets as per delivery invoices.	
e	Rack assembling, installation and power connectivity from industrial sockets and testing of required power rating.	
f	Mounting of servers, storages and network switches to server rack as per industry best practices.	
g	Server power on and cable dressing.	
h	Server Management connectivity.	
i	LAN and SAN Cable lay with proper labelling, tagging and cable dressing.	
j	Configuration of RAID as per requirement of bank in supplied Servers and storages	
k	SAN connectivity to bank existing SAN Switch	
l	LAN connectivity to bank existing network switch	
m	All activities related to Storage Administration assigned during the implementation period and till the project tenure (Warranty and AMC/ATS, if contracted) without any extra cost.	
Sl. No.	Evaluation for Scope of Work for Servers	Compliance Yes/No

1	Bidder has to install / re-install the operating system (if required), other software in the servers and support the same during warranty and AMC period without any extra cost to the Bank.	
2	Deployment of servers requires co-ordination with different project application vendors. The bidder should co-ordinate with the software vendors while installing and ensure installation and commissioning for running the applications for which these servers are procured.	
3	The Bidder should setup the partition as required by the Bank. The details of the setup will be provided during the setup to the successful bidder.	
4	The proposed hardware should be compatible with red hat Linux 8/9 or later and Windows 2016/2019/2022 and VMware hypervisor 7.X/8.x or later and Microsoft Hypervisor 2019 or later	
5	Hardening of the servers as per the bank secure configuration document based on the OS, Hypervisor and hardware flavours	
Sl. No.	Evaluation for Scope of Work for Storages	Compliance
		Yes/No
1	The proposed bidder needs to configure/implement the Storage as per the BANK policy. Need to provide the SOP with step by step procedure to BANK technical personnel. Need to provide document for each feature how to use/configure/admin it.	
2	Install & configure storage hardware and software components	
3	Integrate storage systems with existing infrastructure including servers, networks, and backup solutions	
4	Showcase the Monitor storage performance metrics including throughput, latency, and IOPS.	
5	Identify performance bottlenecks and implement optimization strategies such as load balancing, caching, or tiering.	
6	Tune storage configurations and parameters to maximize efficiency and responsiveness.	
7	Design and implement data protection strategies including backup, replication, and snapshotting.	
8	Implement security controls to protect sensitive data and prevent unauthorized access.	
9	Configure access controls, encryption, and authentication mechanisms according to industry best practices and regulatory requirements.	
10	Showcase Generate regular reports on storage capacity, utilization trends, and performance metrics as per bank requirement	
11	documentation on storage configurations, procedures, and troubleshooting guidelines.	
12	performing code upgrade on quarterly basis.	
Sl. No.	Evaluation for Scope of Work for MSSQL - Microsoft SQL	Compliance
		(Yes/No)
1	Installation and Configuration: Set up SQL Server databases and configure settings to ensure optimal performance and security.	
2	Security Management: Implement and maintain robust security measures to protect sensitive data from unauthorized access during the initial setup	
3	Disaster Recovery: DR Setup creation and replication to be configured	

4	Install and configure the Database as per banks security configuration document	
5	Setting up Microsoft SQL Server High Availability: Failover Cluster Instances as per requirement at DC and DRC sites	
6	Documentation: Maintain detailed documentation of database configurations, architectures, and best practices.	
7	Vendor Liaison: Work with vendors to resolve issues related to database products and services during the initial setup creation	
8	Documentation & Handover: Preparing the implementation and configuration handover documentation and providing handholding to our onsite team	
Sl. No.	Evaluation for Scope of Work for Hyper-V - Microsoft	Compliance (Yes/No)
1	Implementing a Hyper-V environment with clustering or load balancing for deploying applications	
2	Installation of Windows Server operating system	
3	Enabling Hyper-V role on the server.	
4	Configuring Hyper-V settings such as memory, networking, and storage.	
5	Setting up virtual switches and network adapters.	
6	Configuration of Hyper-V Clustering (Active/Active and Active/Passive) or Load Balancing	
7	Configuration of failover clustering or network load balancing features.	
8	Setting up shared storage (SAN or SMB) for clustered virtual machines.	
9	Configuring Cluster Shared Volumes (CSV) for improved storage management.	
10	Validation of cluster setup and resolving any issues.	
11	Creation of virtual machines as per bank Requirements	
12	Installation and configuration of operating systems within virtual machines.	
13	Installation of necessary software	
14	Configuration of network settings within virtual machines.	
15	Install and configure as per bank secure configuration document	
16	Implementation of security best practices for Hyper-V environments.	
17	Configuration of alerts for critical events or performance thresholds.	
18	Creation of documentation for installation, configuration, and maintenance procedures.	
19	Comprehensive testing of all components, including failover and load balancing scenarios.	
Sl. No.	Evaluation for Scope of Work For Open shift	Compliance (Yes/No)
1	Discover & Implementation Activities for - OCP Quay ACM ACS CICD Application On boarding - OnPrem	
	- Network - IP Segment, DNS	
	- integration of endpoints (LDAP,SMTP etc.)	
	- Storage Mapping and segregation	
	CICD Components and Flow	

2	Prepare prerequisite document(Ex.: Firewall/Port requirements, Traffic direction, etc.) document for deployment.	
3	Design Walkthrough & sign-off (LLD)	
4	Configure VM based Bastion/utility node.	
5	Create and configure Mirror image registry - OCP Repo registry for Disconnected Installation	
6	<u>Deployment of OCP Hub Cluster Install & RHACM :</u>	
	Create base image availability, host definition, high availability configuration	
	For Storage - Integration with Storage (RWO/RWX)	
	Configuring monitoring operators: Prometheus, Grafana and Alert Manager - Configure Integral monitoring parameters and alerting mechanism	
	Deploy metrics capabilities for collecting resource information for OCP Cluster as per bank requirements	
	<u>Install RHACM hub operator in the respective Clusters :</u>	
	Add 1x OCP Cluster to the HUB Cluster	
	Showcase Grafana Integration with RHACM to get cluster visibility	
	Showcase Red Hat's sample governance policies creation multi cluster	
7	install Quay	
	Configure Container Security Operator and Quay Bridge Operator	
	Integration with Storage	
	Configure Replication	
8	Installation & Configuration of RHACS OCP clusters	
	Showcase Red Hat sample Use/Create/Modify Policies	
	Showcase compliance scans and reports	
	Alerts/Notification Integration	
9	<u>Deployment of OCP :</u>	
	Creation of Quota objects, persistent volume provisioning, base image availability, host definition, high availability	
	For Storage - Integration with Storage (RWO/RWX)	
	Configuring Out Of Box monitoring operators: Prometheus, Grafana and Alert Manager	
	Deploy metrics capabilities for collecting resource information. Out of the Box metrics will be configured.	
	Configuration of egress IP for integration with external services	
	Configure ingress/egress routers	
	LDAP Integration with OCP GUI.	
	Configure namespaces -	
	Configure OCP Native Logging - EFK logging stack. (or) forward to External Logging system as per requirement of bank	
	Configure internal registry	
	Deploy Continuous Delivery components (ArgoCD) and CI Pipelines (Components)	
	Prepare and demonstrate pods, services, routes, SSL with known Red Hat working samples.	

10	Collaborate with various teams for Info Security fixes (OCP Platform specific)	
11	Configuration of worker nodes	
12	Create CI/CD pipeline for 1x Micro service Service endpoint	
13	Configure, EFK components, SSL certificates, secrets, config maps from Application perspective.	
14	Post deployment validation and sanity checks for Red Hat OCP	
15	Documentation for OCP Cluster implementation	
16	Knowledge transfer for OCP Cluster & Clarify queries pertaining to Implementation/Configuration.	
17	Open Shift virtualization installation, configuration, and deployment of applications in a cluster or load balancer configuration	
18	Configure the Open Shift cluster with appropriate settings for networking, storage, and authentication	
19	Set up monitoring and logging solutions for tracking the performance and health of the cluster.	
20	Enable the Open Shift virtualization feature, allowing the cluster to run virtual machines (VMs) alongside containers	
21	Configure networking for virtual machines, including defining networks, subnets, and VLANs.	
22	Set up storage for VMs, utilizing storage classes and persistent volumes within Open Shift.	
23	Define resource quotas and limits for VMs to ensure fair resource allocation across the cluster.	
24	Implement load balancing for distributing traffic across multiple instances of the application using Open Shift's built-in capabilities or external load balancers	
25	Test the deployment to ensure that applications are running correctly within the cluster	
26	Set up monitoring tools such as Prometheus and Grafana to monitor the performance and health of the cluster and applications	
27	Implement automated backups and disaster recovery procedures to ensure data integrity and availability.	
Sl. No.	Evaluation for Scope of Work for Apache Tomcat	Compliance (Yes/No)
1	Apache Tomcat web & application server installation, configuration, and deployment in a cluster or load balancer configuration.	
2	Providing step-by-step documentation for installing Apache HTTP server	
3	modify basic settings such as server name, port, and document root.	
4	Configuring the apache server as per bank secure configuration document	
5	Configuring cluster for scalability, reliability, and fault tolerance	
6	configuring Apache as a load balancer using modules like mod_proxy_balancer or mod_jk or through external load balancer as per the requirement	
7	configuring virtual hosts to host multiple applications.	
8	deploying web applications on the Apache cluster/load balancer setup	

9	testing procedures to ensure the cluster and load balancer configurations are functioning correctly	
10	Domain configuration: Customize domain settings such as ports, SSL certificates, and resource limits	
Sl. No.	Evaluation for Scope of Work for Managed File Transfer	Compliance (Yes/No)
1	The Bidder has to provide Managed File Transfer Solution covering software & services to ensure availability, scalability, redundancy and performance and to meet technical and functional requirements as per the terms of the RFP.	
2	Solution should provide unlimited users access / privilege to have multiple files transfer using this solution.	
3	The successful bidder will be expected to provide all necessary tools, software licenses (required software for the solution) implement, train and handover the solution to the IT Team.	
4	The bidder should configure encryption and MFA as per the requirement.	
5	The solution provider should provide a detailed Plan of action (POA) for implementation of Managed File Transfer Solution. It should include the approach, risk, benefits and downtime	
6	Full documentation of the project is to be included in the deliverables by the successful bidder	
7	Standard Operating Procedures and Industry Best Practice Use cases and customization to be shared	
8	Proposed solution should be in three tier architecture	
Sl. No.	Evaluation for Scope of Work for Backup Solution	Compliance (Yes/No)
1	proposed backup solution installation, configuration, and deployment of an application in a cluster or load balancer configuration	
2	Ensuring data integrity, minimizing downtime, and optimizing performance through load balancing	
3	prerequisites or dependencies required for the installation to be shared	
4	Installing backup solution on the designated servers or systems	
5	Configure the backup solution to perform regular backups	
6	Configuring backup policies, including backup frequency, retention periods, and storage locations	
7	Implement encryption and authentication mechanisms to ensure the security of backup data	
8	Design the architecture for deploying the application in a clustered or load-balanced configuration.	
9	Install and configure the necessary infrastructure components, such as servers, databases, and networking resources	
10	Configure the cluster or load balancer to distribute incoming traffic evenly across the backup application servers	
11	Implement health checks and failover mechanisms to ensure high availability and fault tolerance	
12	Fine-tune the configuration to optimize performance and scalability	
13	Develop test cases to validate the backup solution and the clustered/load-balanced application deployment.	

14	Prepare comprehensive documentation, including installation guides, configuration manuals, and troubleshooting procedures.	
15	Coordinate with stakeholders to schedule deployment activities and minimize disruption to ongoing operations	
16	Identify potential risks and mitigation strategies associated with the backup solution installation and application deployment.	
Sl. No.	Evaluation for Scope of Work for Jboss solution	Compliance
		(Yes/No)
1	Install, configure, and deploy applications in a clustered or load-balanced configuration using JBoss Application Server	
2	Set up the infrastructure for the JBoss cluster or load balancer configuration, including servers, networking, and storage.	
3	Install JBoss Application Server on each node in the cluster. Ensure that the versions are compatible and all necessary dependencies are met.	
4	Configure JBoss to work in a clustered environment. This involves setting up cluster nodes, configuring cluster communication, and enabling session replication if needed.	
5	Set up a load balancer to distribute incoming traffic across the JBoss cluster nodes. Configure load balancing algorithms, health checks, and session persistence as required.	
6	Package the application for deployment on JBoss. Deploy the application to each node in the cluster using the appropriate deployment methods (e.g., CLI, management console, or automation scripts)	
7	Perform thorough testing to ensure that the cluster configuration and load balancing setup are working as expected. Test failover scenarios, scalability, and performance under load.	
8	Set up monitoring and management tools to monitor the health and performance of the JBoss cluster and individual nodes. Configure alerts and dashboards for proactive management.	
9	Document the installation, configuration, and deployment processes for future reference. Knowledge transfer sessions to the operations team for maintaining the JBoss environment.	
Sl. No.	Evaluation for Scope of Work for TOR Switches	Compliance
		(Yes/No)
1	Bidder has to supply, install, commission, integrate, implement, manage and maintain the Switches along with required license for a period of 5 years (warranty and AMC included) at Bank DC and DRC.	
2	Bidder has to take Back-to-Back OEM support for all Hardware/Appliance, software, licenses etc.	
3	Bidder should ensure planning and designing for proposed solution.	
4	Bidder should ensure that proposed solution should work for Data, Voice and Video	
5	Bidder should adopt best practices to implement the solution and should ensure that there should not be any degradation in performance of any application due to implementation of proposed solution. If there is any degradation of performance, Bidder should replace/Upgrade the required hardware without any additional cost to Bank.	
6	Bidder should carry out all the configuration changes as per the proposal with minimum downtime.	
7	Bidder should carry out required switching in the proposed solution	
8	Bidder should deliver all equipment with latest IOS/Patches etc.	

9	Bidder should ensure use the IP address provided by Bank for any of the host without network architectural changes at DC and DRC	
10	Bidder should ensure that solution is interoperable with different OEMs for Open standard technology Deployment	
11	Bidder should ensure that proposed solution work for alternate service provider in Load balancing/Load sharing/Auto fall back in the LAN	
12	Bidder has to act as a single point of contact for the execution of the project. Initiate project kick-off meeting between their Solution Architect and Bank Project Manager. Develop project plan and track the progress against the project plan. Manage project resources, risks and issues as per project plan. Conduct regular progress meeting with Customers Project Manager	
13	Bidder has to Plan, Design considering various failovers scenarios, Migrate, Integrate with existing and future infrastructure, Implement day to day changes, maintain and coordinate with OEM at Bank Data Centre and at Data Recovery Centre.	
14	Design includes low & high level diagrams, planning of the implementation and should be aimed at ensuring that a new network or service meets the needs of the Bank.	
15	Bidder should ensure and demonstrate failover scenarios at DC and to ensure Disaster recovery Plan for Business Continuity.	
16	Bidder should ensure high resilience, scalability, high security, and high availability without any single point of failure.	
17	The above mentioned HA should take care of Hardware/Software/Device/Power/Interface failure.	
18	Bidder to submit Migration plan, implementation document, solution architecture, traffic flow, cabling diagram etc.	
19	Bidder should advise and help Bank in optimizing network security, implementing security control for the risk advised by regulators, Govt. of India etc. for Provided Hardware and Software.	
20	Bidder should ensure there should be 24x7x365 TAC Support from direct OEM for any technical issue with Committed Response time to Severity-1 issues should be less then equal to 30 minutes from OEM.	
21	The Bidder should ensure RMA Shipment should be within four hours after confirmation from OEM TAC.	
22	Bidder to assign IP address and host name to all the proposed switches.	
23	Bidder to set modes of port (Duplex, Half Duplex, Auto) and assign them to the VLANs as per the implementation plan document.	
24	Bidder to Configure the Security hardening like ACL, AAA, NTP, SNMP, Net flow & Logging etc.	
25	Bidder to configure the device to integrate with SIEM, NBA etc.	
26	Bidder to configure uplink from Spine switch to Firewall with redundant 10/25/40/100Gbps links.	
27	Bidder to ensure all the Leaf/Access switches must be connected to Distribution Switch and further Spine/Core Switch with redundant 40/100 Gbps Uplink.	
28	Bidder to Create the L2 VLAN on the switch wherever required.	
29	Bidder to configure high availability features such as power supply redundancy, fabric engine redundancy etc.	

30	Bidder to Install the proposed transceivers in to router and switches and connect the uplink cables. (1/10/40G fiber)	
31	Bidder to assign the VLAN/Trunk on the respective interface connecting to Server form switch.	
32	Bidder to configure the required user/Server/Switch interface with respective VLANs.	
33	The equipment provided by Bidder should not reach End of Life or End of Support date by the OEM within the contract period. In the event of the supplied equipment reaching as EOL or EOS within the period of 5 years from the date of commissioning of the equipment, Bidder has to replace the equipment with equipment having equivalent or higher configurations. Bidder should keep the Bank explicitly informed about the end of support dates on related products/License/hardware/Software and should ensure support during contract period.	
34	Bidder to design & plan IP/network schema with the Bank team for the proposed architecture.	
35	Install the proposed switches in the Rack and do the Power on Self-Test.	
36	Bidder should ensure Mounting, Installation, commissioning should be done without impacting Bank exiting Network setup	
37	Bidder to take the configuration backup for all Switches.	
38	All the equipment must support on dual stack IPv4 plus IPv6.	
39	Bidder to Perform and document ping or connectivity tests to demonstrate the correct installation of the Router and Switches, validate the configuration and share the report of ping test and port configuration, high availability features etc.	
40	Bidder should deliver Final Connectivity Document, Configuration Document, Inventory documents, Acceptance test documents, Training attendance sheets and feedback forms.	
41	Bidder has to ensure proposed switches support with 802.1X proxies, NAC solutions, and any other source of user identity information.	
42	Bidder should ensure that during various phases of implementation, the performance, security, etc. of the existing network/Security setup is not compromised.	
43	Bidder has to provide equipment & peripherals with rack mounting kit to accommodate all components in the rack space provided in the Bank's Data centres.	
44	All necessary entitlements e.g. paper licenses/Key etc. for both hardware and software should be provided to the Bank.	
45	Bidder shall arrange to provide certified training from OEM to the Bank's nominated persons. Training plan, scope and duration of the same to be shared with the Bank and has to be mutually agreed before finalizing the training course.	
46	Bidder should Upgrade/Provide/inform Bank about all release /version change of patches/ upgrades/updates of Hardware/software/OS/signatures product development path, etc. of the proposed solution as and when released by the OEM. Wherever required, Bank may seek help/support from the System Integrator.	
47	Bidder has to own the responsibility of making the solution run as desired by the Bank.	

48	Bidder must provide detailed SOP, troubleshooting steps of the provided solution along with the Installation and Administration guide for reference, which must include High level Design (HLD) and Low Level Design (LLD) documents at no extra cost to the Bank.	
49	Bidder should ensure all devices should have redundant power supply and network connectivity is dual homed.	
50	Bidder should support and integrate Switches as per Bank's network architecture requirements.	
Sl. No.	Evaluation for Scope of Work for File Sync Software	Compliance (Yes/No)
1.	Bandwidth Efficiency: Implementing intelligent algorithms to optimize data transfer and minimize bandwidth usage ensures efficient synchronization, particularly for large files or frequent updates.	
2.	Multi-OS Support: Compatibility with AIX, Windows, and Linux operating systems all version and editions to ensure versatility and meets the diverse infrastructure requirements of businesses.	
3.	Centralized Dashboard: A centralized dashboard provides administrators with real-time insights into sync status, allowing for proactive monitoring, troubleshooting, and reporting across all connected devices and platforms.	
4.	Sync Options: Offering both one-to-one and one-to-many synchronization options provides flexibility for different use cases, whether it's syncing files between individual devices or distributing updates across multiple endpoints simultaneously.	
5.	Scheduled File Sync: Allowing admin to schedule file synchronization at specific times or intervals ensures consistency and minimizes manual intervention. This feature is particularly syncing files during off-peak hours or custom timing as per the user requirements	
6.	Real-Time Sync: Real-time sync ensures that changes made to files are immediately propagated across all connected devices, guaranteeing up-to-date data sync	
7.	Secure Protocols: Implementing industry-standard encryption protocols such as SSL/TLS or SSH ensures that data transferred between devices is encrypted, preventing unauthorized access or interception by malicious actors.	

We comply with the above Scope of Work, Non-compliance to any of the scope of work will lead to disqualification of the bidder in Technical proposal.

Date:

Signature with seal

Name:

Designation :

Annexure-9
Technical Specifications

(Should be submitted on Company's letter head with company seal and signature of the authorized person)

SUB: Supply, Installation, Configuration, Implementation and Maintenance of 500 Nos. of Servers and other IT Infra Components in Canara Bank.

Ref: GEM/2024/B/4915191 dated 04/05/2024.

Note:	
(g)	If the bidder feels that certain features offered are superior to what has been specified by the Bank, it shall be highlighted separately. Information regarding any modification required in the proposed solution to meet the intent of the specifications and state-of-the-art technology shall be provided. However, the Bank reserves the right to adopt the modifications /superior features suggested/ offered.
(h)	The bidder shall provide all other required equipments and/or services, whether or not explicitly mentioned in this RFP, to ensure the intent of specification, completeness, operability, maintainability and upgradability.
(i)	The selected bidder shall own the responsibility to demonstrate that the product offered are as per the specification/performance stipulated in this RFP and as committed by the bidder either at site or in bidder's work site without any extra cost to the Bank.

All points mentioned under are mandatory to comply and non-compliance to any of the point lead to disqualification of the bidder during evaluation.

Technical Specifications for 500 servers (287 DC and 213 DRC)

Table-A
Technical Specification - 80 servers (41 DC and 39 DRC)

Technical Details		Technical Specification - 80 servers (41 DC and 39 DRC)	Bidder's Compliance (Yes/No)
Sl. No.	Technical Factor	Description	
1	Make	Bidder to specify	
2	Model	Bidder to specify	
3	Power Factor	Bidder to specify	
4	Form Factor	1U / 2U	
5	Processor		
	Processor Architecture	CISC	
	Processor Make	Latest generation x86_64 bit architecture-based CPU's	
	Processor	2.7 GHz (gigahertz) or above	

	Socket	Minimum 2 populated sockets i.e., 32*2 =64 core	
	Cores per socket	32	
	Cache	32 MB L3 Cache or higher	
	Cooling	Heat Sink	
	Platform Controller Hub & Main Board	Latest Chipset / System on Chip (SoC) design. Supporting x86_64 & Suitable server class Main Board or equivalent	
6	Memory		
	RAM Type	DDR4 DIMM or Higher	
	Ram Size	128GB*16 = 2 TB	
	Slot Count	Minimum 24 or higher, Minimum 8 free memory slots should be available.	
	Speed	Minimum 2933 MHz or higher (memory speed should be compatible with process speed to provide better performance)	
	Features	Advanced ECC (Error Correcting Code) type or similar technology	
7	SSD		
	Types of interface for SSD	SSD/NVM e	
	Total Capacity for SATA SSD	1.92 TB SSD disks or Higher (to support RAID 1,5,6,10)	
	Slot Count	10 or higher, Minimum 5 free slots should be available for future upgrade	
	Usable Space	Minimum 3 TB approx. After RAID 10	
8	RAID Controller		
	RAID Controller	Should support RAID 1, 5, 6, 10 or higher	
	RAID Battery	RAID 1, 5, 6, 10 or higher with 2GB or higher battery backed write cache	
	Cooling	Heat Sink	
	Alarm Buzzer	Alarm Buzzer or error indication alerts or equivalent	
	Storage Health Inspector	Storage Health Inspector or tools to monitor Storage/disk health	

	Features	Automatic and configurable RAID Rebuilding / Single-RAID or Multi-RAID Arrays per Controller	
9	SAN & Network		
	FC HBA CARD	Two FC Card with minimum 1 number of 32 Gbps FC ports in each card with Supported SFP+ transceivers (With NVME Capable)	
	FC Cables	2 Nos of minimum 15 Meter OM3/OM4 FC cables or higher for SAN Connectivity (FC HBA & transceivers should Support 16 Gbps & 32Gbps Switch)	
	Network cards 1 Gbps	2*1Gbps - Two Network Cards, each equipped with at least two 1-gigabit network ports (Four Port of 1Gbase-T On-Board or separate NIC with supported minimum 5 meter of compatible Cat6/Cat7 UTP Cable)	
	Network cards 10 Gbps	2*10Gbps -Two Network Cards, each equipped with at least two 10-gigabit network ports (Four Port BaseT NIC LOM or separate NIC with minimum 5 meter Cat6A/Cat7 UTP Cable.	
	Network cards Management port	Dedicate One Port of 1GBps-management port chassis card with minimum 5 meter Cat6/Cat7 UTP Cable.	
10	OS &Hypervisor Compatibility		
	Virtualization compatibility	All latest version of Microsoft-HyperV,VMware, Red Hat virtualization, oracle virtualization, Open shift virtualization and other industry standard hypervisors, Open Shift, Kubernetes	
	Windows Compatibility	2016/2019/2022	
	RHEL Compatibility	8.x & 9.x & Higher versions	
	Other Latest Linux Flavours	Latest server operating versions of Centos, SUSE Linux, Oracle Linux, Ubuntu ,RHCOS	

11	Power Supply	Redundant hot swappable power supply, with required power cables	
12	BIOS	UEFI (Unified Extensible Firmware Interface) based system and firmware that supports secure boot)	
13	Warranty And Support	3 Years onsite warranty+ 2 years AMC, On-Site Support Warranty including part replacement/repairs within 4 hours of reporting, and Software support for updates, upgrades, patches, and bug fixes for supplied s/w from OEM 24 x 7 x 365 days. SSD drives should be covered for irrespective of read/writes on them. In case of Disk failure, the faulty disk will be maintained /destroyed / Degauss by Canara Bank. Proactive storage monitoring & support from OEM should be enabled. The proposed bidder will need to ensure support of product & change of components @ zero cost in case of any part becoming obsolete/EOL & EOS. Faulty Disks would not be retuned back to OEM/Vendor or faulty disks will be destroyed before returning.	
14	Port	3 USB3.0 port and 1 VGA Port	
15	Serviceability	Light path diagnostic LED or equivalent visual alerts	
16	Security	Silicon root of trust, authenticated BIOS, signed firmware updates and BIOS Live Scanning for malicious firmware Secure Boot, Disk encryption, TPM 2.0 (Trusted Platform Module), Hardware root of trust, malicious code free design.	
17	PCI Slots	Minimum 4 - x16 PCIe Gen4 or higher free slots(Peripheral Component Interconnect Express)	

18	Remote Management	1) Management of hardware and software components, Power on/off, boot process, Management log, dedicated Management ports. Should be able to integrate with industry wide KVM (Kernel-based Virtual Machine) solution. Monitoring fan, power supply, memory, CPU, RAID, NIC for failures. Telemetry Streaming, Idle Server Detection, Real-time power meter, temperature monitoring, customized administration and management of System Temperature and Cooling Sub-system. 2) Management software should provide Role Based Security through LDAP or Local and able to provide pre-failure alarms for CPU, Memory & HDD by SMTP.	
19		7. The system management solution is required. The system management solution should collect system information (including impending component failure) from the device that generated the alert and sends the information securely to OEM to Support to troubleshoot the issue and provide an appropriate solution. 8. The system management solution should support browser based graphical remote console along with Virtual Power button, remote boot using USB/CD/DVD Drive. It should be capable of offering upgrade of software and	

		patches from a remote client using Media/image/folder; It should support server power capping and historical reporting and should have support for multifactor authentication. 9. The system management solution should be provided: - Firmware and configuration baselines for compliance monitoring and enable automated updates on schedule. - Scope based access control to limit Users to specific group of devices - Bare-metal server deployment and cloning - Power and thermal Monitoring, alarm, and automatically execute rules based remediation. - Manage remote devices and control power	
20	Monitoring and Analytics	5. Offered servers shall have monitoring an analytics engine for proactive management. All required licenses for same shall be included in the offer. 6. Monitoring and analytics engine shall have the capability to provide the following:	

		i. Health and system security monitoring and notification emails ii. Performance monitoring and anomaly detection iii. REST API for integrating data with automation, ticketing, and other tools iv. Visualize server telemetry including key performance, environmental, and power metrics v. Displays health, inventory, alerts, performance, and warranty status	
21	Drivers & Accessories	Drivers for the compatible OS, Add on cards and other accessories to be Provided.	
22	FAN	Server should have redundant fully populated Hot swappable fans	

Table-B
Technical Specification - 28 servers (17 DC and 11 DRC)

Technical Details		Technical Specification - 28 servers (17 DC and 11 DRC)	Bidder's Compliance (Yes/No)
Sl. No.	Technical Factor	Description	
1	Make	Bidder to specify	
2	Model	Bidder to specify	
3	Power Factor	Bidder to specify	
4	Form Factor	1U / 2U	
5	Processor		
	Processor Architecture	CISC	

	Processor Make	Latest generation x86_64 bit architecture-based CPU's	
	Processor	2.7 GHz (gigahertz) or above	
	Socket	Minimum 2 populated sockets i.e., 32*2 =64 core	
	Cores per socket	32	
	Cache	32 MB L3 Cache or higher	
	Cooling	Heat Sink	
	Platform Controller Hub & Main Board	Latest chipset/system on clip(SoC)design supporting x 86_64& suitable server class main board or equivalent.	
6	Memory		
	RAM Type	DDR4 DIMM or Higher	
	Ram Size	64GB*8 = 512 TB	
	Slot Count	Minimum 24 or higher, Minimum 16 free memory slots should be available.	
	Speed	Minimum 2933 MHz or higher (memory speed should be compatible with process speed to provide better performance)	
	Features	Advanced ECC (Error Correcting Code) type or similar technology	
7	SSD		
	Types of interface for SSD	SSD/NVMe	
	Total Capacity for SATA SSD	1.92 TB SSD disks or Higher (to support RAID 1,5,6,10)	
	Slot Count	10 or higher, Minimum 5 free slots should be available for future upgrade	
	Usable Space	Minimum 3 TB approx. After RAID 10	
8	RAID Controller		
	RAID Controller	Should support RAID 1, 5, 6, 10 or higher	
	RAID Battery	RAID 1, 5, 6, 10 or higher with 2GB or higher battery backed write cache	
	Cooling	Heat Sink	
	Alarm Buzzer	Alarm Buzzer or error indication alerts or equivalent	

	Storage Health Inspector	Storage Health Inspector or tools to monitor Storage/disk health	
	Features	Automatic and configurable RAID Rebuilding / Single-RAID or Multi-RAID Arrays per Controller	
9	SAN & Network		
	FC HBA CARD	Two FC Card with minimum 1 number of 32 Gbps FC ports in each card with Supported SFP+ transceivers (With NVME Capable)	
	FC Cables	2 Nos of minimum 15 Meter OM3/OM4 FC cables or higher for SAN Connectivity (FC HBA & transceivers should Support 16 Gbps & 32Gbps Switch)	
	Network cards 1 Gbps	2*1Gbps (Four Port of 1Gbase-T On-Board or separate NIC with supported minimum 5 meter of compatible Cat6/Cat7 UTP Cable)	
	Network cards 10 Gbps	2*10Gbps -Two Network Cards, each equipped with at least two 10-gigabit network ports (Four Port BaseT NIC LOM or separate NIC with minimum 5 meter Cat6A/Cat7 UTP Cable.	
	Network cards Management port	Dedicate One Port of 1GBps-management port chassis card with minimum 5 meter Cat6/Cat7 UTP Cable.	
10	OS & Hypervisor Compatibility		
	Virtualization compatibility	All latest version of Microsoft-HyperV, VMware, Red Hat virtualization, oracle virtualization, Open shift virtualization and other industry standard hypervisors, Open Shift, Kubernetes	
	Windows Compatibility	2016/2019/2022	
	RHEL Compatibility	8.x & 9.x & Higher versions	
	Other Latest Linux Flavours	Latest server operating versions of Centos, SUSE Linux, Oracle Linux, Ubuntu ,RHCOS	

11	Power Supply	Redundant hot swappable power supply, with required power cables	
12	BIOS	UEFI (Unified Extensible Firmware Interface) based system and firmware that supports secure boot)	
13	Warranty And Support	3 Years onsite warranty+ 2 years AMC, On-Site Support Warranty including part replacement/repairs within 4 hours of reporting, and Software support for updates, upgrades, patches, and bug fixes for supplied s/w from OEM 24 x 7 x 365 days. SSD drives should be covered for irrespective of read/writes on them. In case of Disk failure, the faulty disk will be maintained /destroyed / Degauss by Canara Bank. Proactive storage monitoring & support from OEM should be enabled. The proposed bidder will need to ensure support of product & change of components @ zero cost in case of any part becoming obsolete/EOL & EOS. Faulty Disks would not be retuned back to OEM/Vendor or faulty disks will be destroyed before returning.	
14	Port	3 USB3.0 port and 1 VGA Port	
15	Serviceability	Light path diagnostic LED or equivalent visual alerts	
16	Security	Secure Boot, Disk encryption, TPM 2.0 (Trusted Platform Module), Hardware root of trust, malicious code free design.	
17	PCI Slots	Minimum 4 - x16 PCIe Gen4 or higher free slots(Peripheral Component Interconnect Express)	
18	Remote Management	1) Management of hardware and software components, Power on/off, boot process, Management log, dedicated Management	

		ports. Should able to integrate with industry wide KVM (Kernel-based Virtual Machine) solution. Monitoring fan, power supply, memory, CPU, RAID, NIC for failures. Telemetry Streaming, Idle Server Detection, Real-time power meter, temperature monitoring, customized administration and management of System Temperature and Cooling Sub-system. 2)Management software should provide Role Based Security through LDAP or Local and able to provide pre-failure alarms for CPU, Memory & HDD by SMTP.	
19	System Management Solution	7. The system management solution is required. The system management solution should collect system information (including impending component failure) from the device that generated the alert and sends the information securely to OEM to Support to troubleshoot the issue and provide an appropriate solution. 8. The system management solution should support browser based graphical remote console along with Virtual Power button, remote boot using USB/CD/DVD Drive. It should be capable of offering upgrade of software and patches from a remote client using Media/image/folder; It should support server power capping and	

		historical reporting and should have support for multifactor authentication. 9. The system management solution should be provided: a. Firmware and configuration baselines for compliance monitoring and enable automated updates on schedule. b. Scope based access control to limit Users to specific group of devices c. Bare-metal server deployment and cloning d. Power and thermal Monitoring, alarm, and automatically execute rules based remediation. e. Manage remote devices and control power	
20	Monitoring and Analytics	5. Offered servers shall have monitoring an analytics engine for proactive management. All required licenses for same shall be included in the offer. 6. Monitoring and analytics engine shall have the capability to provide the following: i. Health and system security monitoring and notification emails	

		ii. Performance monitoring and anomaly detection iii. REST API for integrating data with automation, ticketing, and other tools iv. Visualize server telemetry including key performance, environmental, and power metrics Displays health, inventory, alerts, performance, and warranty status	
21	Drivers & Accessories	Drivers for the compatible OS, Add on cards and other accessories to be Provided.	
22	FAN	Server should have redundant fully populated Hot swappable fans	

Table-C
Technical Specification - 100 servers (60 DC and 40 DRC)

Technical Details		Technical Specification - 100 servers (60 DC and 40 DRC)	Bidder's Compliance (Yes/No)
Sl. No.	Technical Factor	Description	
1	Make	Bidder to specify	
2	Model	Bidder to specify	
3	Power Factor	Bidder to specify	
4	Form Factor	1U / 2U	
5	Processor		
	Processor Architecture	CISC	
	Processor Make	Latest generation x86_64 bit architecture-based CPU's	
	Processor	2.7 GHz (gigahertz) or above	
	Socket	Minimum 2 sockets i.e., 32*1 =32 core (1 Populated & 1 For future upgrade)	
	Cores per socket	32	
	Cache	32 MB L3 Cache or higher	
	Cooling	Heat Sink	

	Platform Controller Hub & Main Board	Latest chipset/System on chip (SoC) design supporting x86_64 & suitable server class main board or equivalent.	
6	Memory		
	RAM Type	DDR4 DIMM or Higher	
	Ram Size	64GB*16 = 1024 GB	
	Slot Count	Minimum 24 or higher, Minimum 8 free memory slots should be available.	
	Speed	Minimum 2933 MHz or higher (memory speed should be compatible with process speed to provide better performance)	
	Features	Advanced ECC (Error Correcting Code) type or similar technology	
7	SSD		
	Types of interface for SSD	SSD/NVMe	
	Total Capacity for sata SSD	1.92 TB SSD disks or Higher (to support RAID 1,5,6,10)	
	Slot Count	10 or higher, Minimum 5 free slots should be available for future upgrade	
	Usable Space	Minimum 3 TB approx. After RAID 10	
8	RAID Controller		
	RAID Controller	Should support RAID 1, 5, 6, 10 or higher	
	RAID Battery	RAID 1, 5, 6, 10 or higher with 2GB or higher battery backed write cache	
	Cooling	Heat Sink	
	Alarm Buzzer	Alarm Buzzer or error indication alerts or equivalent	
	Storage Health Inspector	Storage Health Inspector or tools to monitor Storage/disk health	
	Features	Automatic and configurable RAID Rebuilding / Single-RAID or Multi-RAID Arrays per Controller	

9	SAN & Network		
	FC HBA CARD	Two FC Card with minimum 1 number of 32 Gbps FC ports in each card with Supported SFP+ transceivers (With NVME Capable)	
	FC Cables	2 Nos of minimum 15 Meter OM3/OM4 FC cables or higher for SAN Connectivity (FC HBA & transceivers should Support 16 Gbps & 32Gbps Switch)	
	Network cards 1 Gbps	2*1Gbps (Four Port of 1Gbase-T On-Board or separate NIC with supported minimum 5 meter of compatible Cat6/Cat7 UTP Cable)	
	Network cards 10 Gbps	2*10Gbps -Two Network Cards, each equipped with at least two 10-gigabit network ports (Four Port BaseT NIC LOM or separate NIC with minimum 5 meter Cat6A/Cat7 UTP Cable.	
	Network cards Management port	Dedicate One Port of 1GBps-management port chassis card with minimum 5 meter Cat6/Cat7 UTP Cable.	
10	OS &Hypervisor Compatibility		
	Virtualization compatibility	All latest version of Microsoft-HyperV,VMware, Red Hat virtualization, oracle virtualization, Open shift virtualization and other industry standard hypervisors, Open Shift, Kubernetes	
	Windows Compatibility	2016/2019/2022	
	RHEL Compatibility	8.x & 9.x & Higher versions	
	Other Latest Linux Flavours	Latest server operating versions of Centos, SUSE Linux, Oracle Linux, Ubuntu ,RHCOS	
11	Power Supply	Redundant hot swappable power supply, with required power cables	
12	BIOS	UEFI (Unified Extensible Firmware Interface) based system and firmware that supports secure boot)	

13	Warranty And Support	3 Years onsite warranty+ 2 years AMC, On-Site Support Warranty including part replacement/repairs within 4 hours of reporting, and Software support for updates, upgrades, patches, and bug fixes for supplied s/w from OEM 24 x 7 x 365 days. SSD drives should be covered for irrespective of read/writes on them. In case of Disk failure, the faulty disk will be maintained /destroyed / Degauss by Canara Bank. Proactive storage monitoring & support from OEM should be enabled. The proposed bidder will need to ensure support of product & change of components @ zero cost in case of any part becoming obsolete/EOL & EOS. Faulty Disks would not be retuned back to OEM/Vendor or faulty disks will be destroyed before returning.	
14	Port	3 USB3.0 port and 1 VGA Port	
15	Serviceability	Light path diagnostic LED or equivalent visual alerts	
16	Security	Secure Boot, Disk encryption, TPM 2.0 (Trusted Platform Module), Hardware root of trust, malicious code free design.	
17	PCI Slots	Minimum 4 - x16 PCIe Gen4 or higher free slots(Peripheral Component Interconnect Express)	



18	Remote Management	1. Management of hardware and software components, Power on/off, boot process, Management log, dedicated Management ports. Should able to integrate with industry wide KVM (Kernel-based Virtual Machine) solution. Monitoring fan, power supply, memory, CPU, RAID, NIC for failures. Telemetry Streaming, Idle Server Detection, Real-time power meter, temperature monitoring, customized administration and management of System Temperature and Cooling Sub-system. 2) Management software should provide Role Based Security through LDAP or Local and able to provide pre-failure alarms for CPU, Memory & HDD by SMTP.)	
19	System Management Solution	7. The system management solution is required. The system management solution should collect system information (including impending component failure) from the device that generated the alert and sends the information securely to OEM to Support to troubleshoot the issue and provide an appropriate solution. 8. The system management solution should support browser based graphical remote console along with Virtual Power button, remote boot using USB/CD/DVD Drive. It should be capable of offering upgrade of	

		software and patches from a remote client using Media/image/folder; It should support server power capping and historical reporting and should have support for multifactor authentication. 9. The system management solution should be provided: - Firmware and configuration baselines for compliance monitoring and enable automated updates on schedule. - Scope based access control to limit Users to specific group of devices - Bare-metal server deployment and cloning - Power and thermal Monitoring, alarm, and automatically execute rules based remediation. - Manage remote devices and control power	
20	Monitoring and Analytics	5. Offered servers shall have monitoring an analytics engine for proactive management. All required licenses for same shall be included in the offer. 6. Monitoring and analytics engine shall have the capability to provide the following:	

		i. Health and system security monitoring and notification emails ii. Performance monitoring and anomaly detection iii. REST API for integrating data with automation, ticketing, and other tools iv. Visualize server telemetry including key performance, environmental, and power metrics Displays health, inventory, alerts, performance, and warranty status	
21	Drivers & Accessories	Drivers for the compatible OS, Add on cards and other accessories to be Provided.	
22	FAN	Server should have redundant fully populated Hot swappable fans	

Table-D
Technical Specification - 54 servers (28 DC and 26 DRC)

Technical Details		Technical Specification - 54 servers (28 DC and 26 DRC)	Bidder's Compliance (Yes/No)
Sl. No.	Technical Factor	Description	
1	Make	Bidder to specify	
2	Model	Bidder to specify	
3	Power Factor	Bidder to specify	
4	Form Factor	1U / 2U	
5	Processor		
	Processor Architecture	CISC	
	Processor Make	Latest generation x86_64 bit architecture-based CPU's	

	Processor	2.7 GHz (gigahertz) or above	
	Socket	Minimum 2 sockets i.e., 24*1 =24 core (1 Populated & 1 For future upgrade)	
	Cores per socket	24	
	Cache	32 MB L3 Cache or higher	
	Cooling	Heat Sink	
	Platform Controller Hub & Main Board	Latest Chipset / System on Chip (SoC) design. Supporting x86_64 & Suitable server class Main Board or equivalent	
6	Memory		
	RAM Type	DDR4 DIMM or Higher	
	Ram Size	64GB*4 = 256 GB	
	Slot Count	Minimum 24 or higher, Minimum 20 free memory slots should be available.	
	Speed	Minimum 2933 MHz or higher (memory speed should be compatible with process speed to provide better performance)	
	Features	Advanced ECC (Error Correcting Code) type or similar technology	
7	SSD		
	Types of interface for SSD	SSD/NVM e	
	Total Capacity for SATA SSD	1.92 TB SSD disks or Higher (to support RAID 1,5,6,10)	
	Slot Count	10 or higher, Minimum 5 free slots should be available for future upgrade	
	Usable Space	Minimum 1.5 TB approx. After RAID 10	
8	RAID Controller		
	RAID Controller	Should support RAID 1, 5, 6, 10 or higher	
	RAID Battery	RAID 1, 5, 6, 10 or higher with 2GB or higher battery backed write cache	
	Cooling	Heat Sink	

	Alarm Buzzer	Alarm Buzzer or error indication alerts or equivalent	
	Storage Health Inspector	Storage Health Inspector or tools to monitor Storage/disk health	
	Features	Automatic and configurable RAID Rebuilding / Single-RAID or Multi-RAID Arrays per Controller	
9	SAN & Network		
	FC HBA CARD	Two FC Card with minimum 1 number of 32 Gbps FC ports in each card with Supported SFP+ transceivers (With NVME Capable)	
	FC Cables	2 Nos of minimum 15 Meter OM3/OM4 FC cables or higher for SAN Connectivity (FC HBA & transceivers should Support 16 Gbps & 32Gbps Switch)	
	Network cards 1 Gbps	2*1Gbps (Four Port of 1Gbase-T On-Board or separate NIC with supported minimum 5 meter of compatible Cat6/Cat7 UTP Cable)	
	Network cards 10 Gbps	2*10Gbps -Two Network Cards, each equipped with at least two 10-gigabit network ports (Four Port BaseT NIC LOM or separate NIC with minimum 5 meter Cat6A/Cat7 UTP Cable.	
	Network cards Management port	Dedicate One Port of 1GBps-management port chassis card with minimum 5 meter Cat6/Cat7 UTP Cable.	
10	OS & Hypervisor Compatibility		
	Virtualization compatibility	All latest version of Microsoft-HyperV, VMware, Red Hat virtualization, oracle virtualization, Open shift virtualization and other industry standard hypervisors, Open Shift, Kubernetes	
	Windows Compatibility	2016/2019/2022	
	RHEL Compatibility	8.x & 9.x & Higher versions	

	Other Latest Linux Flavours	Latest server operating versions of Centos, SUSE Linux, Oracle Linux, Ubuntu ,RHCOS	
11	Power Supply	Redundant hot swappable power supply, with required power cables	
12	BIOS	UEFI (Unified Extensible Firmware Interface) based system and firmware that supports secure boot)	
13	Warranty And Support	3 Years onsite warranty+ 2 years AMC, On-Site Support Warranty including part replacement/repairs within 4 hours of reporting, and Software support for updates, upgrades, patches, and bug fixes for supplied s/w from OEM 24 x 7 x 365 days. SSD drives should be covered for irrespective of read/writes on them. In case of Disk failure, the faulty disk will be maintained /destroyed / Degauss by Canara Bank. Proactive storage monitoring & support from OEM should be enabled. The proposed bidder will need to ensure support of product & change of components @ zero cost in case of any part becoming obsolete/EOL & EOS. Faulty Disks would not be retuned back to OEM/Vendor or faulty disks will be destroyed before returning.	
14	Port	3 USB3.0 port and 1 VGA Port	
15	Serviceability	Light path diagnostic LED or equivalent visual alerts	
16	Security	Secure Boot, Disk encryption, TPM 2.0 (Trusted Platform Module), Hardware root of trust, malicious code free design.	

17	PCI Slots	Minimum 4 - x16 PCIe Gen4 or higher free slots(Peripheral Component Interconnect Express)	
18	Remote Management	1) Management of hardware and software components, Power on/off, boot process, Management log, dedicated Management ports. Should able to integrate with industry wide KVM (Kernel-based Virtual Machine) solution. Monitoring fan, power supply, memory, CPU, RAID, NIC for failures. Telemetry Streaming, Idle Server Detection, Real-time power meter, temperature monitoring, customized administration and management of System Temperature and Cooling Sub-system. 2)Management software should provide Role Based Security through LDAP or Local and able to provide pre-failure alarms for CPU, Memory & HDD by SMTP.	
19	System Management Solution	7. The system management solution is required. The system management solution should collect system information (including impending component failure) from the device that generated the alert and sends the information securely to OEM to Support to troubleshoot the issue and provide an appropriate solution. 8. The system management solution should support browser based graphical remote console along with Virtual Power button, remote boot	

		using USB/CD/DVD Drive. It should be capable of offering upgrade of software and patches from a remote client using Media/image/folder; It should support server power capping and historical reporting and should have support for multifactor authentication. 9. The system management solution should be provided: - Firmware and configuration baselines for compliance monitoring and enable automated updates on schedule. - Scope based access control to limit Users to specific group of devices - Bare-metal server deployment and cloning - Power and thermal Monitoring, alarm, and automatically execute rules based remediation. - Manage remote devices and control power	
20	Monitoring and Analytics	5. Offered servers shall have monitoring an analytics engine for proactive management. All required licenses for same shall be	

		included in the offer. 6. Monitoring and analytics engine shall have the capability to provide the following: i. Health and system security monitoring and notification emails ii. Performance monitoring and anomaly detection iii. REST API for integrating data with automation, ticketing, and other tools iv. Visualize server telemetry including key performance, environmental, and power metrics Displays health, inventory, alerts, performance, and warranty status	
21	Drivers & Accessories	Drivers for the compatible OS, Add on cards and other accessories to be Provided.	
22	FAN	Server should have redundant fully populated Hot swappable fans	

Table-E
Technical Specification - 226 servers (135 DC and 91 DRC)

Technical Details		Technical Specification - 226 servers (135 DC and 91 DRC)	Bidder's Compliance (Yes/No)
Sl. No.	Technical Factor	Description	
1	Make	Bidder to specify	
2	Model	Bidder to specify	

3	Power Factor	Bidder to specify	
4	Form Factor	1U / 2U	
5	Processor		
	Processor Architecture	CISC	
	Processor Make	Latest generation x86_64 bit architecture-based CPU's	
	Processor	2.7 GHz (gigahertz) or above	
	Socket	Minimum 2 sockets i.e., 16*1 =16 core (1 Populated & 1 For future upgrade)	
	Cores per socket	16	
	Cache	32 MB L3 Cache or higher	
	Cooling	Heat Sink	
	Platform Controller Hub & Main Board	Latest Chipset / System on Chip (SoC) design. Supporting x86_64 & Suitable server class Main Board or equivalent	
6	Memory		
	RAM Type	DDR4 DIMM or Higher	
	Ram Size	64GB*8 = 512 GB	
	Slot Count	Minimum 24 or higher, Minimum 16 free memory slots should be available.	
	Speed	Minimum 2933 MHz or higher (memory speed should be compatible with process speed to provide better performance)	
	Features	Advanced ECC (Error Correcting Code) type or similar technology	
7	SSD		
	Types of interface for SSD	SSD/NVMe	
	Total Capacity for sata SSD	1.92 TB SSD disks or Higher (to support RAID 1,5,6,10)	
	Slot Count	10 or higher, Minimum 5 free slots should be available for future upgrade	
	Usable Space	Minimum 3 TB approx. After RAID 10	

8	RAID Controller		
	RAID Controller	Should support RAID 1, 5, 6, 10 or higher	
	RAID Battery	RAID 1, 5, 6, 10 or higher with 2GB or higher battery backed write cache	
	Cooling	Heat Sink	
	Alarm Buzzer	Alarm Buzzer or error indication alerts or equivalent	
	Storage Health Inspector	Storage Health Inspector or tools to monitor Storage/disk health	
	Features	Automatic and configurable RAID Rebuilding / Single-RAID or Multi-RAID Arrays per Controller	
9	SAN & Network		
	FC HBA CARD	Two FC Card with minimum 1 number of 32 Gbps FC ports in each card with Supported SFP+ transceivers (With NVME Capable)	
	FC Cables	2 Nos of minimum 15 Meter OM3/OM4 FC cables or higher for SAN Connectivity (FC HBA & transceivers should Support 16 Gbps & 32Gbps Switch)	
	Network cards 1 Gbps	2*1Gbps (Four Port of 1Gbase-T On-Board or separate NIC with supported minimum 5 meter of compatible Cat6/Cat7 UTP Cable)	
	Network cards 10 Gbps	2*10Gbps -Two Network Cards, each equipped with at least two 10-gigabit network ports (Four Port BaseT NIC LOM or separate NIC with minimum 5 meter Cat6A/Cat7 UTP Cable.	
	Network cards Management port	Dedicate One Port of 1GBps-management port chassis card with minimum 5 meter Cat6/Cat7 UTP Cable.	
10	OS & Hypervisor Compatibility		

	Virtualization compatibility	All latest version of Microsoft-HyperV,VMware, RedHat virtualization, oracle virtualization, Open shift virtualization and other industry standard hypervisors,Open Shift, Kubernetes	
	Windows Compatibility	2016/2019/2022	
	RHEL Compatibility	8.x & 9.x & Higher versions	
	Other Latest Linux Flavours	Latest server operating versions of Centos, SUSE Linux, Oracle Linux, Ubuntu ,RHCOS	
11	Power Supply	Redundant hot swappable power supply, with required power cables	
12	BIOS	UEFI (Unified Extensible Firmware Interface) based system and firmware that supports secure boot)	
13	Warranty And Support	3 Years onsite warranty+ 2 years AMC, On-Site Support Warranty including part replacement/repairs within 4 hours of reporting, and Software support for updates, upgrades, patches, and bug fixes for supplied s/w from OEM 24 x 7 x 365 days. SSD drives should be covered for irrespective of read/writes on them. In case of Disk failure, the faulty disk will be maintained /destroyed / Degauss by Canara Bank. Proactive storage monitoring & support from OEM should be enabled. The proposed bidder will need to ensure support of product & change of components @ zero cost in case of any part becoming obsolete/EOL & EOS. Faulty Disks would not be returned back to OEM/Vendor or faulty disks will be destroyed before returning.	
14	Port	3 USB3.0 port and 1 VGA Port	

15	Serviceability	Light path diagnostic LED or equivalent visual alerts	
16	Security	Secure Boot, Disk encryption, TPM 2.0 (Trusted Platform Module), Hardware root of trust, malicious code free design.	
17	PCI Slots	Minimum 4 - x16 PCIe Gen4 or higher free slots(Peripheral Component Interconnect Express)	
18	Remote Management	1) Management of hardware and software components, Power on/off, boot process, Management log, dedicated Management ports. Should able to integrate with industry wide KVM (Kernel-based Virtual Machine) solution. Monitoring fan, power supply, memory, CPU, RAID, NIC for failures. Telemetry Streaming, Idle Server Detection, Real-time power meter, temperature monitoring, customized administration and management of System Temperature and Cooling Sub-system. 2)Management software should provide Role Based Security through LDAP or Local and able to provide pre-failure alarms for CPU, Memory & HDD by SMTP.	

19	System Management Solution	7. The system management solution is required. The system management solution should collect system information (including impending component failure) from the device that generated the alert and sends the information securely to OEM to Support to troubleshoot the issue and provide an appropriate solution. 8. The system management solution should support browser based graphical remote console along with Virtual Power button, remote boot using USB/CD/DVD Drive. It should be capable of offering upgrade of software and patches from a remote client using Media/image/folder; It should support server power capping and historical reporting and should have support for multifactor authentication. 9. The system management solution should be provided: - Firmware and configuration baselines for compliance monitoring and enable automated updates on schedule. - Scope based access control to limit	

		Users to specific group of devices c. Bare-metal server deployment and cloning d. Power and thermal Monitoring, alarm, and automatically execute rules based remediation. e. Manage remote devices and control power	
20	Monitoring and Analytics	5. Offered servers shall have monitoring an analytics engine for proactive management. All required licenses for same shall be included in the offer. 6. Monitoring and analytics engine shall have the capability to provide the following: i. Health and system security monitoring and notification emails ii. Performance monitoring and anomaly detection iii. REST API for integrating data with automation, ticketing, and other tools iv. Visualize server telemetry including key performance, environmental, and power metrics	

		v. Displays health, inventory, alerts, performance, and warranty status	
21	Drivers & Accessories	Drivers for the compatible OS, Add on cards and other accessories to be Provided.	
22	FAN	Server should have redundant fully populated Hot swappable fans	

Table-F
Custom Technical Specification - 12 servers

Technical Details		Custom Technical Specification - 12 servers (6 DC and 6 DRC) (Type 1 - 2 DC, 2 DRC; Type 2 - 2 DC, 2 DRC; Type 3 - 2 DC, 2 DRC)	Bidder's Compliance (Yes/No)
Sl. No.	Technical Factor	Description	
1	Make	Bidder to specify	
2	Model	Bidder to specify	
3	Power Factor	Bidder to specify	
4	Form Factor	1U / 2U / 4U	
5	Processor		
	Processor Architecture	CISC	
	Processor Make	Latest generation x86_64 bit architecture-based CPU's	
	Processor	2.7 GHz (gigahertz) or above	
	Socket	Minimum 2 sockets i.e., 16*1 =16 core (1 Populated & 1 For future upgrade) - Type 1 Minimum 2 sockets i.e., 32*1 =32 core (1 Populated & 1 For future upgrade) - Type 2 Minimum 2 sockets i.e., 32*1 =32 core (1 Populated & 1 For future upgrade) - Type 3	
	Cores per socket	24	

	Cache	32 MB L3 Cache or higher	
	Cooling	Heat Sink	
	Platform Controller Hub & Main Board	Latest Chipset / System on Chip (SoC) design. Supporting x86_64 & Suitable server class Main Board or equivalent	
6	Memory		
	RAM Type	DDR4 DIMM or Higher	
	Ram Size	64GB*4 = 256 GB - Type 1 64GB*16 = 1024 GB - Type 2 64GB*16 = 1024 GB - Type 3	
	Slot Count	Minimum 24 or higher, Minimum 20 free memory slots should be available. - Type 1 Minimum 24 or higher, Minimum 8 free memory slots should be available. - Type 2 Minimum 24 or higher, Minimum 8 free memory slots should be available. - Type 3	
	Speed	Minimum 2933 MHz or higher (memory speed should be compatible with process speed to provide better performance)	
	Features	Advanced ECC (Error Correcting Code) type or similar technology	
7	SSD		
	Types of interface for SSD	NVMe	
	Total Capacity for SATA SSD	1.92 TB SSD disks or Higher (to support RAID 1,5,6,10)	
	Slot Count	10 or higher, Minimum 4 free slots should be available for future upgrade - Type 1 12 or higher Minimum 4 free slots should be available for future upgrade - Type 2 38 or higher Minimum 4 free	

		slots should be available for future upgrade - Type 2	
	Usable Space	Minimum 4 TB approx. After RAID 10 - Type 1 Minimum 8 TB approx. After RAID 10 - Type 2 Minimum 32 TB approx. After RAID 10 - Type 3	
8	RAID Controller		
	RAID Controller	Should support RAID 1, 5, 6, 10 or higher	
	RAID Battery	RAID 1, 5, 6, 10 or higher with 2GB or higher battery backed write cache	
	Cooling	Heat Sink	
	Alarm Buzzer	Alarm Buzzer or error indication alerts or equivalent	
	Storage Health Inspector	Storage Health Inspector or tools to monitor Storage/disk health	
	Features	Automatic and configurable RAID Rebuilding / Single-RAID or Multi-RAID Arrays per Controller	
9	SAN & Network		
	FC HBA CARD	Two FC Card with minimum 1 number of 32 Gbps FC ports in each card with Supported SFP+ transceivers (With NVME Capable)	
	FC Cables	2 Nos of minimum 15 Meter OM3/OM4 FC cables or higher for SAN Connectivity (FC HBA & transceivers should Support 16 Gbps & 32Gbps Switch)	
	Network cards 1 Gbps	2*1Gbps (Four Port of 1Gbase-T On-Board or separate NIC with supported minimum 5 meter of compatible Cat6/Cat7 UTP Cable)	

	Network cards 10 Gbps	2*10Gbps -Two Network Cards, each equipped with at least two 10-gigabit network ports (Four Port BaseT NIC LOM or separate NIC with minimum 5 meter Cat6A/Cat7 UTP Cable.	
	Network cards Management port	Dedicate One Port of 1GBps-management port chassis card with minimum 5 meter Cat6/Cat7 UTP Cable.	
10	OS & Hypervisor Compatibility		
	Virtualization compatibility	All latest version of Microsoft-HyperV, VMware, RedHat virtualization, Oracle virtualization, Open shift virtualization and other industry standard hypervisors, Open Shift, Kubernetes	
	Windows Compatibility	2016/2019/2022	
	RHEL Compatibility	8.x & 9.x & Higher versions	
	Other Latest Linux Flavours	Latest server operating versions of Centos, SUSE Linux, Oracle Linux, Ubuntu ,RHCOS	
11	Power Supply	Redundant hot swappable power supply, with required power cables	
12	BIOS	UEFI (Unified Extensible Firmware Interface) based system and firmware that supports secure boot)	
13	Warranty And Support	3 Years onsite warranty+ 2 years AMC, On-Site Support Warranty including part replacement/repairs within 4 hours of reporting, and Software support for updates, upgrades, patches, and bug fixes for supplied s/w from OEM 24 x 7 x 365 days. SSD drives should be covered for irrespective of read/writes on them. In case of Disk failure, the faulty disk will be maintained /destroyed / Degauss by Canara Bank. Proactive storage monitoring & support from	

		OEM should be enabled. The proposed bidder will need to ensure support of product & change of components @ zero cost in case of any part becoming obsolete/EOL & EOS. Faulty Disks would not be returned back to OEM/Vendor or faulty disks will be destroyed before returning.	
14	Port	3 USB3.0 port and 1 VGA Port	
15	Serviceability	Light path diagnostic LED or equivalent visual alerts	
16	Security	Secure Boot, Disk encryption, TPM 2.0 (Trusted Platform Module), Hardware root of trust, malicious code free design.	
17	PCI Slots	Minimum 4 - x16 PCIe Gen4 or higher free slots(Peripheral Component Interconnect Express)	
18	Remote Management	1) Management of hardware and software components, Power on/off, boot process, Management log, dedicated Management ports. Should be able to integrate with industry wide KVM (Kernel-based Virtual Machine) solution. Monitoring fan, power supply, memory, CPU, RAID, NIC for failures. Telemetry Streaming, Idle Server Detection, Real-time power meter, temperature monitoring, customized administration and management of System Temperature and Cooling Sub-system. 2)Management software should provide Role Based Security through LDAP or Local and able to provide pre-failure alarms for CPU, Memory & HDD by SMTP.	

19	System Management Solution	7. The system management solution is required. The system management solution should collect system information (including impending component failure) from the device that generated the alert and sends the information securely to OEM to Support to troubleshoot the issue and provide an appropriate solution. 8. The system management solution should support browser based graphical remote console along with Virtual Power button, remote boot using USB/CD/DVD Drive. It should be capable of offering upgrade of software and patches from a remote client using Media/image/folder; It should support server power capping and historical reporting and should have support for multifactor authentication. 9. The system management solution should be provided: - Firmware and configuration baselines for compliance monitoring and enable automated updates on schedule. - Scope based access control to limit Users to specific group of devices	

		c. Bare-metal server deployment and cloning d. Power and thermal Monitoring, alarm, and automatically execute rules based remediation. e. Manage remote devices and control power	
20	Monitoring and Analytics	5. Offered servers shall have monitoring an analytics engine for proactive management. All required licenses for same shall be included in the offer. 6. Monitoring and analytics engine shall have the capability to provide the following: i. Health and system security monitoring and notification emails ii. Performance monitoring and anomaly detection iii. REST API for integrating data with automation, ticketing, and other tools iv. Visualize server telemetry including key performance, environmental, and power metrics Displays health, inventory, alerts, performance, and warranty status	

21	Drivers & Accessories	Drivers for the compatible OS, Add on cards and other accessories to be Provided.	
22	FAN	Server should have redundant fully populated Hot swappable fans	

Table-G

Storage Technical Specifications: (Object Storage 2.0PB Usable Space: DC -1, DRC -1)

Sl. No.	Particulars	Detailed Configuration	Bidder's Compliance (Yes/No)
1.	Make	Bidders to specify	
2.	Model	Bidders to specify	
3.	Form Factor	Bidders to specify	
4.	Power Factor	Bidder to specify	

5.

Architecture	Controllers shall be active-active so that all volumes are automatically load balanced without needing administrative intervention for manual balancing of workloads/volumes. Connectivity -Object interface would be scalable S3. its architecture shall include the following: - o S3-Server: S3 API Server for Buckets/Objects and more - o Scale-Out "any-to-any" access - o Security model S3-Vault: Security service for Accounts a. Multi-tenant, Support for S3 IAM - Identity and Access Management. b. Bucket & Object ACLs - o S3-Metadata: Distributed Metadata Engine - o S3 Object Lock - o Transparent Bucket-Level At-REST Encryption - o S3 Console: GUI Web interface to manage accounts, users, policy and monitor usage. - o S3 Browser: GUI Web interface to create buckets and upload objects. - o Quota for S3. Connectivity -File Interface - o Capability to write simultaneously to the same folder from different file connectors (folder scale out). - o Seamless load balancing and failover among the file connectors. - o Federated Access “Single Sign On” to S3 Connector. - o Compatible with LDAP, Active Directory and Kerberos. - o Volume protection feature (can’t modify/delete files once written to the volume). - o Quota for file. - o Supports mixed environment Windows & Linux. - o Built in load balancing
Type	Near Line Drives & SSD Disk for meta handling
Memory & Cache	Minimum 64 GB per controller/node
Capacity	Minimum usable storage 2 PB after RAID6/ Dual RAID6 Configuration.(Without considering any data

		reduction features such as compression, deduplication etc .,)
9.	Drives	2.5" to 3.5" drives
10.	Hard Disk Capacity	Each hard disk Capacity should not be less than 15 TB
11.	Scalability	Up to 10PB with scale out architecture. The cluster scales by adding additional nodes without sacrificing performance, which allows a more cost-effective linear storage expansion than fork-lift upgrades. New Nodes & Failed nodes and disks can be swapped out without downtime.
12.	Performance	object stores can provide high sequential throughput performance, which makes them great for streaming large files. Also, object storage services help eliminate networking limitations. Files can be streamed in parallel over multiple pipes, boosting usable bandwidth
13.	RAID Support	RAID array supporting 10, 0, 1, 5 and 6 or better levels. It should support a mix and match of RAID levels behind a pair of controllers. The storage array should allow online expansion of existing RAID Groups / Storage Disk Pools.
14.	Encryption	should have native encryption capabilities as per PCI DSS standards and encryption should not add any performance overheads
15.	Backup	During power failure, Data in the cache should be safely written to the disks prior to performing a graceful shutdown. Data loss in storage should be zero due to any issues noticed in the Datacenter or any natural calamities.

16.	Services	Proposed storage array should include storage based compression, inline Deduplication, storage to storage replication, Snapshot for the entire supported capacity of the storage array from day one. All the required or necessary licenses must be perpetual and provided for the Full capacity of each storage from Day one. This should include licenses for Management and monitoring module and all the storage features such as Snapshot, Cloning, Replication etc. Upgrade in capacity should not incur any additional license cost. Offered storage system have online and historical performance reporting capability. Offered storage system have online and historical performance reporting capability. At least 1 year of historical performance information should be available online for capacity and performance forecasting, trend analysis etc. In case this capability is not available natively, then necessary software subscription shall be provided for the entire duration of the contract.
17.	Protocol Support	CIFS, SMB, NFSV3&V4,HTTPS,HTTP,RESTAPIs,FTP, Linux FS (FUSE), S3 Protocol, SWIFT & all kinds of rest full APIs. Vendor shall configure the licenses all interfaces All above protocol shall be native to cluster and shall not require any additional gateway. Vendor can provision additional gateway if required from performance perspective but capability shall be native to main nodes only.
18.	Operating System Support	Support for multiple Operating Systems versions connecting to it, including but not restricted to Windows 2016,2019,2022 or later, UNIX (AIX & Solaris & HP Unix), Linux (Red hat, SUSE & OEL), Hypervisor (vSphere, Hyper V, red hat virtualization, Oracle virtualization & Nutanix) Support for multiple hardware environment but not limited to X86 machines and IBM power machines
19.	Ports	Minimum 4 Number of 10/25 Gigabit for IP Traffic per node and 2 Number of 10/25 Gbps for Replication (Network).

	Minimum Two Management Ports of 1Gbps
20.	Warranty and Support 3 Years, Comprehensive, On-Site Support Warranty with 2 years AMC including part replacement /repairs within 4 hours of reporting, and Software support for updates, upgrades, patches, and bug fixes for supplied s/w from OEM 24 x 7 x 365 days. In case of Disk failure, the faulty disk will be destroyed/ degaussed on replacement. Proactive storage monitoring & support from OEM should be enabled. The proposed bidder will need to ensure support of product & change of components @ zero cost in case of any part becoming obsolete/EOL & EOS during the warranty period.
21.	Other Features The proposed storage system should support SNMP, Address resolution protocol, Network Time Protocol, LDAP, Network Lock Manager. The Storage array should be licensed with Performance monitoring tools should be offered with the storage array. The proposed storage system shall support a browser based GUI built in management. All objects stored in Object Storage have a URL. All objects have their own metadata. Developers interact with the object storage system through a RESTful HTTP API. Object data can be located anywhere in the cluster. Backup & Recovery: Data backup and recovery rely on accessible and reliable storage. Object-based storage provides the infrastructure for secure data backup and efficient recovery procedures. There shall be no separate and dedicated control node or metadata node in the cluster. In case, nodes are separate then vendor shall over Metadata / control nodes in HA using active / active approach. Offered solution shall be completely redundant and there shall be no single point of failure. Offered solution shall have file integrity checking when reading the file and automatic rebuilt if an error is detected.

22.	Uptime	The storage should be able to provide availability parameter of 99.0 % from the date of acceptance of the Storage by Bank
23.	Power Supply	Storage should be provided with Redundant hot swappable Power supplies. The Power supplies should be FCC class A certified.
24.	No point Failure	Offered Storage Array should be based on a No Single Point of Failure (NSPOF) architecture with complete redundancy of controllers, power, cooling, etc.
25.	Global Spare	Offered Storage Array shall support distributed Global hot Spare capacity for offered Disk drives.
26.	Software	Management software must include both GUI and CLI tools. Management of the storage system should be through single management tool. The GUI must be able to configure all features, monitor the status and health of the storage system. If licensed, separately, the vendor needs to provide necessary licenses for full capacity. Vendor should provide storage array management software for configuration, administration and monitoring. Vendor shall offer the enterprise version of the software if there are multiple versions of the software. Software shall be able to manage all arrays of the same family. The performance monitoring should be real-time and historical providing IOPS response time and utilization of individual components within the storage array. Log Maintenance facility should be available. Storage should be compatible to integrate with Bank monitoring tool
27.	Remote Replication	2-way replication with zero data loss
28.	End of Sale & End of Support	The proposed Hardware and Software generation should be latest from the date of RFP submission and the proposed Hardware and Software should not become End of Sales for Three years from the date of delivery of hardware & End of support for 6 years from the date of delivery of hardware
29.	Controller & Availability	Minimum four controllers are required to provide 2.0PB usable space, hot swappable controllers for high availability, load balancing and redundant

	modes. Minimum 20 core should be available per controller Offered Storage array should be an enterprise class storage system with 99 % Data Availability guarantee.
30.	Data Management Features 1. it shall be possible to tag and search S3 Metadata. 2. Lifecycle Management - It shall be possible to automatically transition and expiration of data based on criteria. 3. it shall be possible to asynchronously replicate bucket to several Cloud targets 4. Offered storage shall support multi-tenancy and data isolation
31.	Ease of USE 1. Offered storage shall have full management and control with Supervisor and CLI • Powerful graphing capabilities & dashboards and Graphical Usage Monitoring • Auditing capabilities. • REST APIs For monitoring & management 2. Offered storage shall support role Based Access Control (RBAC)
32.	Compliance 1. Offered storage shall ensure that Data must be tamper-proof. 2. Data must be kept for a specified period which means offered storage shall provide retention mechanism. 3. Offered storage shall have capability to migrate the data to an alternative media
33.	Simplifying operations and management The proposed Hardware and Software generation should be latest from the date of RFP submission and the proposed Hardware and Software should not become End of Sales for Three years from the date of delivery of hardware & End of support for 6 years from the date of delivery of hardware Offered storage shall be have Simplified Operations & Management and shall provide: • Software Upgrades, Server replacements, or Capacity Extensions don't stop the system • Automated disk failure detection • Automatically rebuild for failed drive • Automated storage rebalancing

		• Disk replacement utility • Easily add servers or hard drives in the server • The system shall automatically rebuild the missing data in case of a hardware component failure.
34.	Multi-cloud Controller	1. Offered storage shall have in-built multi-cloud controller engine and shall provide the following features: • Shall Support writing data to any Cloud (Amazon S3, Google Cloud Storage, Microsoft Azure, Wasabi) via a single S3 API. • Shall Support local legacy NAS so that multi-cloud controller manage data in legacy storage • Shall have Open-Source interface allows developers to quickly test compatibility. • Shall Preserves native format of the data on any Cloud for providing the ability to read data directly on the public Clouds. • Shall support Replicating one to many so that a given bucket can be replicated to several private and public Cloud targets. • Shall support Lifecycle data to any Cloud for automatic transition and expiration of data based on criteria. • Shall support Out of band updates especially when data is directly updated on the public cloud, related metadata information is synchronized to the multi-cloud controller. • Shall have GUI Web interface to manage multi-cloud environment. 2. In case vendor doesn't support above features natively then vendor shall provision the complete cloud automation suite in their bid and shall provide the complete documentation in the bid.
35.	Node failures	Object storage should withstand minimum two node or 25% percent of total node (whichever is higher) failures without data loss.
36.	Disk Failures	Object storage should withstand minimum four disk failures without data loss.
37.	Cables	Necessary compatible power, network, fiber cables with required length to be supplied along with storage.

38.	Core technology - Object	1. Offered Object storage core technology shall be able to abstract the underlying servers, to create a uniformly scalable storage pool 2. There shall be No size limit for object or files which can be stored in the cluster. 3. Offered storage shall do automatic Rebalancing when adding a new server in the cluster 4. Offered storage shall allow capacity extensions done by adding disks to existing servers (scale-up) or adding additional servers to the system (scale-out).
39.	Peer to peer connectivity	1. Any change in the connecting topology, like adding the nodes, shall broadcast the change to few nodes instead of broadcasting to all nodes in the cluster. 2. Overall cluster shall provide the self-healing processes to monitor and automatically resolve component failures using re-build, proxy and rebalance aspects.

Table-H

Storage Technical Specifications: (Enterprise Block Storage 2.0PB Usable Space: DC -2, DRC - 2)

Sl. No.	Particulars	Detailed Configuration	Bidder's Compliance (Yes/No)
1.	Make	Bidders to specify	
2.	Model	Bidders to specify	
3.	Form Factor	Bidders to specify	
4.	Power Factor	Bidder to specify	
5.	Architecture	Controllers shall be active-active so that all volumes are automatically load balanced without needing administrative intervention for manual balancing of workloads/volumes.	
6.	Type	NVMe based SSD	
7.	Memory & Cache	Minimum 512 GB Cache per controller , Cache should be dynamically allocated for reads and writes without any fixed allocation.	

8.	Capacity	Minimum usable storage 2 PB after RAID6 or Dual RAID6 Configuration. (Without considering any data reduction features such as compression, deduplication etc .)
9.	Drives	2.5" to 3.5" drives
10.	Hard Disk Capacity	Each hard disk Capacity should not be less than 15 TB and not more than 20 TB
11.	Scalability	Each storage up to 5PB (Scale UP) and 8 controller (Scale Out) DIP(data in-place) upgrade capability
12.	Performance	Capable of delivering sustained minimum 10GB/s throughput and 5,00,000 IOPS in (read: write) (70:30) ratio with microsecond response time.
13.	RAID Support	RAID array supporting 10, 0, 1, 5 and 6 or better levels. It should support a mix and match of RAID levels behind a pair of controllers. The storage array should allow online expansion of existing RAID Groups / Storage Disk Pools.
14.	Encryption	should have native encryption capabilities as per PCI DSS standards and encryption should not add any performance overheads
15.	Backup	During power failure, Data in the cache should be safely written to the disks prior to performing a graceful shutdown. Data loss in storage should be zero due to any issues noticed in the Datacenter or any natural calamities.
16.	Services	Proposed storage array should include storage based Thin Provisioning, compression, inline Deduplication Synchronous-Asynchronous Replication, Snapshot, and Volume cloning features for the entire supported capacity of the storage array from day one. All the required or necessary licenses must be perpetual and provided for the Full capacity of each storage from Day one. This should include licenses for Management and monitoring module and all the storage features such as Snapshot, Cloning, Sync and Async Replication etc. Upgrade in capacity should not incur any additional license cost Offered Storage management console shall be able to manage multiple arrays from a single console is preferred. Management console shall provide following functionalities: Offered storage system have online and historical performance reporting capability. At least 1 year

		of historical performance information should be available online for capacity and performance forecasting, trend analysis etc. In case this capability is not available natively, then necessary
		software subscription shall be provided for the entire duration of the contract.
17.	Protocol Support	Fiber Channel & iSCSI
18.	Operating System Support	Support for multiple Operating Systems versions connecting to it, including but not restricted to Windows 2016,2019,2022 or later, UNIX (AIX & Solaris & HP Unix), Linux (Red hat, SUSE & OEL), Hypervisor (vSphere, Hyper V, Red hat Virtualization, Oracle virtualization & Nutanix) Support for multiple hardware environment but not limited to X86 machines and IBM power machines
19.	Ports	Minimum 16 number of FC Ports of 32/64 Gbps each (SAN), Minimum 4 Number of 10/25 Gbps for IP Traffic (iSCSI) and 2 Number of 10/25 Gbps for Replication (Network).Minimum two management Ports of 1Gbps. Storage should support FC-NVMe: 32Gb/s
20.	Warranty and Support	3 Years, Comprehensive, On-Site Support Warranty and 2 years AMC including part replacement /repairs within 4 hours of reporting, and Software support for updates, upgrades, patches, and bug fixes for supplied s/w from OEM 24 x 7 x 365 days. In case of Disk failure, the faulty disk will be destroyed/ degaussed on replacement. Proactive storage monitoring & support from OEM should be enabled. The proposed bidder will need to ensure support of product & change of components @ zero cost in case of any part becoming obsolete/EOL & EOS during the warranty and AMC period.
21.	Other Features	The proposed storage system should support SNMP, Address resolution protocol, Network Time Protocol, LDAP. The Storage array should be licensed and Performance monitoring tools should be offered with the storage array. The proposed storage system shall support a browser-based GUI built in management. The proposed storage should able to create multiple array pools so that same storage can be

		used for server virtualization and for database pools.
22.	Uptime	The storage should be able to provide availability parameter of 99.90 % from the date of acceptance of the Storage by Bank
23.	Power Supply	Storage should be provided with Redundant hot swappable Power supplies. The Power supplies should be FCC class A certified.
24.	No Single point of Failure	Offered Storage Array should be based on a No Single Point of Failure (NSPOF) architecture with complete redundancy of controllers, power, cooling, etc.
25.	Global Hot Spare	Offered Storage Array shall support distributed Global hot Spare capacity for offered Disk drives.
26.	Software	Management software must include both GUI and CLI tools. Management of the storage system should be through single management tool. The GUI must be able to configure all features, monitor the status and health of the storage system. If licensed, separately, the vendor needs to provide necessary licenses for full capacity. Vendor should provide storage array management software for configuration, administration and monitoring. Vendor shall offer the enterprise version of the software if there are multiple versions of the software. Software shall be able to manage all arrays of the same family. The performance monitoring should be real-time and historical providing IOPS response time and utilization of individual components within the storage array. Log Maintenance facility should be available. Storage should be compatible to integrate with Bank monitoring tool
27.	Remote Replication	Offered Storage array should provide both Synchronous and Asynchronous replication across 2 storage arrays natively. Offered Storage array shall support 3 Data Center solution natively where Primary site shall be able to replicate synchronously to near-by / Bunker location and at the same time shall be able to replicate to Far location asynchronously. Necessary replication licenses/Infrastructure required for replication should be provided with the array

28.	End of Sale & End of Support	The proposed Hardware and Software generation should be latest from the date of RFP submission and the proposed Hardware and Software should not become End of Sales for Three years from the date of delivery of hardware & End of support for 6 years from the date of delivery of hardware
29.	Controller & Availability	Storage should have minimum two active controllers, hot swappable controllers for high availability, load balancing and redundant modes. Offered Storage array should be an enterprise class storage system with 99.90 % Data Availability guarantee. The offered array should be an end-to-end NVMe storage system and capable of supporting NVMeoF over Fibre Channel for Hosts. Controllers shall be active-active so that all volumes are automatically load balanced without needing administrative intervention for manual balancing of workloads/volumes.
30.	Quality of service	Offered storage array shall support quality of service for critical applications so that response time requirements can be defined for specific applications / LUNS. Quality of service feature should allow definition of minimum and maximum cap for required IOPS / bandwidth for a given volume or set of volumes.
31.	Capacity Efficiency features	Offered storage array should support thin provisioning It should also support inline data reduction (deduplication & compression) for maximizing flash storage capacity The array should offer the flexibility to enable / disable the data reduction on a per-volume basis
32.	Snapshots / Point in time copies	The storage array should have support for controller-based snapshots (At-least 128 copies for a given volume). The snapshots should be capable of being designated either as Read Only or Read/Write as required
33.	Multipathing	Multipathing across two controllers. Data path should work consistently on active-active and NOT

	in hot standby. All LUNs should have visibility through all controllers and data flow should happened through them.

Table-I

Technical Specification of 27 server racks (19 Nos at DC - Single Phase, 8 Three Phase)

Sl. No.	Particulars	Detailed Configuration(DC)	Bidder's Compliance Yes/No
1.	Make	Bidders to specify	
2.	Model	Bidders to specify	
3.	Power Factor	PDU Single Phase with 63A Server rack mount power distribution unit 1Ph,230V,63A 50/60Hz with redundancy.	
		PDU Three Phase with 32A Server rack mount power distribution unit 3Ph,440V,63A 50/60Hz with redundancy.	
4.	Form Factor	42 U Rack Frame with all necessary side panels	
5.	Colour	Black Colour	
6.	Wheels	Rack wheels for rack movement	
7.	Rack Size	600 mm*1200mm *2100mm (600mm - Width , 1200mm Depth , 2100mm Height)	
8.	Lock Mechanism	Mechanical lock with key for both front and back door	
9.	PDU Socket details	Zero U standard with minimum 20 x C13 (20 power sockets with C13 type) and minimum 4 x C19 (4 power socket with C19 type) Per PDU Dual PDU should be made available for each rack	
10.	Over load protection MCB	PDU rating approximate 14KVA per PDU for single phase with 63A (4 MCB) PDU rating approximate 22KVA per PDU for Three phase with 32A (6 MCB)	
11.	Bottom feed	Minimum 3 Meters IEC 309 input plug top	
12.	Others	Levelers Required Ganging kits and necessary tool for mounting PDU with side doors and necessary Cable organizer. Adjustable screw legs - 4 No.	
13.	Fan	fans on the top side of rack (desirable)	
14.	Compatibility	Rack should be compatible to mount all the hardware's supplied in this RFP	
15.	Cable Loops	Minimum Eight cable loops to be provided per rack for cable dressing	
16.	Certification	UL certified	
17.	Mounting	The bidder shall have to mount new as well as existing servers and other devices in the rack and	

	will have to provide the rack mounting kit accordingly
18. Grounding	Copper based Electrical Grounding / Earthing Strip

Table-J

Technical Specification of server racks (23 Nos with three phase at DR)

Sl. No.	Particulars	Detailed Configuration(DR)	Bidder's Compliance Yes/No
1.	Make	Bidders to specify	
2.	Model	Bidders to specify	
3.	Power Factor	PDU Three Phase with 32A Server rack mount power distribution unit 3Ph,230V,32A 50/60Hz with redundancy.	
4.	Form Factor	45 U Rack Frame with all necessary side panels	
5.	Colour	Black Colour	
6.	Wheels	Rack wheels for rack movement	
7.	Rack Size	600 mm*1200mm (600mm - Width , 1200mm Depth)	
8.	Lock Mechanism	Mechanical lock with key for both front and back door	
9.	PDU Socket details	Zero U standard with minimum 20 x C13 (20 power sockets with C13 type) and minimum 4 x C19 (4 power socket with C19 type) Per PDU. Dual PDU should be available for each rack.	
10.	Over load protection MCB	16A MCB X 2 circuits - PDU rating approximate 8KVA	
11.	Bottom feed	Minimum 3 Meters IEC 309 input plug top	
12.	Others	Levelers Required Ganging kits and necessary tool for mounting PDU with side doors and necessary Cable organizer	
13.	Fan	fans on the top side of rack (desirable)	
14.	Compatibility	Rack should be compatible to mount all the hardware's supplied in this RFP	
15.	Cable Loops	Minimum Eight cable loops to be provided per rack for cable dressing	
16.	Certification	UL certified	
17.	Mounting	The bidder shall have to mount new as well as existing servers and other devices in the rack and will have to provide the rack mounting kit accordingly	
18.	Grounding	Copper based Electrical Grounding / Earthing Strip	

Table-K
Technical Specification of Network TOR Switches
DC and DRC Switch Technical Specification:

Sl. No.	DC and DRC Switch Technical Specification:	Compliance(Y/N)
A	Type 1 Switch - 14 numbers (07 numbers in DC and 07 numbers in DRC) - Mgmt.	
1.	Switch must have 48 Gig Ethernet ports and 2 x 10G SFP+ for uplink on single chassis.	
2.	Switching capacity should be equal to greater than 100 Gbps.	
3.	Mac address table size should be equal to greater than 16000.	
4.	Switch must be supplied with compatible Trans receiver for Fiber ports.	
5.	Switch must have redundant Power Supply.	
6.	Switch should have USB/Ethernet management interfaces.	
7.	Switch should have minimum Flash memory 128 Mb.	
8.	Switch should have minimum DRAM 512 Mb.	
9.	Switch should be managed in an IPv6 network(IPv6 Device IP)	
10.	Switch should support Dual stack (IPv4 and IPv6) transitions from IPv4 to IPv6, support connectivity for both protocols	
11.	Switches should support Spanning Tree Protocol (STP)	
12.	Switch should support link aggregation control protocol (LACP) and port trunking.	
13.	Switch should support VLAN support and tagging support IEEE 802.1Q.	
14.	Switch should support Simple Network Management Protocol (SNMPv2 and SNMPv3).	
15.	Implement Access Lists on the switch to ensure SNMP access only to the SNMP manager or the NMS workstation.	
16.	Switch should support duplicates port traffic (ingress and egress) to a local or remote monitoring port.	
17.	Implementation of multiple Privilege Levels should be supported.	
18.	Switch should Support for authentication, authorization, and accounting (AAA) using RADIUS and TACACS+.	
19.	Switch should support FTP, TFTP, and SFTP.	
20.	Switch should support Extensive debugging capabilities to assist in hardware/Configuration problem resolution, should supports ping and traceroute for both IPv4 and IPv6.	
21.	Switch should support integration for Network Time Protocol (NTP), SIEM.	
22.	The Switch must be able to generate Syslog Messages with timestamp, which can be exported to a Syslog Server.	
23.	The Switch shall integrate with centralized network management software.	
24.	The Switches must be supplied with Indian Standard Power cables.	

25.	The switch shall have management security features like SSHv2 / Secure copy, encrypted user passwords, and authentication via AAA and RADIUS / TACACS+ to prevent unauthorized management access"	
26.	Switch should have Custom banner display.	
27.	Proposed Switches must integrate seamlessly with active - active ports for redundancy and high availability from two core/distributed switches from day one with our existing infrastructure of Cisco/Juniper Datacenter router/switches.	
28.	24*7*365 days Technical support with response time of 30 minutes.	
29.	Four hours RMA support in case of any hardware failure.	
B. Type 2 Switch - 24 numbers (12 DC+ 12 DRC) for Data		Compliance(Y/N)
1.	Switch must be Data Center grade switch. Switch should be configurable/deployable with other switches to utilize all available links through multi-path forwarding.	
2.	Switch must have 48 fixed 10-G BASE-T ports	
3.	6 fixed 40/100-Gbps QSFP+ ports for uplink connectivity with fully populated trans receivers on single chassis.	
4.	48 downlink ports should be configured to work as 1 & 10Gbps.	
5.	Switch should support EVPN and Virtual Extensible LAN (VXLAN) to create Fabric. Fabric should be capable to integrate with SDDC like Open stack, VMWare etc. Switch should support In Service Software Upgrade.	
6.	Switch throughput should be more than equal to 1 bpps.	
7.	Latency should be less than 2 microsecond.	
8.	Mac address table size should be equal to greater than 2 lakhs.	
9.	Switch should support more than 4000 Vlans.	
10.	Switch must be supplied with compatible Trans receiver for all Optical/Fiber ports.	
11.	Switch must have redundant Fan and Power Supply.	
12.	Switch should provide flexibility for 10GbE top-of-rack deployment.	
13.	Switch should have USB/Ethernet management interfaces.	
14.	Switch should be managed in an IPv6 network(IPv6 Device IP)	
15.	Switch should support Dual stack (IPv4 and IPv6) transitions from IPv4 to IPv6, support connectivity for both protocols	
16.	Switches should support Spanning Tree Protocol (STP)	
17.	Switch should support link aggregation control protocol (LACP) and port trunking IEEE 802.1AX-2008.	
18.	Switch should support VLAN support and tagging support IEEE 802.1Q.	
19.	Router should support Simple Network Management Protocol (SNMPv2 and SNMPv3).	

20.	Implement Access Lists on the switch to ensure SNMP access only to the SNMP manager or the NMS workstation.	Compliance(Y/N)
21.	Switch should support duplicates port traffic (ingress and egress) to a local or remote monitoring port.	
22.	Implementation of multiple Privilege Levels should be supported.	
23.	Switch should Support for authentication, authorization, and accounting (AAA) using RADIUS and TACACS+.	
24.	Switch should support FTP, TFTP, and SFTP.	
25.	Switch should support Extensive debugging capabilities to assist in hardware/Configuration problem resolution, should supports ping and traceroute for both IPv4 and IPv6.	
26.	Switch should support integration for Network Time Protocol (NTP), SIEM.	
27.	The Switch must be able to generate Syslog Messages with timestamp, which can be exported to a Syslog Server.	
28.	The Switch shall integrate with centralized network management software.	
29.	The Switches must be supplied with Indian Standard Power cables.	
30.	The switch shall have management security features like SSHv2 / Secure copy, encrypted user passwords, and authentication via AAA and RADIUS / TACACS+ to prevent unauthorized management access"	
31.	Proposed Switches must integrate seamlessly with active - active ports for redundancy and high availability from two core/distributed switches from day one with our existing infrastructure of Cisco/Juniper Datacenter router/switches.	
32.	Switch should have Custom banner display.	
33.	High Mean Time Between Failure values (>3.5 lakh hours) should be available to ensure long life of switch hardware.	
34.	24*7*365 days Technical support with response time of 30 minutes.	
35.	Four hours RMA support in case of any hardware failure.	
C.	Type 4 Switch - 4 numbers (2 DC+ 2 DRC) - Storage	
1.	Switch must be Data Center grade switch. Switch should be configurable/deployable with other switches to utilize all available links through multi-path forwarding.	
2.	Switch must have 48 x 25-Gbps fiber downlink ports and 6 x 100-Gbps Quad Small Form-Factor Pluggable 28 (QSFP28) uplink ports with fully populated trans receivers on single chassis.	
3.	48 downlink ports should be configured to work as 25 Gbps.	
4.	Switch should support EVPN and Virtual Extensible LAN (VXLAN) to create Fabric. Fabric should be capable to integrate with SDDC like Open stack, VMWare etc. Switch should support In Service Software Upgrade.	
5.	Switch throughput should be more than equal to 2 bpps.	

6.	Latency should be less than 1 microsecond.
7.	Mac address table size should be equal to greater than 2 lakhs.
8.	Switch should support more than 4000 Vlans.
9.	Switch must be supplied with compatible Trans receiver for all Fiber ports.
10.	Switch must have redundant Fan and Power Supply.
11.	Switch should provide flexibility for 25GbE top-of-rack deployment.
12.	Switch should have USB/Ethernet management interfaces.
13.	Switch should be managed in an IPv6 network(IPv6 Device IP)
14.	Switch should support Dual stack (IPv4 and IPv6) transitions from IPv4 to IPv6, support connectivity for both protocols
15.	Switches should support creation of one virtual resilient switch from up to two switches by using standard LACP for automatic load balancing and high availability or by other equivalent method.
16.	Switches should support Spanning Tree Protocol (STP)
17.	Switch should support link aggregation control protocol (LACP) and port trunking IEEE 802.1AX-2008.
18.	Switch should support VLAN support and tagging support IEEE 802.1Q.
19.	Switch should support Simple Network Management Protocol (SNMPv2 and SNMPv3).
20.	Implement Access Lists on the switch to ensure SNMP access only to the SNMP manager or the NMS workstation.
21.	Switch should support duplicates port traffic (ingress and egress) to a local or remote monitoring port.
22.	Implementation of multiple Privilege Levels should be supported.
23.	Switch should Support for authentication, authorization, and accounting (AAA) using RADIUS and TACACS+.
24.	Switch should support FTP, TFTP, and SFTP.
25.	Switch should support Extensive debugging capabilities to assist in hardware/Configuration problem resolution, should supports ping and traceroute for both IPv4 and IPv6.
26.	Switch should support integrate Network Time Protocol (NTP), SIEM
27.	The Switch must be able to generate Syslog Messages with timestamp, which can be exported to a Syslog Server.
28.	The Switch shall integrate with centralized network management software.
29.	The Switches must be supplied with Indian Standard Power cables.
30.	The switch shall have management security features like SSHv2 / Secure copy, encrypted user passwords, and authentication via

	AAA and RADIUS / TACACS+ to prevent unauthorized management access"	
31.	Proposed Switches must integrate seamlessly with active - active ports for redundancy and high availability from two core/distributed switches from day one with our existing infrastructure of Cisco/Juniper Datacenter router/switches.	
32.	Switch should have Custom banner display.	
33.	High Mean Time Between Failure values (>3.5 lakh hours) should be available to ensure long life of switch hardware.	
34.	24*7*365 days Technical support with response time of 30 minutes.	
35.	Four hours RMA support in case of any hardware failure.	

In addition to the above access switches Bidder to supply Distribution Switches in High availability with required capacity to connect all supplied access switches with dual uplink of 10/40/100 Gbps in active-active mode for redundancy and load sharing (DC - 2, DRC - 2)

Table-L

Backup Solution for 500 Servers at DC and DRC

Sl. No.	Detailed Configuration-Backup Solution	Bidder's Compliance (Yes/No)
1.	Make - Bidders to specify	
2.	Backup Software version - Bidders to specify	
3.	Backup Management Solution should support backup of Physical, Virtual and Micro services (container) environments	
4.	Backup software should support agent/agentless backups of applications residing in VMs like SQL, Exchange, SharePoint, Oracle, etc. with non-staged granular recovery of all these applications. It should support crash consistent VM level backup for all other workloads	
5.	Backup software should be a Hardware Agnostic software and it should support snapshot integration with hypervisors like VMware and Hyper-V and support de-duplication on any storage target. It should be able to backup data to tapes (like LTO) as well for long term retention..	
6.	The proposed Backup software must offer instance based licenses with no restrictions on type of arrays (protecting heterogeneous storage technologies), front end production capacity or backup to disk target capacity restrictions. Licenses and associated software should be supplied for both primary and DR site.	
7.	Required License should be supplied to protect virtual machines, physical servers, NAS workload, Endpoints and multi cloud workload including all database applications running on these platforms	
8.	Backup software should have Capability to do trend analysis for capacity planning of backup environment, extensive alerting and reporting with pre-configured and customizable formats. Any specialized reporting modules needed must be quoted along with associated hardware to achieve this functionality. All necessary hardware resources required to run this module should be supplied.	
9.	Proposed solution should support 24x7 real-time monitoring, with at-a-glance and drill-down views of backup items to check the backup status like backup size, backup files count, backup servers count, backup timings , number of times backed up etc.,	
10.	Proposed solution should have security and compliance dashboard inbuilt with the product.	
11.	Backup software should provide Backup and Replication capabilities in one console only and also allow users to integrate with RBAC capabilities of the hypervisor, so that users can initiate backup and restore only those VMs to which they have	

	access, without administrator intervention, thereby delivering self-serve capabilities.	
12.	Proposed solution should support automated action for popular alarms (automated or semi-automated), with at-a-glance and drill-down view	
13.	The proposed backup software should have object storage backup.	
14.	The Proposed solution should not have any limitation on the number of incremental backups that could be taken post a Full backup.	
15.	Backup software should support instant file share recovery in NAS storages to allow users to access files fast after disaster.	
16.	Proposed backup software should have the ability to perform staged restores to enable admins to comply to regulations by selectively deleting files / records which should not be restored from the backup copies. This will help in complying to "right to be forgotten" regulations like GDPR, where user data is deleted from restored backup copies in an auditable manner.	
17.	Software should be able to extend the backup repository to a public cloud service provider by moving older files to any S3 Compatible Object storage or Azure BLOB repositories.	
18.	The software must has the functionality to back up on-prem data directly into cloud repositories such as AWS S3 or Microsoft Blob.	
19.	The proposed backup software should have approval flow for any backup deletion.	
20.	The Proposed backup Software should support Syslog and Service Now integration.	
21.	Recovery verification should automatically boot the server from backup and verify the recoverability of VM image, Guest OS and Application Consistency and then publish automated reports to be used in backup / recovery audits.	
22.	Backup software should support Multi factor authentication for accessing Backup console and console auto log-off functionality.	
23.	The proposed backup software should have a native solution to protect Kubernetes/Container workloads; without the need of a 3rd party solution.	
24.	The proposed backup software should provide Instant recoveries for any backup to VMware or Hyper-V Virtual machine	
25.	Backup software must have a feature of data validation, whereby a workload (VM with OS and application) is powered-on in a sandbox environment and tested for its recoverability	
26.	Backup software should support file level recovery from any backup of any VM.	

Container Environment

27.	Offered backup solution should multiple kubernetes distributions including RHOS, VMware Tanzu, SUSE Rancher, Ezmeral Runtime etc.	
28.	Proposed backup software should be scalable to any number of worker nodes	
29.	Backup software should have the ability to take application consistent backup at granular level for micro-services	
30.	It should support integration with relational and no-sql databases.	
31.	Proposed software should have cloud storage integration	
32.	Proposed solution have role base access control on the backup server	
33.	Offered solution should support intelligent policy definitions for backup windows, automatic staggering of backups to reduce impact on the system backend, use of declarative policies for backups etc.	
34.	Should preferably support auto-discovery of applications needing protection and provide alerting capability	
35.	Should support CSI integration and leverage underlying storage capabilities such as snapshots and replication of leading storage vendors including Dell EMC, HPE, Hitachi etc. Compatibility list to be provided	
36.	Should support direct integration support and air-gapped environments with support for private registries	
37.	Should provide both GUI (dashboard) access as well as CLI using kubectl APIs.	
38.	Should support multiple independent k8s clusters	
39.	Backup software should support immutable backups for protecting backups from ransomware and malicious attacks. The immutability should be controllable from the backup management specification itself.	
40.	The backup software should have native storage integrations with all leading Storage platforms from Dell EMC, HPE, IBM, Hitachi, Netapp etc.	
41.	The backup software should support multiple types of backup repositories including Purpose built backup alliances, S3 Object Storage, Hardened NFS repositories etc. Compatibility list to be provided.	
42.	Offered device should flexibly provide the following backup target types - VTL & NAS (NFS & CIFS).	
43.	Offered device shall have the ability to configure multiple Tape Libraries & NAS targets.	
44.	Offered device should support source based and target based de-duplication and should be integrated with all well-known backup ISVs - Veeam, Commvault, Data Protector, NetBackup etc.,	

45. Offered Device shall integrate and utilize customer's current tape backup infrastructure in the following aspects :
Compatibility with existing tape library and tape drives
Offered device shall have integrated de-duplication license & replication license so that only unique data or DE duplicated data are transferred to remote / DR location.
- Offered device should be supported in source based and target based de-duplication and shall be integrated with all well-known backup ISVs.
- The appliance should also have native data immutability feature within the appliance that can be used independent of the backup ISV.
46. The proposed Software generation should be latest version the date of RFP submission and the proposed Hardware and Software should not become End of Sales for three years from the date of the submission of the RFP and End of Life for 6 years from the date of the submission of the RFP

Table-M

Technical Specification of Managed file transfer Solution:

Sl. No.	Detailed Specification	Compliance(Y/N)
1.	The proposed solution should be On-Premise deployment.	
2.	The proposed solution must centrally manage all file transfers in a secure manner.	
3.	The MFT solution should support FTP, FTP/S, SSH/SFTP, SSH/SCP and should have capability to support, AS1,AS2,AS3 etc. for future requirements.	
4.	The proposed solution should provide strong file encryption mechanism to encrypt data at rest and in transit	
5.	The solution should also provide a Web browser-based interface that enables users to upload/download files.	
6.	Users should view recent activity and status for file transfers they participated in, Generate reports for activity they participated in, Change their password, Subscribe to notifications.	
7.	The proposed solution should be able to support multiple file transfer job simultaneously	
8.	The proposed solution should provide a mechanism to allow external and internal entities to participate in file transfers within the same centralized server system.	

9.	The proposed solution should support automated file transfer job.
10.	The proposed solution should be capable of sending alerts for failed task job to respective job owner
11.	The software should support predefining the business processes for common behaviors in file-transfer scenarios, reducing the need for customization
12.	The proposed solution should allow downloading a file multiple times.
13.	The proposed solution should be able to restrict the file transfer based on file extension, IP, file size, header body parameter validation.
14.	The proposed solution should support manual intervention of file retention timelines, business process retentions.
15.	The proposed solution should provide inbuilt authentication options, including IP address, user ID and password, digital certificates, SSH keys.
16.	The proposed solution should have mechanism to configure different password policies for external entities within the same solution
17.	All SFTP users passwords should have option to change their password on their own as and when needed or when password expires as per policy
18.	The proposed solution should have time based access control for external entities
19.	The proposed solution should be able to provide successful access audit, failed access, configuration change logs, end to end transaction monitoring and troubleshooting.
20.	The proposed solution should be able to allow blacklisting of IP's basis region, Set of IP's
21.	The proposed solution should have capability to keep transaction/log data separate from the file system data. It should have also capability to store file system, transaction DB on the cloud.
22.	The proposed solution should be able to terminate the session while the user is inactive for predefined time.
23.	The proposed solution should prevent direct communications between external and internal sessions by establishing secure session breaks in the DMZ using SSL or TLS encryption
24.	The proposed solution should support configuring data retention policy for at least 6 months.
25.	The software should allow to automate purge or archive files.
26.	The proposed solution should have support of Peer to Peer (Point to Point) deployments

27.	The proposed solution should support all major industry operating systems (Windows, Linux, AIX, Solaris) and hardware (X-86 & Power, IBM Z, HP-UX)
28.	The proposed solutions should allow addition of infrastructure/hardware to support higher usage for future requirement.
29.	The proposed solution should provide embedded database and should also support and option to deploy it on oracle DB.
30.	The proposed solution should have a separate dashboard to monitor real time file transfer jobs, alerts, warnings.
31.	The proposed solution should provide proactive notification for at-risk business processes in the form of emails, SNMP traps, and alerts
32.	The proposed solution should allow to configure email to send schedule compliance reports.
33.	The proposed solution should be support MFA (Multi Factor Authentication) solution.
34.	The Proposed solution should have inbuilt mechanism to validate external entities in the DMZ using multiple authentication mechanism before they enter the green zone
35.	The proposed solution should support high available architecture/deployments link Active-Active, Active-Passive.
36.	The proposed solution should not restrict adding user as and when required.
37.	The solution should support oracle DB for transactional/ logs as well as file system database.
38.	The solution should support deploying HA at DR and DC-DR architecture
39.	The proposed solution should support sending file in encryption form and should have an option receive it encrypted or decrypted at the destination.
40.	The proposed solution should allow user to send a file to multiple users in different protocols at a same time.
41.	The solution should provide option to integrate with existing antivirus to scan file before it enters internal/ green zone.
42.	Application should have a capability to transfer file at multiple locations at the same time.
43.	Required license to run in active- active setup and for entire solution of total 16 core to be supplied.
44.	The solution should possess the capability to seamlessly integrate with Active Directory
45.	The solution should support sharing of files with all file extensions and sizes, ensuring versatility and flexibility for users' needs.

46.	The solution should possess the capability to create shared folders for each group, department, or team, with customizable access levels and storage size restrictions.
47.	Users should have the ability to securely send files to recipients by generating a link and then emailing the link to the intended receiver.
48.	The solution should be capable of supporting both on-premises and cloud storage repositories, offering flexibility and compatibility with various storage environments. The solution should support any brand and models of storage and hardware.
49.	The solution should support automated data cleanup based on specified criteria such as number of days.
50.	The solution should include comprehensive audit logging capabilities, capturing all activities such as data upload, share, download, cut, copy, paste, and rename. These logs must be stored in a non-tamperable format to ensure the integrity and reliability of the recorded information for compliance and security purposes.
51.	The solution should allow for customizable validity periods for shared links based on specific dates and times. This feature enables administrators or users to set expiration dates and times for shared links, ensuring that access is limited to the desired timeframe.
52.	The solution should offer command-line support, enabling seamless integration with external workflows and automation processes.

Table-N

Technical Specifications of 4 SAN Director (2 Nos at DC and 2 Nos at DR)

Sl. No.	Detailed Configuration	Specification	Bidder's compliance (Yes/No)
1.	Bidder to specify make		
2.	Bidder to specify model		
3.	Bidder to specify form factor		
4.	Bidder to specify the power factor		
5.	SAN Director should be configured with minimum 3Blades*48 ports= 144 FC SAN ports with populated 32Gbps SFP Transceiver Modules and should be negotiable speed with 16/32 Gbps. SAN Director should support		

	64GBps trans receiver compatibility for future upgrade		
6.	Scalable further with 48 port*5 blades =240 FC SAN ports.		
7.	SAN director should have Dual Controllers		
8.	The switch should have 3Tbps BW per port blade providing line rate performance with 64G Line card in every Slot.		
9.	The switch should support 512 Gbps BW for ISL Trunking connectivity and Cut Thru Switching. Necessary Licenses to be provided by the bidder.		
10.	The switch should auto-negotiate with 64/32/16 Gbps FC speed		
11.	Switch should support multiprotocol architecture such as FC, FICON, FCIP and FCR		
	Support for multiple Operating Systems versions connecting to it, including but not restricted to Windows 2016 or later, UNIX (AIX & Solaris & HP Unix), Linux (Red hat, SUSE & OEL), Hypervisor (vSphere, Hyper V , Red hat Virtualization, Oracle virtualization & Nutanix),RHCOS. Support for multiple hardware environment but not limited to X86 machines and IBM power machines		
12.	<u>Maintenance:</u>		
13.	Warranty and Support	3 Years, Comprehensive, On-Site Support Warranty and 2 Year AMC including part replacement /repairs within 4 hours of reporting, and Software support for updates, upgrades, patches, and bug fixes for supplied s/w from OEM 24 x 7 x 365 days. The proposed bidder will need to ensure support of product & change of components @ zero cost in case of any part	

		becoming obsolete/EOL & EOS during the warranty and AMC period.	
14.	Uptime	The SAN Switch should be able to provide availability parameter of 99.90 % from the date of acceptance of the Storage by Bank	
15.	Power Supply	SAN Switch should be provided with Redundant hot swappable Power supplies. The Power supplies should be FCC class A certified	
16.	Cables	Necessary compatible power, network, Fiber cables with required length to be supplied along with storage.	
17.	Throughput	The aggregate backplane bandwidth of switch should be scalable more than 24Tbps of Fiber channel throughput for fully populated director	
18.	No Single point of Failure	The switch should have No Single Point of Failure (SPOF) and all the components should be hot swappable without even scheduled down time.	
19.	Monitoring	The switch should have Real time performance monitoring reporting tool	
20.	Diagnostics	The switch should have support for POST & online diagnostics	
21.	Other Features		
		The switch should have capability to interface with host based adapters (HBA) of multiple OEM, supporting multiple Operating Systems	
		The switch should have support of all leading SAN / NAS disk arrays and tape libraries	
		The switch should have Inter Switch linking feature to connect two or more FC switches	

	The switch should have trunking capability. The required software license should be supplied with switch	
	The switch should Provide Adaptive Networking services such as Quality of Service (QoS)	
	The switch should have high availability feature with no performance degradation of switching operation even when one of the processor card fails	
	The Switch should have Analytics and telemetry capabilities within the Switch	
	The Information generated by SAN Analytics should include at least counters and indicators related to latency, completion time, Outstanding I/Os, I/O block size etc.	
	The solution should be used to monitor storage traffic patterns for extended durations. This information should be used to profile the applications for their storage needs. Recommendation based on storage traffic patterns of the same application to other virtual machines or hosts should be provided for future expansion	
	The Analytics solution should provide performance metrics of the available LUNs to enhance the storage provisioning	
	The solution should have auditability It should be able to generate multiple performance and error metrics for the complete storage fabric using a holistic	

	approach to perform audits in the storage infrastructure.	
	The Information generated by SAN Analytics should include at least counters and indicators related to latency, completion time, Outstanding I/O's, I/O block size etc.	
	FCIP interface should have compression feature	
	SAN Switches should support NVME/ NVME-oF	
	All the ports shall be activated on day one and all necessary licenses and SFP shall be provided	
	The Switches should be IPv4/IPv6 Compliant	
	Any SAN Switch level configuration required for integration of the storage with any new applications in future to be carried out by the bidder during implementation and warranty and AMC period with no extra cost (as many times as may be required)	
	The switch should have following security features	
	Must have hardware & Software zoning	
	Centralized fabric management	
	Authentication protocol	
	RADIUS, SSH, SNMP	
	Port binding	
	The switch should support offline diagnostics, including electrical/optical loopback, link traffic/latency/distance including environmental monitoring, FCping and Pathinfo (FC traceroute), 256 bit encryption, compression, frame viewer, non-disruptive	



	daemon restart, port mirroring	
	Switch should provide advanced zoning capabilities and allow health and performance monitoring capabilities. Support for web based management and should also support CLI	
	The director class switch should provide Inter Chassis Link (ICL) for connecting multiple Chassis	
	The director class switch should support non-disruptive Microcode/ firmware Upgrades and hot code activation.	
	It should be possible to isolate the high bandwidth data flows traffic to specific ISLs/trunks by simply using Zoning.	
	Switch should support Virtual Fabrics feature that enables partitioning of a physical SAN into logical fabrics and isolation by application, business group, customer, or traffic type.	
	Switch should provide advanced zoning capabilities and allow health and performance monitoring capabilities. Support for web based management and should also support CLI.	

		Should support features such as Quality of Service (QoS) to help optimize application performance in consolidated, virtual environments. It should be possible to define high, medium and low priority QoS zones to expedite high-priority traffic.
		It shall be possible to configure the switches with alerts based on threshold values for temperature, fan status, Power supply status, port status.
		Switch shall support diagnostics features such as port mirroring, Syslog, Online system health, Port-level statistics etc.
22.	Port Types	The switch shall support different port types such as U_Port, , F_Port, E_Port, SIM port, EX_Port, D_Port (Diagnostic Port) & M_Port (Mirror Port)
23.	Firmware Upgrades	The director class switch should support non-disruptive Microcode/ firmware Upgrades and hot code activation.

Table-O
Technical Specifications of 8 SAN Switch (4 Nos at DC and 4 Nos at DR)

Sl. No.	Detailed Configuration	Specification	Bidder's compliance (yes/No)
1.	Bidder to specify make		
2.	Bidder to specify model		
3.	Bidder to specify form factor		
4.	Bidder to specify the power factor		

SAN Switch should be configured with minimum 96 FC SAN ports with populated 32Gbps SFP Transceiver Modules and should be negotiable speed with 16/32 Gbps.		
5.	ISL Trunking connectivity and Cut Thru Switching. Necessary Licenses to be provided by the bidder.	
SAN Switch should support 64GBps trans receiver compatibility for future upgrade		
	Operating System Support	Support for multiple Operating Systems versions connecting to it, including but not restricted to Windows 2016 or later, UNIX (AIX & Solaris & HP Unix), Linux (Redhat, SUSE & OEL), Hypervisor (vSphere, Hyper V, Redhat Virtualization, Oracle virtualization & Nutanix), RHCOS.
6.		Support for multiple hardware environment but not limited to X86 machines and IBM power machines
7.	Maintenance	Should Support online upgrade of firmware and other components.
8.	Warranty and Support	3 Years, Comprehensive, On-Site Support Warranty and 2 Year AMC including part replacement /repairs within 4 hours of reporting, and Software support for updates, upgrades, patches, and bug fixes for supplied s/w from OEM 24 x 7 x 365 days. The proposed bidder will need to ensure support of product & change of components @ zero cost in case of any part becoming obsolete/EOL & EOS during the warranty and AMC period.

9.	Uptime	The SAN Switch should be able to provide availability parameter of 99.90 % from the date of acceptance of the Storage by Bank
10.	Power Supply	SAN Switch should be provided with Redundant hot swappable Power supplies. The Power supplies should be FCC class A certified.
11.	Cables	Necessary compatible power, network, Fiber cables with required length to be supplied along with storage.
12.	No Single point of Failure	The switch should have No Single Point of Failure (SPOF) and all the components should be hot swappable without even scheduled down time.

Table-P

**Technical Specifications of 2 LTO9 Tape Library (1 Nos at DC and 1Nos at DR)
and 200 LTO7 & 3800 LTO8 & 800 LTO9 Tapes & 200 No. of LTO9 Cleaning Cartridge**

Sl. No.	Detailed Configuration	Specification	Bidder's Compliance (Yes/No)
1.	Bidder to specify make		
2.	Bidder to specify model		
3.	Bidder to specify form factor		
4.	Bidder to specify power factor		
5.	Tape Drive	Minimum 40 LTO-9 Drive with FC Connectivity to support 8Gbps or more.	
6.	Free Slots	Minimum 250 Free tape slots should be available in library to accommodate the tapes.	
7.	Cables	Necessary OM3/OM4 FC cables of length 15 meters	

8.	LTO7 & LTO 8 & LTO 9 Tapes Up to LTO 9 Cleaning cartridges	3800 quantities (1900 DC & 1900 DRC) of LTO-8 standard tapes with custom Bar Codes compatible with the proposed Tape Library. 800 quantities (400 DC & 400 DRC) of LTO-9 standard tapes with custom Bar Codes compatible with the proposed Tape Library. 200 quantities (100 DC & 100 DRC) of LTO-7 standard tapes with custom Bar Codes. 200 quantities (100 DC & 100 DRC) up to LTO9 Cleaning Cartridge with custom Bar Codes. Tapes replacement warranty for defects in manufacturing and material defects for the full life of the product, or until end of support of the product	
9.	Warranty and Support	3 Years, Comprehensive, On-Site Support Warranty and 2 Years AMC including part replacement /repairs within 4 hours of reporting, and Software support for updates, upgrades, patches, and bug fixes for supplied s/w from OEM 24 x 7 x 365 days. The proposed bidder will need to ensure support of product & change of components @ zero cost in case of any part becoming obsolete/EOL & EOS during the warranty and AMC period.	Internal
10.	Uptime	The storage should be able to provide availability parameter of 99.0 % from the date of acceptance of the Storage by Bank Storage should be provided with Redundant hot swappable Power supplies. The Power supplies should be FCC class A certified. Necessary compatible power, network, fiber cables with required length to be supplied along with storage.	
11.	Power Supply		
12.	Cables		

Table-Q

Technical Specifications of 2 LTO9 standalone Tape Drive (1 DC and 1 DRC)

Sl. No.	Detailed Configuration	Specification	Bidder's Compliance
1.	Bidder to specify make		
2.	Bidder to specify model		

3.	Bidder to specify form factor		
4.	Bidder to specify power factor		
5.	Tape Drive	One LTO-9 Drive with FC Connectivity to support 8Gbps or more.	
6.	Cables	Necessary OM3/OM4 FC cables of length 15 meters	
7.	Warranty and Support	3 Years, Comprehensive, On-Site Support Warranty and 2 Years AMC including part replacement /repairs within 4 hours of reporting, and Software support for updates, upgrades, patches, and bug fixes for supplied s/w from OEM 24 x 7 x 365 days. The proposed bidder will need to ensure support of product & change of components @ zero cost in case of any part becoming obsolete/EOL & EOS during the warranty and AMC period.	
8.	Cables	Necessary compatible power, network, fiber cables with required length to be supplied along with storage.	

We comply with the above Technical and Functional requirements, Non-compliance to any of the above requirement will lead to disqualification of the bidder in Technical proposal.

Date:

Signature with Seal

Name:

Designation:

Annexure-10
Non-Disclosure Agreement

(Should be submitted on Company's letter head with company seal and signature of the authorized person)

SUB: Supply, Installation, Configuration, Implementation and Maintenance of 500 Nos. of Servers and other IT Infra Components in Canara Bank

Ref: GEM/2024/B/4915191 dated 04/05/2024

WHEREAS, we, _____, having Registered Office at _____, hereinafter referred to as the Bidder, are agreeable to the formalities of deliverables as per timelines mentioned in the RFP for each ordered locations to Canara Bank, having its office at 14, Naveen complex, HO(annex), M.G Road Bengaluru -560001 hereinafter referred to as the BANK and,

WHEREAS, the Bidder understands that the information regarding the Bank's IT Infrastructure shared by the BANK in their Request for Proposal is confidential and/or proprietary to the BANK, and

WHEREAS, the Bidder understands that in the course of submission of the offer for the subject RFP and/or in the aftermath thereof, it may be necessary that the Bidder may perform certain jobs/duties on the Banks properties and/or have access to certain plans, documents, approvals or information of the BANK; NOW THEREFORE, in consideration of the foregoing, the Bidder agrees to all of the following conditions, in order to induce the BANK to grant the Bidder specific access to the BANK's property/information. The Bidder will not publish or disclose to others, nor, use in any services that the Bidder performs for others, any confidential or proprietary information belonging to the BANK, unless the Bidder has first obtained the BANK's written authorization to do so.

The Bidder agrees that notes, specifications, designs, memoranda and other data shared by the BANK or, prepared or produced by the Bidder for the purpose of submitting the offer to the BANK for the said Hardware, will not be disclosed during or subsequent to submission of the offer to the BANK, to anyone outside the BANK.

The Bidder shall not, without the BANKs written consent, disclose the contents of this Request for Proposal (Bid) or any provision thereof, or any specification, plan, pattern, sample or information (to be) furnished by or on behalf of the BANK in connection therewith, to any person(s) other than those employed/engaged by the Bidder for the purpose of submitting the offer to the BANK and/or for the performance of the Contract in the aftermath. Disclosure to any employed/engaged person(s) shall be made in confidence and shall extend only so far as necessary for the purposes of such performance.

Date:

Signature with seal

Name:

Designation:

Annexure-11

Undertaking of Authenticity

(Should be submitted on Company's letter head with company seal and signature of the authorized person)

SUB: Supply, Installation, Configuration, Implementation and Maintenance of 500 Nos. of Servers and other IT Infra Components in Canara Bank

Ref: GEM/2024/B/4915191 dated 04/05/2024.

We hereby undertake that all the hardware components/parts/assembly/software's used in this Hardware under the above like Servers, Switches, Hard Disk, Monitors, Memory etc., shall be original new components /parts /assembly /software only from respective OEMs/OSDs/OSOs of the products and that no refurbished / duplicate / second hand components / parts / assembly / software are being used or shall be used.

We also undertake that in respect of Licensed Operating System/Application Software/any other Software if asked for by you in the purchase order, the same shall be supplied along with the authorized license certificate (e.g. Product Keys on Certification of Authenticity in case of Microsoft Window Operating System/Software etc.) and also that it shall be sourced from the authorized source (e.g. Authorized Microsoft Channel in case of Microsoft Operating System).

We confirm that the OS and software is free from bugs, malware, covert channels in code etc.

Should you require, we hereby undertake to produce the certificate from our OEM/OSD/OSO supplier in support of above undertaking at the time of delivery/installation. It will be our responsibility to produce such letters from our OEM/OSD/OSO supplier's at the time of delivery or within a reasonable time.

In case of default and we are unable to comply with the above at the time of delivery or during installation, for the IT Hardware/Software/Solution/Services already billed, we agree to take back the Hardware/Software/Solution/Services without demur, if already supplied and return the money if any paid to us by you in this regard.

Date:

Signature with seal

Name:

Designation:

Annexure-12
Compliance Statement

(Should be submitted on Company's letter head with company seal and signature of the authorized person)

SUB: Supply, Installation, Configuration, Implementation and Maintenance of 500 Nos. of Servers and other IT Infra Components in Canara Bank

Ref: GEM/2024/B/4915191 dated 04/05/2024.

DECLARATION

We understand that any deviations mentioned elsewhere in the bid will not be considered and evaluated by the Bank. We also agree that the Bank reserves its right to reject the bid, if the bid is not submitted in proper format as per subject RFP.

Description	(Yes / No)	Remarks / Deviations
Compliance to RFP Terms and Conditions		
Compliance to Scope of Work of the subject RFP		
Compliance to Technical Specification		

(If left blank it will be construed that there is no deviation from the specifications given above)

Date:

Signature with seal

Name:

Designation:

Annexure-13
Undertaking Letter

(Should be submitted on Company's letter head with company seal and signature of the authorized person)

SUB: Supply, Installation, Configuration, Implementation and Maintenance of 500 Nos. of Servers and other IT Infra Components in Canara Bank

Ref: GEM/2024/B/4915191 dated 04/05/2024.

- a. We also confirm that we have quoted the services with GST only.
- b. We also confirm that in case of invocation of any Bank Guarantees submitted to the Bank, we will pay applicable GST on Bank Guarantee amount.
- c. We are agreeable to the payment schedule as per "Payment Terms" of the RFP.
- d. We hereby confirm to undertake the ownership of the subject RFP even in case third party is also involved in project execution either fully or partially.
- e. We also confirm that we have not changed the format of BOM.

Date:

Signature with seal

Name:

Designation:

Annexure-14
Escalation Matrix

(Should be submitted on Company's letter head with company seal and signature of the authorized person)

SUB: Supply, Installation, Configuration, Implementation and Maintenance of 500 Nos. of Servers and other IT Infra Components in Canara Bank

Ref: GEM/2024/B/4915191 dated 04/05/2024.

Name of the Bidder Firm:

Delivery Related Issues:

Sl. No.	Name	Level of Contact	Office Postal Address	Phone No.	Mobile No.	Fax	Email address
a.		First Level Contact					
b.		Second level contact (If response not received in 24 Hours)					
c.		Regional/Zonal Head (If response not received in 48 Hours)					
d.		Country Head (If response not received in One week)					

Service Related Issues:

Sl. No.	Name	Level of Contact	Office Postal Address	Phone No.	Mobile No.	Fax	Email address
a.		First Level Contact					
b.		Second level contact (If response not received in 4 Hours)					
c.		Regional/Zonal Head (If response not received in 24 Hours)					
d.		Country Head (If response not received in 48 Hours)					

Any change in designation, substitution will be informed by us immediately.

Date:

Signature with seal

Name:

Designation:

Annexure-15
Manufacturer Authorization Form

[Should be submitted on the letterhead of the OEM/OSO/OSD and signed by an Authorized Signatory of the OEM/OSO/OSD]

No. _____ dated _____

The General Manager,
Canara Bank,
Centralized Procurement & Vendor Management Wing,
Naveen Complex,
14 M G Road, Bengaluru - 560 001, Karnataka

Dear Sir,

SUB: Supply, Installation, Configuration, Implementation and Maintenance of 500 Nos. of Servers and other IT Infra Components in Canara Bank

Ref: GEM/2024/B/4915191 dated 04/05/2024.

We _____ who are established and reputed manufacturers of _____ having factories/development facilities at 1) _____ and 2) _____ do hereby authorize M/s _____ (Name and address of the Agent/Dealer) to offer their quotation, negotiate and conclude the contract with you against the above invitation for GeM bid offer.

We (Manufacturer/Original Software Owner/Developer) hereby extend our full guarantee and warranty as per terms and conditions of the GeM bid and the contract for the Hardware/ products/equipment and services offered against this invitation for GeM bid offer by the above firm and will extend technical support and updates and ensure availability of spares including processors for our products for contract period from the date of installation.

We (Manufacturer/Original Software Owner/Developer) also confirm that we will ensure all product updates (including management software updates and new product feature releases) are provided by M/s for all the products quoted for and supplied to the bank during the Contract period. In case this is not considered while quoting and in the event M/s fail in their obligations to provide the updates within 30 days of release/announcement, we hereby confirm that we will provide the same to the bank at no additional cost to the bank and we will directly install the updates and any new Operating Software releases at the bank's premises.

We also confirm that the proposed Hardware offered by the bidder to the Bank are correct, viable, technically feasible for implementation and the Hardware will work without any hassles in all the locations. We also confirm that all the equipment offered are not "End of Life" during the next One Year and "End of Support" for total Contract Period.

We hereby commit to the GeM bid terms and conditions and will not withdraw our commitments during the process and or during the period of contract.

**Yours faithfully
(Name)
For and on behalf of M/s**

Annexure-16
Bill of Material

SUB: Supply, Installation, Configuration, Implementation and Maintenance of 500 Nos. of Servers and other IT Infra Components in Canara Bank

Ref: GEM/2024/B/4915191 dated 04/05/2024.

Notes

13. These details should be on the letter head of Bidder and each & every page should be signed by an Authorized Signatory with Name and Seal of the Company.
14. Please be guided by RFP terms, subsequent amendments and replies to pre-bid queries (if any) while quoting.
15. Do not change the structure of the format nor add any extra items.
16. No counter condition/assumption in response to commercial bid will be accepted. Bank has a right to reject such bid.

Table - A
Price details of Hardware Items

[Amount in Indian Rupees]

Sl. No.	Item Details	Unit Price with Three years Comprehensive onsite warranty and support (Excl. of Taxes)	Qty.	Total Cost Price with Three years Comprehensive onsite warranty and support (Excl. of Taxes)	Tax for Column c		Total Cost Price with Three years Comprehensive onsite warranty and support (Incl. of Taxes)
					% of Tax	Tax Amt.	
		a	b	c=a*b	d	e	f=c+e
67.	Servers With 64 core and 2 TB Memory and 3 TB SSD usable space Local Disk with RAID 10 as mentioned as per Technical Specification (Annexure-9)		80				
68.	Servers With 64 core and 512 GB Memory and 3 TB SSD usable space Local Disk with RAID 10 as mentioned as per Technical Specification (Annexure-9)		28				

Sl. No.	Item Details	Unit Price with Three years Comprehensive onsite warranty and support (Excl. of Taxes)	Qty.	Total Cost Price with Three years Comprehensive onsite warranty and support (Excl. of Taxes)	Tax for Column c		Total Cost Price with Three years Comprehensive onsite warranty and support (Incl. of Taxes)
		a		c=a*b	% of Tax	Tax Amt.	f=c+e
69.	Servers With 32 core and 1 TB Memory and 3 TB SSD usable space Local Disk with RAID 10 as per Technical Specification (Annexure-9)		100				
70.	Servers With 16 core and 512GB Memory and 3 TB SSD usable space Local Disk with RAID 10 as per Technical Specification (Annexure-9)		226				
71.	Servers With 24 core and 256GB Memory and 1.5 TB SSD Local Disk as per Technical Specification (Annexure-9)		54				
72.	Servers With 16 core and 256GB Memory and 4 TB SSD usable space Local Disk with RAID 10 as per Technical Specification (Annexure-9)		4				
73.	Servers With 32 core and 1 TB Memory and 8 TB NVME SSD usable Local Disk with RAID 10 as per Technical Specification (Annexure-9)		4				
74.	Servers With 32 core and 1 TB Memory and 32 TB NVME SSD usable Local Disk with RAID 10 as per		4				

Sl. No.	Item Details	Unit Price with Three years Comprehensive onsite warranty and support (Excl. of Taxes)	Qty.	Total Cost Price with Three years Comprehensive onsite warranty and support (Excl. of Taxes)	Tax for Column c		Total Cost Price with Three years Comprehensive onsite warranty and support (Incl. of Taxes)
					% of Tax	Tax Amt.	
		a	b	c=a*b	d	e	f=c+e
	Technical Specification (Annexure-9)						
75.	Server Rack for placing Servers, storage, Library and SAN and Network switches and as per Technical Specification (Annexure-9)		50				
76.	PDU for the supplied RACKS and as per Technical Specification (Annexure-9)		100				
77.	SAN Director (48*3=144 FC SAN ports with 16&32Gbps SFP) and as per Technical Specification (Annexure-9)		4				
78.	SAN Switches (32G SAN with 96 port) Switch and as per Technical Specification (Annexure-9)		4				
79.	Object Storage of 2.0PB Usable Space and as per Technical Specification (Annexure-9)		2				
80.	Enterprise Block Storage of 2.0PB Usable Space and as per Technical Specification (Annexure-9)		4				
81.	Tape Library with 40 Tape Drives and 250 Free slots and as per Technical Specification (Annexure-9)		2				

Sl. No.	Item Details	Unit Price with Three years Comprehensive onsite warranty and support (Excl. of Taxes)	Qty.	Total Cost Price with Three years Comprehensive onsite warranty and support (Excl. of Taxes)	Tax for Column c		Total Cost Price with Three years Comprehensive onsite warranty and support (Incl. of Taxes)
					% of Tax	Tax Amt.	
		a	b	c=a*b	d	e	f=c+e
82.	LTO-9 Stand Alone Tape Drive and as per Technical Specification (Annexure-9)		2				
83.	48 Gig Ethernet ports and 2 x 10G SFP+ for uplink on single chassis TOR Switch as per Technical Specification (Annexure-9)		14				
84.	48 fixed 10-G BASE-T ports and 6 fixed 40/100-Gbps QSFP+ ports for uplink with fully populated transceivers connectivity on single chassis TOR switch as per Technical Specification (Annexure-9)		24				
85.	48 x 25-Gbps fiber downlink ports and 6 x 100-Gbps Quad Small Form-Factor Pluggable 28 (QSFP28) uplink ports with fully populated transceivers on single chassis TOR Switch as per Technical Specification (Annexure-9)		4				
86.	Distribution Switches in High availability with required capacity to connect all supplied access switches with dual uplink of 10/40/100 Gbps in active-active mode for redundancy and load		4				

Sl. No.	Item Details	Unit Price with Three years Comprehensive onsite warranty and support (Excl. of Taxes)	Qty.	Total Cost Price with Three years Comprehensive onsite warranty and support (Excl. of Taxes)	Tax for Column c		Total Cost Price with Three years Comprehensive onsite warranty and support (Incl. of Taxes)
					% of Tax	Tax Amt.	
		a	b	c=a*b	d	e	f=c+e
	sharing as per Technical Specification (Annexure-9)						
87.	Total Cost for Hardware (Sum of Sl. No. 1 to 20)						

Table - B
Price details of Software/License Items (Perpetual)

[Amount in Indian Rupees]

Sl. No.	Item Details	Unit Price with Comprehensive warranty and support (Excl. of Tax)	Qty.	Total Cost with Comprehensive warranty and support (Excl. of Tax)	Tax for Column c		Total Cost with Comprehensive warranty and support (Incl. of Tax)
		a		c=a*b	% of Tax	Tax Amt.	f=c+e
16.	Windows 2022 Data Centre Edition 16 Corepack with Enterprise support		160				
17.	Windows 2022 Standard Centre Edition 16 Core pack with Enterprise support		160				
18.	Microsoft SQL 2022 standard edition two core pack with Enterprise support		156				
19.	IBM WebSphere ND 9.5 PVU with support		17920				
20.	Total Cost for Software/Licenses (Sum of Sl. No. 1 to 4)						

Table - C
Price details of Software/License Items (Subscription based Licenses)

[Amount in Indian Rupees]

Sl. No.	Item Details	Unit Price with Comprehensive warranty and support for 5 Years (Excl. of Tax)	Qty.	Total Cost with Comprehensive warranty and support for 5 Years (Excl. of Tax)	Tax for Column c		Total Cost with Comprehensive warranty and support for 5 Years (Incl. of Tax)
		a		c=a*b	% of Tax	Tax Amt.	f=c+e
43.	RHEL 9 Virtual DataCentre with premium support		20				
44.	RHEL 9 with premium support		150				
45.	RHEL 9 High Availability with premium support for CISC - X86 machines		30				
46.	RedHat OpenShift - RHCOS latest version subscription with premium support		3				
47.	RedHat OpenShift - RHCOS latest version subscription with standard support		3				
48.	Apache Tomcat with support - instance base		5				
49.	Managed File Transfer Solution core based		16				
50.	File Sync Software instance base with support		50				
51.	Backup Software instance based with support		500				
52.	Jboss (16 core Pack) with premium support		2				
53.	Jboss (16 core Pack) with standard support		1				
54.	Total Cost (Sum of Sl. No. 1 to 11)						

Table - D
Price details of Linear Tape Open Cartridges (5000 nos.)

[Amount in Indian Rupees]

Sl. No.	Requirement Details	Unit Price (Excl. of Tax)	Quantity	Total Cost Price (Excl. of Tax)	Tax for Column C		Total Price (Incl. of Tax)
		a	b	c=a*b	% of Tax	Tax Amt.	f=c+e
16.	LTO-7 standard tapes with customized barcodes		200				
17.	LTO-8 standard tapes with customized barcodes		3800				
18.	LTO-9 standard tapes with customized barcodes		800				
19.	LTO-9 Cleaning Cartridges with customized barcodes		200				
20.	Total cost for 5000 Linear Tape Open Cartridges (Sum of Sl. No. 1 to 4)						

Table - E
AMC /ATS Cost for Hardware/Software/Licenses for 2 Years on post warranty

[Amount in Indian Rupees]

Sl. No.	Item Details	Cost for AMC for 2 years (Excl. of Tax)		Qty.	Total AMC Cost (Excl. of Tax)	Tax for Column d		Total AMC Cost (Incl. of Tax)
		4 th Year	5 th Year			% of Tax	Tax Amt.	
		a	b			e	f	
A.	Hardware				d=(a+b)*c			h
70.	Servers With 64 core and 2 TB Memory and 3 TB SSD usable space Local Disk with RAID 10 as per Technical Specification (Annexure-9)			80				
71.	Servers With 64 core and 512 GB Memory and 3 TB SSD usable space Local Disk with RAID 10 as mentioned as per Technical Specification (Annexure-9)			28				
72.	Servers With 32 core and 1 TB Memory and 3 TB SSD usable space Local Disk with RAID 10 as per Technical Specification (Annexure-9)			100				
73.	Servers With 16 core and 512GB Memory and 3 TB SSD usable space Local Disk with RAID 10 as per Technical Specification (Annexure-9)			226				
74.	Servers With 24 core and 256GB Memory and 1.5 TB SSD Local Disk as per Technical Specification (Annexure-9)			54				

Sl. No.	Item Details	Cost for AMC for 2 years (Excl. of Tax)		Qty.	Total AMC Cost (Excl. of Tax)	Tax for Column d		Total AMC Cost (Incl. of Tax)
		4 th Year	5 th Year			% of Tax	Tax Amt.	
		a	b			e	f	
					$d=(a+b)*c$			h
75.	Servers With 16 core and 256GB Memory and 4 TB SSD usable space Local Disk with RAID 10 as per Technical Specification (Annexure-9)			4				
76.	Servers With 32 core and 1 TB Memory and 8 TB NVME SSD usable Local Disk with RAID 10 as per Technical Specification (Annexure-9)			4				
77.	Servers With 32 core and 1 TB Memory and 32 TB NVME SSD usable Local Disk with RAID 10 as per Technical Specification (Annexure-9)			4				
78.	Server Rack for placing Servers, storage, Library and SAN and Network switches and as per Technical Specification (Annexure-9)			50				
79.	PDU for the supplied RACKS and as per Technical Specification (Annexure-9)			100				
80.	SAN Director (48*3=144 FC SAN ports with 16*32Gbps SFP) and as per Technical Specification (Annexure-9)			4				
81.	SAN Switches (32G SAN with 96 port) Switch and as per			4				

Sl. No.	Item Details	Cost for AMC for 2 years (Excl. of Tax)		Qty.	Total AMC Cost (Excl. of Tax)	Tax for Column d		Total AMC Cost (Incl. of Tax)
		4 th Year	5 th Year			% of Tax	Tax Amt.	
		a	b			e	f	
	Technical Specification (Annexure-9)				$d=(a+b)*c$			
82.	Object Storage of 2.0PB Usable Space and as per Technical Specification (Annexure-9)			2				
83.	Enterprise Block Storage of 2.0PB Usable Space and as per Technical Specification (Annexure-9)			4				
84.	Tape Library with 40 Tape Drives and 250 Free slots and as per Technical Specification (Annexure-9)			2				
85.	LTO-9 Stand Alone Tape Drive and as per Technical Specification (Annexure-9)			2				
86.	48 Gig Ethernet ports and 2 x 10G SFP+ for uplink on single chassis TOR Switch as per Technical Specification (Annexure-9)			14				
87.	48 fixed 10-G BASE-T ports and 6 fixed 40/100-Gbps QSFP+ ports for uplink with fully populated transceivers connectivity on single chassis TOR switch as per Technical Specification (Annexure-9)			24				

Sl. No.	Item Details	Cost for AMC for 2 years (Excl. of Tax)		Qty.	Total AMC Cost (Excl. of Tax)	Tax for Column d		Total AMC Cost (Incl. of Tax)
		4 th Year	5 th Year			% of Tax	Tax Amt.	
		a	b			e	f	
88.	48 x 25-Gbps fiber downlink ports and 6 x 100-Gbps Quad Small Form-Factor Pluggable 28 (QSFP28) uplink ports with fully populated transceivers on single chassis TOR Switch as per Technical Specification (Annexure-9)			4				
89.	Distribution Switches in High availability with required capacity to connect all supplied access switches with dual uplink of 10/40/100 Gbps in active-active mode for redundancy and load sharing as per Technical Specification (Annexure-9)			4				
90.	Total Cost for AMC for Hardware/Software/Licenses (Sum of Sl. No. 1 to 20)							

Table - F
One-time Implementation charges

[Amount in Indian Rupees]

Sl. No.	Item Details		Unit Price (Excl. of Tax)	No. of Units	Total Price (Excl. of Tax)	Tax for Column c		Total Price (Incl. of Tax)
			a	b	c=a*b	% of Tax	Tax Amt.	f=c+e
49.	Servers Installation and Configurations with OS	Per Server		500				
50.	Managed file transfer solution Implementation	Per Site		2				
51.	Backup Solution implementation	Per server		500				
52.	Jboss server implementation	Per Server		3				
53.	Apache Tomcate server implementation	Per Server		5				
54.	MSSQL Setup installation per server with cluster configuration (for 24 Servers - in 2 node cluster)	Per server		24				
55.	RHCOS Setup installation and configuration for three cluster (Three nodes in one Cluster)	Per Cluster		3				
56.	Installation of TOR switches	Per Switch		42				
57.	Installation of Distribution Switches	Per Switch		4				
58.	Implementation charges for SAN Director with ISL	Per Director		4				
59.	Implementation charges for SAN switch with ISL	Per Switch		4				
60.	Object Storage implementation Cost	Per storage		2				
61.	Block Storage Implementation Cost	Per storage		4				
62.	Rack and PDU implementation	Per Rack		50				
63.	Tape Library implementation cost	Per Library		2				
64.	Total Cost for Optional Items (Sum of Sl. No. 1 to 15)							

Table - G (Optional)
Price details of Optional Items for 5 Years

[Amount in Indian Rupees]

Sl. No.	Item Details	Unit Price (Excl. of Tax)	Tax for Column a		Total Price (Incl. of Tax)
			% of Tax	Tax Amt.	
		a	b	c	d=a+c
82.	1.92 TB SSD with 3 year warranty (Compatible with the proposed server)				
83.	One CPU of 16 core				
84.	One CPU of 24 core				
85.	One CPU of 32 core				
86.	One CPU of 64 core				
87.	One Memory Stick of 64 GB				
88.	One Memory Stick of 128 GB				
89.	Object Storage per TB Cost				
90.	Block Storage per TB Cost				
91.	Block Storage per controller cost				
92.	Object Storage per controller cost				
93.	One FC Card with minimum 1 number of 32 Gbps FC ports in each card				
94.	One Network Cards, each equipped with at least one 10-gigabit network ports				
95.	One Network Cards, each equipped with at least two 1-gigabit network ports				
96.	San Director 32G SFP Module				
97.	San Director 64G SFP Module				
98.	San Switch 32G SFTP Module				
99.	San Switch 64G SFP Module				
100.	SAN Director per Blade Cost				
101.	SAN Director Blade Cost with fully populate SFTP				

Sl. No.	Item Details	Unit Price (Excl. of Tax)	Tax for Column a		Total Price (Incl. of Tax)
			% of Tax	Tax Amt.	
		a	b	c	d=a+c
102.	CAT 6 UTP Copper Cable length of 5 mtrs				
103.	CAT 7 Copper Cable length of 5 mtrs				
104.	CAT 7 Copper Cable length of 15 mtrs				
105.	CAT 7 Copper Cable length of 25 mtrs				
106.	Fiber cables Cable length of 5 mtrs				
107.	Fiber cables Cable length of 15 mtrs				
108.	Fiber cables Cable length of 25 mtrs				
109.	Total Cost for Optional Items (Sum of Sl. No. 1 to 27)				

The cost mentioned in column “a” of Table-F will be the fixed price for 5 years (i.e., Unit Price mentioned will be fixed for the entire contract period). Bank may procure the above items mentioned in Table-F with the same cost for the entire contract period.

The items brought during the contract period should be co-terminus with the base hardware.

Bank may issue Purchase order(s) to procure items mention in Table-F as per the necessary quantities as and when required by the Bank during the initial purchase or during the entire Contract Period. However, the bidder has to provide the optional items at the same cost mentioned in the Table-F.

Table - H
Total Cost of the Hardware, Software and optional items for 5 Years

[Amount in Indian Rupees]

Sl. No.	Requirement Details	Total Cost of the Hardware, Software and optional items for 5 Years (Incl. of Taxes)
1.	Total cost of Table-A (Price details of Hardware Items)	
2.	Total cost of Table-B (Price details of Software/License Items (Perpetual))	
3.	Total cost of Table-C (Price details of Software/License Items (Subscription based))	

5.	Total cost of Table-D (Price details of Linear Tape Open Cartridges)	
6.	Total cost of Table-E (AMC /ATS Cost for Hardware/Software/Licenses)	
7.	Total cost of Table-F (One-time Implementation charges)	
8.	Total cost of Table-G (Price details of Optional Items for 5 Years)	
9.	Total Cost of Ownership for 5 Years (Sum of Sl. No. 1 to 8)	

Declaration:

- p. Bill of material is submitted on the letter head and is signed by an Authorized Signatory with Name and Seal of the Company.
- q. We confirm that we have gone through RFP clauses, subsequent amendments and replies to pre-bid queries (if any) and abide by the same.
- r. We have not changed the structure of the format nor added any extra items. We note that any such alternation will lead to rejection of Bid.
- s. We agree that no counter condition/assumption in response to commercial bid will be accepted by the Bank. Bank has a right to reject such bid.
- t. We are agreeable to the payment schedule as per "Payment Terms" of the RFP.

Date:
Place:

Authorized signatory
Name:
Designation:
Company seal:

Appendix -A

Instructions to be noted while preparing/submitting Part A - Technical Proposal

All the Annexures should be submitted in Bidder's Letter Head with seal and signature of the authorized signatory.

- 1) Earnest Money Deposit (EMD)/Bank Guarantee in lieu of EMD / Exemption Certificate.
- 2) Power of Attorney / Authorization letter signed by the Competent Authority with the seal of the bidder's company / firm in the name of the person signing the bid documents with supporting documents.
- 3) Bid Covering letter as per **Annexure-1**.
- 4) Compliance to Pre-Qualification Criteria declaration as per **Annexure-2** with documentary proof in support of the Pre-Qualification Criteria.
- 5) Bidder's Profile as per **Annexure-3**.
- 6) Bid Security Declaration as per **Annexure-4** (if eligible).
- 7) Make in India Certificate as per **Annexure-5**.
- 8) List of major customers as per **Annexure-6**.
- 9) Office details as per **Annexure-7**.
- 10) Compliance to the Scope of Work as per **Annexure-8**.
- 11) Documents for Technical Evaluation Criteria as per **Annexure-9**.
- 12) Non-Disclosure Agreement as per **Annexure-10**.
- 13) Undertaking of Authenticity as per **Annexure-11**.
- 14) Compliance Statement as per **Annexure-12**.
- 15) Undertaking Letter as per **Annexure-13**.
- 16) Escalation Matrix as per **Annexure-14**.
- 17) Manufacturer Authorization Form as per **Annexure-15**.
- 18) Masked bill of Material as per **Annexure-16**.
- 19) Signed Pre Contract Integrity Pact as per **Appendix-F** in non-judicial Stamp paper

Appendix-B

Instructions to be noted while preparing/submitting Part B - Commercial Proposal

All the Annexures should be submitted in Bidder's Letter Head with seal and signature of the authorized signatory.

1. Bill of Material as per **Annexure-16**.

Appendix-C

Authorization Letter Format

(To be presented by the authorized person at the time of opening of Technical Proposal/ Commercial Bid on the letter head of Bidder and should be signed by an Authorized Signatory with Name and Seal of the Company)

Ref No:

Date:

The Deputy General Manager,
Canara Bank,
Centralized Procurement & Vendor Management Wing,
Naveen Complex,
14, M G Road, Bengaluru - 560 001, Karnataka

Dear Sir,

SUB: Supply, Installation, Configuration, Implementation and Maintenance of 500 Nos. of Servers and other IT Infra Components in Canara Bank

Ref: GEM/2024/B/4915191 dated 04/05/2024

This has reference to your above RFP.

Mr./Miss/Mrs. _____ is hereby authorized to attend the bid opening of the above RFP on _____ on behalf of our organization.

The specimen signature is attested below:

Specimen Signature of Representative

Signature of Authorizing Authority

Name & Designation of Authorizing Authority

NOTE: This Authorization letter is to be carried in person at the time of Bid Opening

Appendix-D
Bank Guarantee Format for Earnest Money Deposit

To:

The Deputy General Manager,
Canara Bank,
Centralized Procurement & Vendor Management Wing,

Naveen Complex,
14 M G Road, Bengaluru - 560 001, Karnataka

WHEREAS _____ (Name of Tenderer) (hereinafter called "the Tenderer") has submitted its tender dated _____ (Date) for the execution of (Name of Contract) _____ (hereinafter called "the Tender") in favour of _____ hereinafter called the "Beneficiary";

KNOW ALL MEN by these presents that we, _____ (name of the issuing Bank), a body corporate constituted under the _____ having its Head Office at _____ amongst others a branch/office at _____ (hereinafter called "the Bank" are bound unto the Beneficiary for the sum of Rs. _____ (Rupees _____ only) for which payment well and truly to be made to the said Beneficiary, the Bank binds itself, its successors and assigns by these presents;

THE CONDITIONS of this obligation are:

- (a) If the Tenderer withdraws its Tender during the period of Tender validity specified in the Tender; or
- (b) If the Tenderer having been notified of the acceptance of his Tender by the Beneficiary during the period of Tender validity;
 - (i) fails or refuses to execute the Agreement, if required; or
 - (ii) fails or refuses to furnish the performance security, in accordance with clause _____ of conditions of Contract.

We undertake to pay to the Beneficiary up to the above amount upon receipt of his first written demand without the Beneficiary having to substantiate his demand, provided that in his demand the Beneficiary will note that the amount claimed by him is due to him owing to the occurrence of one or both of the two conditions, specifying the occurred condition or conditions.

Notwithstanding anything contained herein

- i) Our liability under this Bank Guarantee shall not exceed Rs. _____ (Rupees _____ only)
- ii) This Bank Guarantee is valid up to _____ and
- iii) We are liable to pay the guaranteed amount or any part thereof under this Bank Guarantee only and only if you serve upon us a written claim or demand on or before _____ (mention period of guarantee as found under clause (ii) above plus claim period)

Dated _____ day of _____ 2024

(SIGNATURE & SEAL OF THE BANK)

This Bank guarantee should be confirmed through SFMS by the issuing Bank and the details are as follows Name of the Bank: Canara Bank Name of the Branch: DIT Wing IFSC Code: CNRB0000007

Appendix-E
Proforma of Bank Guarantee for Contract Performance

(To be submitted on Non-Judicial stamp paper of appropriate value Purchased in the name of the issuing Bank)

To: The Deputy General Manager,
Canara Bank,

Centralized Procurement & Vendor Management Wing,
Head Office, Naveen Complex,
14 M G Road, Bengaluru.

WHEREAS (Name and address of M/s XXXX Ltd (hereinafter referred to as “the CONTRACTOR”) has undertaken to supply, transportation, transit insurance, local delivery and installation insurance up to Acceptance by the bank, Acceptance testing and also includes documentation, warranty, annual maintenance, if contracted, and training or demo of your personnel related to(Description of RFP)as per their Contract..... dated _____with you (hereinafter referred to as “the CONTRACT”)

AND WHEREAS in terms of the Conditions as stipulated in the Contract, the CONTRACTOR is required to furnish, a Bank Guarantee by way of Performance Guarantee, issued by a Scheduled Bank in India, in your favor, as per Clause _____ of the CONTRACT, to secure due and satisfactory compliance of the obligations by the CONTRACTOR on their part, in accordance with the CONTRACT, (which guarantee is hereinafter called as “the PERFORMANCE GUARANTEE)”

AND WHEREAS the CONTRACTOR has approached us, (Name of the issuing Bank) for providing the PERFORMANCE GUARANTEE,

AND WHEREAS in consideration of the fact that the CONTRACTOR is our valued constituent and the fact that he has entered into the CONTRACT with you, WE (Name of the Bank) having our Registered Office at, _____and local office at _____, India have agreed to issue the PERFORMANCE GUARANTEE,

THEREFORE, WE (Name of the issuing Bank) through our local office at _____ India furnish you the PERFORMANCE GUARANTEE in manner hereinafter contained and agree with you as follows:

We (Name of the issuing Bank), undertake to indemnify you and keep you indemnified from time to time to the extent of Rs._____ (Rupees_____) an amount equivalent to 10% of the Contract Price against any loss or damage caused to or suffered by or that may be caused to or suffered by you on account of any breach or breaches on the part of the CONTRACTOR of any of the terms and conditions contained in the Contract and in the event of the CONTRACTOR default or defaults in carrying out any of the work or discharging any obligation in relation thereto under the CONTRACT or otherwise in the observance and performance of any of the terms and conditions relating thereto in accordance with the true intent and meaning thereof, we shall forthwith on demand pay to you such sum or sums not exceeding the sum of Rs._____ (Rupees_____) may be claimed by you on account of breach on the part of the CONTRACTOR of their obligations in terms of the CONTRACT.

Notwithstanding anything to the contrary we agree that your decision as to whether the CONTRACTOR has made any such default or defaults and the amount or amounts to which you are entitled by reasons thereof will be binding on us and we shall not be entitled to ask you to establish your claim or claims under Performance Guarantee but will pay the same forthwith on your demand without any protest or demur.

This Performance Guarantee shall continue and hold good until it is released by you on the application by the CONTRACTOR after expiry of the relative guarantee period of the Contract and after the CONTRACTOR had discharged all his obligations under the Contract and produced a certificate of due completion of the work under the Contract and submitted a “No Demand Certificate” provided always that the guarantee shall in no event remain in force after the day of_____ without prejudice to your claim or claims arisen and demanded from or otherwise notified to us in writing before the expiry of three months from the said date which will be enforceable against us notwithstanding that the same is or are enforced after the said date.

Should it be necessary to extend Performance Guarantee on account of any reason whatsoever, we undertake to extend the period of Performance Guarantee on your request under intimation to the CONTRACTOR till such time as may be required by you. Your decision in this respect shall be final and binding on us.

You will have the fullest liberty without affecting Performance Guarantee from time to time to vary any of the terms and conditions of the Contract or extend the time of performance of the Contract or to postpone any time or from time to time any of your rights or powers against the CONTRACTOR and either to enforce or forbear to enforce any of the terms and conditions of the Contract and we shall not be released from our liability under Performance Guarantee by the exercise of your liberty with reference to matters aforesaid or by reason of any time being given to the CONTRACTOR or any other forbearance, act, or omission on your part or any indulgence by you to the CONTRACTOR or by any variation or modification of the Contract or any other act, matter or things whatsoever which under law relating to sureties, would but for the provisions hereof have the effect of so releasing us from our liability hereunder provided always that nothing herein contained will enlarge our liability hereunder beyond the limit of Rs. _____ (Rupees _____) as aforesaid or extend the period of the guarantee beyond the said day of _____ unless expressly agreed to by us in writing.

The Performance Guarantee shall not in any way be affected by your taking or giving up any securities from the CONTRACTOR or any other person, firm or company on its behalf or by the winding up, dissolution, insolvency or death as the case may be of the CONTRACTOR.

In order to give full effect to the guarantee herein contained, you shall be entitled to act as if we were your principal debtors in respect of all your claims against the CONTRACTOR hereby guaranteed by us as aforesaid and we hereby expressly waive all our rights of surety ship and other rights, if any, which are in any way inconsistent with any of the provisions of Performance Guarantee.

Subject to the maximum limit of our liability as aforesaid, Performance Guarantee will cover all your claim or claims against the CONTRACTOR from time to time arising out of or in relation to the Contract and in respect of which your claim in writing is lodged on us before expiry of three months from the date of expiry of Performance Guarantee.

Any notice by way of demand or otherwise hereunder may be sent by special courier, telex, fax, or registered post to our local address as aforesaid or by email preferably to _____ (email ID of the BG issuing bank) or by SFMS preferably to _____ (IFSC of the BG issuing bank). If sent by post it shall be deemed to have been given when the same has been posted.

The Performance Guarantee and the powers and provisions herein contained are in addition to and not by way of limitation of or substitution for any other guarantee or guarantees heretofore given to you by us (whether jointly with others or alone) and now existing un-cancelled and that Performance Guarantee is not intended to and shall not revoke or limit such guarantee or guarantees.

The Performance Guarantee shall not be affected by any change in the constitution of the CONTRACTOR or us nor shall it be affected by any change in your constitution or by any amalgamation or absorption thereof or therewith but will endure to the benefit of and be available to and be enforceable by the absorbing or amalgamated company or concern.

The Performance Guarantee shall come into force from the date of its execution and shall not be revoked by us any time during its currency without your previous consent in writing.

We further agree and undertake to pay you the amount demanded by you in writing irrespective of any dispute or controversy between you and the CONTRACTOR.

Notwithstanding anything contained herein

- i. Our liability under this guarantee shall not exceed Rs. _____
(Rupees _____ only)
- ii. This guarantee shall be valid up to _____ and;
- iii. We are liable to pay the guaranteed amount or any part thereof under this guarantee only and only if you serve upon us a written claim or demand at Bengaluru on or before _____ (mention period of the guarantee as found under clause ii. above plus claim period).

We have the power to issue Performance Guarantee in your favour by statute and the undersigned has full power to execute Performance Guarantee under the Power of Attorney given to him by the Bank.

Dated this _____ day of _____ 2024.

For and on behalf of

_____ BRANCH MANAGER SEAL ADDRESS PLACE

This Bank guarantee should be confirmed through SFMS by the issuing Bank and the details are as follows

Name of the Bank: Canara Bank

Name of the Branch: CP & VM Wing

IFSC Code: CNRB0000007

Appendix-F

Pre Contract Integrity Pact

(This has to be submitted in the non-judicial Stamp Paper)

SUB: Supply, Installation, Configuration, Implementation and Maintenance of 500 Nos. of Servers and other IT Infra Components in Canara Bank

Ref: GEM/2024/B/4915191 dated 04/05/2024

1. GENERAL

1.1. This pre-bid contract Agreement (herein after called the Integrity Pact) is made on _____ day of the month _____ 20____, between, the Canara Bank, a body corporate constituted under Banking Companies (Acquisition and transfer of undertakings), Act 1970 having its Head office at 112, J.C. Road, Bangalore 560 002, with branches spread over India and abroad (hereinafter referred to as BUYER which expression shall include its successors and assigns) acting through Shri _____, Deputy General Manager, Centralized Procurement and Vendor Management Wing, HO, Bengaluru representing Canara Bank, of the BUYER, of the FIRST PART

AND

M/s. _____ represented by Shri _____ Chief Executive Officer/Authorised Signatory (hereinafter called the "BIDDER/SELLER/CONTRACTOR/SERVICE PROVIDER", which

expression shall mean and include, unless the context otherwise requires, his successors and permitted assigns), of the SECOND PART

- 1.2. WHEREAS the BUYER proposes to select vendor for Supply, Installation, Configuration, Implementation and Maintenance of 500 Nos. of Servers and other IT Infra Components in Canara Bank and the BIDDER/SELLER/CONTRACTOR/SERVICE PROVIDER is willing to offer/as offered the stores/services and
- 1.3. WHEREAS the BIDDER/SELLER/CONTRACTOR/SERVICE PROVIDER is a private company/ public company/Government undertaking/ partnership/ LLP/registered export agency/service provider, duly constituted in accordance with the relevant law governing its formation/incorporation/constitution and the BUYER is a body corporate constituted under Banking Companies (Acquisition and transfer of undertakings), Act 1970.
- 1.4. WHEREAS the BIDDER/SELLER/CONTRACTOR/SERVICE PROVIDER has clearly understood that the signing of this agreement is an essential pre-requisite for participation in the bidding process in respect of Stores/Equipment/Items/Services proposed to be procured by the BUYER and also understood that this agreement would be effective from the stage of invitation of bids till the complete execution of the agreement and beyond as provided in clause 13 and the breach of this agreement detected or found at any stage of the procurement process shall result into rejection of the bid and cancellation of contract rendering BIDDER/SELLER/CONTRACTOR/SERVICE PROVIDER liable for damages and replacement costs incurred by the BUYER.
2. NOW, THEREFORE, the BUYER and the BIDDER/SELLER/CONTRACTOR/SERVICE PROVIDER agree to enter into this pre-contract integrity agreement, hereinafter referred to as Integrity Pact, which shall form part and parcel of RFP as also the contract agreement if contracted with BIDDER, in the event that the BIDDER turns out to be successful bidder, and it is intended through this agreement to avoid all forms of corruption by following a system that is fair, transparent and free from any influence/prejudiced dealings prior to, during and subsequent to the Contract to be entered into with a view to:-
- 2.1. Enabling the BUYER to obtain the desired Stores/Equipment/Work/Service/Materials at a competitive price in conformity with the defined specifications by avoiding the high cost and the distortionary impact of corruption on public procurement, and
- 2.2. Enabling BIDDER/SELLER/CONTRACTOR/SERVICE PROVIDER to refrain from bribing or indulging in any corrupt practices in order to secure the contract, by providing assurance to them that the BUYER shall not be influenced in any way by the bribery or corrupt practices emanating from or resorted to by their competitors and that all procurements shall be free from any blemish or stain of corruption and the BUYER stays committed to prevent corruption, in any form, by its officials by following transparent procedures.

The parties hereto hereby agree to enter into this integrity Pact and agree as follows:

3. COMMITMENTS OF THE BUYER

The BUYER commits itself to the following: -

- 3.1. The BUYER represents that all officials of the BUYER, connected whether directly or indirectly with the procurement process are duty bound by rules and regulations governing their service terms and conditions not to demand, take promise for or accept, directly or through intermediaries, any bribe, consideration, gift, reward, favour or any material or immaterial benefit or any other advantage from the BIDDER/SELLER/CONTRACTOR/SERVICE PROVIDER either for themselves or for any person, organization or third party related to the contract in

exchange for an advantage in the bidding process, bid evaluation, contracting or implementation process related to the contract.

- 3.2. The BUYER will, during the pre-contract stage, treat all BIDDERS/SELLERS/CONTRACTORS/SERVICE PROVIDERS alike, and will provide to all BIDDERS/SELLERS/CONTRACTORS/SERVICE PROVIDERS the same information and will not provide any such information to any particular BIDDER/SELLER/CONTRACTOR/SERVICE PROVIDER which could afford an advantage to that particular BIDDER/SELLER/CONTRACTOR/SERVICE PROVIDER in comparison to the other BIDDER/SELLER/CONTRACTOR/SERVICE PROVIDERS.
- 3.3. The BUYER shall report to the appropriate Government Regulators/Authorities any attempted or completed breaches of the above commitments as well as any substantial suspicion of such a breach, as and when the same is considered necessary to comply with the law in force in this regard.

In case any such preceding misconduct on the part of such official(s) is reported by the BIDDER/SELLER/CONTRACTOR/SERVICE PROVIDER to the BUYER with the full and verifiable facts and the same is prima facie found to be correct by the BUYER, necessary disciplinary proceedings, or any other action as deemed fit, including criminal proceedings may be initiated by the BUYER and such a person shall be debarred from further dealings related to the contract process. In such a case, while an enquiry is being conducted by the BUYER, the proceedings under the contract would not be stalled.

4. COMMITMENTS OF BIDDER/SELLER/CONTRACTOR/SERVICE PROVIDERS

The BIDDER/SELLER/CONTRACTOR/SERVICE PROVIDER commits itself to take all measures necessary to prevent corrupt practices, unfair means and illegal activities during any stage of its bid or during any pre-contract or post-contract stage in order to secure the contract or in furtherance to secure it and in particular commit itself to the following:-The BIDDER/SELLER/CONTRACTOR/SERVICE PROVIDER will not offer, directly or through intermediaries, any bribe, gift, consideration, reward, favour, any material or immaterial benefit or other advantage, commission, fees, brokerage or inducement to any official of the BUYER, connected directly or indirectly with the bidding process, or to any person, organization or third party related to the contract in exchange for any advantage in the bidding, evaluation, contracting and implementation of the contract.

- 4.1. The BIDDER/SELLER/CONTRACTOR/SERVICE PROVIDER further undertakes that it has not given, offered or promised to give, directly or indirectly any bribe, gift, consideration, reward, favour, any material or immaterial benefit or other advantage, commission, fees, brokerage, or inducement to any official of the BUYER or otherwise for procuring the Contract or for forbearing to do or for having done any act in relation to the obtaining or execution of the contract or any other contract with the BUYER or for showing or forbearing to show favour or disfavour to any person in relation to the contract or any other contract with the BUYER.
- 4.2. The BIDDER/SELLER/CONTRACTOR/SERVICE PROVIDER further confirms and declares to the BUYER that the BIDDER/SELLER/CONTRACTOR/SERVICE PROVIDER is the original Manufacturer/Integrator/Authorized government sponsored export entity of the stores/Authorized Service Provider having necessary authorizations, intellectual property rights and approvals from the intellectual property right owners of such materials/services and has not engaged any individual or firm or company whether Indian or foreign to intercede, facilitate or in any way to recommend to the BUYER or any of its functionaries, whether officially or unofficially to the award of the contract to the BIDDER/SELLER/CONTRACTOR/SERVICE PROVIDER, nor has any amount been paid, promised or

intended to be paid to any such individual, firm or company in respect of any such intercession, facilitation or recommendation.

- 4.3. The BIDDER/SELLER/CONTRACTOR/SERVICE PROVIDER, either while presenting the bid or during pre-contract negotiations or before signing the contract, shall disclose any payment he has made, is committed to or intends to make to officials of the BUYER or their family members, agents, brokers or any other intermediaries in connection with the contract and the details of services agreed upon for such payments.
- 4.4. The BIDDER/SELLER/CONTRACTOR/SERVICE PROVIDER will not collude with other parties interested in the contract to impair the transparency, fairness and progress of the bidding process, bid evaluation, contracting and implementation of the contract.
- 4.5. The BIDDER/SELLER/CONTRACTOR/SERVICE PROVIDER will not accept any advantage in exchange for any corrupt practice, unfair means and illegal activities emanating from other competitors or from anyone else.
- 4.6. The BIDDER/SELLER/CONTRACTOR/SERVICE PROVIDER shall not use improperly, for purpose of competition or personal gain, or pass on to others, any information provided by the BUYER as part of the business relationship, regarding plans, technical proposal and business details, including information contained in any electronic data carrier. The BIDDER/SELLER/CONTRACTOR/SERVICE PROVIDER also undertakes to exercise due and adequate care lest any such information is divulged.
- 4.7. The BIDDER/SELLER/CONTRACTOR/SERVICE PROVIDER commits to refrain from giving any complaint directly or through any other manner without supporting it with full and verifiable facts.
- 4.8. The BIDDER/SELLER/CONTRACTOR/SERVICE PROVIDER shall not instigate or cause to instigate any third person to commit any of the acts mentioned above.

5. PREVIOUS TRANSGRESSION

- 5.1. The BIDDER/SELLER/CONTRACTOR/SERVICE PROVIDER declares that no previous transgression occurred in the last three years immediately before signing of this Integrity Pact with any other company in any country in respect of any corrupt practices envisaged hereunder or with any Public Sector Bank, Public Sector Enterprise/Undertaking in India or any Government Department in India that could justify BIDDER's exclusion from the tender process.
- 5.2. If the BIDDER/SELLER/CONTRACTOR/SERVICE PROVIDER makes incorrect statement on this subject, BIDDER/SELLER/CONTRACTOR/SERVICE PROVIDER can be disqualified from the tender/bid process or the contract, if already awarded, can be terminated for such reason.

6. EARNEST MONEY (SECURITY DEPOSIT)

- 6.1. Every BIDDER/SELLER/CONTRACTOR/SERVICE PROVIDER while submitting commercial bid, shall deposit an amount as specified in RFP/Tender Documents as Earnest Money/Security, Deposit, with the BUYER through any of the instruments as detailed in the tender documents.
- 6.2. The Earnest Money/Security Deposit shall be *valid for a period till* the complete conclusion of the contractual obligations or for such period as mentioned in RFP/Contract, including warranty period, whichever is later to the complete satisfaction of BUYER.
- 6.3. In the case of successful BIDDER/SELLER/CONTRACTOR/SERVICE PROVIDER, a clause would also be incorporated in the Article pertaining to Performance Bond in the Purchase Contract that

the provisions of Sanctions for violation shall be applicable for forfeiture of Performance Bond in case of a decision by the BUYER to forfeit the same without assigning any reason for imposing sanction for violation of this Pact.

6.4. No interest shall be payable by the BUYER to the BIDDER/SELLER/CONTRACTOR/SERVICE PROVIDER on Earnest Money/Security Deposit for the period of its currency.

7. SANCTIONS FOR VIOLATIONS

7.1. Any breach of the provisions herein contained by the BIDDER/SELLER /CONTRACTOR/SERVICE PROVIDER or any one employed by it or acting on its behalf (whether with or without the knowledge of the BIDDER/SELLER/CONTRACTOR/SERVICE PROVIDER shall entitle the BUYER to take all or any one of the following actions, wherever required: -

- i. To immediately call off the pre contract negotiations without assigning any reason or giving any compensation to the BIDDER/SELLER/CONTRACTOR/SERVICE PROVIDER. However, the proceedings with the other BIDDER/SELLER/CONTRACTOR/SERVICE PROVIDER(s) would continue.
- ii. To forfeit fully or partially the Earnest Money Deposit (in pre-contract stage) and/or Security Deposit/Performance Bond (after the contract is signed), as decided by the BUYER and the BUYER shall not be required to assign any reason therefor.
- iii. To immediately cancel the contract, if already signed, without giving any compensation to the BIDDER/SELLER/CONTRACTOR/SERVICE PROVIDER.
- iv. To recover all sums already paid by the BUYER, and in case of the Indian BIDDER/SELLER/CONTRACTOR/SERVICE PROVIDER with interest thereon at 2% higher than the prevailing Prime Lending Rate of (Name of the Bank/Financial Institution) while in case of a BIDDER/SELLER/CONTRACTOR/SERVICE PROVIDER from a country other than India with Interest thereon at 2% higher than the LIBOR. If any outstanding payment is due to the BIDDER/SELLER /CONTRACTOR from the BUYER in connection with any other contract such outstanding payment could also be utilized to recover the aforesaid sum and interest. The BUYER shall also be entitled to recover the replacement costs from BIDDER/SELLER/CONTRACTOR/SERVICE PROVIDER.
- v. To encash the advance bank guarantee and performance bond/warranty bond, if furnished by the BIDDER/SELLER/CONTRACTOR/SERVICE PROVIDER, in order to recover the payments, already made by the BUYER, along with interest.
- vi. To cancel all or any other contracts with the BIDDER /SELLER/CONTRACTOR/SERVICE PROVIDER and the BIDDER/SELLER /CONTRACTOR/SERVICE PROVIDER shall be liable to pay compensation for any loss or damage to the BUYER resulting from such cancellation/rescission and the BUYER shall be entitled to deduct the amount so payable from the money(s) due to the BIDDER/SELLER/CONTRACTOR/SERVICE PROVIDER.
- vii. To debar the BIDDER/SELLER/CONTRACTOR/SERVICE PROVIDER from participating in future bidding processes of the BUYER for a minimum period of five years, which may be further extended at the discretion of the BUYER.
- viii. To recover all sums paid in violation of this Pact by BIDDER/SELLER/CONTRACTOR/SERVICE PROVIDER(s) to any middlemen or agent or broker with a view to securing the contract.
- ix. In cases where irrevocable Letters of Credit have been received in respect of any contract signed by the BUYER with the BIDDER/SELLER/CONTRACTOR/SERVICE PROVIDER, the same shall not be opened.
- x. Forfeiture of The Performance Bond in case of a decision by the BUYER to forfeit the same without assigning any reason for imposing sanction for violation of this Pact.
- xi. The BIDDER/SELLER/CONTRACTOR/SERVICE PROVIDER shall not lend to or borrow any money from or enter into any monetary dealings or transactions, directly or indirectly, with any employee of the BUYER, and if he does so, the BUYER shall be entitled forthwith to rescind the contract and all other contracts with the BIDDER/SELLER/CONTRACTOR/SERVICE

PROVIDER. The BIDDER/SELLER/ CONTRACTOR shall be liable to pay compensation for any loss or damage to the BUYER resulting from such rescission and the BUYER shall be entitled to deduct the amount so payable from the money(s) due to the BIDDER/SELLER/CONTRACTOR/SERVICE PROVIDER.

7.2. The BUYER will be entitled to take all or any of the actions mentioned at para 7.1 (i) to (xi) of this Pact, also in the event of commission by the BIDDER/ SELLER/CONTRACTOR/SERVICE PROVIDER or anyone employed by it or acting on its behalf (whether with or without the knowledge of the BIDDER), of an offence as defined in Chapter IX of the Indian Penal code, 1860 or Prevention of Corruption Act, 1988 or any other statute enacted for prevention of corruption.

7.3. The decision of the BUYER to the effect that a breach of the provisions of this pact has been committed by the BIDDER/SELLER/ CONTRACTOR shall be final and conclusive on the BIDDER/SELLER /CONTRACTOR. However, the BIDDER/SELLER/CONTRACTOR/SERVICE PROVIDER can approach the Independent External Monitor(s) appointed for the purposes of this Pact.

8. FALL CLAUSE

8.1. The BIDDER/SELLER/CONTRACTOR/SERVICE PROVIDER undertakes that it has not supplied/is not supplying similar product/systems or subsystems/services at a price lower than that offered in the present bid to any other Bank or PSU or Government Department or to any other organization/entity whether or not constituted under any law and if it is found at any stage that similar product/systems or sub systems/services was supplied by the BIDDER/SELLER/CONTRACTOR/SERVICE PROVIDER to any other Bank or PSU or Government Department or to any other organization/entity whether or not constituted under any law, at a lower price, then that very price, with due allowance for elapsed time, will be applicable to the present case and the difference in the cost would be refunded by the BIDDER/SELLER/CONTRACTOR/SERVICE PROVIDER to the BUYER, if the contract has already been concluded.

9. INDEPENDENT EXTERNAL MONITORS

9.1. The BUYER has appointed two Independent External Monitors (hereinafter referred to as Monitors) for this Pact in accordance with the recommendations and guidelines issued by Central Vigilance Commission.

9.2. The task of the Monitors shall be to review independently and objectively, whether and to what extent the parties comply with the obligations under this Pact.

9.3. The Monitors shall not be subject to instructions by the representatives of the parties and perform their functions neutrally and independently.

9.4. Both the parties accept that the Monitors have the right to access all the documents relating to the project/procurement, including minutes of meetings. The Monitors shall on receipt of any complaint arising out of tendering process jointly examine such complaint, look into the records while conducting the investigation and submit their joint recommendations and views to the Management and Chief Executive of the BUYER. The MONITORS may also send their report directly to the CVO and the commission, in case of suspicion of serious irregularities.

9.5. As soon as any event or incident of violation of this Pact is noticed by Monitors, or Monitors have reason to believe, a violation of this Pact, they will so inform the Management of the BUYER.

9.6. The BIDDER(s) accepts that the Monitors have the right to access without restriction to all Project /Procurement documentation of the BUYER including that provided by the BIDDER/SELLER/CONTRACTOR/SERVICE PROVIDER. The BIDDER/SELLER/CONTRACTOR/SERVICE PROVIDER will also grant the Monitors, upon their request and demonstration of a valid interest, unrestricted and unconditional access to his documentation pertaining to the project for which the RFP/Tender is being /has been submitted by BIDDER/SELLER/CONTRACTOR/SERVICE PROVIDER. The same is applicable to Subcontractors. The Monitors shall be under contractual obligation to treat the information and documents of the BIDDER/Subcontractors () with confidentiality.

9.7. The BUYER will provide to the Monitors sufficient information about all meetings among the parties related to the Project provided such meetings could have an Impact on the contractual relations between the parties. The parties may offer to the Monitors the option to participate in such meetings.

9.8. The Monitors will submit a written report to the BUYER at the earliest from the date of reference or intimation to him by the BUYER/BIDDER/SELLER/CONTRACTOR/SERVICE PROVIDER and submit proposals for correcting problematic situations.

10. FACILITATION OF INVESTIGATION

In case of any allegation of violation of any provisions of this Pact or payment of commission, the BUYER or its agencies shall be entitled to examine all the documents including the Books of Accounts of the BIDDER/SELLER/CONTRACTOR/SERVICE PROVIDER and the BIDDER/SELLER/CONTRACTOR/SERVICE PROVIDER shall provide necessary information of the relevant documents and shall extend all possible help for the purpose of such examination,

11. LAW AND PLACE OF JURISDICTION

Restricted

This Pact is subject to Indian Law and the place of jurisdiction is Bangalore.

12. OTHER LEGAL ACTIONS

The actions stipulated in this Integrity Pact are without prejudice to any other legal action that may follow in accordance with the provisions of the any other law in force relating to any civil or criminal proceedings.

13. VALIDITY

13.1. The validity of this Integrity Pact shall be from the date of its signing and extend up to 5 years or such longer period as mentioned in RFP/Contract or the complete execution of the contract to the satisfaction of the BUYER whichever is later. In case BIDDER/SELLER/CONTRACTOR/SERVICE PROVIDER is unsuccessful, this Integrity Pact shall expire after six months from the date of the signing of the contract.

13.2. If one or several provisions of this Pact turn out to be invalid; the remainder of this Pact shall remain valid. In such case, the parties will strive to come to an agreement to their original intentions.

14. The parties hereby sign this Integrity Pact at Bangalore on

BUYER BIDDER
Name of the Officer
Designation
Name of Wing

CHIEFEXECUTIVEOFFICER/AUTHORISED SIGNATORY

Canara Bank

Witness

1)

2)

Witness

1)

2)

Restricted

Appendix-G

DRAFT CONTRACT AGREEMENT

CONTRACT AGREEMENT FOR

THIS AGREEMENT (the Agreement) executed at Bengaluru on day of 202.....

BETWEEN

Canara Bank, a body corporate constituted under the Banking Companies (Acquisition and Transfer of Undertakings) Act 1970, having its Head Office at 112, J C Road, Bengaluru - 560002 in India, represented by the Authorized Signatory of its CP & VM Wing, Mr....., (Designation), (hereinafter referred to as "PURCHASER") which expression shall unless excluded by or repugnant to the subject or context be deemed to mean and include its assigns and successors) of the **ONE PART**

AND

M/s, a Company/Firm constituted and registered under the provisions of the Companies Act 1956 having its Registered Office at represented by the Authorized Signatory, Mr..... (Designation) (hereinafter referred to as "Vendor /service provider" which expression shall unless excluded by or repugnant to the subject or context be deemed to mean and include its administrators, successors and assigns) of the **OTHER PART**:

The Purchaser and Vendor/service provider are hereinafter collectively referred to as "Parties".

WHEREAS the Purchaser invited Bids for Products/Services VIZ....., (Brief description of product/service/solutions) and has accepted the Bid by the Vendor/service provider for (Full description of product/service/solutions) for the sum of Rs.....(Rupees only) exclusive of GST (herein after called "the Contract Price").

NOW THIS AGREEMENT WITNESSETH AND IT IS HEREBY AGREED BY AND BETWEEN THE PARTIES HERETO AS FOLLOWS:

1. DEFINITION AND INTERPRETATION:

- 1.1. In this Agreement words and expressions shall have the same meanings as are respectively assigned to them in the terms and conditions of RFP/RFQ/EOI/ Amendments/ LOI/ Purchase Order referred to.
- 1.2. Reference to a "Business day" shall be construed as reference to a day (other than a Sunday, second or fourth Saturday) on which banks in the State are generally open for business;
- 1.3. any reference to a month shall mean a reference to a calendar month as per the Gregorian calendar;
- 1.4. In this Agreement, unless the context otherwise requires:
 - 1.4.1. words of any gender are deemed to include the other gender;
 - 1.4.2. words using the singular or plural number also include the plural or singular number, respectively;

- 1.4.3. the terms “hereof”, “herein”, “hereby”, “hereto” and any derivative or similar words refer to this entire Agreement;
- 1.4.4. headings, sub-headings and bold typeface are only for convenience and shall be ignored for the purposes of interpretation;
- 1.4.5. reference to any legislation or law or to any provision thereof shall include references to any such legislation or law as it may, after the date hereof, from time to time, be amended, supplemented or re-enacted, and any reference to a statutory provision shall include any subordinate legislation made from time to time under that provision;
- 1.4.6. any term or expression used, but not defined herein, shall have the same meaning assigned thereto under the RFP;
- 1.4.7. references to the word “include” or “including” shall be construed without limitation;
- 1.5. The RFP/RFQ/EOI Document/ Bid No/PO No..... dated as amended from time to time and this Agreement, and the other related documents shall be deemed to form and be read and construed as part of this Agreement, which, inter alia, includes
 - a) The Bid Form and the Price Schedule submitted by the Bidder.
 - b) The Bill of Material.
 - c) The Technical & Functional Specifications.
 - d) The Terms and Conditions of the Contract.
 - e) The Purchaser's Letter of Intent/Notification of Award.
 - f) Schedule of Dates, Amounts etc.
 - g) Pre-Contract Integrity Pact.
 - h) All pre bid clarifications/mail communications shared with the bidder during the processing of this bid.

All the above are collectively referred to as "the Transaction Documents" forming an integral part of the Contract are to be taken as mutually explanatory to one another. Detailed site orders as and when released shall form an integral part of this contract. However, in case of conflict between the Clauses of the Contract and Schedules appended to the Contract, provisions of the Clauses of the Contract shall prevail.

2. SCOPE OF WORK:

The scope of work shall be as Per RFP/RFQ/EOI Document/ Bid No/PO No.....
Dated.....

3. TERM OF THE CONTRACT:

The contract shall be valid for the full duration till completion of all contractual obligations by the Vendor/Service Provider and PURCHASER for the current orders or further orders to be released by Vendor/ Service Provider as per the terms and conditions in this contract.

4. PAYMENT TERMS:

The payment terms shall be as specified in the RFP/RFQ/EOI Document/ Bid No/PO No..... dated

5. PENALTIES/LIQUIDATED DAMAGES:

As Per RFP/RFQ/EOI Document/ Bid No/PO No dated

6. SECURITY DEPOSIT / PERFORMANCE OF BANK GUARANTEE:

The Vendor/Service Provider shall submit Security Deposit/Performance Bank Guarantee as specified in the RFP/RFQ/EOI Document/ Bid No/PO No..... dated

7. ASSIGNMENT:

7.1. VENDOR/ SERVICE PROVIDER shall not assign to any one, in whole or in part, its obligations to perform under the Contract, except with the BANK's prior written consent.

7.2. If the BANK undergoes a merger, amalgamation, take-over, consolidation, reconstruction, change of ownership etc., this Contract shall be considered to be assigned to the new entity and such an act shall not affect the rights and obligations of the VENDOR/ SERVICE PROVIDER under this Contract.

8. SUB-CONTRACTING:

8.1. VENDOR/ SERVICE PROVIDER shall not subcontract or permit anyone other than its personnel to perform any of the work, service or other performance required of the VENDOR/ SERVICE PROVIDER under the contract without the prior written consent of the BANK.

8.2. Notwithstanding the above or any written consent granted by the Bank for subcontracting the services, the Vendor/Service Provider alone shall be responsible for performance of the services under the contract.

9. SERVICE LEVELS:

During the term of the contract, the vendor shall maintain the Service Levels as detailed in RFP/GeM Bid/PO. In case the vendor fails to maintain the Service Levels, Liquidated damages as detailed in RFP/GeM Bid/PO shall be imposed on the Vendor/Service provider.

10. ORDER CANCELLATION/TERMINATION OF CONTRACT:

10.1. The Bank reserves its right to cancel the entire / unexecuted part of CONTRACT at any time by assigning appropriate reasons and recover expenditure incurred by the Bank in addition to recovery of liquidated damages in terms of the contract, in the event of one or more of the following conditions:

10.1.1. Delay in delivery beyond the specified period for delivery.

10.1.2. Serious discrepancies noted in the items delivered.

10.1.3. Breaches in the terms and conditions of the Order.

10.1.4. Non submission of acceptance of order within 7 days of order.

10.1.5. Excessive delay in execution of order placed by the Bank.

- 10.1.6. The Vendor/Service Provider commits a breach of any of the terms and conditions of the bid.
- 10.1.7. The Vendor/Service Provider goes in to liquidation voluntarily or otherwise.
- 10.1.8. An attachment is levied or continues to be levied for a period of 7 days upon the effects of the bid.
- 10.1.9. The progress made by the Vendor/Service Provider is found to be unsatisfactory.
- 10.1.10. If deductions on account of liquidated Damages exceeds more than 10% of the total contract price.
- 10.2. Bank shall serve the notice of termination to the Vendor/Service Provider at least 30 days prior, of its intention to terminate services.
- 10.3. In case the Vendor/Service Provider fails to deliver the quantity as stipulated in the delivery schedule, the Bank reserves the right to procure the same or similar materials from alternate sources at the risk, cost and responsibility of the Vendor/Service Provider by giving 7 days' prior notice to the Vendor/Service Provider.
- 10.4. After the award of the contract, if the Vendor/Service Provider does not perform satisfactorily or delays execution of the contract, the Bank reserves the right to get the balance contract executed by another party of its choice by giving one months' notice for the same. In this event, the Vendor/Service Provider is bound to make good the additional expenditure, which the Bank may have to incur for the execution of the balance of the order/contract. Such additional expenditure shall be incurred by the bank within reasonable limits & at comparable price prevailing in the market. This clause is also applicable, if for any reason, the contract is cancelled.
- 10.5. The Bank reserves the right to recover any dues payable by the Vendor/Service Provider from any amount outstanding to the credit of the Vendor/Service Provider, including the pending bills and security deposit, if any, under this contract.
- 10.6. In addition to the cancellation of purchase order, the Bank reserves its right to invoke the Bank Guarantee or foreclose the Security Deposit given by the Vendor/Service Provider towards non- performance/non-compliance of the terms and conditions of the contract, to appropriate towards damages.
- 10.7. Notwithstanding anything contained hereinabove, the Bank may terminate this contract by giving a 30 days' notice without assigning any cause.
- 10.8. Notwithstanding the existence of a dispute, and/ or the commencement of arbitration proceedings, Vendor/Service Provider should continue the services. Vendor/Service Provider is solely responsible to prepare a detailed Reverse Transition plan.
- 10.9. The Bank shall have the sole decision to determine whether such plan has been complied with or not. Reverse Transition mechanism would include services and tasks that are required to be performed/ rendered by the Vendor/Service Provider to the Bank or its designee to ensure smooth handover and transitioning of the Bank's deliverables.

11. EXIT MANAGEMENT PLAN:

- 11.1. Vendor/Service Provider shall submit a structured & detailed Exit Management plan along with Training and Knowledge transfer for its exit initiated by the Bank.
- 11.2. Vendor/Service Provider shall update the Transition and Exit management on half yearly basis or earlier in case of major changes during the entire contract duration. The plan and the format shall be discussed and approved by the Bank.
- 11.3. The exit Management plan shall deal with the following aspects but not limited to of exit management in relation to the Service Level as a whole and in relation to in scope applications, interfaces, infrastructure and network and the scope of work.
 - 11.3.1. A detailed program of the transfer process that could be used in conjunction with a replacement vendor including details of the means to be used to ensure continuing provision of the services throughout the transfer process or until the cessation of the services and of the management structure to be used during the transfer.
 - 11.3.2. Plans for provision of contingent support to the Project and replacement Vendor/Service Provider for a reasonable period (minimum three month and maximum as per mutual agreement) after transfer or as decided by Canara Bank.
 - 11.3.3. Plans for training of the Replacement Service Provider/Canara Bank staff to run the operations of the project. This training plan along with the training delivery schedule should be approved by Canara Bank. The delivery of training along with handholding support and getting the sign off on the same would be the responsibility of Vendor/Service provider.
- 11.4. At the end of the contract period or during the contract period, if any other Service Provider is identified or selected for providing services related to Vendor/Service Provider scope of work, they shall ensure that a proper and satisfactory handover is made to the replacement Service Provider.
- 11.5. All risk during transition stage shall be properly documented by Vendor/Service Provider and mitigation measures shall be planned to ensure a smooth transition without any service disruption. Vendor/Service Provider must ensure that hardware supplied by them shall not reach end of support products (software/ hardware) at time of transition. Vendor/Service Provider shall inform well in advance end of support products (software/hardware) for the in-scope applications and infrastructure.
- 11.6. The transition & exit management period will start minimum six (6) months before the expiration of the contract or as decided by Canara Bank.
- 11.7. Vendor/Service Provider will provide shadow support for a minimum of 90 days or as decided by the Bank before the end of termination of notice period or expiry of the contract as applicable at no additional cost to the Bank.
- 11.8. In case of termination, the exit management period will start from effective date of termination, or such other date as may be decided by Canara Bank and communicated to Vendor/Service Provider.
- 11.9. Vendor/Service Provider must ensure closing off all critical open issues, any audit observation as on date of exit. All other open issues as on date of Exit shall be listed and provided to Canara Bank.

11.10. Vendor/Service Provider needs to comply with Banks requirements and any statutory or regulatory guidelines during the reverse transition period.

12. TRAINING AND HANDHOLDING:

12.1. Vendor/Service Provider shall provide necessary knowledge transfer and transition support to the satisfaction of the Bank. The deliverables as indicated below but not limited to:

12.1.1. Entire back-up History but not limited to archive policies, retention policies, restore policies, schedules, target storage, backup history.

12.1.2. Change Request Logs

12.2. Assisting the new Service Provider/Bank with the complete audit of the system including licenses and physical assets

12.3. Detailed walk-throughs and demos for the hardware.

12.4. During the exit management period, the Vendor/Service Provider shall use its best efforts to deliver the services.

12.5. Vendor/Service Provider shall hold technical knowledge transfer sessions with designated technical team of Business and/or any replacement Service Provider in at least last three (3) months of the project duration or as decided by Bank.

During Reverse Transition Bank will not pay any additional cost to the Vendor/Service Provider for doing reverse transition.

Restricted

13. INTELLECTUAL PROPERTY RIGHTS:

13.1. VENDOR/ SERVICE PROVIDER warrants that the inputs provided shall not infringe upon any third party intellectual property rights, including copyrights, patents and other intellectual property rights of any nature whatsoever. VENDOR/ SERVICE PROVIDER warrants that the deliverables shall not infringe upon any third party intellectual property rights, including copyrights, patents and other intellectual property rights of any nature whatsoever. VENDOR/ SERVICE PROVIDER shall ensure that the Hardware supplied to the BANK shall not infringe the third party intellectual property rights, if any. VENDOR/ SERVICE PROVIDER shall ensure that third party rights are not infringed even in case of equipment /software supplied on behalf of consortium as VENDOR/ SERVICE PROVIDER.

13.2. In the event that the Deliverables become the subject of claim of violation or infringement of a third party's intellectual property rights, VENDOR/ SERVICE PROVIDER shall at its choice and expense:

13.2.1. Procure for BANK the right to continue to use such deliverables.

13.2.2. Replace or modify such deliverables to make them non-infringing, provided that the same function is performed by the replacement or modified deliverables as the infringing deliverables or

13.2.3. If the rights to use cannot be procured or the deliverables cannot be replaced or modified, accept the return of the deliverables and reimburse BANK for any amounts paid to VENDOR/ SERVICE PROVIDER for such deliverables, along

with the replacement costs incurred by BANK for procuring equivalent equipment in addition to the penalties levied by BANK. However, BANK shall not bear any kind of expense, charge, fees or any kind of costs in this regard. Notwithstanding the remedies contained herein, VENDOR/ SERVICE PROVIDER shall be responsible for payment of penalties in case service levels are not met because of inability of the BANK to use the proposed Hardware.

- 13.3. The indemnification obligation stated in this clause shall apply only in the event that the indemnified party provides the indemnifying party prompt written notice of such claims, grants the indemnifying party sole authority to defend, manage, negotiate or settle such claims and makes available all reasonable assistance in defending the claims [at the expenses of the indemnifying party]. Notwithstanding the foregoing, neither party is authorized to agree to any settlement or compromise or the like which would require that the indemnified party to make any payment or bear any other substantive obligation without the prior written consent of the indemnified party. The indemnification obligation stated in this clause reflects the entire liability of the parties for the matters addressed thereby.
- 13.4. VENDOR/ SERVICE PROVIDER acknowledges that business logics, work flows, delegation and decision making processes of BANK are of business sensitive nature and shall not be disclosed/referred to other clients, agents or distributors of Software/Service.

14. INDEMNITY:

- 14.1. The BIDDER/VENDOR/ SERVICE PROVIDER shall keep and hold the Bank indemnified and harmless from time to time and at all times against all actions, proceedings, claims, suits, liabilities (including statutory liability), penalties, demands, charges, costs (including legal costs) and expenses, damages, losses and any other expenses which may be caused to or suffered by or made or taken against the Bank arising out of:
- 14.1.1. The breach, default or non-performance of undertakings, warranties, covenants or obligations by the BIDDER/VENDOR/ SERVICE PROVIDER;
- 14.1.2. Any contravention or Non-compliance with any applicable laws, regulations, rules, statutory or legal requirements by the BIDDER/VENDOR/ SERVICE PROVIDER;
- 14.1.3. Fines, penalties, or punitive damages levied on Bank resulting from supervisory actions due to breach, default or non-performance of undertakings, warranties, covenants, or obligations by the BIDDER/VENDOR/ SERVICE PROVIDER.
- 14.2. The BIDDER/VENDOR/ SERVICE PROVIDER shall indemnify, protect and save the Bank against all claims, losses, costs, damages, expenses, action, suits and other proceedings, resulting from infringement of any law pertaining to patent, trademarks, copyrights etc. or such other statutory infringements in respect of **service** provided by them.
- 14.3. All Employees engaged by the BIDDER/VENDOR/ SERVICE PROVIDER shall be in sole employment of the BIDDER/VENDOR/ SERVICE PROVIDER and the BIDDER/VENDOR/ SERVICE PROVIDER shall be solely responsible for their salaries, wages, statutory payments etc. That under no circumstances shall the Bank be liable for any payment or claim or compensation (including but not limited to compensation on account of injury / death / termination) of any nature to the employees and personnel of the BIDDER/VENDOR/ SERVICE PROVIDER.

- 14.4. All indemnities shall survive notwithstanding expiry or termination of the contract and bidder shall continue to be liable under the indemnities.
- 14.5. BIDDER/VENDOR/ SERVICE PROVIDER aggregate liability shall be subject to an overall limit of the total Cost of the project.
- 14.6. The limits specified in above clauses shall not apply to claims made by the Bank/third parties in case of infringement of Intellectual property rights or loss caused due to breach of confidential obligations or applicable data protection laws or commission of any fraud by the bidder or its employees or agents or for claims relating to the loss or damage to real property and tangible personal property and for bodily injury or death and in these cases the liability will be unlimited.

15. RIGHT TO AUDIT:

- 15.1. The VENDOR has to get itself annually audited by internal/ external empanelled Auditors appointed by the PURCHASER/inspecting official from the Reserve Bank of India or any regulatory authority, covering the risk parameters finalized by the PURCHASER/such auditors in the areas of products (IT hardware/software) and services etc., provided to the PURCHASER and the VENDOR is required to submit such certification by such Auditors to the PURCHASER. The VENDOR and or his/their outsourced agents/subcontractors (if allowed by the PURCHASER) shall facilitate the same. The PURCHASER can make its expert assessment on the efficiency and effectiveness of the security, control, risk management, governance system and process created by the VENDOR. The VENDOR shall, whenever required by the Auditors, furnish all relevant information, records/data to them. All costs for such audit shall be borne by the PURCHASER.
- 15.2. Where any deficiency has been observed during audit of the VENDOR on the risk parameters finalized by the PURCHASER or in the certification submitted by the Auditors, the VENDOR shall correct/resolve the same at the earliest and shall provide all necessary documents related to resolution thereof and the auditor shall further certify in respect of resolution of the deficiencies. The resolution provided by the VENDOR shall require to be certified by the Auditors covering the respective risk parameters against which such deficiencies have been observed.
- 15.3. The VENDOR shall, whenever required by the PURCHASER, furnish all relevant information, records/data to such auditors and/or inspecting officials of the PURCHASER/Reserve Bank of India and or any regulatory authority. The PURCHASER reserves the right to call and/or retain for any relevant material information/reports including auditor review reports undertaken by the VENDOR (e.g., financial, internal control and security reviews) and findings made on VENDOR in conjunction with the services provided to the PURCHASER.

16. BUSINESS CONTINUITY PLAN:

- 16.1. The service provider/vendor shall develop and establish a robust Business Continuity and Management of Disaster Recovery Plan if not already developed and established so as to ensure uninterrupted and continued services to the Bank and to ensure the agreed upon service level.
- 16.2. The service provider/vendor shall periodically test the Business Continuity and Management of Disaster Recovery Plan. The Bank may consider joint testing and recovery exercise with the Service provider/vendor.

17. CORRUPT AND FRAUDULENT PRACTICES:

- 17.1. Vendor/Service Provider shall at all times observe the highest standard of ethics during the entire contract period.
- 17.2. Vendor/Service Provider shall ensure compliance of CVC guidelines issued or to be issued from time to time for selection of vendor for Supply, Implementation, Migration and Support of the hardware by the Bank.

18. CONFIDENTIALITY AND NON-DISCLOSURE:

- 18.1. VENDOR/ SERVICE PROVIDER shall take all necessary precautions to ensure that all confidential information is treated as confidential and not disclosed or used other than for the purpose of project execution. VENDOR/ SERVICE PROVIDER shall suitably defend, indemnify BANK for any loss/damage suffered by BANK on account of and to the extent of any disclosure of the confidential information. VENDOR/ SERVICE PROVIDER shall furnish an undertaking in the prescribed format.
- 18.2. No Media release/public announcement or any other reference to the Contract/RFP or any program there under shall be made without the written consent of the BANK, by photographic, electronic or other means.
- 18.3. Provided that the Confidentiality Clause may not be applied to the data or information which;
- a) Was available in the public domain at the time of such disclosure through no wrongful act on the part of VENDOR/ SERVICE PROVIDER.
 - b) Is received by VENDOR/ SERVICE PROVIDER without the breach of this Agreement.
 - c) Is required by law or regulatory compliance to disclose to any third person.
 - d) Is explicitly approved for release by written authorization of the Bank.
- 18.4. Service Provider to ensure confidentiality of customer data and shall be liable in case of any breach of security and leakage of confidential customer related information

THESE CONFIDENTIALITY OBLIGATIONS SHALL SURVIVE THE TERMINATION OF THIS CONTRACT AND THE VENDOR/ SERVICE PROVIDER SHALL BE BOUND BY THE SAID OBLIGATIONS.

19. FORCE MAJEURE:

- 19.1. VENDOR/ SERVICE PROVIDER shall not be liable for default or non-performance of the obligations under the Contract, if such default or non-performance of the obligations under this Contract is caused by any reason or circumstances or occurrences beyond the control of VENDOR/ SERVICE PROVIDER, i.e. Force Majeure.
- 19.2. For the purpose of this clause, "Force Majeure" shall mean an event beyond the control of the VENDOR/ SERVICE PROVIDER, due to or as a result of or caused by acts of God, wars, insurrections, riots, earth quake and fire, Government policies or events not foreseeable but does not include any fault or negligence or carelessness on the part of the VENDOR/ SERVICE PROVIDER, resulting in such a situation.
- 19.3. In the event of any such intervening Force Majeure, VENDOR/ SERVICE PROVIDER shall notify the BANK in writing of such circumstances and the cause thereof immediately

within seven days. Unless otherwise directed by the BANK, VENDOR/ SERVICE PROVIDER shall continue to perform / render / discharge other obligations as far as they can reasonably be attended / fulfilled and shall seek all reasonable alternative means for performance affected by the Event of Force Majeure.

- 19.4. In such a case, the time for performance shall be extended by a period (s) not less than the duration of such delay. If the duration of delay continues beyond a period of three months, the BANK and VENDOR/ SERVICE PROVIDER shall hold consultations with each other in an endeavour to find a solution to the problem. Notwithstanding above, the decision of the BANK shall be final and binding on the VENDOR/ SERVICE PROVIDER.

20. SOCIAL MEDIA POLICY:

- 20.1. No person of the Bank or the Vendor/Service Provider and third parties shall violate the Social Media Policy of the Bank.
- 20.2. The following acts on the part of personnel of the Bank or Vendor/Service Provider and third parties shall be construed as violation of Social Media Policy:
- 20.2.1. Non-adherence to the standards/guidelines in relation to Social Media Policy issued by the Bank from time to time.
- 20.2.2. Any omission or commission which exposes the Bank to actual or potential monetary loss or otherwise, reputation loss on account of non-adherence of Social Media related systems and procedures.
- 20.2.3. Any unauthorized use or disclosure of Bank's confidential information or data.
- 20.2.4. Any usage of information or data for purposes other than for Bank's normal business purposes and / or for any other illegal activities which may amount to violation of any law, regulation or reporting requirements of any law enforcement agency or government body.

21. HIRING OF BANK STAFF OR EX-STAFF:

The VENDOR/ SERVICE PROVIDER or subcontractor(s) shall not hire any of the existing/ ex/retired employee of the Bank during the contract period or after the closure/termination of contract even if existing/ ex/retired employee actively seek employment from the VENDOR/ SERVICE PROVIDER or sub-contractor(s). The period /duration after the date of resignation/ retirement/ termination after which the existing/ex/retired employee shall be eligible for taking up such employment shall be governed by regulatory guidelines/HR policies of the Bank

22. ADHERENCE TO BANKS IS SECURITY/CYBER SECURITY POLICIES:

- 22.1. VENDOR/ SERVICE PROVIDER shall comply with Bank's various policies like Information Security policy and Cyber Security Policy, Internet Policy, Information System Audit Policy, E-Mail policy and Guidelines.
- 22.2. In case of any security incident including but not limited to data breaches, denial of service, service unavailability, etc., the vendor/Service Provider shall immediately report such incident to the Bank.

23. PROTECTION OF DATA:

- 23.1. The VENDOR/ SERVICE PROVIDER warrants that at all times, when delivering the Deliverables and providing the Services, use appropriate procedures and care to avoid loss or corruption of data. However, in the event that any loss or damage to Bank data occurs as a result of Vendor/Service provider failure to perform its responsibilities in the RFP, Vendor/Service Provider will at Bank's request correct or cause to be corrected any loss or damage to Bank data. Further, the cost of the any corrective action in relation to data loss of any nature will be borne by Vendor/Service Provider, if such loss or damage was caused by any act or omission of Vendor/Service provider or its officers, employees, contractors or agents or other persons under Vendor/Service provider control.
- 23.2. Where the terms of the RFP/Gem Bid/PO require any data to be maintained by the Bank, the Bank agrees to grant, Vendor/Service provider such access and assistance to such data and other materials as may be required by Vendor/Service Provider, for the purposes of correcting loss or damage to Bank data.
- 23.3. The VENDOR/ SERVICE PROVIDER is required to adhere to RBI guidelines for storage of data in India as per regulatory requirements, also to provide complete details of data captured, processed and stored, maintain confidentiality of the bank's and its customer's data and report same to the bank, Vendor/Service provider will be liable to bank for any event for security breach and leakage of data/information
- 23.4. The VENDOR/ SERVICE PROVIDER should ensure that it is complying with applicable guidelines issued by regulatory bodies on Digital Data Protection Act 2023 and its future amendments and communications.

24. DISPUTE RESOLUTION MECHANISM:

Restricted

All disputes and differences of any kind whatsoever, arising out of or in connection with this Contract or in discharge of any obligation arising under this Contract (whether during the course of execution of the order or after completion and whether beyond or after termination, abandonment or breach of the Agreement) shall be resolved amicably. In case of failure to resolve the disputes and differences amicably the matter may be referred to a sole arbitrator mutually agreed upon after issue of at least 30 days' notice in writing to the other party clearly setting out there in the specific disputes. In the event of Parties failing to consent upon a single Arbitrator than BOTH PARTIES shall approach Court of Law for the appointment of sole Arbitrator as provided under the Arbitration and Conciliation Act, 1996. Place of Arbitration shall be Bengaluru, India which will be governed by Indian Arbitration and Conciliation Act, 1996. Proceedings of Arbitration shall be conducted in English language only.

25. GOVERNING LAWS AND JURISDICTION OF THE COURT:

All disputes and controversies between Bank and VENDOR/ SERVICE PROVIDER shall be subject to the exclusive jurisdiction of the courts in Bengaluru and the parties agree to submit themselves to the jurisdiction of such court as this Contract shall be governed by the laws of India.

26. NOTICES:

Any notice or other communication required or permitted by this Contract shall be in writing, in English, delivered by certified or registered mail, return receipt requested, postage prepaid and addressed as follows or to such other address as may be designated by notice being effective on the date received or, if mailed as set above:

If to BANK:

Registered Office Address: Canara Bank Head Office (Annex),
Centralized Procurement and Vendor Management Wing,
#14, M G Road, Naveen Complex,
Bengaluru -560001
Designated Contact Person: (Designation)
Phone: 080-25599244
Email: suppliermanagement@canarabank.com

If to VENDOR/ SERVICE PROVIDER:
Registered Office Address:

Designated Contact Person: Sri. _____ (_____)
Phone: +91-_____
Email: _____

27. AMENDMENTS TO CONTRACT:

The terms and conditions of this Agreement may be modified by Parties by mutual agreement from time to time. No variation of or amendment to or waiver of any of the terms of this Agreement shall be effective and binding on the Parties unless evidenced in writing and signed by or on behalf of each of the Parties.

28. CONFLICT OF INTEREST:

- 28.1. VENDOR/ SERVICE PROVIDER represents and warrants that it has no business, professional, personal, or other interest, including, but not limited to, the representation of other clients, that would conflict in any manner or degree with the performance of its obligations under this Agreement.
- 28.2. VENDOR/ SERVICE PROVIDER represents and warrants that if any such actual or potential conflict of interest arises under this Agreement, Vendor/Service Provider shall immediately inform the Bank in writing of such conflict.
- 28.3. VENDOR/ SERVICE PROVIDER acknowledges that if, in the reasonable judgment of the Bank, such conflict poses a material conflict to and with the performance of VENDOR/ SERVICE PROVIDER's obligations under this Agreement, then the Bank may terminate the Agreement immediately upon Written notice to VENDOR/ SERVICE PROVIDER; such termination of the Agreement shall be effective upon the receipt of such notice by VENDOR/ SERVICE PROVIDER.

29. ESCALATION MATRIX:

The escalation matrix at the Vendor/Service Provider level, shall be provided as below.

In case of any issue with respect to the execution of the Project, Delivery of Hardware, Services etc., the Bank can escalate the issue as per the escalation matrix.

Escalation matrix shall be strictly followed to resolve any tickets, whenever raised.

Escalation Level	Name	Designation	Office Address	Mobile Number	Role & Responsibility	E-mail ID
First Level	-----	-----	-----	-----	-----	-----

Senior Level/Middle Level	-----	-----	-----	-----	-----	-----
Highest Level	-----	-----	-----	-----	-----	-----

30. GENERAL CONDITIONS TO CONTRACT:

- 30.1. The VENDOR/ SERVICE PROVIDER shall during the validity of this contract, provide access to all data, books, records, information, logs, alerts and business premises relevant to the service provided under this agreement to the Bank.
- 30.2. The VENDOR/ SERVICE PROVIDER shall adhere to RBI guidelines for storage of data in India as per regulatory requirements, also to provide complete details of data captured, processed and stored, maintain confidentiality of the bank's and its customer's data and report same to the bank, Vendor/Service Provider shall be liable to bank for any event for security breach and leakage of data/information
- 30.3. The VENDOR/ SERVICE PROVIDER shall abide/comply with applicable guidelines issued by RBI on Outsourcing of IT services vide master direction note no:RBI/2023-24/102 DoS.CO.CSITEG/SEC.1/31.01.015/2023-24 dated 10/04/2023 and its future amendments and communications.
- 30.4. No forbearance, indulgence, relaxation or inaction by any Party [BANK or VENDOR/ SERVICE PROVIDER] at any time to require the performance of any provision of Contract shall in any way affect, diminish, or prejudice the right of such Party to require the performance of that or any other provision of Contract.
- 30.5. No waiver or acquiescence of any breach, or any continuing or subsequent breach of any provision of Contract shall be construed as a waiver of any right under or arising out of Contract or an acquiescence to or recognition of any right and/or any position other than that expressly stipulated in the Contract.
- 30.6. All remedies of either BANK or VENDOR/ SERVICE PROVIDER under the Contract whether provided herein or conferred by statute, civil law, common law, custom, or trade usage, are cumulative and not alternative may be enforced successively or concurrently.
- 30.7. If any provision of Contract or the application thereof to any person or Party [BANK/ VENDOR/ SERVICE PROVIDER] is or becomes invalid or unenforceable or prohibited by law to any extent, this Contract shall be considered divisible as to such provision, and such provision alone shall be inoperative to such extent and the remainder of the Contract shall be valid and binding as though such provision had not been included. Further, the Parties [BANK and VENDOR/ SERVICE PROVIDER] shall endeavour to replace such invalid, unenforceable or illegal provision by one that is valid, enforceable, and legal and achieve substantially the same economic effect as the provision sought to be replaced.
- 30.8. None of the provisions of Contract shall be deemed to constitute a partnership between the Parties [BANK and VENDOR/ SERVICE PROVIDER] and neither Party [BANK nor VENDOR/ SERVICE PROVIDER] shall have any right or authority to bind the other as the other's agent or representative and no Party shall be deemed to be the agent of the other in any way.

30.9. Contract shall not be intended and shall not be construed to confer on any person other than the Parties [BANK and VENDOR/ SERVICE PROVIDER] hereto, any rights or remedies herein.

30.10. Contract shall be executed in English language in 1 (one) original, the BANK receiving the duly signed original and VENDOR/ SERVICE PROVIDER receiving the duly attested photocopy.

IN **WITNESS** WHEREOF, the Parties hereto have executed this Agreement the day and year first herein above written.

Signature:
Name:
Designation:
For & on behalf of:
(BANK)

Signature:
Name:
Designation:
For & on behalf of
(VENDOR/ SERVICE PROVIDER)

In the presence of:

In the presence of:

Signature-1:
Name:
Designation:

Signature-1:
Name:
Designation:

Signature-2:
Name:
Designation:

Signature-2:
Name:
Designation: