



**LANDBANK**

SERVING THE NATION



**BAGONG PILIPINAS**

**SUPPLEMENTAL/BID BULLETIN NO. 1  
For LBP-ICTBAC- ITB-GS-20240321-01**

**PROJECT** : **Supply, Delivery, Installation and Configuration of Storage System Solution for Enterprise Platforms with a total of at least 240 TiB Usable Capacity (120 TiB for each site)**

**IMPLEMENTOR** : **ICT-BAC Secretariat Unit**

**DATE** : **03 May 2024**

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This Supplemental/Bid Bulletin is issued to modify, amend and/or clarify certain items in the Bidding Documents. This shall form an integral part of the Bidding Documents.

Modifications, amendments and/or clarifications:

1. The Bidder/s are encouraged to use the Bid Securing Declaration as Bid Security.
2. Section VII. Technical Specifications (pages 41 and 42), Section VIII. Checklist of Bidding Documents (pages 65 to 68), and the Terms of Reference (Revised Annexes D-1 to D-20) have been revised. Copies of said revised portions of the Bidding Documents are herein attached.
3. Response to prospective bidder/s queries/clarifications per attached Annexes G-1 to G-6.

  
**SVP. MARILOU L. VILAFRANCA**  
Vice-Chairperson

**RESPONSES TO BIDDER'S QUERIES AND/OR SUGGESTIONS**

<b>DATE</b>	April 29, 2024
<b>PROJECT IDENTIFICATION NO.</b>	LBP- ICTBAC-ITB-GS-20240321-01
<b>PROJECT NAME</b>	Supply, Delivery, Installation and Configuration of Storage System Solution for Enterprise Platforms with a total of at least 240 TiB Usable Capacity (120 TiB for each site)
<b>PROponent UNIT/TECHNICAL WORKING GROUP</b>	DATA CENTER MANAGEMENT DEPARTMENT

<b>ITEM NO.</b>	<b>PORTION OF BIDDING DOCUMENTS</b>	<b>QUERIES AND/OR SUGGESTIONS</b>	<b>LANDBANK'S RESPONSES</b>
1	1.1.b. Composition of storage for the 120TiB per site (HO and DR) must be all triple-level cell flash (TLC) NMVe SSD and configured on at least RAID 6.	Is an alternative technology to TLC acceptable to proponent, ie QLC with Smart Data Placement?	<i>No. We will stick with the TOR specs.</i>
2	4.1.c. The storage must support all triple-level cell flash (TLC) NMVe SSD deployment. Hybrid storage is unacceptable.	Is an alternative technology to TLC acceptable to proponent, ie QLC with Smart Data Placement?	<i>No. We will stick with the TOR specs.</i>
3	4.1.f. The controllers use multi-core processors, and the total number of cores of the controller processors is greater than or equal to 200 per storage, CPU frequency >=2.1 GHz	Please clarify if this is "20" or "200"  If 200, what is the required storage performance in IOPS and throughput?	<i>200 per storage</i>  <i>No specific storage performance requirement in IOPS and throughput. However, we prefer to have more cores in the storage arrays as it provides a lot of benefit to the Bank (i.e. improved performance, scalability, efficiency and resource utilization), making it well-suited for handling the Bank's complex storage workloads and demanding applications.</i>
4	4.1.n. The proposed storage system must have SAN active-active disaster recovery solution.	Please clarify if this refers to "Storage (ie: Block) Replication in between Prod and DR Site?	<i>Yes. Replication in between Prod and DR Site</i>

5	5.1.a. Proposed storage system must be able to provide 99.99999% availability	Seven Nines calls for extremely high uptime. Will the proponent agree to soften this to six nines? Six nines allows for approximately 31.5 seconds of downtime per year.	<b>No. We will stick with the TOR specs.</b>
6	9.1.h. Services should include sixteen (16) small form-factor pluggable (SFP) needed if storage will connect to 10Gb network.	Please qualify if this is for the NAS Functionality as stated in Section 4.1.j.	<b>This will be discussed during the Site Survey, please refer to Qualifications and Documentary Requirements 8.1.d.</b>
7	11.1.c. All site references include certification of satisfaction on the proposed backup software both from the vendor/bidder and the end-user.	Please clarify that the "Backup Software" referred to is not part of the project	<b>Revised the Terms of Reference specifications.</b>  11.1.c. All site references include certification of satisfaction on the proposed <i>storage solution</i> both from the vendor/bidder and the end-user.
8	8.1.e. Principal/Partner must have at least three (3) years professional experience similar to the proposed solution and/or implementation and administration projects for the last five (5) years.  List of three (3) completed projects for the last five (5) years. Include company name, name of project, contact numbers and email address of vendor's clients supported with copies of Purchase Order or Contract.	Can we ask that we can provide three (3) Storage Project of any brand (not exactly same brand we are offering) within the last five (5) years?	<b>No. We will stick with the TOR specs.</b>
9	11.1.a. The vendor/bidder has a similar storage system implementation in at least two organizations, one of which is a bank other than LANDBANK, and is referential. 11.1.b. The storage system being proposed by the vendor/bidder have been implemented in, at least, two (2) organizations, where: i. The storage system is implemented in the customer's primary or secondary data center ii. The customer is a willing reference	Can we ask that we can provide two (2) system implementation of Storage project of any brand (not exactly same brand we are offering)?	<b>Yes. The requirement is similar storage system implementation.</b>
10		May we request to extend the bid submission to at least 1 week which is May 17, 2024? This is	<b>No.</b>

		for the bidders to have enough time to prepare given that there is also site inspection required.	
11	11.1.c. All site references include certification of satisfaction on the proposed backup software both from the vendor/bidder and the end-user.	Is this supposed to be "Proposed storage solution" instead of Proposed Backup Software?	<b>Yes. Revised the Terms of Reference specifications.</b>  11.1.c. All site references include certification of satisfaction on the proposed <i>storage solution</i> both from the vendor/bidder and the end-user.
12	1.1.a. Total of at least 240TiB uncompressed useable high-end storage of NVMe Control Enclosure: <ul style="list-style-type: none"> <li>• at least 120TiB storage with useable (without deduplication &amp; compression) capacity for Head Office Data Center</li> <li>• at least 120TiB storage with useable (without deduplication &amp; compression) capacity for Disaster Recovery Site (DR) Site Data Center</li> </ul> With 50 mandays for remote/onsite support services.	"High-end" storage is mentioned in this requirement (1.1a); how does Landbank define "high-end" when it comes to storage?	<i>Proposed storage classified as high-end when the proposed solution has the highest level of availability, capacity and performance than enterprise midrange or midrange storage arrays. Please refer to Data Center Intelligence Group (DCIG) list.</i>
13	1.1.b. Composition of storage for the 120Tib per site (HO and DR) must be all triple-level cell flash (TLC) NVMe SSD and configured on at least RAID 6.	In 1.1.b, the words "at least" was mentioned. Generally, this means that there are Raid types that the bank is considering better than Raid-6. What type of Raid is Landbank considering to be better than Raid-6?	<b>At least RAID 6 or RAID-TP (Triple Parity)</b>
14	4.1.e. The storage must support the ability to cluster, scale out or scale up deployment, federated scalability is unacceptable.	To ensure that everyone has a single definition of terms indicated in this TOR, can the bank define the following: <ul style="list-style-type: none"> <li>• Scale-out</li> </ul>	<b>Scale-out means the ability of the system to: Add a controller/node to the storage system, I/O will be shared across all the existing nodes/controllers and the additional capacity within the single system.</b>

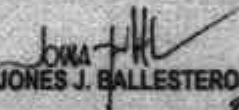
		<ul style="list-style-type: none"> <li>• Scale-up</li> <li>• Federated</li> </ul>	<p><i>Scale-up simply means the ability to add more capacity within the single system. Adding more storage drives, either to slots in the base enclosure or by adding expansion chassis to the base system.</i></p> <p><i>Federated is the storage system that combines different storage resources into a single management system.</i></p>
15	<p>4.1.g. The storage must have fully redundant, hot swappable fans and power supplies.</p> <p>Electrical power requirements: Voltage range: 200 - 240 V AC Power: 2100 W max Heat dissipation (BTU per hour): 6825 Acoustical controller noise emission: 8.1 bels (idling); 8.1 bels (operating) Limitations.</p>	Are these requirements relevant to the operations of the provided storage system?	Yes.
16	4.1.k. SAN and NAS are integrated. The NAS protocol (including NFS, CIFS, and NDMP), IP SAN protocol, and FC SAN protocol are configured. No additional NAS gateway is required.	How does the bank define "integrated" in this requirement?	<i>This will be discussed during Site Survey. Please refer to 8.1.d. Qualifications and Documentary Requirements.</i>
17	4.1.n. The proposed storage system must have SAN active-active disaster recovery solution.	<p>In 4.1.k, it was stated that the bank requires a storage system that has integrated SAN and NAS. It was also mentioned that the workloads intended to run on the required storage are critical in nature.</p> <p>Will the bank also eventually require workloads running on NAS to be also set-up / configured in an active-active disaster recovery mode?</p>	Yes.
18	4.2.b. The storage must support synchronous replication and asynchronous replication.	In 4.1.n, a SAN active-active was mentioned to be a hard requirement. To avoid confusion, can we assume that the bank will require the storage system to be	Yes.

		capable of: <ul style="list-style-type: none"> <li>• Asynchronous replication</li> <li>• Synchronous replication</li> <li>• Active-active replication</li> </ul>	
19	4.4.a. The storage management must provide a comprehensive, end-to-end data and storage management solution that monitors and analyzes multi-vendor storage environments	For 4.4.a, does this mean that the bank requires the bidders to provide a storage management platform that not only manages the provided storage but also monitor the other storage systems of the bank?	Yes.
20	5.1.a. Proposed storage system must be able to provide 99.99999% availability	Does this mean that the bank requires 7 x 9s availability on the individual storage systems?	Yes.

Prepared by:

  
**MARY JANELL RAMIREZ**

Reviewed by:

  
**JONES J. BALLESTEROS**  
 Head, DCMD

**MEMORANDUM**

**FOR :** The Head Office Bids and Awards Committee for Information and Communications Technology

**THRU :** The Head, ICT-BAC Secretariat

**FROM :** The Head, DCMD

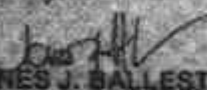
**DATE :** April 29, 2024

**SUBJECT :** Supply, Delivery, Installation and Configuration of Storage System Solution for Enterprise Platforms with a total of at least 240 TIB Usable Capacity (120 TIB for each site) under LBP- ICTBAC-JTB-GS-20240321-01

In reference to the Responses to Bidder's Queries and Suggestions for the above subject, please see changes on some of the requirements and conditions in the Bidding Documents To wit:

Bidder's Queries and/or Suggestions	TOR Requirement (From)	DCMD's Response and Revision on the Terms of Reference (To)
Please clarify that the "Backup Software" referred to is not part of the project	11.1.c. All site references include certification of satisfaction on the proposed backup software both from the vendor/bidder and the end-user.	11.1.c. All site references include certification of satisfaction on the proposed storage solution both from the vendor/bidder and the end-user.
Is this supposed to be "Proposed storage solution" instead of Proposed Backup Software?		

Thank you.

  
**JONES J. BALLESTEROS**

Annex - G - C

## Technical Specifications

Specifications	Statement of Compliance
	<p><b>Bidders must signify their compliance to the Technical Specifications/Terms of Reference by stating below either "Comply" or "Not Comply"</b></p> <p>Statements of "Comply" or "Not Comply" must be supported by evidence in a Bidders Bid and cross-referenced to that evidence. Evidence shall be in the form of manufacturer's un-amended sales literature, unconditional statements of specification and compliance issued by the manufacturer, samples, independent test data etc., as appropriate. A statement that is not supported by evidence or is subsequently found to be contradicted by the evidence presented will render the Bid under evaluation liable for rejection. A statement either in the Bidders statement of compliance or the supporting evidence that is found to be false either during Bid evaluation, post-qualification or the execution of the Contract may be regarded as fraudulent and render the Bidder or supplier liable for prosecution subject to the applicable laws and issuances.</p>
<p><b>Supply, Delivery, Installation and Configuration of Storage System Solution for Enterprise Platforms with a total of at least 240 TiB Usable Capacity (120 TiB for each site)</b></p> <ol style="list-style-type: none"><li>1. Minimum technical specifications and other requirements per attached <b>Revised Annexes D-1 to D-20.</b></li><li>2. The documentary requirements enumerated in <b>Revised Annexes D-12 to D-14</b> of the Terms of Reference shall be submitted in support of the compliance of the Bid to the technical specifications and other requirements.</li></ol> <p>Non-submission of the above documents may result in the post-disqualification of the bidder.</p>	<p><b>Please state here either "Comply" or "Not Comply"</b></p>



**Conforme:**

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Name of Bidder

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Signature over Printed Name of  
Authorized Representative

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Position

## Checklist of Bidding Documents for Procurement of Goods and Services

The documents for each component should be arranged as per this Checklist. Kindly provide guides or dividers with appropriate labels.

### Eligibility and Technical Component (PDF File)

- *The Eligibility and Technical Component shall contain documents sequentially arranged as follows:*

- **Eligibility Documents – Class “A”**

- Legal Eligibility Documents

- 1. Valid PhilGEPS Registration Certificate (Platinum Membership) (all pages);

- Technical Eligibility Documents

- 2. Duly notarized Secretary's Certificate attesting that the signatory is the duly authorized representative of the prospective bidder, and granted full power and authority to do, execute and perform any and all acts necessary and/or to represent the prospective bidder in the bidding, if the prospective bidder is a corporation, partnership, cooperative, or joint venture; or Original Special Power of Attorney of all members of the joint venture giving full power and authority to its officer to sign the OSS and do acts to represent the Bidder. (sample form - Form No. 7).
    3. Statement of the prospective bidder of all its ongoing government and private contracts, including contracts awarded but not yet started, if any, whether similar or not similar in nature and complexity to the contract to be bid, within the last five (5) years from the date of submission and receipt of bids. The statement shall include all information required in the sample form (Form No. 3).
    4. Statement of the prospective bidder identifying its Single Largest Completed Contract (SLCC) similar to the contract to be bid within the relevant period as provided in the Bidding Documents. The statement shall include all information required in the sample form (Form No. 4).

- Financial Eligibility Documents

- 5. The prospective bidder's audited financial statements, showing, among others, the prospective bidder's total and current assets and liabilities, stamped "received" by the BIR or its duly accredited and authorized institutions, for the preceding calendar year which should not be earlier than two (2) years from the date of bid submission.

6. The prospective bidder's computation for its Net Financial Contracting Capacity (NFCC) following the sample form (Form No. 5), or in the case of Procurement of Goods, a committed Line of Credit from a Universal or Commercial Bank in lieu of its NFCC computation.
- o **Eligibility Documents – Class "B"**
    7. Duly signed valid joint venture agreement (JVA), in case the joint venture is already in existence. In the absence of a JVA, duly notarized statements from all the potential joint venture partners stating that they will enter into and abide by the provisions of the JVA in the instance that the bid is successful shall be included in the bid. Failure to enter into a joint venture in the event of a contract award shall be ground for the forfeiture of the bid security. Each partner of the joint venture shall submit its legal eligibility documents. The submission of technical and financial eligibility documents by any of the joint venture partners constitutes compliance, provided, that the partner responsible to submit the NFCC shall likewise submit the statement of all its ongoing contracts and Audited Financial Statements.
    8. For foreign bidders claiming by reason of their country's extension of reciprocal rights to Filipinos, Certification from the relevant government office of their country stating that Filipinos are allowed to participate in government procurement activities for the same item or product.
    9. Certification from the DTI if the Bidder claims preference as a Domestic Bidder or Domestic Entity.
  - o **Technical Documents**
    10. Bid Security (if in the form of a Surety Bond, submit also a certification issued by the Insurance Commission).
    11. Section VI – Schedule of Requirements with signature of bidder's authorized representative.
    12. Revised Section VII – Technical Specifications with response on compliance and signature of bidder's authorized representative.
    13. Duly notarized Omnibus Sworn Statement (OSS) (sample form - Form No.6).

**Note:** During the opening of the first bid envelopes (Eligibility and Technical Component), only the above documents will be checked by the BAC if they are all present using a non-discretionary "pass/fail" criterion to determine each bidder's compliance with the documents required to be submitted for eligibility and the technical requirements.

- **Other Documents to Support Compliance with Technical Specifications [must be submitted inside the first bid envelope (Eligibility and Technical Component)]**
  14. Duly filled-out Terms of Reference signed in all pages by the authorized representative/s of the bidder.
  15. Manufacturer's authorization or any equivalent document confirming that the bidder is authorized to provide the licenses being offered and consumables supplied by the manufacturer, including any warranty obligations and after sales support as may be required (sample form - Form No.9).
  16. Resume/Curriculum Vitae of at least one (1) technical personnel.
  17. Resume/Curriculum Vitae with detailed experience and trainings of one (1) Project Manager directly employed with the company for at least six (6) months prior to submission of the bid.
  18. Certificate of Inspection issued by Data Center Management Department.
  19. List of three (3) completed projects for the last five (5) years as proof that the supplier/vendor has a professional experience similar to the proposed solution and/or implementation and administration with company name, name of project, contact numbers and email address of vendor's clients supported with copies of Purchase Order or Contract.
- **Post-Qualification Documents/Requirements – [The bidder may submit the following documents/requirements within five (5) calendar days after receipt of Notice of Post-Qualification]:**
  20. Business Tax Returns per Revenue Regulations 3-2005 (BIR No.2550 Q) VAT or Percentage Tax Returns for the last two (2) quarters filed manually or through EFPS.
  21. Latest Income Tax Return filed manually or through EFPS.
  22. Original copy of Bid Security (if in the form of a Surety Bond, submit also a certification issued by the Insurance Commission).
  23. Original copy of duly notarized Omnibus Sworn Statement (OSS) (sample form - Form No.6).
  24. Duly notarized Secretary's Certificate designating the authorized signatory in the Contract Agreement if the same is other than the bidder's authorized signatory in the bidding (sample form – Form No. 7).

**Financial Component (PDF File)**

- ***The Financial Component shall contain documents sequentially arranged as follows:***

1. Duly filled out Bid Form signed by the Bidder's authorized representative (sample form - Form No.1).
2. Duly filled out Schedule of Prices signed by the Bidder's authorized representative (sample form - Form No.2).
3. Duly filled-out Bill of Quantities Forms signed by the Bidder's authorized representative (Annex E).

***Note: The forms attached to the Bidding Documents may be reproduced or reformatted provided the information required in the original forms and other requirements like signatures, if applicable, are complied with in the submittal.***

**SUPPLY, DELIVERY, INSTALLATION AND CONFIGURATION OF STORAGE SYSTEM SOLUTION FOR ENTERPRISE PLATFORMS FOR HEAD OFFICE (HO) AND DISASTER RECOVERY (DR) SITE**

**Instructions on responding to this Technical Specification Document**

- a. The vendor/bidder understands and agrees that the requirements specified in this document are deliverables for the proposed technology refresh of Landbank's storage system in the Head Office (HO) and the Disaster Recovery (DR) Site.
- b. All deliverables, its specifications and functionalities, must be satisfied including its necessary prerequisites without additional cost to the Bank.
- c. The vendor/bidder must answer at the third column whether the [solution requirement] complies or not—answer must be YES or NO.
- d. The REMARKS column in the table is to be filled out according to the response in the third column:
  - d.1. If answer to the third column is YES: REMARKS column is to be filled out with the complete and specific reference to the supporting document included in the bidding document to support answer/claim.
  - d.2. If the answer to the third column is NO: REMARKS column is to be filled out with the justifications why the proposed storage system cannot meet the specified requirement; include the complete and specific reference to the supporting document included in the bidding document to support answer/claim.
- e. The supporting documents, cited references to the Storage Technical Specifications must be indexed or labeled accordingly for easy identification and validation.

CAPACITY			
1.1. Usable Capacity Requirement	1.1.a. Total of at least 240TiB uncompressed useable high-end storage of NVMe Control Enclosure: <ul style="list-style-type: none"> <li>• at least 120TiB storage with useable (without deduplication &amp; compression) capacity for Head Office Data Center</li> <li>• at least 120TiB storage with useable (without deduplication &amp; compression) capacity for Disaster Recovery Site (DR) Site Data Center</li> </ul> With 50 mandays for remote/onsite support services.		

*Richard Arroyo Jr.*

Revised Terms of Reference

	1.1.b. Composition of storage for the 120Tib per site (HO and DR) must be all triple-level cell flash (TLC) NVMe SSD and configured on at least RAID 6.		
<b>2. SCALABILITY</b>			
2.1. Host Connectivity	2.1.a. Storage system must be accessible from the IBM Power 9 or higher.		
	2.1.b Proposed storage must support FC-NVMe host connections		
<b>3. INTEROPERABILITY</b>			
3.1. Operating System Support	3.1.a. Proposed storage system must be able to support the following minimum version of operating system platforms: <ul style="list-style-type: none"> <li>a. Variants of Unix which includes but not limited to:  <ul style="list-style-type: none"> <li>i. IBM AIX version 7.2 and newer versions</li> <li>ii. Red Hat Enterprise Level 8, 9 and newer versions</li> </ul> </li> </ul>		
3.2. Database Support	3.2.a. Proposed storage system solution must be able to support the following minimum version of database platform versions but not limited to the following: Oracle 19c, 21c, 23c and newer versions DB2 11.1, 11.5 and newer versions MySQL version 8 and newer versions MSSQL 2022 and newer versions PostGre 15, 16 and newer versions		
3.3. Application Support	3.3.a. Proposed storage system solution must be able to support the following minimum version of application platform versions but not limited to the following: Oracle Financial Services Data Foundation Application (OFSDFA) version 8.1.x and newer versions IBM Websphere Application Server 8.5 and higher Oracle Weblogic 12, 14 and higher		
3.4. Network	3.4.a. Storage must be able to run on IP or dense wavelength division multiplexing (DWDM)-based platform technology		

*Revised Annex 0-2*

Revised Terms of Reference

3.5. Backup System	3.5.a. Must be able to support connectivity and functionality of the Bank's backup software and hardware		
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4. TECHNICAL SPECIFICATIONS			
4.1. Storage Architecture	4.1.a. The storage system must be enterprise centralized storage, software defined or other type of storage is unacceptable.		
	4.1.b. The storage system controllers must be in active-active mode. Service loads are balanced among two or more controllers.		
	4.1.c. The storage must support all triple-level cell flash (TLC) NVMe SSD deployment. Hybrid storage is unacceptable.		
	4.1.d. The storage front end must be able to support NVMe over fiber channel or RoCE and the back end supports NVMe over RDMA or PCIe, implementing and end-to-end NVMe architecture.		
	4.1.e. The storage must support the ability to cluster, scale out or scale up deployment, federated scalability is unacceptable.		
	4.1.f. The controllers use multi-core processors, and the total number of cores of the controller processors is greater than or equal to 200 per storage, CPU frequency >=2.1 GHz		
	4.1.g. The storage must have fully redundant, hot swappable fans and power supplies. Electrical power requirements: Voltage range: 200 - 240 V AC Power: 2100 W max Heat dissipation (BTU per hour): 6825 Acoustical controller noise emission: 8.1 bels (idling); 8.1 bels (operating) Limitations.		
	4.1.h. The total cache capacity of the storage system is greater than or equal to 512GB.		
	4.1.i. Storage must be High-end storage		

*Revised Item 0-3*



Revised Terms of Reference

	<p>devices use the multi-controller (all controllers) high-speed interconnection architecture. All controllers are interconnected using protocols such as PCI-E/IB/RDMA, instead of FC or IP federation networking.</p>		
	<p>4.1.j. The storage must support 16/32 Gbit/s Fibre Channel, 10GE, 25GE, 40GE, 100GE. The proposed storage should include at least 16 x 10Gb ETH SFP + ports and 16 FC SFP to connect to the existing network switch.</p>		
	<p>4.1.k. SAN and NAS are integrated. The NAS protocol (including NFS, CIFS, and NDMP), IP SAN protocol, and FC SAN protocol are configured. No additional NAS gateway is required.</p>		
	<p>4.1.l. The storage must support industry standards Nonvolatile Memory Express (NVMe) Drives, FlashCore Modules and Storage Class Memory, equivalent or better drive technology.</p>		
	<p>4.1.m. The storage must support FIPS 140-3 Level 1 encryption with centralized key management.</p>		
	<p>4.1.n. The proposed storage system must have SAN active-active disaster recovery solution.</p>		
4.2. Replication Features	<p>4.2.a. The storage must include Point in Time Snapshots copy services function</p>		
	<p>4.2.b. The storage must support synchronous replication and asynchronous replication.</p>		
	<p>4.2.c. The storage must support up to 3 Sites Replication and High Availability which enable servers at each data center to access data concurrently, with automated switch-over in case of failure</p>		
	<p>4.2.d. The port for replication on the recovery site must be SAN / FC ports. Replication on the recovery site will pass thru DWDM.</p>		
4.3. Advanced Features	<p>4.3.a. The storage must include Data</p>		

*Revised from 0-4*

Revised Terms of Reference

	Reduction via thin provisioning, unmap, compression and deduplication.		
	4.3.b. The storage must include Data-at-rest AES-XTS 256 encryption and Logical Corruption Protection with immutable and isolated copies that are hidden, non-addressable and cannot be altered or deleted		
	4.3.c. Must be able to over-provision applications in order to maximize available capacity		
	4.3.d. Must include software for instant copy/snapshot and must be able to create copies of data within the storage system		
	4.3.e. Instant backup copy feature must include full source data backup and the capability to copy only the changes made from the source volume to the target volume.		
	4.3.f. Instant copy feature must also have the capability to directly restore to the source volume from the backup copy volume.		
	4.3.g. Must be able to perform instant copy function on the source volume regardless of the data use whether online or offline		
4.4. Management	4.4.a. The storage management must provide a comprehensive, end-to-end data and storage management solution that monitors and analyzes multi-vendor storage environments		
	4.4.b. The storage management must provide a single point of control that helps administrators manage every aspect of the storage infrastructure—between the hosts, through the fabric, and down to the physical drives—across multi-site storage environments		
	4.4.c. The storage management must help consolidate management of file, object, and block storage must include data migration transparency.		
	4.4.d. The storage management must help Storage Administrator for everyday task		

*Revised Terms of Ref*

Revised Terms of Reference

	leveraging a consistent dashboard for managing the broader storage environment		
	4.4.e. The storage management must help Administrators set performance thresholds for devices based on selected performance metrics, generating alerts when those thresholds are exceeded.		
	4.4.f. The storage should include GUI (graphical user interface) and CLI (command line interface) to configure the system or query status information.		
	4.4.g. The storage should have a management console.		
	4.4.h. The storage system must include performance analysis report but not limited to: <ul style="list-style-type: none"> <li>• storage capacity prediction</li> <li>• disk risk prediction</li> <li>• performance fluctuation analysis</li> <li>• bottleneck analysis</li> </ul>		

5. AVAILABILITY			
5.1. No Single Point of Failure / System-Level Availability	5.1.a. Proposed storage system must be able to provide 99.99999% availability		
5.2. Data Protection	5.2.a Must be resilient to manage dual disk failure without data loss and minimal performance impact		
5.3. Hot Spares	5.3.a. Must be able to provide automated monitoring of disk drive health and be able to initiate a proactive background drive rebuild on failing drives.		
	5.3.b. Must be able to provide hot spares for the offered number of disk drives		
5.4. Non-Disruptive Upgrades	5.4.a. The storage must support non-disruptive firmware upgrades. Any controller can be upgraded and restarted without interrupting the link or impacting the host.		
5.5. Continuous Roadmap	5.5.a. The proposed storage system brand and model must include a technology roadmap for at least the next three (3) years to ensure the availability of the		

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	storage system for the next three to five years.		
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6. WARRANTY AND SUPPORT			
6.1. Storage Support	6.1.a. Proposed storage system solution includes three (3) year warranty on all parts, components, peripherals and both Hardware (parts and labor) and Software included in the bid. Support thru Maintenance Agreements (both for hardware and software, including licenses) starts on the fourth year.		
	6.1.b. The warranty must include 24/7 access to software and hardware specialists for three (3) years		
	6.1.c. The warranty must cover onsite hardware service and part replacement on a 24/7 basis with 4-hour onsite support for critical incidents for three (3) years		
	6.1.d. The warranty solution must include proactive monitoring, embedded hardware diagnostics and automated service requests for three (3) years		
	6.1.e. The warranty must include critical software updates and bug fixes for three (3) years		
	6.1.f. The warranty must include 24/7 remote fault monitoring, accelerated response times and patch deployment services for three (3) years		
	6.1.g. The vendor/bidder must provide a web-based, searchable knowledge base of common problems and solutions. The winning bidder shall assist in the user acceptance testing (UAT) and quality assurance (QA) activities of the proposed solution prior production cut-over and ensure that all tests will pass based on the standards		
	6.1.h. The vendor/bidder shall provide support in the cut-over activities for production implementation of the proposed solution and ensure successful cut-over based on the standards		

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<p>6.1.i. The vendor/bidder shall provide post migration activities and monitoring to ensure optimal operation of the proposed solution</p>		
<p>6.1.j. The vendor/bidder shall install the latest available and compatible software versions in the proposed solution</p>		
<p>6.1.k. The vendor/bidder shall create a baseline of all configuration and performance metrics of the existing storage infrastructure prior migration of systems</p>		
<p>6.1.l. Must include onsite support for three (3) years for a severity one (1) issues. LANDBANK service level agreement (SLA) on incident and problem management will be observed</p>		
<p>6.1.m. Must include onsite support for non-incident related issues which includes storage configuration customization, performance and data storage use optimization and part of the support and maintenance agreement</p>		
<p>6.1.n. The winning vendor must provide 50 mandays of support services but not limited to the following:</p> <ul style="list-style-type: none"> <li>• storage migration</li> <li>• preventive maintenance (adhoc)</li> <li>• inventory management support</li> <li>• hardware installation and reconfiguration services</li> <li>• standby and scheduled services</li> <li>• system performance and health check</li> <li>• others technical support services</li> </ul> <p>Unused man-days must be convertible to other credits (i.e. trainings, knowledge transfer, etc)</p>		
<p>6.1.o. Must include quarterly preventive maintenance and health check for three (3) years</p>		
<p>6.1.p. Support is always available and accessible on demand as part of the support services.</p>		

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<p>6.1.q. On-site support with a response time of not more than four (4) hours from the time of the call, in cases when phone support could not solve the problem.</p>		
<p>6.1.r. On hardware repair, testing shall be done on-site to know the extent of the problem. All components beyond repair shall be replaced at no cost during the Warranty Period. Service units shall be available for the system and peripherals a day after testing and diagnosis for replacement of the defective unit(s).</p>		
<p>6.1.s. Quality assurance is expected from the Supplier, such that any error or fault in any hardware, peripherals, pre-installed mandatory software and installation tools delivered during the implementation shall be acted upon, resolved, mitigated and/or replaced accordingly at no cost to the bank.</p>		
<p>6.1.t. Provision for onsite and remote support for the Bank's annual disaster recovery drills</p>		
<p>6.1.u. Provision for onsite support for upgrade and migration activities of the application systems running.</p>		
<p>6.1.v. Provision for onsite and remote support for activities which include repairs, preventive maintenance, and data center (head office and offsite) power supply maintenance that may affect the covered components supported by the vendor/bidder.</p>		
<p>6.1.w. Includes 24/7 local and remote technical and help desk support, including holidays.</p>		
<p>6.1.x. Remote technical and help desk support to be provided to LANDBANK includes desktop sharing capability for speedy troubleshooting and problem resolution.</p>		
<p>6.1.y. Includes onsite and remote support for non-incident related issues, such as service request fulfillment related to the</p>		

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	covered components for maintenance and support.		
	6.1.z. The vendor/bidder will shoulder all expenses of the technical person(s) who will be providing the technical services on-site.		
	6.1.aa. Have basic provision in the support service, for an online support and services hub or portal or equivalent mechanism for the creation of service, incident, problem and issue tickets.		
	6.1.ab. The support and delivery services specified are exclusive for this system solution and must not be related to other products of the same brand that are not part of the technical specifications or the contract unless otherwise specified.		
	6.1.ac. Upon final acceptance of the Services and/or Goods, the vendor/bidder is required to provide after-sales service and assurance that all equipment and installation are accurate, complete, operable, uncompromised, and error-free during the Warranty Period.		
6.2. Support Delivery Management	6.2.a. The vendor/bidder will assign a service delivery manager for LANDBANK, which will also serve as the single point of contact for the coverage period of the contract.		
	6.2.b. The assigned service delivery manager must have a service delivery plan for LANDBANK, conduct service reviews, perform incident management, perform proactive services maturity review, and remediation planning for the coverage period of the contract.		
	6.2.c. In case of an incident or problem, the service delivery manager is responsible for support escalation and management of needed support resource for the immediate resolution of the incident or problem.		
	6.2.d. The service delivery manager is required to submit a monthly report on the support utilization and status of incidents, problem, request and issue tickets.		

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7. TRAININGS			
7.1. Training/ workshop/skills transfer/tech updates/industry best practices	7.1.a. Included in the proposed storage system solution is a classroom-type training for ten (10) storage administrators with certification examination.		
	7.1.b. The vendor/bidder will include a preliminary training plan on the training courses to be carried out including the following: <ul style="list-style-type: none"> <li>• Course Title and Description</li> <li>• Learning Objectives</li> <li>• Class Composition</li> <li>• Course Duration</li> <li>• Training Sequence</li> </ul>		
	7.1.c. The vendor/bidder will provide for the necessary training logistics and paraphernalia for the participants' needs with no additional cost to the Bank		
	7.1.d. For trainings to be conducted at vendor/bidder-elected training site, participants will have access to the internet with no additional cost to the Bank, for the duration of the training, for communication, technical support, and correspondence purposes.		
	7.1.e. The vendor/bidder will issue certificates or proof of training and/or skills transfer for the participants.		
	7.1.f. The vendor/bidder will conduct workshops/skills transfer/tech updates/industry best practices on proposed storage system at least once a year for the active lifetime of the warranty.		
	7.1.g. Proposed storage system skills transfer with industry best practices for a minimum of one (1) training day upon setup valid for one (1) year for at least ten(10) administrators, developers, help desk support personnel, IT security personnel, network administrators, production support personnel, and computer operators.		
	7.1.h. Skills transfer must include transfer of technology to LANDBANK IT personnel		

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	<p>which includes but not limited to :</p> <ul style="list-style-type: none"> <li>i. creation and implementation of policies for backup/snapshot</li> <li>ii. creation and implementation of local instant copy (within the local storage system solution)</li> <li>iii. creation and implementation of two-site storage replication to and from the DR site</li> <li>iv. creation and implementation of storage allocation for use by a server, logical partition (LPAR) or virtual machine (VM)</li> <li>v. other monitoring and administrative tasks</li> </ul>		
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8. QUALIFICATION AND DOCUMENTARY REQUIREMENTS				
	QUALIFICATION REQUIREMENTS	DOCUMENTARY REQUIREMENTS		
8.1 Qualifications and Documentary Requirements	8.1.a. Vendor must be a certified partner or reseller of the proposed solution	Proof or documentation in the form of Manufacturer's Certificate issued by the Manufacturer		
	8.1.b. Vendor must be able to provide first level support for the proposed solution	Curriculum vitae of at least one (1) technical personnel		
	8.1.c. Vendor must provide a Project Manager who will manage and oversee the implementation of the project. The PM must be directly employed with the company for at least six (6) months prior to submission of the bid.	Curriculum vitae with detailed experience and trainings of one (1) Project Manager		
	8.1.d. Prior to submission of bidding proposal, the vendor must coordinate with LANDBANK-DCMD to conduct a site survey at Data Center Head Office and DR site to check the	Non-disclosure Agreement signed by the bidder's authorized representative must be submitted two (2) calendar days prior to the conduct of site		

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<p>existing site condition and completely assess the requirements as part of the proposed solution without additional cost to the Bank. The survey is necessary to ensure that the proposed solution will be able to function properly and according to expectation.</p> <p>The site inspection will be conducted at least three (3) calendar days before opening of bids from Monday to Friday 8:00am-3pm. Contact persons are Ladybird Carag and Arnhel Alfred Ballocanag with email address <a href="mailto:lcarag@mail.landbank.com">lcarag@mail.landbank.com</a> and <a href="mailto:aballocanag@mail.landbank.com">aballocanag@mail.landbank.com</a>. They can be contacted thru phone number 8-5220000 local 7763.</p>	<p>inspection.</p> <p>Certificate of Inspection will be issued by DCMD Head for the bidders who will conduct site inspection which shall be form part of the bid proposal.</p>		
<p>8.1.e. Principal/Partner must have at least three (3) years professional experience similar to the proposed solution and/or implementation and administration projects for the last five (5) years.</p>	<p>List of three (3) completed projects for the last five (5) years. Include company name, name of project, contact numbers and email address of vendor's clients supported with copies of Purchase Order or Contract.</p>		

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9. SERVICES			
9.1 Basic Delivery Services	9.1.a. Proposed storage system must include services such as delivery to site, setup, installation and configuration of all storage hardware and software components.		
	9.1.b. Setup, installation and configuration activities must also include joint inventory of all hardware and software components.		
	9.1.c. Services must include implementation of the storage technology functionalities specified in this document and features that are inherent to the storage system.		
	9.1.d. Services include installation, setup and configuration for both sites.		
	9.1.e. Services should include Data Migration Services and software/hardware needed for the seamless and no downtime migration of ten (10) logical partitions (LPARs).		
	9.1.f. Services include delivery, setup, and configuration at the LANDBANK primary data center and backup site, storage mirroring, and relocation of the storage system (if needed) due to colocation purposes.		
	9.1.g. Services should include data cables, electrical cables, twistlocks and electrical breakers needed and laying out of the data and electrical cables.		
	9.1.h. Services should include sixteen (16) small form-factor pluggable (SFP) needed if storage will connect to 10Gb network.		
	9.1.i. Services should include decommission and transfer of old storage to LBP warehouse in Antipolo.		

10. GENERAL AVAILABILITY			
10.1. Product Offering	10.1.a. Proposed storage model for both sites, including all of its components, is brand new and using the latest stable available model / version.		
	10.1.b. The proposed storage model must be the latest product, starting from the date of the pre-bid conference for this requirement.		

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<p>The hardware and software model, product line, version, or release should be the latest product starting from the date of the pre-bid conference for this requirement.</p>		
<p>The hardware components' model, product line, and or version, including the associated software, in the proposed storage system solution, should still have available support and/or warranty for, at least, three (3) years, starting from the delivery date indicated in this document.</p>		
<p>10.1.c. The proposed storage model/product must be verifiable via published public documents or thru the product's website.</p>		
<p>10.1.d. The proposed storage model must be on the Gartner's leader's quadrant for at least three (3) consecutive years before opening of bids.</p>		
<p>10.1.e. The proposed storage system and its related hardware and software components' product line are not in its end-of-life (EOL) or end-of-support (EOS) phase in the next four years starting from the date of delivery.</p>		
<p>10.1.f. For cases that the proposed storage system and its related hardware and software components' product line falls into the EOL or EOS life cycle in the next four years, the proposed storage system and its related hardware and software components' are upgradeable to the next model in the product line or version with features similar to that of the proposed storage system and its related hardware and software components', or better, implemented without additional cost to the Bank.</p>		

11. REFERENCE		
<p>11.1. Implementation</p>	<p>11.1.a. The vendor/bidder has a similar storage system implementation in at least two organizations, one of which is a bank other than LANDBANK, and is referential.</p>	

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	<p>11.1.b. The storage system being proposed by the vendor/bidder have been implemented in, at least, two (2) organizations, where:</p> <ul style="list-style-type: none"> <li>i. The storage system is implemented in the customer's primary or secondary data center</li> <li>ii. The customer is a willing reference</li> </ul>		
	<p>11.1.c. All site references include certification of satisfaction on the proposed <b>storage solution</b> both from the vendor/bidder and the end-user.</p>		

12 OPERATIONAL REQUIREMENTS			
<p>12.1. Operational Requirements</p>	<p>12.1.a. The vendor/bidder's services shall be limited only for the purpose of the services contemplated hereunder and any personal information shared to or obtained by the vendor/bidder, if any, shall be treated in strict confidence and shall be handled with utmost care and cannot be shared to any parties</p>		
	<p>12.1.b. The vendor/bidder shall not engage another service provider for the implementation of the agreement without the prior permission of LANDBANK.</p>		
	<p>12.1.c. All data and information shared, if any, remains the property of the LANDBANK and shall be returned to LANDBANK immediately upon request. Finally, any data breach should be reported to LANDBANK within twenty-four (24) hours from the vendor/bidder's discovery, for appropriate action.</p>		
	<p>12.1.d. The vendor/bidder complies with the requirements of Republic Act No. 10173, otherwise known as the "Data Privacy Act of 2012", and all other related rules, orders and regulations as may be provided by the National Privacy Commission in relation to the collection, storage, usage, disclosure/sharing, disposal and protection (processing) of Personal Data obtained in connection with this</p>		

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	procurement.		
	12.1.e. The vendor/bidder certifies that necessary operational requirements is part of the bidding proposal and will not entail additional cost to the Bank		
	12.1.f. The vendor/bidder certifies that necessary operational requirements is sufficient enough to enable the operation of the proposed storage system solution, without major modifications on the sites' structural design		
	12.1.g. The vendor/bidder certifies that necessary operational requirements modifications at least follow the Bank's existing site and structural design		
	12.1.h. The vendor/bidder will provide for the required electrical supply of the storage system solution which includes cables and necessary wiring to the UPS and provision for circuit switches, breakers.		
12.2. Deployment	12.2.a. The vendor/bidder must be able to determine the appropriate product for LANDBANK's storage system requirements, including those specified in this document. The vendor/bidder will size the necessary prerequisites, including storage hardware peripherals to be able to implement the storage system solution requirement		
	12.2.b. The vendor/bidder will provide for all storage cables that are compatible to the existing servers and host adapter protocols.		
	12.2.c. The vendor/bidder will also include spare storage cable provisions for future integration activities.		

13. DOCUMENTATION			
13.1 Deliverables Documentation	13.1.a. The vendor/bidder must provide documentation on the system configuration, based on health check activities, which includes but not limited to capacity and performance base lining, zoning and connectivity diagrams of attached systems—these documentation will serve as additional inputs during		

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	succeeding health checks, problem determination and issue resolution.		
	13.1.b. The vendor/bidder must provide documentation on every deliverable specified in this document to record completion.		
	13.1.c. The vendor/bidder must provide documentation on storage operations and must be written in English of durable construction with concise and high quality presentation to include but not limited to the following: <ol style="list-style-type: none"> <li>1. User Manuals</li> <li>2. Technical / Reference Manuals</li> <li>3. System / Operation Manuals</li> </ol> Troubleshooting and/or Installation Guides		
13.2 Media and Format	13.2.a. All documentation must be in hard and soft copies; Soft copies must be stored either on a cloud storage or USB external drive; Soft copy documentation must be in a non-editable format.		
	13.2.b. All software necessary in the delivery and fulfillment of this solution and implementation must be provided with the applicable installation media.		
13.3 Ownership	13.3.a. All documentation shall be the property of the Land Bank of the Philippines and shall reserve the right to reproduce at no additional cost.		

14. OTHER PROVISIONS			
14.1. These additional provisions are regulatory requirements	14.1.a. Contract Agreement between LANDBANK and the vendor/bidder must include access of LANDBANK to the public financial information of the vendor/bidder		
	14.1.b. The vendor/bidder must include a disaster recovery plan to support LANDBANK for the following conditions: <ul style="list-style-type: none"> <li>• in the event that the LANDBANK is in disaster mode</li> <li>• in the event that the vendor/bidder is in disaster mode</li> </ul>		

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	<p>14.1.c. The Bank shall have the right to cancel or terminate the contract without need of legal or judicial action or order upon breach of warranty of peaceful occupation or in exercise of its business decision by giving at least sixty (60) days prior written notice to the Service Provider or by extraordinary notice of cancellation if so required by the Bangko Sentral ng Pilipinas, and without charge or penalty.</p>		
	<p>14.1.d The Vendor must comply with the requirements in relation to Third Party/Vendor Assessment conducted by the Bank. Must submit (eg. Latest Financial Statement (FS), Business Continuity Plan (BCP) that are related to the Bank, and List of Updated Technical Support (include name, contact numbers and email address), etc]</p>		
<p>14.2. Performance Evaluation</p>	<p>a. The performance of the supplier shall be evaluated on an annual basis or as often as necessary using the parameters set forth in the Performance Assessment Report (Exhibit 1).</p> <p>b. An adjectival rating of "Needs Improvement" or "Poor" shall be a ground for pre-termination of the contract, subject to a 30 calendar day notice.</p>		

15. DELIVERY SCHEDULE AND PAYMENT TERMS			
<p>15.1. Delivery</p>	<p>15.1.a. Delivery of the proposed storage system, the hardware, software and related components, within forty-five (45) calendar days to the installation site upon receipt of the Notice to Proceed (NTP).</p>		
	<p>15.1.b. Setup of the proposed storage system solution, its hardware, software and related components, must commence on the third business day from the date of onsite delivery and should be completed within thirty (30) calendar days. Thus, all necessary and applicable prerequisites for</p>		


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	the storage system operation must be satisfied.		
15.1. Payment Terms	<p>15.1.a Payment shall be subject to LANDBANK accounting and auditing rules.</p> <p>Payment shall be through direct credit to the Supplier's deposit account with LANDBANK. Supplier is required to maintain a deposit account with LANDBANK's Cash Department or any of its Branches.</p> <ul style="list-style-type: none"><li>• 50% of the Total Bid Price, upon 100% delivery of the hardware and software licenses</li><li>• 50% of the Total Bid Price, upon completion of setup, configuration, mirroring, system health check and performance optimization activities</li></ul>		

Noted/Approved by:

  
JONES J. BALLESTEROS  
Head, DCMD

*Received from 0-20*