



PHILIPPINE ECONOMIC ZONE AUTHORITY

BIDS AND AWARDS COMMITTEE

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PEZA BIDS AND AWARDS COMMITTEE

SUPPLEMENTAL BID BULLETIN No. 2021-04

SUBJECT: Procurement of Replacement Servers, Storage Devices and Other IT Equipment for the Data Centers of the Head Office and Public Economic Zones (PEZA-HO-2021-04)

This Supplemental Bid Bulletin No. 2021-04 is being issued to revise provisions/specifications in the Bidding Documents, to address queries/clarifications sent thru email and raised by bidders during the pre-bid conference conducted on 08 October 2021 for the aforementioned project:

A. Revisions to provisions/specifications in the Biddings Documents

For complete information on the changes, in the Technical Specifications (TS), please refer to Annex A.

Opening of Bids and **Deadline of Submission of Bids** will be moved from October 20, 2021 to **October 22, 2021 at 10:00 AM** in compliance to RA 9184 (this shall apply to Section 1 Nos. 7, 9 and 10)

B. Response to queries/clarifications

QUERY	END-USER RESPONSE / RESOLUTION
What is the required usable storage capacity?	We will follow the minimum raw storage capacity requirements.
What RAID combination is required?	It will be determined upon delivery. Projection/Plan is not prepared yet.
Can we offer drives with different capacity?	Yes. As long as the bidder can comply with the minimum raw storage capacity requirements.
Can we offer storage array with different form factor? Or can you change the form factor a minimum of 2 rack units?	Yes. 2U is a slimmer form factor.

For the licenses, can we offer storage with all-inclusive software with equivalent features but with different terminologies?	Yes. We will consider similar software and licenses.
Can we remove the RAID0 and RAID10 Dual Mirror support? RAID 0 is not applicable for enterprise storage and the RAID10 DM is specific to a certain storage brand.	Yes. Upon checking we only use RAID 10, 5, and 6.
Can we remove this line "Supports cross-platform replication with PS Series/EqualLogic arrays (either direction)"? It will not be applicable in this setup.	Yes. We will consider this since the Agency does not have the PS series mentioned.
Can we remove the Live Migrate feature?	Yes. We will be using the Live Migrate feature of Windows Server.
Do you require self-encrypting drives? Can we use hardware based Data at Rest Encryption?	Yes. Any of the two encryption methods will do.
For Secretary's Certificate would you accept e-signature, dry and seal. The reason asking this because our Corporate Secretary is out of the country.	Yes.
Will you consider 800GB FLASH SSD, 1.8TB SAS 10K Drives instead of Storage Drives 6 x 800GB, SAS, 12Gb, WI, 2.5 SS?	We will require the minimum Raw storage capacity(4.8TB)
How about for Storage Drive 23 x 2.4TB, SAS, 12Gb, 10K, 2.5" HDD?	We will require the minimum Raw storage capacity(55.2 TB)
Instead of 3U, will you consider 2U chassis based enclosure? We have 3U but DAE for NL SAS Drives only using 3.5 Inch Drive.	We will allow 2U as this is a slimmer form factor.
Will you allow similar licenses?	We will allow similar licenses as long as they have the same use and function.
Will you allow DAE using 2.5 Enclosure max is 25 Drives?	We will allow a minimum of 24 drive bays as long as bidder meets the minimum Raw storage capacity.
What is the allowable Drive speed?	We will allow Drives up to 10K speed since that is the requirement of the agency.

We can only support Raid10, Raid5, Raid6. Will you allow this?	We will only require RAIDS 10, 5, and 6 as these are the RAID configurations currently being used.
We can support traditional Raid Group, and for another type, it could support dynamic pools. Is this accepted?	Yes. Please see TS.
In hybrid storage, only using All Flash disk pool support compression and deduplication.	Yes. Please see TS.
What if supports cross-platform replication with PS Series/EqualLogic arrays (either direction) is not applicable?	This will be considered since the Agency does not have PS series.
What if we do not have live migrate feature?	This will be considered since the Agency will use the Windows Server Migration feature.
We could support clones, if required deduplication and compression it required all flash model or all flash disk in a storage pool. Will this be accepted?	We will consider this since the Agency doesn't clone standalone volumes. Please see TS.
We do not have live migrate feature.	This will be considered since the Agency will use the Windows Server Migration feature.
We could support disaster recovery with failover and failback settings, it can be integrate to Site Recovery Manager of VMware if required automation on host layer.	We will allow this. Please see TS.
We are not using SED Drives, it was based on HW controller data at rest encryption.	We will consider this as long as they perform the same encryption function.
We do not have live migrate feature and federation feature.	This will be considered since the Agency will use the Windows Server Migration feature,

This BID Bulletin is issued this **15th** day of **October 2021** for the information and guidance of all concerned.



GM ALEEM SIDDIQUI M. GUIAPAL
Chairman
Bids and Awards Committee

Annex A

Revised Technical Specifications

Item	Specification	Statement of Compliance
<p>Item 1</p>	<p>Virtualization and HA Server</p>	<p><i>[Bidders must state here either “Comply” or “Not Comply” against each of the individual parameters of each Specification stating the corresponding performance parameter of the equipment offered. 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 Bidder's 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.]</i></p>
	<p>ISO Certification</p>	



	<p>Manufactured by an ISO 9001 or ISO 9002 certified Enterprise Storage manufacturing company. (supported by certified true copy of ISO certification)</p>	
	<p>Quality Assurance All components must be of the same brand and should be factory installed with corresponding part numbers and description that can be viewed and verified via web. Must have a real-time, web-based warranty information on all parts.</p>	
	<p>Operating System Compatibility Windows Server (With Hyper-V) 2012, 2016, 2019. Oracle Linux, Canonical Ubuntu, Citrix Hypervisor, Red Hat Linux, SUSE Linux, VMWARE.</p>	
	<p>Processor Intel Xeon Gold 6226R 2.9G, 16C/32T, 10.4GT/s, 22 M Cache, Turbo, HT (150W) DDR4-2933</p>	
	<p>Chassis 2.5 Chassis with up to 8 Hard Drives and 2PCIe slots, 2CPU Only</p>	
	<p>Bezel LCD Bezel</p>	
	<p>Memory 5 x 64GB RDIMM, 3200MT/s, Dual Rank 24 DDR4 DIMM, slots max 3TB Memory Support for RDIMM or LRDIMM</p>	
	<p>Server Management <i>iDRAC9, Enterprise or similar management software</i></p>	
	<p>Storage 2 x 480GB SSD SATA Mix Use 6Gbps 512 2.5in Hotplug AG Drive, 3 DWPD, 2628 TBW</p>	

	Raid Controller <i>PERC H730P RAID Controller, 2GB NV Cache, Mini card or equivalent technology</i>	
	Optical Drive DVD +/-RW, SATA, Internal	
	Power Supply Dual, Hot-plug, Redundant Power Supply (1+1), 1100W	
	Power Cord Jumper Cord - C13/C14, 4M, 250V, 10A (US, EU, TW, APCC countries except ANZ)	
	Networking Broadcom 57416 Dual Port 10GbE BASE-T 5720 Dual Port 1GbE BASE-T, rNDC	
	Mouse USB Optical Mouse	
	Keyboard Wired Keyboard	
	Form Factor 1U	
	I/O Ports Network Options 4 x 1GbE 2 x 10GbE + 2 x 1GbE 4 x 10GbE 2 x 25GbE Front Ports 1 x Dedicated iDRAC direct USB 1 x USB 2.0 1 x USB 3.0 (optional) 1 x Video Rear Ports 1 x Dedicated iDRAC network port 1 x Serial 2 x USB 3.0 1 x Video 3 x PCIe Gen3 slots all x16 2 x VGA	



	Deployment Installation and Configuration	
	Knowledge Transfer Complete features of the product, both hardware and software.	
	Project Completion <i>Delivery Period- 120 Days</i> Completion Date - 60 Days	
	Warranty 3 years parts, 3 years labor, 3 years onsite, 24x7 phone support, 6 hours resolution time Must have a technical support Toll-Free number for technical assistance within working hours and should be operational and functional for at least within the warranty period.	
Item 2	Storage Array	
	ISO Certification Manufactured by an ISO 9001 or ISO 9002 certified Enterprise Storage manufacturing company. (supported by certified true copy of ISO certification)	
	Quality Assurance All components must be of the same brand and should be factory installed with corresponding part numbers and description that can be viewed and verified via web. Must have a real-time, web-based warranty information on all parts	
	Processor Intel® Xeon® Processor E5-2603v4, 1.7GHz, 6 cores	
	Storage Drives <i>6 x 800GB, SAS, 12Gb, 10K, 2.5 SSD or equivalent raw capacity(4.8TB)</i> <i>23 x 2.4TB, SAS, 12Gb, 10K, 2.5" HDD or equivalent raw capacity(55.2TB)</i>	
	Memory	

	32GB per array	
	Form Factor <i>Minimum 3U or slimmer form factor</i>	
	Controllers 2 hot-swappable per chassis	
	I/O 10Gb iSCSI, 4 port, PCI-E, Base-T, Full Height	
	Power Supply 2 x Redundant Power Supply, 1485W	
	Licenses <i>Total Feature Bundle, Software License (Includes: All Optional Licenses in Module) or similar software licenses</i> <i>Storage Center Core Software Bundle, Base License or equivalent management software and licenses</i>	
	Rails and Cable Management Included	
	Storage Expansion <i>Minimum 24 x 2.5" drive bays (12 Gb SAS) enclosure</i> <i>1PB Max raw capacity</i> <i>Storage media - SAS and NL-SAS drives; different drive types, transfer rates, rotational speeds can be mixed in the same system. SSD: write-intensive and read-intensive drives HDD: 10K, 7.2K RPM</i>	
	Network and Expansion I/O FC, iSCSI, SAS8 (supports simultaneous multiprotocol) Front-end-network protocols. Max 16 FE ports per array 8 per array (SFP+) Max 16Gb FC ports Up to 8 SFP+ or BaseT ports per array max 10Gb/1Gb iSCSI ports Up to 8 12Gb SAS ports 2 per array Management ports	

	<p>12Gb SAS Back-end expansion protocols 4 12Gb SAS (wide-Port) per array Back-end expansion ports</p>	
	<p>Array and Storage All-flash, hybrid or HDD arrays configuration Native block (SAN), file (NAS) from same pool with optional NX3000 Series Windows NAS appliance storage format.</p>	
	<p>Optimization Features Policy-based migration based on real-time data usage auto-tiering method Up to 3 primary (media-based) tiers and, up to 2 SSD tiers for auto-tiering structure <i>RAID 10, 5, 6 Support.</i> <i>Optional support for any of the following: Auto-provisions and dynamically restripes multiple RAID levels; traditional RAID groups; or dynamic pools</i> Active by default on all volumes thin provisioning and operates at full performance across all features <i>Selectable option compression per volume(applies to SSDs and HDDs) or similar feature.</i> HDD optimization moves frequently accessed data to outer tracks for quicker response times.</p>	
	<p>Migration and Mobility Features Replicates with other arrays of same series solution. Synchronous/Asynchronous via FC or iSCSI replication Target/source relationships may be one-to-many or many-to-one Supports all series data services on source and target volumes Change replication types and topologies on demand</p>	




	<p>Supports cross-platform replication with PS Series/EqualLogic arrays (either direction)</p> <p>Live Migrate enables host-transparent data movement among arrays. Snapshots maintained/preserved during migration</p> <p>Space-efficient, non-disruptive data migration Thin import</p> <p>Clone standalone volumes with zero duplication of data</p> <p>Clones maintain independent snapshots and replication</p>	
	<p>Business Continuity</p> <p>Live Volume bi-directional auto-failover, auto-repair.</p> <p>Continuous operations, disaster recovery, disaster avoidance</p> <p>Includes third-site (tertiary) replication options with Live Volume Managed Replication.</p> <p>Zero RTO/RPO with customizable site failover SLAs per volume</p> <p>Does not require identical hardware at each site</p> <p>VMware Metro Stretch Cluster, VMware Site Recovery Manager support</p>	
	<p>Data-at-rest encryption</p> <p>Self-encrypting drives (SEDs) in SSD or HDD formats</p> <p>Full Disk Encryption (FCE) based on AES-256</p> <p>Drives certified to FIPS 140-2 Level</p> <p>Key Management Server (KMS) options available for FIPS 140-2 Level 1, 2 and 3</p>	
	<p>Storage Management Features</p> <p>Multi-array, multi-site and cross-platform management from single interface.</p>	

	<p>supports Microsoft PowerShell API and RESTful API scripting</p> <p>OS support for Microsoft Windows Server, Oracle Solaris, HP-UX, Oracle Linux, IBM AIX, Novell NetWare, SLES, Apple, HPTru64, VMware, Citrix XenServer, RedHat</p> <p><i>Optional third-party application integration for VMware, Microsoft, IBM, OpenStack, Oracle, Symantec, Commvault, Foglight, Docker</i></p>	
	<p>Certifications</p> <p><i>Optional - VMware vSphere Metro Storage Cluster, VMware SRM, Veritas Storage Foundations Suite, IBM VIOS Recognized, Oracle Validated Infrastructure</i></p>	
	<p>Deployment</p> <p>Installation and Configuration</p>	
	<p>Knowledge Transfer</p> <p>Complete features of the product, both hardware and software.</p>	
	<p>Project Completion</p> <p><i>Delivery Period- 120 Days</i></p> <p><i>Completion Date - 60 Days</i></p>	
	<p>Warranty</p> <p>3 years parts, 3 years labor, 3 years onsite, 24x7 phone support, 6 hours resolution time"</p> <p>Must have a technical support Toll-Free number for technical assistance within working hours and should be operational and functional for at least within the warranty period.</p>	
Item 3	Active Directory Server	
	<p>ISO Certification</p> <p>Manufactured by an ISO 9001 or ISO 9002 certified Enterprise Storage manufacturing company. (supported by certified true copy of ISO certification)</p>	
	Quality Assurance	

	<p>All components must be of the same brand and should be factory installed with corresponding part numbers and description that can be viewed and verified via web.</p> <p>Must have a real-time, web-based warranty information on all parts.</p> <p>Brand must belong in the "Leaders Group" of Gartner's Magic Quadrant for Storage and Disk Arrays as of 1Q 2013.</p>	
	<p>Processor Intel Xeon Silver 4210 2.2G, 10C/20T, 9.6GT/s, 13.75M Cache, Turbo, HT (85W) DDR4-2400</p>	
	<p>Memory 16GB RDIMM, 3200MT/s, Dual Rank 16 DDR4 DIMM Slots, Max 1TB Supports RDIMM /LRDIMM</p>	
	<p>Server Management <i>iDRAC9, Enterprise or similar management software</i></p>	
	<p>Storage 2 x 480GB SSD SATA Read Intensive 6Gbps 512 2.5in Hot-plug AG Drive, 1 DWPD, 876 TBW</p>	
	<p>Storage Controller <i>Internal-PERC H330, H730P, H740P, HBA330 or equivalent technology</i> External Controllers - H840, 12 Gbps SAS HBA Software RAID - S140</p>	
	<p>Drive bays Front - Up to 10 x 2.5" SAS/SATA (HDD/SSD) with up to 4 NVMe SSD max 76.8TB or up to 4 x 3.5 SAS/SATA HDD max 64TB"</p>	
	<p>Optical Drive DVD +/-RW, SATA, Internal</p>	
	<p>Power Supply Dual, Hot Plug, Redundant Power Supply (1+1), 550W</p>	

	Form Factor 1U	
	Integrations OpenManage integrations: Microsoft® System Center, VMware® vCenter™, BMC Truesight, Red Hat® Ansible® Modules	
	Connections OpenManage connections: Nagios® & Nagios® XI, IBM Tivoli Netcool/OMNIbus, Micro Focus Operations Manager I	
	Security TPM 1.2/2.0, TCM 2.0, Cryptographically signed firmware, Silicon Root of Trust, Secure Boot, System Lockdown, System Erase	
	I/O Ports Front - 1 x Dedicated iDRAC Direct USB, 1 x USB 2.0, 1 x Video Rear - 1 x Dedicated iDRAC network port, 1 x Serial, 2 x USB 3.0, 1 x Video Up to 2 x PCIe Gen 3 slots all x16 Dual-Port 1GbE On-Board LOM Broadcom 57416 Dual Port 10GbE BASE-T	
	Operating System Compatibility Microsoft Windows Server(2012, 2016, 2019) with Hyper-V Canonical Ubuntu, Citrix Hypervisor, Red Hat Enterprise Linux, SUSE Linux Enterprise Server, VMware ESXi,	
	Deployment Installation and Configuration	
	Knowledge Transfer Complete features of the product, both hardware and software.	
	Project Completion <i>Delivery Period- 120 Days</i> Completion Date - 60 Days	
	Warranty	

	<p>3 years parts, 3 years labor, 3 years onsite, 24x7 phone support, 6 hours resolution time"</p> <p>Must have a technical support Toll-Free number for technical assistance within working hours and should be operational and functional for at least within the warranty period.</p>	
Item 4	Network Switch	
	<p>ISO Certification Manufactured by an ISO 9001 or ISO 9002 certified Enterprise Storage manufacturing company. (supported by certified true copy of ISO certification)</p>	
	<p>Quality Assurance All components must be of the same brand and should be factory installed with corresponding part numbers and description that can be viewed and verified via web. Must have a real-time, web-based warranty information on all parts.</p>	
	<p>Key Features 1RU high-density 10/40/100 GbE ToR switches with up to 48 ports of 10 GbE (SFP+) or up to 48 ports of 10GBaseT ports, or up to 28 ports of 8/16 fibre channel, two ports of 40 GbE (QSFP+), and up to four ports of 100GbE (QSFP28) or four ports of 8/16/32G fibre channel Multi-rate 100GbE ports support 10/25/40/50 GbE. 40GbE ports support 10GbE. 10GbE ports support 1GbE. Up to four different simultaneous speeds are possible in a given profile. 960Gbps (full-duplex) non-blocking, cut-through switching fabric delivers</p>	

	<p>line-rate performance under full load.</p> <p>1.76Tbps (full-duplex) non-blocking, cut-through switching fabric delivers line-rate performance under full load.</p> <p>VXLAN gateway functionality support for bridging and routing the non-virtualized and the virtualized overlay networks with line rate performance</p> <p>Converged Network support with DCB IO panel to PSU airflow or PSU to IO panel airflow</p> <p>Redundant, hot-swappable power supplies and fans.</p>	
	<p>SDN Features</p> <p>Standard networking features, interfaces and scripting functions for legacy network operations integration</p> <p>Standards-based switching hardware abstraction via Switch Abstraction Interface (SAI)</p> <p>Pervasive, unrestricted developer environment via Control Plane Services (CPS)</p> <p>OS10 supports Precision Time Protocol (PTP, IEEE 1588v2) to synchronize clocks on network devices</p> <p>Leverage common open source tools and best practices (data models, commit rollbacks)</p> <p>Increase VM Mobility region by stretching L2 VLAN within or across two DCs with unique VLT capabilities</p> <p>Scalable L2 and L3 Ethernet Switching with QoS, ACL and a full complement of standards based IPv4 and IPv6 features including OSPF, BGP and PBR</p>	

	<p>Enhanced mirroring capabilities including local mirroring, Remote Port Mirroring (RPM), and Encapsulated Remote Port Mirroring (ERPM)</p> <p>Converged network support for Data Center Bridging, with priority flow control (802.1Qbb), ETS (802.1Qaz), DCBx and iSCSI TLV</p> <p>Enhanced mirroring capabilities including local mirroring, Remote Port Mirroring (RPM), and Encapsulated Remote Port Mirroring (ERPM)</p> <p>Converged network support for Data Center Bridging, with priority flow control (802.1Qbb), ETS (802.1Qaz), DCBx and iSCSI TLV"</p>	
	<p>Ports 28 x 10GbT, 2x QSFP28</p>	
	<p>Max 10GbE Density 36</p>	
	<p>Max 25GbE Density 8</p>	
	<p>Max 40GbE Density 2</p>	
	<p>Max 50GbE Density 4</p>	
	<p>Max 100GbE Density 2</p>	
	<p>Switching Capacity 960Gbps</p>	
	<p>Throughput 720Mbps</p>	
	<p>Transceiver 2 x Networking, Transceiver, SFP, 1000BASE-T 3 x Networking Transceiver, SFP+ 10GBASE-T, 30m reach on CAT6a/7</p>	
	<p>Knowledge Transfer Complete features of the product, both hardware and software.</p>	



	Project Completion <i>Delivery Period- 120 Days</i> Completion Date - 60 Days	
	Warranty 3 years parts, 3 years labor, 3 years onsite 3Yr (7x24) Technical Support & Assistance, Next Business Day	

