



Republic of the Philippines
Office of the Solicitor General
134 Amorsolo St. Legaspi Village, Makati City

Technical Working Group for
Information and Communications Technology

TERMS OF REFERENCE

Supply, Delivery and Installation of Data Center Infrastructure for All OSG Offices

Background:

The Office of the Solicitor General (OSG) requires robust and efficient data center infrastructure to support its expanding digital needs. With the increasing demand for data storage, processing, and retrieval, the OSG has been utilizing Hyper-Converged Infrastructure (HCI) to consolidate IT resources, streamline operations, and improve scalability. However, to meet growing workloads and ensure seamless operations, there is a need to enhance the current infrastructure by procuring additional servers, storage systems, and virtualization technologies. This new infrastructure must be compatible with the existing HCI to ensure integration, prevent disruptions, and optimize resource utilization.

Objective:

The primary objective of the procurement is to supply and deliver a scalable and high-performance data center infrastructure, including servers, storage solutions, and virtualization technologies, that aligns with the OSG's current HCI framework. The new infrastructure should ensure high availability, data integrity, and efficient resource management. Furthermore, it should support the OSG's evolving workload requirements, improve the overall system's reliability, and allow seamless scalability for future growth while maintaining compatibility with the existing HCI to prevent operational and integration challenges.

Terms:

1. *Scope.* - Supply, delivery, configuration and installation of Data Center Infrastructure for All OSG Offices.
2. *ABC.* - The Approved Budget for the Contract (ABC) is **Eight Million Pesos (₱8,000,000.00)**, inclusive of all government taxes, charges, and other standard fees.

ICT EQUIPMENT			
ITEM	QTY	UNIT COST	TOTAL
Data Center Infrastructure for All OSG Offices	1 Lot	8,000,000	₱8,000,000.00
TOTAL			₱ 8,000,000.00

3. *Payment.* The supplier shall be paid in full, subject to deduction of applicable taxes retention amount and/or warranty deposit, upon the OSG's issuance of the corresponding Certificate of Inspection and/or Acceptance. All bid prices shall be considered fixed prices and, therefore, not subject to price escalation during contract implementation.

4. *Delivery.* - Delivery shall be within sixty (60) calendar days upon receipt of the Notice to Proceed. Delay in delivery shall be subject to penalty equivalent to 1/10 of 1% of the cost of undelivered item/s for every day of delay.

5. *Qualifications of the Supplier:*

- a. The Bidder shall have an SLCC that is at least one (1) contract similar to the Project the value of which, adjusted to current prices using the PSA's Consumer Price Index, must be equivalent to at least fifty percent (50%) of the ABC, completed within 5 years prior to the deadline for the submission and receipt of bids.

For this purpose, a similar contract shall refer to the procurement contract for servers and storage.

- b. The bidder must present a Client Satisfaction Rating for at least five contracts with government agencies and/or private corporations with whom the bidder has previous or ongoing contract/s similar to this project.
- c. The bidder shall submit a valid and current Certificate of Distributorship/Dealership/Resellership of the product being offered, issued by the principal or manufacturer of the product (if the bidder is not the manufacturer). If not issued by the manufacturer, they must also submit a certification/document linking the bidder to the manufacturer.
- d. The Bidder must be an Authorized Service Partner (ASP) of the brand being offered. A current valid manufacturer certificate is required as part of the technical component of the bid proposal.

- e. The bidder must attach a brochure of the brand being offered.
- f. The bidder must have a main office or satellite office in or around Metro Manila and/or nearby provinces.
- g. The bidder shall submit documents relevant to the project, such as but not limited to the following:
 - Valid DTI or SEC Registration;
 - Valid and Current Mayor's Permit/Municipal License;
 - Valid and Current Business Permit;
 - Tax Clearance Certificate as finally reviewed and approved by BIR;
 - Statement of contracts completed which are similar in nature to the contract to be bid.
 - Net Financial Contracting Capacity (NFCC) Computation

6. Applicable provisions of the Government Procurement Reform Act (RA No. 9184) and its Revised Implementing Rules and Regulations (RIRR) shall form part of the Terms of Reference (TOR).

Technical Specifications:

ITEM	SPECIFICATIONS	STATEMENT OF COMPLIANCE
Specific Requirements		
Warranty and After-sales Requirements	- Immediate replacement of the equipment and/or its parts	
	- The winning Bidder shall replace a factory defective unit with a new unit with the same technical specifications provided within 30 days upon delivery of the item. During the repair period, the winning bidder shall provide a service unit with the same technical specifications.	
	- In case of outside repair within the three-year warranty period, the winning Bidder shall provide a service unit to the OSG.	
Compatibility	- Must be compatible with all existing OSG digital data center, and technological infrastructure, including physical server	

=====

	management and virtualization software.	
--	---	--

ITEM	SPECIFICATIONS	STATEMENT OF COMPLIANCE
SERVERS		
Quantity	3 Units	
Form Factor	2U Rackmount	
Processor	Must have at least 20 Cores with 2.3GHz Processor or at least equivalent	
Memory	At least 8x32GB TruDDR5 4800Mhz RDIMM or its equivalent, and must support at least 32 DIMM slots, 16 DIMM slots per socket, regardless of configuration.	
Drive bays	Must have at least 8x SATA/SAS Internal Drive Bays Must support up to 40x 2.5-inch SAS/SATA Internal Drives	
Hard Drives	Must have 2x 2.5" 480GB SATA SSD as boot drive	
RAID Controller	Must support for RAID 0, 1, 10, and 5	
Ethernet	Must have at least 10Gb 4-port Base-T Adapter and at least 2x2Port 16GB Gen5 HBA	
Diagnostic Tool	Must have at least an external diagnostic handset same brand as the proposed servers	
	Must have the same hardware management software as the existing OSG digital infrastructure.	
	Must support viewing system information and inventory	
	Must be able to monitor system status and health	
	Must have event logging	
	Must have an updating system firmware	
	Must have configuring security and network connectivity	
	Must have managing features on demand activation keys	

=====

Management Software	Must have real-time power usage monitoring	
	Must have automatic hardware detection	
	Must have remote mounting of ISO and image files via HTTPS, SFTP, CIFS, and NFS	
	Must have mapping of the ISO and image files located on the local client as virtual drives for use by the server	
	Must have remote viewing video with the following graphics resolutions: up to 1600x1200 with up to 23 bits per pixel or up to 1920x1200 with up to 15 bits per pixel.	
	Access the server using a keyboard and mouse from a remote client.	
	Must have remote deployment and/or installation of operating system.	
	With capacity to capture both: (a) boot video; and, (b) crash video	
	Must have virtual console collaboration - Ability for up to 6 remote users to log into the remote session simultaneously	
	Must provide proactive alerts for processors, memory, internal storage, fans, power supplies, Redundant Array of Independent Disk (RAID) controllers, Rack and Chassis Map, and server ambient and sub-component temperatures.	
Virtualization Software	Must be bundled with an operations management software and all processor cores must be licensed.	
Security and Features	Chassis intrusion switch	
	Power-on password	
	Administrator's password	
	Root of Trust module supporting TPM 2.0 and Platform Firmware Resiliency (PFR).	
	Ability to track hardware and software information remotely	

=====

Power Supply	2x hot-swap/redundant: 750W Platinum-certified	
Others	The bidder must submit proof of warranty as part of the technical component.	
STORAGE		
Quantity	1 unit	
SAN Storage	Must be directly attached to the host via Fiber channel	
Controller Configuration	Dual active (Active-active) controller configuration with automatic load balancing	
Controller Memory	Must have at least 16GB (8GB per controller). Can support cache mirroring between the controllers. Flash-backed cache protection (includes a battery to destaging flash) or better	
RAID Levels	Must support RAID 0, 1, 3, 5, 6, and 10, Dynamic Disk Pools	
Expansion Enclosure Support	Must be able to accommodate 7 SFF/LFF expansion enclosures configuration or any combination thereof	
Storage Capacity	Must have at least 200 TB usable capacity with RAID 6 configuration, preferably with 12x22TB HDD or better.	
Host Connectivity	Must have at least 8x8/16GB FC SFP+ module (4-ports per controller)	
Host Operating Systems	Can support Windows Server, RHEL, SLES, vSphere	
Features	Must have standard snapshots of up to 128 targets without additional cost	
	Must have volume copy	
	Must have thin provisioning	
	Must have automated path failover support for the data path between the host and the drives with multipathing software	
	Must have a non-disruptive controller and drive firmware upgrades	
	It must allow the capacity of a volume to be expanded by adding new physical drives or using unused space on existing drives.	

=====

	Ensure industry-standard T10-PI end-to-end data integrity in the storage system (from the host ports to the drives).	
	Must be managed in a single pane of glass	
	Must provide automated input/output workload balancing of input/output traffic from the hosts across both controllers.	
	Ability to track hardware and software information remotely	
Security Features	<ul style="list-style-type: none"> - Role-Based Access Control (RBAC) - LDAP Authentication - User Level Security - Secure Socket Layer (SSL) - Secure Shell (SSH) 	
Transceiver	Must be universal 8 x 10GB iSCSI/16GB FC SFP+ Module	
Power Supply	Must have at least 913W (100 - 240 V) Platinum AC redundant power supplies.	
Power Cable	Must have at least 1.5m, 10A/100-250V, C13 to IEC 320-C14 Rack Power Cable (with adapter/connector compatible to Philippine standard socket).	
Management ports	Must have 1x 1 GbE port (UTP, RJ-45) per controller for out-of-band management.	
	Must have 2x Serial console ports (RJ-45 and Micro-USB) for system configuration.	
	Must have In-band management via I/O path	
Warranty	<p>*3-year warranty including 24 hours by 7 days support with a 4-hour response time after an email has been sent</p> <p>*with data retention</p>	
Certification	The bidder must submit a valid and current Certificate of Distributorship / Dealership / Resellership of the product being offered, issued by the principal or manufacturer of the product (if the bidder is not the manufacturer). If not issued by the	

=====

	manufacturer, they must also submit a certification/ document linking the bidder to the manufacturer.	
	The server brand offered must belong to the top 5 leading vendors in 2024 Q1 based on Gartner "Market Share: Servers, All Countries, 1Q 24 Update."	
	The brand being offered must have local vendor presence and local service center	
Others	The bidder must submit proof of warranty as part of the technical component.	
Warranty	*3-year warranty including 24 hours by 7 days support with a 4-hour response time after an email has been sent *with data retention	
Others	The bidder must submit proof of warranty as part of the technical component.	

Technical Working Group for ICT Equipment



ASG GILBERT U. MEDRANO



SSS CARLOS G. REYNES, JR.



DIR. EDUARDO ALEJANDRO O. SANTOS



SS II OMAR T. GABRIELES

SS I PATRICK JOSEPH S. TAPALES



AS III MARIVI A. DUMAMBING



AS III GABRIEL ANTONIO D. ROBENIOL



AS II INGRID MARGARET M. SERRANO

SAO JOY Y. CHUA



ITO III JAYVIE NEIL MALICK S. MALICDEM



ITO III AMELITO V. DUCUT



COMPRO III AUGUSTUS MARK B. DICHOSO

Approved/Disapproved:

MENARDO I. GUEVARRA
Solicitor General

Certified Funds Available:

BERNADETTE M. LIM
Dir IV - FMS