

**LAND BANK OF THE PHILIPPINES**

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**BID BULLETIN NO. 1  
For ITB No. 2015-3-014**

**PROJECT** : One Lot Supply, Delivery and Installation of 24 Units Blade Server and 2 Units SAN Storage with 10TB Usable Capacity

**IMPLEMENTOR** : Procurement Department

**DATE** : March 30, 2015

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This Bid Bulletin is issued to modify or amend items in the Bid Documents. This shall form an integral part of the Bid Documents.

The modifications or amendments are as follows:

- 1) The Terms of Reference has been revised. Please see attached revised Annexes A1 to A17.
- 2) Section VII (Technical Specifications) and Checklist of Bidding Documents have been revised. Please see attached revised pages 70, 71 and 87.
- 3) The deadline of submission and the schedule of opening of eligibility/technical and financial documents/proposals for the above project is re-scheduled from April 7, 2015 to **April 16, 2015, 11:00 A.M.** at the Procurement Department, 25th Floor, LANDBANK Plaza Building, 1598 M. H. Del Pilar corner Dr. Quintos Streets, Malate, Manila.

For guidance and information of all concerned.

  
**ALWIN I. REYES**  
Department Manager  
Procurement Department

**Land Bank of the Philippines**  
**BLADE SERVER and STORAGE TERMS OF REFERENCE**

**Objective**

The goal of this document is to define the specific criteria for selecting the supplier of Blade Server and Storage for Installation in Landbank Head Office and DR Site. This will ensure that the solution selected will be the one best suited for the Bank's requirements. The Blade Server and Storage solution will be used in Implementing Microsoft Hyper-V Technology server virtualization.

**Note: All requirements are MANDATORY.**

**Responses to requirements listed should pertain to currently shipping product only.**

Component	Quantity	Features and Specifications	Comply Y/N ?
<b>BLADE SERVER</b>	<b>24</b>		
Processor		* Dual (2) Intel® Xeon® Processor 2680 v2 or better in all aspects	
Memory		* 2.8 Ghz, 25M Cache, 8GT/s QPI, Turbo, 10Cores or better * Scale up to 128GB using 16x8GB DIMMs or better * Initial installed memory at least 128GB (at least 8GB Module)	
Hard Drive		* 1600MHz Dual Ranked RDIMMs for 2 Processors * 2x 300GB 15K RPM, 6Gbps SAS 2.5" Hot Plug Hard Drive or better	
Network Interface		* RAID Controller (Support for RAID 0/1)	
HBA		* At least 8x Gigabit Ethernet per blade or better	
Media Kit		* 8Gb Fiber Channel I/C Card (Redundant)	
Warranty		* Software Media Kit	
Parts/Labor/Onsite w/ Blade Chassis		* 3 years parts and service * 24x7	
Other		<p>Vendor must provide all power outlets for the proposed system (e.g. Twist Lock, electricals) from the 16th floor power distribution</p> <p>Vendor must provide all the necessary cables ( CAT-6 Ethernet and Fiber ) for both sites for the system to be fully operational.</p> <p>Vendor should have implemented 1 Blade and Storage setup with virtualization (Contact person should be submitted)</p> <p>Vendor must have 5 years IT Industry experience</p> <p>Vendor must have experience in server virtualization</p> <p>Vendor must have 2 certified local engineers in either Vmware or Hyper-V (Certification should be presented)</p> <p>Manufacturer of the brand being offered should have a local sales and technical office in the Philippines to insure guaranteed support from the manufacturer.</p> <p>3 years warranty on-site Technical support, parts and labor</p> <p>Vendor must install, support, document and implement the proposed system.</p> <p>Trainings for Blade and Storage administration and operation for 10 personnel.</p> <p>The vendor must secure Certificate of Satisfactory Performance from the Bank, if the prospective bidder is an existing supplier of the Bank.</p>	

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**LANDBANK STORAGE TERMS OF REFERENCE**

CAPABILITY	REQUIREMENT	WILL COMPLY? YES/NO	REMARKS
<b>1. CAPACITY</b>			
1.1.Usable Capacity Requirement	1.1.a. Total of 20 TB Usable storage; 10 TB usable based on RAID6 level per site installation: storage will be installed at the LBP Plaza Data Center and at the Business Recovery Site (BRS)		
	1.1.b. Composition of storage must consist of not less than 300GB disks with speed of 15K rpm or better		
	1.1.c. 10 TB storage per site must be configured in a single rack frame, including storage controllers, network interface, expansion slots, and power supply		
1.2.RAID Support	1.2.a. Should support the following RAID level conversion: (i) RAID10 to RAID6 or RAID5 or better (ii) RAID6 to RAID5		
	1.2.b. Must also support online RAID level conversion without the need to install additional host software, does not impact host performance and no data lost from the conversion.		
<b>2. SCALABILITY</b>			
2.1.Disk Drive Support	2.1.a. The proposed storage must be able to support at least 2 of the following: a. SAS15K or better b. Solid State Drives/ Flash Drives c. Fiber Channel Drives d. Low-Power SATA Drives		
2.2.Capacity and Scalability	2.2.a. Must be able to support different disk capacities not less than 300GB disks		

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	with speed of 15K rpm or better for future requirements		
2.3.Front-End Stability	2.3.a. Must be able to provide expandable front-end I/O modules to meet existing or future needs for front-end port counts and future technologies		
2.4.Data Storage Upgrade Capability	2.4.a. Storage must provide upgrade path to larger or future capacity and software technology while maintaining the existing investment		
	2.4.b. Data-in-place upgrades should allow N-1 and N-2 technology to be converted to the latest storage model, while leveraging on existing components and software and without data loss		
2.5. Host Connectivity	2.5.a. Storage system must be able to connect to a minimum of 25 servers or logical partitions on virtualized environments per site		
<b>3. INTEROPERABILITY</b>			
3.1.Operating System Support	3.1.a. The disk array can support Windows 2008/2012 (both cluster and non-cluster version), Sun Solaris, IBM AIX, HP-UX, Red Hat Enterprise Linux, Linux, Mac OS X, VMware ESX, Microsoft Hyper-V and other system platforms, and can provide a list of compatibility matrix.		
3.2.Network	3.2.a. Storage must be able to run on IP or dense wavelength division multiplexing (DWDM)-based platform on either Nortel or CISCO technology		
	3.2.b. Must support Fiber port connection with at least 10Gbps speed per interface.		
3.3.Backup System	3.3.a. Must be able to support connectivity and functionality of the		

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	Bank's backup software (CA Brightstor) and hardware ( Actidata / Tandberg Tape Library)		
3.4.Storage Tiers	3.4.a. Storage must be able to support all online data storage tiers in order to maximize both system performance and capacity scalability.		
<b>4. TECHNOLOGY</b>			
4.1.Tier Storage Classification	4.1.a. Proposed storage must be at least a Tier 1 Storage Class		
	4.1.b. Proposed storage must also include storage tiering technology, with the capability to intelligently manage data lifecycle to the most efficient and effective appropriate storage type according to purpose and usage.		
4.2.Integrated Technology	4.2.a. Must be integrated with Fiber Channel solutions		
4.3.Thin Provisioning	4.3.a. Must have the capability to power disk drives down or virtualization when not in use to minimize power consumption for long term data retention needs such as backup, archiving and large data set analysis		
	4.3.b. Must be able to over-provision applications in order to reduce physical storage capacity requirements		
	4.3.c. Must be able to migrate data from one RAID type or set of drives to another without impacting applications within the same system		
4.4.LUN Support	4.4.a. Can partition and support at least 512 LUN		

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4.5.Data Mobility	4.5.a. Depending on production performance requirement, volumes can be moved online from one storage pool to another storage pool with no downtime incurred.		
4.6.Instant Copy / Snapshot Feature	4.6.a. Support for automatic volume snapshot function		
	4.6.b. Snapshot should at least be based on Copy-on-Write snapshot technology		
	4.6.c. Snapshot must be done within the disk array and not based on host snapshot technology		
	4.6.d. Support up to 128 snapshots for each production volume.		
	4.6.e. Each virtual storage group can support at least 4,000 snapshots on the whole storage		
	4.6.f. Each snapshot copy is not dependent on one another. Can delete one snapshot without affecting or deleting another snapshot.		
	4.6.g. Snapshot volumes can be used for online data recovery if production volume is corrupted.		
	4.6.h. Snapshot volume support and can be used for either read-only or read and write access.		
	4.6.i. Snapshot can be initiated manually or automated using snapshot scheduling.		
4.7.Replication	4.7.a. Must support automatic clone volume copy function		

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	4.7.b. Must support remote data replication enabling remote disaster recovery data protection function.		
	4.7.c. Volume replication can be initiated either initiated or scheduled automatically at a configured level.		
	4.7.d. Data mirroring between two sites must have an option to leverage on the Bank's replication utilities other than those native to the storage system		
	4.7.e. After activating disaster recovery using the remote volumes, the fail back process back to the production site will only copy back the delta changes and not the whole data volume.		
	4.7.f. Replication feature must also have the capability to directly restore to the source storage from the backup copy on the remote storage		
	4.7.g. The backup copy from the replica functionality must also be transferrable to tape media and restore from tape is also a required functionality		
	4.7.h. Must be able to perform replication function on the source storage to the remote storage regardless of the data use whether online or offline		
	4.7.i. Replicated volumes should support Thin Provisioning with only the actual used space is copied over		

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5 AVAILABILITY			
5.1.No Single Point of Failure / System-Level Availability	5.1.a. Proposed storage must be able to provide 99.999% availability		
	5.1.b. Online hot-swapping and replacement of power supplies, fans, hard drives and array controllers		
	5.1.c. Redundant power supplies, fans, hard disk controller.		
5.2.Data Protection	5.2.a. Must be resilient to manage multiple disk failure without data loss and performance impact		
	5.2.b. Support for RAID5, RAID6, RAID10 technology or better		
	5.2.c. Support background disk scanning to ensure data integrity; monitor and control to ensure that end-to-end data protection		
5.3.Site-Level Availability	5.3.a. The storage should be able to support synchronous and asynchronous replication		
	5.3.b. Should support a native replication transport via Fiber Channel		
5.4.Hot Spares	5.4.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.		
	5.4.b. Rebuild for a minimum 1TB drive should have little or no rebuild process overhead and performance impact.		

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	5.4.c. Must be able to support global hot spares for the offered number of disk drives or better		
	5.4.d. The number of hot spares allocated must be able to mitigate multiple disk failure and massive disk malfunction of at least 10% of the total drives configured in the system or better		
	5.4.e. Support redundant Dual controllers and capable of failover if one of the controller fails		
	5.4.f. Support online hot-swap controller replacement without shutting down the storage array		
	5.4.g. Each controller must have separate access paths to all of the disks		
	5.4.h. All storage capacities within all storage arrays must be made available to the controllers on demand and should not cause fragmented or stagnant wastage		
	5.4.i Support redundant power supply modular design		
5.5.Multi-pathing / Load Balancing	5.5.a. The storage must support load balancing and multi-pathing feature for redundancy and performance considerations.		
	5.5.b. Multi-pathing and load-balancing software should be provided		
	5.5.c. Multi-pathing software features must include the following: a. multiple loading-balancing options		

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	<ul style="list-style-type: none"> <li>b. option for manual write throttling</li> <li>c. channel groups management</li> <li>d. support for storage encryption</li> </ul>		
	5.5.d. Must be able to distribute the workload evenly across all hardware component at all times regardless of access patterns		
	5.5.e. Must be able to balance data on all system components eliminating the possibilities of a hot-spot being created		
5.6.Non-Disruptive Upgrades	5.6.a. The storage should support non-disruptive firmware upgrades		
<b>6. MANAGEMENT</b>			
6.1.Fault Detection and Isolation	6.1.a. Storage must have capability to collect fault conditions and should be able to activate call home feature to speed up problem identification and resolution		
6.2.End-to-End Service Level Management	6.2.a. Storage system must have the capability to support Quality of Service functionality		
6.3.Storage Array Configuration and Management Software	6.3.a. Storage must include a web-based storage configuration and management software, and disk monitoring with no additional cost		
	6.3.b. Storage management software must include the following functionality but not limited to: <ul style="list-style-type: none"> <li>a. Virtualization</li> <li>b. Thin Provisioning</li> <li>c. Data Instant copy/snapshot</li> <li>d. Local and distant replication</li> <li>e. Data migration</li> </ul>		
	6.3.c. Storage management software must be able to administer to at least 10TB of storage		

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	6.3.d. Storage management software must include security access features that is role-based, for different access privileges for the storage administrators and computer operators		
	6.3.e. Storage management software must be able to generate storage allocation and capacity reports on PDF or equivalent non-editable documents		
	6.3.f. Storage management software must be able to generate performance, including storage throughput, utilization and fault reports on PDF or equivalent non-editable documents		
	6.3.g. Support Email or SNMP protocol for system administrator alert notification		
<b>7. WARRANTY AND SUPPORT</b>			
7.1. Storage Support	7.1.a. Proposed storage must include three (3) years warranty on parts and labor		
	7.1.b. Must be inclusive of quarterly preventive maintenance		
	7.1.c. Must include 24/7 local and remote technical and help desk support		
	7.1.d. Remote technical and help desk support to be provided to Landbank must include desktop sharing capability for speedy troubleshooting and problem resolution		
	7.1.e. Must include onsite support for severity one (1) issues		

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