



Republic of the Philippines

**DEPARTMENT OF SCIENCE AND TECHNOLOGY**

**Philippine Atmospheric, Geophysical and Astronomical Services  
Administration (PAGASA)**



**TERMS OF REFERENCE  
SUPPLY, DELIVERY, INSTALLATION, TESTING, COMMISSIONING and  
CONFIGURATION OF  
QUALITY CONTROL SERVER with DATA STORAGE**

**A. BACKGROUND**

To enhance the accuracy and reliability of PAGASA's radar data, specifically with regard to dual polarization Quality Control (QC) techniques, there is a need to leverage advanced computational resources. The current radar data processing involves large volumes of data, which require sophisticated analysis for precise weather predictions. Dual polarization radar technology provides more detailed information, but it also presents significant challenges in data interpretation and quality control.

To address these challenges, Artificial Intelligence (AI) and Machine Learning (ML) models are being explored to improve the QC techniques. However, the training and deployment of these AI models demand considerable computational power, particularly when processing complex datasets in real-time. A GPU Rack Mount server is essential for this purpose, as GPUs can accelerate parallel data processing and significantly reduce the time required for model training.

By acquiring a high-performance GPU Rack Mount server, PAGASA will be able to effectively train and deploy AI models that can enhance the radar data quality control process. This will result in more accurate weather forecasting, improved signal processing, and enhanced overall operational efficiency in monitoring and predicting weather events.

**B. APPROVED BUDGET FOR THE CONTRACT (ABC)**

The total ABC for the project is **One Million Seven Hundred Thousand Pesos (1,700,000.00)** inclusive of VAT and all applicable government taxes.

This procurement shall be provided as one lot basis. Bidders shall offer all of the items included in the technical specifications.

**C. DELIVERY PERIOD AND PLACE OF DELIVERY**

The winning bidder shall supply, deliver, install, test and commission the server on the fourth floor in the ICT room at PAGASA Central Office Building, Science Garden Complex, Senator Miriam P. Defensor-Santiago Avenue, Barangay Central, Quezon City within the period of Thirty (30) calendar days from receipt of the Notice to Proceed (NTP).

## **D. HARDWARE SPECIFICATIONS**

### **D.1 Rack Mount Server Specification**

**The winning bidder must provide** must provide one (1) unit of rack mount server with the following minimum specifications:

	Description	Quantity
GPU	10,752 CUDA cores or higher 32GB Memory or higher	1
CPU	2GHz/Boost 3.67GHz/64 Cores/128 Threads/225W	1
RAM	32GB_DDR4_RDIMM_3200MHz	8
SSD	240GB 2.5" SATA SSD	2
Storage	3.86TB SSD 2.5"	3
Network	25Gb/s 2-port LAN Card	1

- Include software suite for server platform remote control and management over the network. The software must provide a mobile app for both Android and iOS.
- Indicate "Proxmox VE" as operating system. Must be bundled with technical support services and access to enterprise repository for 1-year.

#### **D.1.1 Accessories**

##### **1. Maintenance Laptop**

- Inclusion of **Two Technical Operations Laptop** to support access, maintenance troubleshooting, service operation and program development with the Rack Mount Server.

<b>Technical Specifications:</b>	
Processor	12 cores, 20 Threads, up to 4.7 GHz, 24 MB Cache
Ram	2 pcs. of 8 GB RAM DDR4 (3200 MHz), or one pc. 16 GB Ram DDR4 or latest model
Video Card	2,560 CUDA Cores, up to 2.37 GHz, 6 GB GDDR6 or better specification
Input Voltage	120 V AC ~ 240 V AC
Software	Windows 11 pro
Display	15.6" FHD (1920 x 1080)
HDD/SSD	512 GB NVMe PCIe SSD gen 4x4 w/o DRAM

## 2. 2 pcs - 2 TB external SSD's

SPECIFICATIONS
1. Interface: USB 3.2 Gen 2
2. Speed Up to 1,050MB/s read, 1,000MB/s write
3. Casing Material: Metal + Plastic
4. Operating temperature: 0°C~40°C
5. Storage temperature: -20°C~85°C
6. Compatible with Windows® 11, 10, macOS (v.10.15.x +), Linux (v. 4.4.x +), Chrome OS™
DIMENSIONS
Dimensions: 69.54 x 32.58 x 13.5mm
Weight: 28.7g

### D.2 Scope of work

The scope of work covers the supply, delivery, installation, commissioning and configuration of Quality Control Server with Data Storage. The works and services to be performed under this contract shall essentially consist of, but not limited to, the following:

- Delivery, installation, commissioning and configuration of Rack Mount Server
  - The server is required to operate continuously for a period of 7 days (168 hours) without experiencing any interruptions, malfunctions, or performance degradation.
- The winning bidder must assign at least two personnel to assist the PAGASA ICT in un-boxing, and installation of hardware until the duration of inspection.
- 3 years hardware warranty, maintenance and support

### D.3 Service Level Agreement

- Technical support should be available via phone and onsite during the contract period
- Defective ICT equipment should be repaired/replaced within 48 hours, free of charge if found defective in materials or workmanship under normal and proper use.

## E. SITE ACCEPTANCE

- Two (2) supervisory personnel from the PAGASA ICT and Inspection Committee shall oversee and support the acceptance procedure, as well as the signing of the site acceptance certificate. This process, including the signing, will take place following the testing and commissioning of the deliverable items. Meals shall be provided by the winning bidder during the conduct of acceptance (breakfast, morning coffee break, lunch and afternoon coffee break).

## **F. GENERAL NOTE**

- The winning bidder must provide a warranty certificate covering the ICT deliverable equipment.
- The winning bidder must have a certified true copy of a valid certificate of distributorship/dealership/reseller ship or professional partnership with the distributor/manufacture of the brand for the Rack Mount Server and Laptop.
- Quality assurance is expected from the winning bidders, such that any error or fault in any hardware, peripherals, preinstalled mandatory software and installation tools delivered during the implementation shall be acted upon, resolved, mitigated and/or replaced accordingly at no cost to the PAGASA. Likewise, upon final project acceptance, the winning bidder is required to after sales service and assurance that all equipment and installation are accurate, complete, operable, uncompromised and error-free during warranty.
- All components must be branded and should be factory installed with corresponding part numbers.

## **G. Green Public Procurement (GPP) Compliance**

- The Winning Bidder must present Energy Efficiency Rating of the Server.
- The Winning Bidder shall supply the products in recyclable packages and shall provide a packaging take-back service.
- The Winning Bidder shall supply the products with eco-friendly materials.
- The supplied equipment shall be within the suitable noise level for personnel.
- The Equipment supplied shall ensure upgradability and replaceability of parts.