



ODISHA GRAMYA BANK

Information Technology Department
Head Office, Gandamunda, P.O.-Khandagiri, Bhubaneswar

RFP Ref. No OGB/RFP/ITD/CBS/009/2021-22 dated 28th October 2021, Amendment_3 Date: 14-12-2021

AMENDMENT_2: REQUEST FOR PROPOSAL (RFP) TO SELECT SERVICE INTEGRATOR FOR MIGRATION OF CBS FROM FINACLE 7.0.18 TO FINACLE 10.2.25

All bidders are here by informed that the necessary amendments to RFP are provided in Table#1 for the queries received from bidders after publication of Amendment_2 dated 03-12-2021.

Table#1: Amendment_1

Sr. No.	Document Reference	Page No	Clause No	Description in RFP	Amendment
1	Amendment_2 dated 03-12-2021	28	Point# 12	The proposed Enterprise Management tools must be able to monitor end to end performance of Server Operating Systems & Databases and Should be able to manage distributed, heterogeneous systems – Windows, UNIX & LINUX from a single management station.	The proposed Enterprise Management tools must be able to monitor end to end performance of Server Operating Systems & Databases and Should be able to monitor distributed, heterogeneous systems such as Windows, UNIX/LINUX from a single management station.
2	Amendment_2 dated 03-12-2021	29	Point# 13	There should be a single agent on the managed node that provides the system performance data, and for event management it should be able to prioritize events, do correlation & duplicate suppression ability	This clause stands cancelled

Sr. No.	Document Reference	Page No	Clause No	Description in RFP	Amendment
				to buffer alarms and provide automatic actions with capability to add necessary annotations	
3	Amendment_2 dated 03-12-2021	29	Point# 19	Solution should provide alarm correlation and facilitate reduction of total number of alarms displayed by means of intelligent alarm correlation, suppression and root cause analysis techniques built in to the system. The system must ensure reduction in MTTR by means of advanced event correlation, filtering and root cause analysis.	Solution should facilitate reduction of total number of alarms displayed by means of suppression techniques built in to the system. The system must ensure reduction in MTTR by means of advanced filtering and uplink dependency.
4	Amendment_2 dated 03-12-2021	29	Point# 20	The proposed Alarm Correlation and Root Cause Analysis system shall integrate network, server, middleware, application and database performance information and alarms in a single console and provide a unified reporting interface for network components. The current performance state of the entire system	The proposed solution should shall integrate with network, server, middleware, application and database performance information and alarms in a single console. And provide a unified reporting interface for network components. The current performance state of the entire system.
5	Amendment_2 dated 03-12-2021	29	Point# 21	It should have capability to perform cross domain correlation with alarm correlation from Network Monitoring tool, Systems monitoring tool and other domain monitoring tools.	This clause stands cancelled
6	Amendment_2 dated 03-12-2021	29	Point# 22	Alarm Filtering should allow flexible filtering rules for SDC staff to filter the alarms by category, severity, elements, duration, by user, by views, by geography or by department.	Alarm Filtering should allow flexible filtering rules for SDC staff to filter the alarms by category, severity, elements, duration, by user or by department.
7	Amendment_2 dated 03-12-2021	29	Point# 23	The proposed solution should provide out of the box root cause analysis with multiple root cause algorithms inbuilt for root cause analysis.	This clause stands cancelled
8	Amendment_2 dated 03-12-2021	29	Point# 24	Alarms should be mapped to the live topology views and real time updates to topology based on alarm occurrences.	Real time updates of alarms should be available in a dashboard

Sr. No.	Document Reference	Page No	Clause No	Description in RFP	Amendment
9	Amendment_2 dated 03-12-2021	29	Point# 25	Should trigger automated actions based on incoming events / traps. These actions can be automated scripts/batch files.	This clause stands cancelled
10	Amendment_2 dated 03-12-2021	29	Point# 26	Should be able to send e-mail or Mobile –SMS to pre-defined users for pre- defined faults.	Should be able to send email or SMS for incoming alerts
11	Amendment_2 dated 03-12-2021	30	Point# 31	Enables rapid troubleshooting and configurable compliance management by comparing servers to reference servers, most golden reference snapshots, industry best practices, or user-defined scripts. Provides comprehensive compliance dashboard with consolidated servers and cross-tier compliance views.	Identify the misconfigurations based on industry best practices and provide remediation.
12	Amendment_2 dated 03-12-2021	30	Point# 34	Provides dynamic, real-time, and historical reports into hardware, software, patches, and operations activities in complex, heterogeneous data Centers. Includes out-of-the-box compliance reports and at-a- glance compliance status with actionable links to servers, policies, and other objects. Exports reports to HTML and comma-separated values (CSV) formats.	This clause stands cancelled
13	Amendment_2 dated 03-12-2021	30	Point# 38	The EMS tools should have all necessary functionality to monitor and report the network traffic between the servers and VMs to be provided under scope of this RFP.	This clause stands cancelled
14	Amendment_2 dated 03-12-2021	30	Point# 40	Solution should be able to collect Key performance measurements and statistics from all network domains and store it. This data is to be used for evaluation of performance of the end to end network infrastructure/services.	This clause stands cancelled
15	Amendment_2 dated 03-12-2021	30	Point# 41	The performance management system shall be able to collect and report data like: a. Packet delay and	This clause stands cancelled

Sr. No.	Document Reference	Page No	Clause No	Description in RFP	Amendment
				packet loss b. User bandwidth usage rate d. Network availability rate e. CPU usage rate f. Input/output traffic through physical ports g. Input/output traffic through logical ports	
16	Amendment_2 dated 03-12-2021	30	Point# 42	<p>The Performance Management shall have user defined set of reports like:</p> <p>a. Summary Reports for specific groups: Reports displaying per group of resources the group aggregations for a set of metrics (for example, per City, the maximum traffic or the total traffic).</p> <p>b. Summary Reports for specific Resources: Reports displaying for a set of resources the period aggregations for the same set of metrics (for example, per interface, the maximum traffic over the day)</p> <p>c. Detailed chart Reports: Reports displaying for one resource and the same set of metrics the values over the period (for example, the raw collected values for the day).</p> <p>d. Resource Threshold Violation Reports: Reports displaying the resources for which a threshold was violated</p>	The Performance Management shall facilitate user defined set of reports as per requirement during the contract period.
17	Amendment_2 dated 03-12-2021	31	Point# 45	Certified for ITILv3 process or design document / release note states that the proposed solution is in compliance with ITILv3 process.	Certified for ITILv3 or v4 process or design document / release note states that the proposed solution is in compliance with ITILv3 or ITIL v4 process
18	Amendment_2 dated 03-12-2021	31	Point# 58	Must allow creating and applying various operational level parameters to Incidents, Requests, Changes, and Release management modules.	Must allow creating and applying various operational level parameters to Incidents, Requests, and Changes management modules.

Sr. No.	Document Reference	Page No	Clause No	Description in RFP	Amendment																																										
19	Amendment_2 dated 03-12-2021	32	Point# 64	The solution must provide a flexible framework for collecting and managing service level templates including Service Definition, Service Level Metrics, Penalties and other performance indicators measured across infrastructure and vendors	The solution must provide a flexible framework for managing Service Level Metrics, and other performance indicators measured across infrastructure and vendors																																										
20	Amendment_2 dated 03-12-2021	32	Point# 67	Discovery system should have ability to modify out-of-box discovery scripts, create customized discovery scripts	This clause stands cancelled																																										
21				<p>Bank is intent to implement many non-cbs applications during the period of 6 years. For this bidder should provide following Virtual Machine (VM) infrastructure to Bank as per requirement.</p> <p>a. Bidder should provide following application VMs for <u>application / web but not for Database</u>.</p> <table><tr><th>VM type</th><th>Used for</th><th>Physical Core / VM</th><th>Operating system / VM</th><th>RAM / VM</th><th>Storage Space / VM</th><th>Number of VMs</th></tr><tr><td>Type A1</td><td>Application – Windows</td><td>4</td><td>Windows Server Enterprise Edition with SA</td><td>8 GB</td><td>512 GB</td><td>14</td></tr><tr><td>Type A2</td><td>Application – Windows</td><td>4</td><td>Windows Server Enterprise Edition with SA</td><td>16 GB</td><td>512 GB</td><td>16</td></tr></table> <p>*Note: Bidder can <u>opt</u> to propose and quote for Windows Server Datacentre Edition with SA to meet the above requirement of VMs in place of Enterprise Edition OS <u>as per the design proposed by the bidder</u>.</p> <p>b. Bidder should provide following Database</p>	VM type	Used for	Physical Core / VM	Operating system / VM	RAM / VM	Storage Space / VM	Number of VMs	Type A1	Application – Windows	4	Windows Server Enterprise Edition with SA	8 GB	512 GB	14	Type A2	Application – Windows	4	Windows Server Enterprise Edition with SA	16 GB	512 GB	16	<p>Bank is intent to implement many non-cbs applications during the period of 6 years. For this bidder should provide following Virtual Machine (VM) infrastructure to Bank as per requirement.</p> <p>a. Bidder should provide following application VMs for <u>application, web and Database</u>.</p> <table><tr><th>VM type</th><th>Used for</th><th>Physical Core / VM</th><th>Operating system / VM</th><th>RAM / VM</th><th>Storage Space / VM</th><th>Number of VMs</th></tr><tr><td>Type A1</td><td>Application – Windows</td><td>4</td><td>Windows Server Enterprise Edition with SA</td><td>8 GB</td><td>512 GB</td><td>30 (DC-15, DR-15)</td></tr><tr><td>Type A2</td><td>Application – Windows</td><td>4</td><td>Windows Server Enterprise Edition with SA</td><td>16 GB</td><td>512 GB</td><td>16 (DC-8, DR-8)</td></tr></table> <p>*Note: Bidder can <u>opt</u> to propose and quote for Windows Server Datacentre Edition with SA to meet the above requirement of VMs in place of Enterprise Edition OS <u>as per the design proposed by the bidder</u>.</p>	VM type	Used for	Physical Core / VM	Operating system / VM	RAM / VM	Storage Space / VM	Number of VMs	Type A1	Application – Windows	4	Windows Server Enterprise Edition with SA	8 GB	512 GB	30 (DC-15, DR-15)	Type A2	Application – Windows	4	Windows Server Enterprise Edition with SA	16 GB	512 GB	16 (DC-8, DR-8)
VM type	Used for	Physical Core / VM	Operating system / VM	RAM / VM	Storage Space / VM	Number of VMs																																									
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Type A1	Application – Windows	4	Windows Server Enterprise Edition with SA	8 GB	512 GB	30 (DC-15, DR-15)																																									
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Sr. No.	Document Reference	Page No	Clause No	Description in RFP	Amendment												
				<div>instances for non CBS application.</div> <table><tr><th>VM type</th><th>Used for</th><th>Instances</th><th>Database Size / instance</th></tr><tr><td>Type D1</td><td>Database – Oracle Enterprise Edition</td><td>24</td><td>50 GB</td></tr><tr><td>Type D2</td><td>Database – Microsoft SQL Server Enterprise Edition</td><td>12</td><td>20 GB</td></tr></table> <div><p>c. Bidder can propose any kind of VM solution as best suited like KVM, VPAR, LPAR, Hyper visor, VM Ware, etc.</p><p>d. The management of these infra will be under scope of the bidder.</p><p>e. VM sizing should be done as per requirement of the Bank based on applications to be installed. This sizing requirement of VM will be provided by Bank. Bidder should engineer the VM accordingly.</p><p>f. The administrative user access should be provided to Bank.</p><p>g. The security controls of these VMs will be under scope of the bidder.</p><p>h. Backup of the database and application will be under scope of the bidder.</p><p>i. Bidder should provide a centralized console for monitoring and management of VMs for A1, A2, D1, D2 servers at DC and DR.</p></div>	VM type	Used for	Instances	Database Size / instance	Type D1	Database – Oracle Enterprise Edition	24	50 GB	Type D2	Database – Microsoft SQL Server Enterprise Edition	12	20 GB	<div><p>b. Bidder need not to provide or factor for database licenses. The database licenses wherever required will be procured and provided by Bank.</p><p>c. Bidder can propose any kind of VM solution as best suited like KVM, VPAR, LPAR, Hyper visor, VM Ware, etc. However, in case of installation of Microsoft SQL, PostgreSQL, Mongo DB and MySQL databases in some of the VMs based on few numbers of core count, the VM solution should allow the same, without any license conflict.</p><p>d. The management of these infra will be under scope of the bidder.</p><p>e. VM sizing should be done as per requirement of the Bank based on applications to be installed. This sizing requirement of VM will be provided by Bank. Bidder should engineer the VM accordingly.</p><p>f. The administrative user access should be provided to Bank.</p><p>g. The security controls of these VMs will be under scope of the bidder.</p><p>h. Bidder should provide a centralized console for monitoring and management of VMs for A1 and A2 servers at DC and DR.</p><p>i. The periodic Backup of these VMs either as VM image or as incremental backup, using tape library will be under scope of bidder. Bidder should factor for required backup licenses for all VMs.</p></div> <div>Note: In the RFP and Amendments, the scope of</div>
VM type	Used for	Instances	Database Size / instance														
Type D1	Database – Oracle Enterprise Edition	24	50 GB														
Type D2	Database – Microsoft SQL Server Enterprise Edition	12	20 GB														

Sr. No.	Document Reference	Page No	Clause No	Description in RFP	Amendment
					work for database for Type D1 and D2 and databases under scope of "VIRTUAL ENVIRONMENT FOR NON-CBS APPLICATIONS (PART B)" stands cancelled.
22	Section 3 - Scope of Work	52, 53	7. Database	<p><i>All database licenses provided under scope of this RFP should be perpetual in nature with active ATS from day one. All licenses provided should be in the name of "Odisha Gramya Bank".</i></p> <p>1. Oracle Enterprise Edition:</p> <ul style="list-style-type: none"> a. Bidder should factor to use the existing 10 core Oracle Enterprise edition license with by upgrading the same to latest certified version of Oracle Enterprise DB (Full use and perpetual in nature) with Finacle 10.2.25. b. Bidder should propose and supply additional core licenses to meet the performance and resource requirement under "Part A" and "Part B". c. Bidder should also supply and install following additional licenses: <ul style="list-style-type: none"> 1) Diagnostic Tunic licenses 2) Partitioning 3) Audit Vault and database firewall d. All requirements under "Part A" and "Part B" for Oracle database version should be same. e. Bidder should create separate instances for all applications under "Part A" and "Part B". f. Bidder should design the database servers to avoid any security vulnerability or back door security issues. <p>2. Microsoft SQL Database:</p>	<p><i>All database licenses provided under scope of this RFP should be perpetual in nature with active ATS from day one. All licenses provided should be in the name of "Odisha Gramya Bank".</i></p> <p>1. Oracle Enterprise Edition:</p> <ul style="list-style-type: none"> a. Bidder should factor to use the existing 10 core Oracle Enterprise edition license by upgrading the same to latest certified version of Oracle Enterprise DB (Full use and perpetual in nature) with Finacle 10.2.25. b. Bidder should propose and supply additional core licenses to meet the performance and resource requirement under "Part A" only. <ul style="list-style-type: none"> 1) Bidder should also supply and install Diagnostic pack and preferably by optimizing the license count for active passive setup of DC and DR considering 20 days of DR drills in a year. 2) Tuning pack is optional c. Bidder should create separate instances for all applications under "Part A" only. d. Bidder should design the database servers to avoid any security vulnerability or back door security issues.

Sr. No.	Document Reference	Page No	Clause No	Description in RFP	Amendment
				<p>a. Bidder should factor the requirement under "Part B" while proposing MS SQL Database License.</p> <p>b. Bidder should supply and install the latest version of Enterprise edition or datacenter edition of MSSQL.</p> <p>c. The database should be installed in VM environment to optimize the cost.</p>	Bidder need not to propose for any database for Part-B.
23	APPENDIX 1 – STORAGE SPECIFICATION	116	4 ARCHITECTURE:	The proposed array should be NVMe based all flash (min TLC NAND Flash) with active-active multi-controller/node scale-up and scale-out architecture. The array should be proposed with minimum dual controllers and scalable to at least 8 active-active storage controllers/nodes.	The proposed array should be SSD / NVMe based all flash (min TLC NAND Flash) with active-active multi-controller/node scale-up and scale-out architecture. The array should be proposed with minimum dual controllers and scalable to at least 8 active-active storage controllers/nodes.
24	APPENDIX 1 – STORAGE SPECIFICATION	116	3 CPU PROCESSING POWER:	Offered storage shall have CPUs based upon latest generation of Intel or AMD family, Minimum Cascade Lake series and shall be supplied with at-least 24 numbers of CPU cores, Scalable to at-least 96 CPU cores without replacing the existing controllers. However Bidder to resize the specification to meet the required performance of this project.	Offered storage shall have CPUs based upon latest generation of Intel or AMD family, Minimum Cascade Lake series and shall be supplied with at-least 24 numbers of CPU cores, Scalable to at-least 80 CPU cores without replacing the existing controllers. However Bidder to resize the specification to meet the required performance of this project.
25	APPENDIX 1 – STORAGE SPECIFICATION	117	12 BACKEND CONNECTIVITY:	<p>NVMe SSD drive connectivity should be using PCIe based technology for low latency with minimum bandwidth of 512Gbps. Other technologies such as SAS, RoCE etc for NVMe disk connectivity will not be acceptable.</p> <p>However Bidder to resize the specification to meet the required performance of this project.</p>	<p>SSD / NVMe drive connectivity should be using 12G SAS / PCIe based technology for low latency with minimum bandwidth of 512Gbps. Other technologies such as RoCE etc for NVMe disk connectivity will not be acceptable.</p> <p>However Bidder to resize the specification to meet the required performance of this project.</p>

Sr. No.	Document Reference	Page No	Clause No	Description in RFP	Amendment
26	APPENDIX 1 – STORAGE SPECIFICATION	117	15 NVMe FLASH DRIVES	The proposed array must support the latest industry standard dual ported native NVMe drives. Supported NVMe flash drives should be of various sizes like 1.92TB, 3.84TB, 7.6TB and 15.36TB etc. Array should support mixing of drives of various sizes in same storage pool. Proposed array should be proposed with hardware controller level encryption or Self-encrypting drives (SEDs) with support of internal/external key manager.	The proposed array must support the latest industry standard dual ported native SSD / NVMe drives. Supported SSD / NVMe flash drives should be of various sizes like 1.92TB, 3.84TB, 7.6TB and 15.36TB etc. Array should support mixing of drives of various sizes in same storage pool. Proposed array should be proposed with hardware controller level encryption or Self-encrypting drives (SEDs) with support of internal/external key manager.
27	APPENDIX 1 – STORAGE SPECIFICATION	116	6 UNIFIED STORAGE	The proposed array should be a unified storage supporting block, file and vVOL services natively or by providing add-on gateway/controllers in redundant configuration.	The proposed array should be a unified storage supporting block and file services natively or by providing add-on gateway/controllers in redundant configuration.
28	APPENDIX 1 – STORAGE SPECIFICATION	117	16 SCALABLE FILE SYSTEM	Proposed storage solution must support creating multiple NAS servers with each file system scalable upto 256TB. However Bidder to resize the specification to meet the required performance of this project.	Proposed storage solution should support creating multiple NAS servers or multiple File system mount points with each file system scalable upto 120 TB . However Bidder to resize the specification to meet the required performance of this project.
29	APPENDIX 1 – STORAGE SPECIFICATION	117	20 LOCAL REPLICATION PERFORMANCE & SPACE EFFICIENCY:	LOCAL REPLICATION PERFORMANCE & SPACE EFFICIENCY: The proposed array must have capability to mount space-efficient copies of single source volume for various purposes like reporting, backup, test & dev etc. This space-efficient solution should be based on redirect-on-write (RoW) technology to minimize impact on production volumes.	LOCAL REPLICATION PERFORMANCE & SPACE EFFICIENCY: The proposed array must have capability to mount space-efficient copies of single source volume for various purposes like reporting, backup, test & dev etc. This space-efficient solution should be based on redirect-on-write (RoW) or similar technology to minimize impact on production volumes.
30	Amendment-1 APPENDIX 19 – TAPE LIBRARY	49	6 Encryption device	Offered Library shall be provided with a hardware/software device like USB key, separate	Offered Library shall be provided with a hardware device like USB key, separate appliance etc or

Sr. No.	Document Reference	Page No	Clause No	Description in RFP	Amendment
				appliance etc to keep all the encrypted keys in a redundant fashion	Backup Software controlled encryption to keep all the encrypted keys in a redundant fashion
31	Amendment-1 APPENDIX 19 – TAPE LIBRARY	49	9 Barcode Reader and Mail slots	Out of 250 slots, Tape library shall support Barcode reader and at-least 10 mail slots and shall be scalable to 20 mail slots when fully populated.	Out of 205 slots , Tape library shall support Barcode reader and at-least 10 mail slots and shall be scalable to 15 mail slots when fully populated.
32	APPENDIX 1 – STORAGE SPECIFICATION	118	25 SUPPORT FOR DEVOPS AND INFRASTRUCTURE AUTOMATION	<p>Proposed storage solution should support below integration options to enable DevOps and Infrastructure automation. All mentioned options should be officially supported by storage OEM.</p> <p>a. Support for REST API</p> <p>b. c. Support for Ansible using official Ansible modules</p> <p>d. Support for Powershell modules</p> <p>e. Support for Python library</p>	<p>Proposed storage solution should support below integration options to enable DevOps and Infrastructure automation. All mentioned options should be officially supported by storage OEM.</p> <p>a. Support for REST API</p> <p>b. Support for Ansible using official Ansible modules</p> <p>c. Support for Powershell modules</p> <p>d. Support for Python library</p>

SECTION 1 - BID SCHEDULE AND ADDRESS (REVISED)

S.No	Description of Information/ Requirement	Information / Requirement	Information / Requirement (Revised)
1.	Tender Reference Number	OGB/RFP/ITD/CBS/009/2021-22	OGB/RFP/ITD/CBS/009/2021-22
2.	Date of Issue of RFP	28 th October 2021	28 th October 2021
7.	Bid Submission Mode.	Through e-procurement portal: https://odishabank.abcpocure.com/EPROC/	Through e-procurement portal: https://odishabank.abcpocure.com/EPROC/
8.	Last Date and Time for submission of bids along with supporting documents through the above	16 th December 2021 on or before 15:00 hours	24th December 2021 on or before 15:00 hours
9.	Last date, time and place for submission of Original Bid Cost (DD), Bank Guarantee towards EMD, Integrity Pact and Power of Attorney.	16 th December 2021 on or before 15:00 hours at the Bank's Information Technology Department, Head Office, Bhubaneswar. (Should be submitted to the contact officials in person).	24th December 2021 on or before 15:00 hours at the Bank's Information Technology Department, Head Office, Bhubaneswar. (Should be submitted to the contact officials in person).
10.	Date, time and venue for opening the technical bid.	16 th December 2021 at 16:00 hours at the Bank's Information Technology Department, Bhubaneswar.	24th December 2021 at 16:00 hours at the Bank's Information Technology Department, Bhubaneswar.
11.	Date, time and venue for opening the commercial bid	Will be intimated to technically short-listed bidders.	Will be intimated to technically short-listed bidders.
12.	Name of contact officials for submission of documents as stated in serial No.9 and for any enquiries.	B. K. Patra – General Manager S. S. Acharya – Sr. Manager IT A. Patra- Sr. Manager-IT	B. K. Patra – General Manager S. S. Acharya – Sr. Manager IT A. Patra- Sr. Manager-IT
13.	Address for Communication / Submission of Bids	The General Manager, Information Technology Dept., Odisha Gramya Bank, Head Office, AT- Gandamunda, P.O. – Khandagiri, Bhubaneswar – 751030.	The General Manager, Information Technology Dept., Odisha Gramya Bank, Head Office, AT- Gandamunda, P.O. – Khandagiri, Bhubaneswar – 751030.
14.	Contact officials for any clarification.	Mr. B. K. Patra – General Manager - 8169452301 Mr. S. S. Acharya – Sr. Manager IT - 9437285358 Mr. A. Patra – Sr. Manager-IT - 9886123436	Mr. B. K. Patra – General Manager - 8169452301 Mr. S. S. Acharya – Sr. Manager IT - 9437285358 Mr. A. Patra – Sr. Manager-IT - 9886123436
15.	Contact e-mail ID	procurement@odishabank.in	procurement@odishabank.in
16.	Contact details of Independent External Monitor	Name: Vinayaka Rao Turaga email: tvrao56@gmail.com	Name: Vinayaka Rao Turaga email: tvrao56@gmail.com

Table#2: Clarification on queries of bidders

Sr. No.	Bidder	Page No	Clause No	Description in RFP	Clarification Sought	Bank's Remark
1	DXC	28-32	APPENDIX 4 – ENTERPRISE MANAGEMENT SOLUTION (EMS) TOOL (Revised) - Point 12	The proposed Enterprise Management tools must be able to monitor end to end performance of Server Operating Systems & Databases and Should be able to manage distributed, heterogeneous systems Windows, UNIX & LINUX from a single management station.	Request you to modify the clause as 'The proposed Enterprise Management tools must be able to monitor end to end performance of Server Operating Systems & Databases and Should be able to monitor distributed, heterogeneous systems Windows, UNIX/LINUX from a single management station. The environment proposed by bidder should be monitored end to end by proposed EMS	Refer to Amendment_3, Point# 1
2	DXC	28-32	APPENDIX 4 – ENTERPRISE MANAGEMENT SOLUTION (EMS) TOOL (Revised) -Point 13	There should be a single agent on the managed node that provides the system performance data, and for event management it should be able to prioritize events, do correlation & duplicate suppression ability to buffer alarms and provide automatic actions with capability to add necessary annotations	Request you to remove this requirement as this functionality may not be required in practical. Almost all the products in the market for Infrastructure monitoring have different agents for OS, Database and Applications. Also the correlation and de-duplication happens on the aggregation level and not on the managed node level because there are many other components which are outside the node like Network, storage etc. So in practicality this is not a feasible requirement.	Refer to Amendment_3, Point# 2
3	DXC	28-32	APPENDIX 4 – ENTERPRISE MANAGEMENT SOLUTION (EMS) TOOL (Revised) - Point 19	Solution should provide alarm correlation and facilitate reduction of total number of alarms displayed by means of intelligent alarm correlation, suppression and root cause analysis techniques built in to	Request you to modify the clause as 'Solution should facilitate reduction of total number of alarms displayed by means of suppression techniques built in to the system. The system must ensure reduction in MTTR by means of	Refer to Amendment_3, Point# 3

Sr. No.	Bidder	Page No	Clause No	Description in RFP	Clarification Sought	Bank's Remark
				the system. The system must ensure reduction in MTTR by means of advanced event correlation, filtering and root cause analysis.	advanced filtering and uplink dependency."	
4	DXC	28-32	APPENDIX 4 – ENTERPRISE MANAGEMENT SOLUTION (EMS) TOOL (Revised) - Point 20	The proposed Alarm Correlation and Root Cause Analysis system shall integrate network, server, middleware, application and database performance information and alarms in a single console and provide a unified reporting interface for network components. The current performance state of the entire system.	Request you to modify the clause as "The proposed solution should shall integrate with network, server, middleware, application and database performance information and alarms in a single console. And provide a unified reporting interface for network components. The current performance state of the entire system."	Refer to Amendment_3, Point# 4
5	DXC	28-32	APPENDIX 4 – ENTERPRISE MANAGEMENT SOLUTION (EMS) TOOL (Revised) - Point 21	It should have capability to perform cross domain correlation with alarm correlation from Network Monitoring tool, Systems monitoring tool and other domain monitoring tools.	Request you to remove the clause	Refer to Amendment_3, Point# 5
6	DXC	28-32	APPENDIX 4 – ENTERPRISE MANAGEMENT SOLUTION (EMS) TOOL (Revised) - Point 22	Alarm Filtering should allow flexible filtering rules for SDC staff to filter the alarms by category, severity, elements, duration, by user, by views, by geography or by department.	Request to modify the clause as "Alarm Filtering should allow flexible filtering rules for SDC staff to filter the alarms"	Refer to Amendment_3, Point# 6
7	DXC	28-32	APPENDIX 4 – ENTERPRISE MANAGEMENT SOLUTION (EMS) TOOL (Revised) - Point 23	The proposed solution should provide out of the box root cause analysis with multiple root cause algorithms inbuilt for root cause analysis.	Request to remove this clause	Refer to Amendment_3, Point# 7
8	DXC	28-32	APPENDIX 4 – ENTERPRISE MANAGEMENT SOLUTION (EMS) TOOL (Revised) - Point 24	Alarms should be mapped to the live topology views and real time updates to topology based on alarm occurrences.	Request to modify the clause as " Real time updates of alarms should be available in a dashboard""	Refer to Amendment_3, Point# 8

Sr. No.	Bidder	Page No	Clause No	Description in RFP	Clarification Sought	Bank's Remark
9	DXC	28-32	APPENDIX 4 – ENTERPRISE MANAGEMENT SOLUTION (EMS) TOOL (Revised) - Point 25	Should trigger automated actions based on incoming events / traps. These actions can be automated scripts/batch files.	<u>Request to remove this clause</u>	Refer to Amendment_3, Point# 9
10	DXC	28-32	APPENDIX 4 – ENTERPRISE MANAGEMENT SOLUTION (EMS) TOOL (Revised) - Point 26	Should be able to send e-mail or Mobile SMS to pre-defined users for pre- defined faults	Request you to modify the clause as "Should be able to send email or SMS for incoming alerts	Refer to Amendment_3, Point# 10
11	DXC	28-32	APPENDIX 4 – ENTERPRISE MANAGEMENT SOLUTION (EMS) TOOL (Revised) - Point 31	Enables rapid troubleshooting and configurable compliance management by comparing servers to reference servers, most golden reference snapshots, <u>industry best practices</u> , or user-defined scripts. Provides comprehensive compliance dashboard with consolidated servers and cross-tier compliance views.	Request to modify the clause as "Identify the misconfigurations based on industry best practices and provide remediation"	Refer to Amendment_3, Point# 11
12	DXC	28-32	APPENDIX 4 – ENTERPRISE MANAGEMENT SOLUTION (EMS) TOOL (Revised) - Point 34	Provides dynamic, real-time, and historical reports into hardware, software, patches, and operations activities in complex, heterogeneous data Centers. Includes out of the-box compliance reports and at-a-glance compliance status with actionable links to servers, policies, and other objects. Exports reports to HTML and comma separated values (CSV) formats.	<u>Request to remove this clause</u>	Refer to Amendment_3, Point# 12
13	DXC	28-32	APPENDIX 4 – ENTERPRISE MANAGEMENT	The EMS tools should have all necessary functionality to monitor and report the network traffic	Request you to remove this clause as it is for NMS and is out of scope of this RFP	Refer to Amendment_3, Point# 13

Sr. No.	Bidder	Page No	Clause No	Description in RFP	Clarification Sought	Bank's Remark
			SOLUTION (EMS) TOOL (Revised) - Point 38	between the servers and VMs to be provided under scope of this RFP.		
14	DXC	28-32	APPENDIX 4 – ENTERPRISE MANAGEMENT SOLUTION (EMS) TOOL (Revised) - Point 40	Solution should be able to collect Key performance measurements and statistics from all network domains and store it. This data is to be used for evaluation of performance of the end to end network infrastructure/services.	Request you to remove this clause as it is for NMS and is out of scope of this RFP	Refer to Amendment_3, Point# 14
15	DXC	28-32	APPENDIX 4 – ENTERPRISE MANAGEMENT SOLUTION (EMS) TOOL (Revised) - Point 41	The performance management system shall be able to collect and report data like: a. Packet delay and packet loss b. User bandwidth usage rate d. Network availability rate e. CPU usage rate f. Input/output traffic through physical ports g. Input/output traffic through logical ports	Request you to remove this clause as it is for NMS and is out of scope of this RFP	Refer to Amendment_3, Point# 15
16	DXC	28-32	APPENDIX 4 – ENTERPRISE MANAGEMENT SOLUTION (EMS) TOOL (Revised) - Point 42	The Performance Management shall have user defined set of reports like: a. Summary Reports for specific groups: Reports displaying per group of resources the group aggregations for a set of metrics (for example, per City, the maximum traffic or the total traffic). b. Summary Reports for specific Resources: Reports displaying for a set of resources the period aggregations for the same set of metrics (for example, per interface, the maximum traffic over the day) c. Detailed chart Reports: Reports displaying for one resource and the same set of metrics the values over the period (for example, the raw collected values for the	Request you to remove this clause as it is for NMS and is out of scope of this RFP	Refer to Amendment_3, Point# 16

Sr. No.	Bidder	Page No	Clause No	Description in RFP	Clarification Sought	Bank's Remark
				day). d. Resource Threshold Violation Reports: Reports displaying the resources for which a threshold was violated		
17	DXC	28-32	APPENDIX 4 – ENTERPRISE MANAGEMENT SOLUTION (EMS) TOOL (Revised) - Point 45	Certified for ITILv3 process or design document / release note states that the proposed solution is in compliance with ITILv3 process.	Requesting to change to "Certified for ITILv3 or v4 process or design document / release note states that the proposed solution is in compliance with ITILv3 or ITIL v4 process"	Refer to Amendment_3, Point# 17
18	DXC	28-32	APPENDIX 4 – ENTERPRISE MANAGEMENT SOLUTION (EMS) TOOL (Revised) - Point 58	Must allow creating and applying various operational level parameters to Incidents, Requests, Changes, and Release management modules.	Request you to remove the Release management from the requirement and modify the clause as "Must allow creating and applying various operational level parameters to Incidents, Requests, and Changes management modules."	Refer to Amendment_3, Point# 18
19	DXC	28-32	APPENDIX 4 – ENTERPRISE MANAGEMENT SOLUTION (EMS) TOOL (Revised) - Point 64	The solution must provide a flexible framework for collecting and managing service level templates including Service Definition, Service Level Metrics, Penalties and other performance indicators measured across infrastructure and vendors	Request you to modify the clause as "The solution must provide a flexible framework for managing Service Level Metrics, and other performance indicators measured across infrastructure and vendors"	Refer to Amendment_3, Point# 19
20	DXC	28-32	APPENDIX 4 – ENTERPRISE MANAGEMENT SOLUTION (EMS) TOOL (Revised) - Point 67	Discovery system should have ability to modify out-of-box discovery scripts, create customized discovery scripts	<u>Request to remove this clause</u>	Refer to Amendment_3, Point# 20
21	DXC	10	3. VIRTUAL ENVIRONMENT FOR NON-CBS APPLICATIONS (PART B): - Poin 11	The VMs provided under this section should be without High Availability and synchronization between applications to be hosted in the VM(s) are under scope of Bank. However, the storage and database engine level replications between DC and DR is under scope of Bidder.	Our understanding is that bidder need not propose D1 and D2 Servers mentioned for Database. We need to only supply One each A1 and A2 type server. Please confirm	Refer to Amendment_3, Point# 21

Sr. No.	Bidder	Page No	Clause No	Description in RFP	Clarification Sought	Bank's Remark
22	DXC		Migration Cost Tab	For Finacle Upgrade scope there is dependency on OEM Edge verve availability for Migration tool and the OEM support for the resolution of Product level issues till Migration go live.	Bank will be getting these from OEM directly and bidder need not include any of these. If not please provide an additional Row for adding the CBS OEM Mandatory services in Migration Cost.	Refer to Commercial Bid format-Amended-3.xlsx
23	DXC		Migration Cost Tab	There is no row for adding the cost for "Implementation of GST solution", "Implementation of E-KYC solution" and "Implementation of Data Archival & Purging solution" like other for Internet banking and Aadhaar Vault solution. These solution implementation is part of scope as in RFP.	Request Bank to add this as a separate row for providing the cost for "Implementation of GST solution", "Implementation of E-KYC solution" and Implementation of Data Archival and Purging Solution".	Refer to Commercial Bid format-Amended-3.xlsx
24	DXC		Application License tab	Row 24 asks for "Invoice and Contract Management solution (if required additionally for GST solution) while the GST solution in Appendix 18 requirements are for Vendor Management solution "	Request Bank to revise Row24 of Application license tab from "Invoice and Contract Management solution (if required additionally for GST solution)" to "Vendor Management Solution if required additionally for GST solution".	Refer to Commercial Bid format-Amended-3.xlsx
25	DXC	40	Query 30	Response to the query "The recurring cost of GSP should be quoted by bidder in commercial format and the charges for GSP will be released as defined for recurring payment to the bidder" states "Refer to the Commercial Bid Format-Amended-2.xlsx"	There is no provision to add these recurring charges separately under Application License/FMS Cost" please provide separate row for this or guide where these should be added.	Refer to Commercial Bid format-Amended-3.xlsx
26	DXC	27	Point 6,8,9	RFP asks for following services from OEM Edge verve: Review and provide recommendation on the DRG documents, Data Migration strategy and provide recommendation and product	Requesting Bank to confirm that they will be taking these services from Edge verve or the bidder has to factor the same Requesting Bank to add a separate line item in Migration Cost tab of the	Clarification: Bidder should factor for all required engagements with EdgeVerve under migration cost except for Finacle licenses.

Sr. No.	Bidder	Page No	Clause No	Description in RFP	Clarification Sought	Bank's Remark
				patches in timely manner during UAT/SIT.	Commercial template, so bidder can quote the same	
27	DXC	94	Manpower Resources	No. of trained resources having Finacle 10.x certification from OEM with more than 3 years of experience in Finacle implementation / customization. - Min. 10 Resources – 3 Marks Min. 20 Resources – 5 Marks (Proof of training / copy of certification).	Requesting Bank to change to: No. of trained resources having Finacle 10.x certification from OEM with more than 3 years of experience in Finacle implementation / customization. - Min. 5 Resources – 3 Marks Min. 20 Resources – 5 Marks (Proof of training / copy of certification).	Existing clause in the RFP stands unchanged
28	HPE	116	APPENDIX 1 – STORAGE SPECIFICATION, Point# 4	ARCHITECTURE: The proposed array should be NVMe based all flash (min TLC NAND Flash) with active-active multi-controller/node scale-up and scale-out architecture. The array should be proposed with minimum dual controllers and scalable to atleast 8 active-active storage controllers/nodes.	ARCHITECTURE: The proposed array should be SSD/NVMe based all flash (min TLC NAND Flash) with true active-active multi-controller/node scale-up and scale-out architecture. The array should be proposed with minimum dual controllers and scalable to atleast 4 active-active storage controllers/nodes without clustering/federation.	Refer to Amendment_3, Point# 23
29	HPE	116	APPENDIX 1 – STORAGE SPECIFICATION, Point# 5	End-to-End NVMe: The proposed array should have NVMe multi-controller architecture with support of NVMe-oFC for front end connectivity of hosts, for realizing even further reductions in overhead & latency.	Remove this clause	Clarification: This clause is applicable only for the solution proposed with NVMe.
30	HPE	116	APPENDIX 1 – STORAGE SPECIFICATION, Point# 7	HIGH AVAILABILITY: The proposed array should be designed with full redundancy across all components at both the hardware and software level enabling the system to have 99.9999% availability.	HIGH AVAILABILITY: The proposed array should be designed with full redundancy across all components at both the hardware and software level enabling the system to have 100% availability.	Existing clause in RFP stands

Sr. No.	Bidder	Page No	Clause No	Description in RFP	Clarification Sought	Bank's Remark
31	HPE	116	APPENDIX 1 – STORAGE SPECIFICATION, Point# 8	CPU PROCESSING POWER: Offered storage shall have CPUs based upon latest generation of Intel or AMD family, Minimum Cascade Lake series and shall be supplied with at-least 24 numbers of CPU cores, Scalable to at-least 96 CPU cores without replacing the existing controllers. However Bidder to resize the specification to meet the required performance of this project.	CPU PROCESSING POWER: Offered storage shall have CPUs based upon latest generation of Intel or AMD family, and shall be supplied with at-least 24 numbers of CPU cores, Scalable to at-least 80 CPU cores without replacing the existing controllers. Vendor shall not use clustering/federation technology to meet the required scalability. However Bidder to resize the specification to meet the required performance of this project.	Refer to Amendment_3, Point# 24
32	HPE	116	APPENDIX 1 – STORAGE SPECIFICATION, Point# 9	DRAM CACHE / MEMORY: The proposed storage should be configured with atleast 192GB DRAM cache scalable to at least 768GB of DRAM Cache without replacing the existing controllers. The proposed array must protect data in cache during a manual power down or an unexpected power outage by vaulting/destage to persistent flash storage. In case NAS capabilities are not built-in and are supplied through additional/external hardware/gateways, additional 256 GB Memory should be supplied across redundant NAS controllers. However Bidder to resize the specification to meet the required performance of this project.	DRAM CACHE / MEMORY: The proposed storage should be configured with atleast 512GB DRAM cache scalable to at least 1TB of DRAM Cache without replacing the existing controllers and also without using clustering/federation. The proposed array must protect data in cache during a manual power down or an unexpected power outage by vaulting/destage to persistent flash storage. In case NAS capabilities are not built-in and are supplied through additional/external hardware/gateways, additional 256 GB Memory should be supplied across redundant NAS controllers. However Bidder to resize the specification to meet the required performance of this project.	Existing clause in RFP stands

Sr. No.	Bidder	Page No	Clause No	Description in RFP	Clarification Sought	Bank's Remark
33	HPE	117	APPENDIX 1 – STORAGE SPECIFICATION, Point# 12	BACKEND CONNECTIVITY: NVMe SSD drive connectivity should be using PCIe based technology for low latency with minimum bandwidth of 512Gbps. Other technologies such as SAS, RoCE etc for NVMe disk connectivity will not be acceptable. However Bidder to resize the specification to meet the required performance of this project.	BACKEND CONNECTIVITY: SSD / NVMe drive connectivity should be using 12G SAS/PCIe based technology. However Bidder to resize the specification to meet the required performance of this project.	Refer to Amendment_3, Point# 25
34	HPE	117	APPENDIX 1 – STORAGE SPECIFICATION, Point# 13	CAPACITY & PERFORMANCE REQUIREMENT The proposed array should be configured with usable capacity of 60 TB using NVMe SSDs in RAID5/RAID6 or equivalent and should be able to deliver atleast XXX IOPS (8K block size, 70% Read/30% Write) with sub-millisecond latency for both read & write IOs. Mentioned performance numbers should be achieved with data reduction techniques like Compression and deduplication turned ON. OEM should submit the document stating the above mentioned performance metrics capability of the proposed system. However Bidder to resize the specification to meet the required performance of this project.	The proposed array should be configured with usable capacity of 50 TB using SSD / NVMe disks in RAID5/RAID6 or equivalent and should be able to deliver at least 2,00,000 IOPS (8K block size, 70% Read/30% Write) with sub-millisecond latency for both read & write IOs. Bidder has to submit output of OEM sizing tool for the performance. However Bidder to resize the specification to meet the required performance of this project.	Existing clause in Amendment _2 stands
35	HPE	117	APPENDIX 1 – STORAGE SPECIFICATION, Point# 15	NVMe FLASH DRIVES: The proposed array must support the latest industry standard dual ported native NVMe drives. Supported NVMe flash drives should be of various sizes like 1.92TB, 3.84TB, 7.6TB	NVMe FLASH DRIVES: The proposed array must support the latest industry standard dual ported native SSD/ NVMe drives. Supported SSD / NVMe flash drives should be of various sizes like 1.92TB, 3.84TB, 7.6TB	Refer to Amendment_3, Point# 26

Sr. No.	Bidder	Page No	Clause No	Description in RFP	Clarification Sought	Bank's Remark
				and 15.36TB etc. Array should support mixing of drives of various sizes in same storage pool. Proposed array should be proposed with hardware controller level encryption or Self-encrypting drives (SEDs) with support of internal/external key manager.	and 15.36TB etc. Array should support mixing of drives of various sizes in same storage pool. Proposed array should be proposed with hardware controller level encryption or Self-encrypting drives (SEDs) with support of internal/external key manager.	
36	HPE	117	APPENDIX 1 – STORAGE SPECIFICATION, Point# 21	REMOTE REPLICATION: The proposed array should support remote replication to DR site with appropriate licenses and ports. If separate FCIP routers are required for replication, then the same should be included in the BOM (Min 2 Nos per site).	REMOTE REPLICATION: The proposed array should support remote replication to DR site with appropriate licenses and ports. If separate FCIP routers are required for replication, then the same should be included in the BOM (Min 2 Nos per site). Proposed storage array should support 3-WAY-DR replication natively without using third party hardware/ software based solutions	Existing clause in RFP stands
37	Wipro	116	Section-12 - APPENDIX 1 – STORAGE SPECIFICATION	ARCHITECTURE: The proposed array should be NVMe based all flash (min TLC NAND Flash) with active-active multi-controller/node scale-up and scale-out architecture. The array should be proposed with minimum dual controllers and scalable to atleast 8 active-active storage controllers/nodes.	ARCHITECTURE: The proposed array should be SSD / NVMe based all flash with active-active Dual controllers architecture.	Refer to Amendment_3, Point# 23
38	Wipro	116	Section-12 - APPENDIX 1 – STORAGE SPECIFICATION	End-to-End NVMe: The proposed array should have NVMe multi-controller architecture with support of NVMe-oFC for front end connectivity of hosts, for realizing even further reductions in overhead & latency.	Please delete this clause	Clarification: This clause is applicable only for the solution proposed with NVMe.

Sr. No.	Bidder	Page No	Clause No	Description in RFP	Clarification Sought	Bank's Remark
39	Wipro	116	Section-12 - APPENDIX 1 – STORAGE SPECIFICATION	UNIFIED STORAGE: The proposed array should be an unified storage supporting block, file and vVOL services natively or by providing add-on gateway/controllers in redundant configuration.	UNIFIED STORAGE: The proposed array should be an unified storage supporting block and file services natively or by providing add-on gateway/controllers in redundant configuration.	Refer to Amendment_3, Point# 27
40	Wipro	116	Section-12 - APPENDIX 1 – STORAGE SPECIFICATION	HIGH AVAILABILITY: The proposed array should be designed with full redundancy across all components at both the hardware and software level enabling the system to have 99.9999% availability.	HIGH AVAILABILITY: The proposed array should be designed with full redundancy across all components at both the hardware and software	Existing clause in RFP stands
41	Wipro	116	Section-12 - APPENDIX 1 – STORAGE SPECIFICATION	Offered storage shall have CPUs based upon latest generation of Intel or AMD family, Minimum Cascade Lake series and shall be supplied with at-least 24 numbers of CPU cores, Scalable to at-least 96 CPU cores without replacing the existing controllers. However Bidder to resize the specification to meet the required performance of this project.	'Offered storage shall have CPUs based upon latest generation of Intel or AMD family, Minimum Cascade Lake series and shall be supplied with at-least 24 numbers of CPU cores and scalable to at-least 96 CPU cores with or without replacing the existing controllers. However Bidder to resize the specification to meet the required performance of this project	Refer to Amendment_3, Point# 24
42	Wipro	116	Section-12 - APPENDIX 1 – STORAGE SPECIFICATION	MULTIPROTOCOL SUPPORT: The proposed array should support FC, iSCSI, CIFS, NFS, FTP, SFTP etc.	Please also include OISP protocol to support Database Aware Storage functionality	Existing clause in RFP stands
43	Wipro	117	Section-12 - APPENDIX 1 – STORAGE SPECIFICATION	BACKEND CONNECTIVITY: NVMe SSD drive connectivity should be using PCIe based technology for low latency with minimum bandwidth of 512Gbps. Other technologies such as SAS, RoCE etc for NVMe disk connectivity will not be acceptable. However Bidder to resize the specification to meet the required performance of this project.	BACKEND CONNECTIVITY: SAS-3 12 Gbps Based Connectivity. Bidder to resize the specification to meet the required performance of this project.	Refer to Amendment_3, Point# 25

Sr. No.	Bidder	Page No	Clause No	Description in RFP	Clarification Sought	Bank's Remark
44	Wipro	117	Section-12 - APPENDIX 1 – STORAGE SPECIFICATION	<p><u>Amendment 2 - CAPACITY & PERFORMANCE REQUIREMENT:</u> - The proposed array should be configured with usable capacity of 50 TB using SSD / NVMe disks in RAID5/RAID6 or equivalent and should be able to deliver at least 1,50,000 IOPS (8K block size, 70% Read/30% Write) with sub-millisecond latency for both read & write IOs. Mentioned performance numbers should be achieved with data reduction techniques like Compression and deduplication turned ON. Bidder has to submit output of OEM sizing tool for the performance.</p> <p>However Bidder to resize the specification to meet the required performance of this project</p>	<p>The proposed array should be configured with usable capacity of 50 TB using SSD Disk or NVMe Disk or Hybrid Storage Configuration in RAID5/RAID6 or equivalent and should be able to deliver at least 1,50,000 IOPS (8K block size, 70% Read/30% Write) with sub-millisecond latency for both read & write IOs.</p> <p>Bidder has to submit output of OEM sizing tool / Letter from OEM for performance.</p> <p>However Bidder to resize the specification to meet the required performance of this project.</p>	Existing clause in Amendment _2 stands
45	Wipro	117	Section-12 - APPENDIX 1 – STORAGE SPECIFICATION	<p>NVMe FLASH DRIVES: The proposed array must support the latest industry standard dual ported native NVMe drives. Supported NVMe flash drives should be of various sizes like 1.92TB, 3.84TB, 7.6TB and 15.36TB etc. Array should support mixing of drives of various sizes in same storage pool. Proposed array should be proposed with hardware controller level encryption or Self-encrypting drives (SEDs) with support of internal/external key manager.</p>	<p>The proposed array must support the latest industry standard dual ported drives. Array should support mixing of drives of various sizes and types in same storage. Proposed array should be proposed with hardware controller level encryption or Self-encrypting drives (SEDs) with support of internal/external key manager.</p>	Refer to Amendment_3, Point# 26

Sr. No.	Bidder	Page No	Clause No	Description in RFP	Clarification Sought	Bank's Remark
46	Wipro	117	Section-12 - APPENDIX 1 – STORAGE SPECIFICATION	SCALABLE FILE SYSTEM: Proposed storage solution must support creating multiple NAS servers with each file system scalable upto 256TB. However Bidder to resize the specification to meet the required performance of this project.	SCALABLE FILE SYSTEM: Proposed storage solution must support creating multiple File system mount points with each file system scalable upto 256 TB. However Bidder to resize the specification to meet the required performance of this project.	Refer to Amendment_3, Point# 28
47	Wipro	117	Section-12 - APPENDIX 1 – STORAGE SPECIFICATION	DATA EFFICIENCY: The proposed array should support enterprise class data services including - Thin Provisioning, Inline Compression & Deduplication. Data reduction must be supported on block, file and vVol.	DATA EFFICIENCY: The proposed array should support enterprise class data services including - Thin Provisioning, Inline Compression & Deduplication. Data reduction must be supported on block and file.	Existing clause in RFP stands
48	Wipro	117	Section-12 - APPENDIX 1 – STORAGE SPECIFICATION	PLATFORM SUPPORT: The proposed system should support popular operating system platforms such as Windows, HP-UX, Linux, Solaris etc.	PLATFORM SUPPORT: The proposed system should support popular operating system platforms such as Windows, Linux, Solaris etc.	Existing clause in RFP stands
49	Wipro	117	Section-12 - APPENDIX 1 – STORAGE SPECIFICATION	LOCAL REPLICATION PERFORMANCE & SPACE EFFICIENCY: The proposed array must have capability to mount space-efficient copies of single source volume for various purposes like reporting, backup, test & dev etc. This space-efficient solution should be based on redirect-on-write (RoW) technology to minimize impact on production volumes.	LOCAL REPLICATION PERFORMANCE & SPACE EFFICIENCY: The proposed array must have capability to mount space-efficient copies of single source volume for various purposes like reporting, backup, test & dev etc.	Refer to Amendment_3, Point# 29
50	Wipro	118	Section-12 - APPENDIX 1 – STORAGE SPECIFICATION	APPLICATION AWARE AUTOMATATION AND ORCHESTRATION: Proposed storage solution should have software to automate and orchestrate application/databases data management - including but not limited to MSSQL, Oracle, Exchange	Proposed storage solution should have software to automate and orchestrate application/databases data management - Oracle (OISP). Optional Support : MS SQL, MS Exchange etc.	Existing clause in RFP stands

Sr. No.	Bidder	Page No	Clause No	Description in RFP	Clarification Sought	Bank's Remark
				etc - to create application/database consistent copy for multiple use cases including data repurposing, off-host backup, Test/Dev, Reporting etc.		
51	Wipro	118	Section-12 - APPENDIX 1 – STORAGE SPECIFICATION	SUPPORT FOR DEVOPS AND INFRASTRUCTURE AUTOMATION: Proposed storage solution should support below integration options to enable DevOps and Infrastructure automation. All mentioned options should be officially supported by storage OEM. a. Support for REST API b. c. Support for Ansible using official Ansible modules d. Support for Powershell modules e. Support for Python library	SUPPORT FOR DEVOPS AND INFRASTRUCTURE AUTOMATION: Proposed storage solution should support below integration options to enable DevOps and Infrastructure automation. Atleast two should be officially supported by storage OEM. a. Support for REST API b. c. Support for Ansible using official Ansible modules d. Support for Powershell modules e. Support for Python library	Refer to Amendment_3, Point# 32
52	Wipro	49	APPENDIX 19 – TAPE LIBRARY (Amendment 1)	Partitioning Offered Tape Library shall have partitioning support so that each drive can be configured in a separate partition. Offered Tape Library shall have support for at-least 20 partition.	Partitioning Offered Tape Library shall have partitioning support so that each drive can be configured in a separate partition. Offered Tape Library shall have support for at-least 8 partition.	Existing clause in RFP stands
53	Wipro	49	APPENDIX 19 – TAPE LIBRARY (Amendment 1)	Encryption device : Offered Library shall be provided with a hardware/software device like USB key, separate appliance etc to keep all the encrypted keys in a redundant fashion	Encryption device : Offered Library shall be provided with a hardware device like USB key, separate appliance etc or Backup Software controlled encryption to keep all the encrypted keys in a redundant fashion	Refer to Amendment_3, Point# 30
54	Wipro	49	APPENDIX 19 – TAPE LIBRARY (Amendment 1)	Barcode Reader and Mail slots: Out of 250 slots, Tape library shall support Barcode reader and at-least 10 mail slots and shall be scalable to 20 mail slots when fully populated.	Barcode Reader and Mail slots: Out of 205 slots , Tape library shall support Barcode reader and at-least 8 mail slots and shall be scalable further when fully populated.	Refer to Amendment_3, Point# 31

Sr. No.	Bidder	Page No	Clause No	Description in RFP	Clarification Sought	Bank's Remark
55	Wipro	49	APPENDIX 19 – TAPE LIBRARY (Amendment 1)	OEM Criteria a) OEM shall be in the leader's quadrant as per the latest Gartner's MQ report for General Purpose Disk Array OR MQ report for DCN. b) OEM must have India presence for last 5 years on both Sales and Support operation.	OEM Criteria a. OEM must have India presence for last 5 years on both Sales and Support operation.	Refer to Amendment_1, Point# 37
56	Wipro	80	Amendment 1	Active Data Guard Licenses	We see conflicting information of Active Data Guard deployment and Licenses availability. Please do clarify on whether Oracle Active Data Guard is available for use	Clarification: Bank do not have "Active Data Guard" licenses.
57	Wipro	13	Amendment 1	1. All DB production instances should be hosted in separate physical server to maintain server level redundancy. 2. "Node 1" and "Node 2" should be in HA, active-passive and redundant instances in separate physical box with zero data loss. 3. "Node 3" and "Node 4" should be replica of DC Cluster (Node 1 & Node 2) with auto synchronization. 4. "DC DB Cluster" and "DRC DB Cluster" should be in Active – Passive sync with RPO of 15 min and RTO of 2 Hrs and near Zero Data Loss. 5. It should be possible to leverage the standby database to run reporting work load to optimizing the load on the primary.	To use DR DB (Standby) for reporting purposes, we need "Active Data Guard" licenses for both DC and DR. As per our Amendment 2, ADG is not considered for procurement and hence this feature will not be made available.	Existing clause in Amendment stands
58	Wipro	12	Amendment 2	The licenses required for DC, DR infrastructure monitoring should be calculated by the bidder in order to cover all devices	1.Number of Physical and Virtual Servers 2.Databases to be monitored like Oracle, MS SQL, Postgres, DB2, MySQL	Refer to Amendment_2, Point# 12

Sr. No.	Bidder	Page No	Clause No	Description in RFP	Clarification Sought	Bank's Remark
				Non-CBS: VM's :30 Middleware DC & DR :20 DB Instances DC & DR:36 Oracle :24 (dc-12 & DR:12) MSSQL:12 (dc-6 & DR:6)	etc 3.Number of Database OS Instances to be monitored 4.Number of web Applications middleware to be monitored (like Apache, Jboss, IIS, Weblogic) 5.pls get count and storage element management system types	
59	Wipro	12	Amendment 2	The licenses required for DC, DR Patch management should be calculated by the bidder in order to cover all devices For storage, native patch management service should be used	Need asset bifurcation for patching and OS flavors details	Clarification: Bidder should do the calculation based on the solutions proposed.
60	Wipro	22	Amendment 2	Bidder should monitor the network traffic between the servers proposed by the bidder under the scope of this RFP. For that matter, if separate license is required in the proposed EMS tools, than bidder should factor the same.	1.Number of Network devices to be monitored (like Router, Switch, firewall, any SNMP enabled) 2.Number of IP based devices (like Online DG Set/online UPS /other ICMP/SNMP devices)	Refer to Amendment_3, Point# 13
61	Wipro			ARCHITECTURE: The proposed array should be NVMe based all flash (min TLC NAND Flash) with active-active multi-controller/node scale-up and scale-out architecture. The array should be proposed with minimum dual controllers and scalable to atleast 8 active-active storage controllers/nodes.	ARCHITECTURE: The proposed array should be SSD/NVMe based all flash (min TLC NAND Flash) with true active-active multi-controller/node scale-up and scale-out architecture. The array should be proposed with minimum dual controllers and scalable to atleast 4 active-active storage controllers/nodes without clustering/federation.	Refer to Amendment_3, Point# 23
62	Wipro			End-to-End NVMe: The proposed array should have NVMe multi-controller architecture	Remove this clause	Clarification: This clause is applicable only for the solution proposed with NVMe.

Sr. No.	Bidder	Page No	Clause No	Description in RFP	Clarification Sought	Bank's Remark
				with support of NVMe-oFC for front end connectivity of hosts, for realizing even further reductions in overhead & latency.		
63	Wipro			HIGH AVAILABILITY: The proposed array should be designed with full redundancy across all components at both the hardware and software level enabling the system to have 99.9999% availability.	HIGH AVAILABILITY: The proposed array should be designed with full redundancy across all components at both the hardware and software level enabling the system to have 100% availability.	Existing clause in RFP stands
64	Wipro		Amendment 2	CPU PROCESSING POWER: Offered storage shall have CPUs based upon latest generation of Intel or AMD family, Minimum Cascade Lake series and shall be supplied with at-least 24 numbers of CPU cores, Scalable to at-least 96 CPU cores without replacing the existing controllers. However Bidder to resize the specification to meet the required performance of this project.	CPU PROCESSING POWER: Offered storage shall have CPUs based upon latest generation of Intel or AMD family, and shall be supplied with at-least 24 numbers of CPU cores, Scalable to at-least 80 CPU cores without replacing the existing controllers. Vendor shall not use clustering/federation technology to meet the required scalability. However Bidder to resize the specification to meet the required performance of this project.	Refer to Amendment_3, Point# 24
65	Wipro			DRAM CACHE / MEMORY: The proposed storage should be configured with atleast 192GB DRAM cache scalable to at least 768GB of DRAM Cache without replacing the existing controllers. The proposed array must protect data in cache during a manual power down or an unexpected power outage by vaulting/destage to persistent flash storage. In case NAS capabilities are not	DRAM CACHE / MEMORY: The proposed storage should be configured with atleast 512GB DRAM cache scalable to at least 1TB of DRAM Cache without replacing the existing controllers and also without using clustering/federation. The proposed array must protect data in cache during a manual power down or an unexpected power outage by vaulting/destage to persistent flash storage.	Existing clause in RFP stands

Sr. No.	Bidder	Page No	Clause No	Description in RFP	Clarification Sought	Bank's Remark
				built-in and are supplied through additional/external hardware/gateways, additional 256 GB Memory should be supplied across redundant NAS controllers. However Bidder to resize the specification to meet the required performance of this project.	In case NAS capabilities are not built-in and are supplied through additional/external hardware/gateways, additional 256 GB Memory should be supplied across redundant NAS controllers. However Bidder to resize the specification to meet the required performance of this project.	
66	Wipro			BACKEND CONNECTIVITY: NVMe SSD drive connectivity should be using PCIe based technology for low latency with minimum bandwidth of 512Gbps. Other technologies such as SAS, RoCE etc for NVMe disk connectivity will not be acceptable. However Bidder to resize the specification to meet the required performance of this project.	BACKEND CONNECTIVITY: SSD / NVMe drive connectivity should be using 12G SAS/PCIe based technology . However Bidder to resize the specification to meet the required performance of this project.	Refer to Amendment_3, Point# 25
67	Wipro		Section-12 - APPENDIX 1 – STORAGE SPECIFICATION	The proposed array should be configured with usable capacity of 50 TB using SSD / NVMe disks in RAID5/RAID6 or equivalent and should be able to deliver at least 1,50,000 IOPS (8K block size, 70% Read/30% Write) with sub-millisecond latency for both read & write IOs. Mentioned performance numbers should be achieved with data reduction techniques like Compression and deduplication turned ON. Bidder has to submit output of OEM sizing tool for the performance. However Bidder to resize the	The proposed array should be configured with usable capacity of 50 TB using SSD / NVMe disks in RAID5/RAID6 or equivalent and should be able to deliver at least 2,00,000 IOPS (8K block size, 70% Read/30% Write) with sub-millisecond latency for both read & write IOs. Bidder has to submit output of OEM sizing tool for the performance. However Bidder to resize the specification to meet the required performance of this project.	Existing clause in Amendment _2 stands

Sr. No.	Bidder	Page No	Clause No	Description in RFP	Clarification Sought	Bank's Remark
				specification to meet the required performance of this project.		
68	Wipro		Section-12 - APPENDIX 1 – STORAGE SPECIFICATION	NVMe FLASH DRIVES: The proposed array must support the latest industry standard dual ported native NVMe drives. Supported NVMe flash drives should be of various sizes like 1.92TB, 3.84TB, 7.6TB and 15.36TB etc. Array should support mixing of drives of various sizes in same storage pool. Proposed array should be proposed with hardware controller level encryption or Self-encrypting drives (SEDs) with support of internal/external key manager.	NVMe FLASH DRIVES: The proposed array must support the latest industry standard dual ported native SSD/ NVMe drives. Supported SSD / NVMe flash drives should be of various sizes like 1.92TB, 3.84TB, 7.6TB and 15.36TB etc. Array should support mixing of drives of various sizes in same storage pool. Proposed array should be proposed with hardware controller level encryption or Self-encrypting drives (SEDs) with support of internal/external key manager.	Refer to Amendment_3, Point# 26
69	Wipro		Section-12 - APPENDIX 1 – STORAGE SPECIFICATION	REMOTE REPLICATION: The proposed array should support remote replication to DR site with appropriate licenses and ports. If separate FCIP routers are required for replication, then the same should be included in the BOM (Min 2 Nos per site).	REMOTE REPLICATION: The proposed array should support remote replication to DR site with appropriate licenses and ports. If separate FCIP routers are required for replication, then the same should be included in the BOM (Min 2 Nos per site). Proposed storage array should support 3-WAY-DR replication natively without using third party hardware/ software based solutions	Existing clause in RFP stands