TERMS OF REFERENCE
SUPPLY, DELIVERY, INSTALLATION AND CONFIGURATION
OF COMPUTER HARDWARE FOR THE OFFICE PRODUCTIVITY PROJECT

I. BACKGROUND

The Maritime Industry Authority (MARINA) was created on 01 June 1974 as an attached Agency to the Office of the President (OP) with the issuance of Presidential Decree No. 474, otherwise known as the Maritime Industry Decree of 1974, to integrate the development, promotion and regulation of the maritime industry in the country and the creation of the Ministry (now Department) of Transportation (DOTr) by virtue of Executive Order No. 546, the MARINA was attached to the DOTr for policy and program coordination on 23 July 1979.By virtue of Republic Act No. 10635, the Maritime Industry Authority (MARINA) is established as the "Single Maritime Administration" responsible for the implementation and enforcement of the 1978 International Convention on Standards of Training, Certification and Watchkeeping for Seafarers, as amended, and International Agreements or Covenants related thereto.

II. OBJECTIVE OF THE PROJECT

The following are the objectives of the project:

1. To upgrade the capability of Computer Hardware and I.T. related equipment of the Maritime Industry Authority.
2. To support new platform and systems to be implemented by the MARINA as part of its computerization.
3. To enhance office productivity with the efficient use of office applications software designed to increase management efficiency using computer hardware.

III. APPROVED BUDGET FOR THE CONTRACT

The Approved Budget for the Contract (ABC) for the project is **TWELVE MILLION NINE HUNDRED THREE THOUSAND PESOS (₱12,903,000.00)** sourced from the 2019 Capital Outlay and MOOE per the National Expenditure Program (NEP), inclusive of all applicable government taxes and charges.

IV. VENDOR'S QUALIFICATIONS

1. The bidders must have completed a similar contract/project equivalent to fifty percent (50%) of the ABC within two (2) years from the date of submission and receipt of bids.

2. The bidders must have completed at least three (3) similar projects in the supply, delivery and installation of computer hardware, within the last three (3) years and should be vouched by a Certificate of Acceptance.
3. The bidders should have been operating in the Philippines for at least three (3) years and is registered with SEC or DTI.
4. The bidders must submit, in addition to the bidding documents and in a separate envelope, A CERTIFICATION, UNDER OATH, CERTIFYING THAT THEY HAVE NO PENDING CASE(S) AGAINST THE GOVERNMENT.

V. DELIVERABLES

PARTICULARS	QTY	UNIT
1. Hyper converged server	1	Unit
2. Desktop Computer	70	Units
3. Laptop Computer	30	Units
4. All-In-One Ink Tank Printer (Amount of Bid should not exceed P14,999.99 per unit)	61	Units

VI. TECHNICAL SPECIFICATIONS

1. HYPERCONVERGED SERVERS

- Single Management Console for all hyper converged servers and storage
- Must be ready to integrate to a Disaster Recovery Site or Replication Server, and must be able to perform at least Five (5) Minutes Backup, Clone and Restore or must be
- At least one node may be configured for High Availability in any existing or future Hyper converge setup in MARINA
- The solution must be able to provide a single management platform in managing all infrastructures (Virtual Machine (VM), Servers, Storage and Backup). Any administrator from anywhere can view/access/manage their respective resources.
- The solution must be able to provide role based access to be able to compartmentalize each user from each other and secure the servers of being illegally accessed by other users.
- The hyper converged platform technology must be able to automatically provision needed computing, memory, storage and network connectivity solution when the need arises.
- It must utilize a hypervisor, bare-metal virtualization solution with centralized management that support core data services such as storage creation, backup, restore, clone and move for multiple locations as its capabilities for future requirements.
- It must be able to provision needed resources in minutes (locally and remotely)
- It must be able to augment its resources by providing additional compute, memory, and storage needs in minutes.

Virtualization functions:

- It must be able to provide a very fast Cloning system that can be done within minutes.
- VM can be considered for cloning, copying or moving
- It must be able to do live clone a running VM without shutdown in less than 5 minutes
- Must have the ability to move remotely a VM with a size of at least 500GB size in less than 5 minutes.
- Remote location or Disaster Recovery means any remote data centre or field office

Basic hardware features:

- It must utilize SSD for cache and highly used data; at least 8 x 1.92TB SSD per node
- It must utilize x86 platform and must be able to run in single or dual physical processor
- With at least two (2) physical processors per hardware with at least an E5-2620v4 Intel Processor
- With at least a total of 16-Core Processor each node and with at least 8 x 32GB (total of 256GB) of RAM per node
- With at least 8 x 1.92TB (total of 11.52TB) of SSD storage per node
- With at least 2 x 10GbE SFP+ port per node

Failsafe mechanism:

- It must be able to operate w/o interruption even after two (2) concurrent disks failure.
- It must be capable to set up in a High Availability with a minimum of 2 nodes
- It must be able to evacuate a minimum of 1TB VM in the future remote data center to Central Office within 10 minutes.
- It must be able to evacuate any System/VM to and from any location or data center in less than five steps.
- The disruption or turning off of production server must be limited to less than a few minutes during the “moving” procedure.
- It must be able to provide a configurable, effective and reliable Point-In-Time System recovery from system backup images.
- The Point-in-Time recovery must be capable of executing and finishing within 10 minutes.
- It must be configurable and must be tied up to backup capability that can be done in 10 minutes.
- Recovery of full system must also be done within 10 minutes.

Storage Management:

- The storage must be configured with hardware RAID.
- It must provide more value in terms of consuming less space, less power & cooling needs.
- The storage management must be able to work with the built-in inline data deduplication to create at least 10:1 data deduplication efficiency.

Built-in Backup and Restore functionality:

- It must be able to provide a complete backup system solution.
- It must be able to provide a very fast backup system that can be done within minutes.
- At least five (5) minutes for one (1) terabyte of data.
- It must be able to provide at least 10:1 storage efficiency (Virtual Machine (VM) data and backup) by the use of data Deduplication technique. This must cover all of the Data including backup locally.
- Customizable scheduled backup that can be triggered in every minute, hour, day, week or months. With the data efficiency of 10:1, backup should not take a lot of storage space.
- VM can be considered for cloning, copying or moving to any remote site as long as they are IP reachable.
- It must be able to execute concurrent backup and restoration processes within 1 hour.
- It must be able to cater for capacity to perform up to at least four (4) full back up a day for up to 2TB with an online retention period of one (1) year,
- It must be able to ensure that the backup is 100% restorable.
- It must be able to execute remote full backup.
- It must be able to back up on the VM level and not just a snapshot
- It should be able to back up the whole system and/or VM to a remote site in minutes
- Every backup must be a full backup and not incremental or snapshot.
- It must be able to backup VM to a remote location within 10 minutes.
- It must be able to restore a backup within 10 minutes
- Restoration must be done locally and remotely

Additional Data Efficiency Mechanism:

- It must use an INLINE DATA DEDUPLICATION at all tiers for better performance
- The Inline data deduplication must be a dedicated device that is built-in with the hyper converged platform.
- It must have a built-in Wide Area Network optimization technology to be able to do remote backup, cloning, evacuation and failover within minutes.

2. DESKTOP

2.1. Intel Core i7 Atleast 7thGen
2.2. 6 cores, 12MB, 12T, up to 4.6Ghz, 65w
2.3. 8GB (2x4GB), DDR4
2.4. 1TB SATA3HDD
2.5. DvD-Super multidrive
2.6 Intel HD Graphics
2.7 Internal Speakers
2.8 Integrated high-definition surroundsound
2.9 LAN: GigabitEthernet

2.10 IO/Ports :

- 3 x USB 2.0
- 2 x USB 3.0
- HDMI-out
- HDMI-in

3-in-1 card reader (SD, SDHC, SDXC)
10/100/1000 LAN
audio/microphone jack

2.11 Display : Atleast 23" LEDMonitor
2.12 Uninterrupted Power Supply (650 VA)
2.13 Pre-loadedwith
Operating System - Windows 10 pro 64 bit
Latest Licensed MS office Word, Excel, Powerpoint)
Anti-Virus (Two (2) Years Subscription)

3. LAPTOP

- Intel Core i7 Atleast 7th Generation
- 8GB Memory
- 1TB 5400 RPM
- 15.6" HD
- 2GB NVIDIA® GeForce® 940MX Dedicated Graphics
- 8X DVD-Super Multi
- Ethernet (RJ-45) port and 802.11b/g/n wireless LAN Bluetooth® 4.0"
- Supplied with
  - Wireless Mouse
  - Laptop bag with sling (Manufacturer-issued)
  - Power Adaptor (Manufacturer's Standard)
- Pre-loaded with

- Operating System - Windows 10 pro 64 bit
- Latest Licensed MS office Word, Excel, Powerpoint)
- Anti-Virus (Two (2) Years Subscription)

4. ALL-IN-ONE INK TANK PRINTER

Print Technology

- **Print Method:** Inkjet
- **Maximum Print Resolution:**5760 x 1440 dpi
- **Minimum Ink Droplet Volume:**3 pl
- **Control Panel:** Mono LCD
- **Print Direction:** Bi-directional printing, Uni-directional printing
- **Nozzle Configuration:**180 nozzles Black, 59 per color (Cyan, Magenta, Yellow)

Print Speed

- **Photo Default - 10 x 15 cm / 4 x 6 "** *Approx. 69 sec per photo
- **Max Photo Draft - 10 x 15 cm / 4 x 6 "** *Approx. 27 sec per photo
- **Draft, A4 (Black / Color):**Approx. 33 ppm / 15 ppm

- **ISO 24734, A4 Simplex (Black / Color):**Approx. 9.2 ipm / 4.5 ipm

Copy Function

- **Reduction / Enlargement:**25 - 400%, Auto Fit Function
- **Maximum Copy Size:**A4

Copy Speed:

- **ISO 29183, A4, Simplex (Black / Color):**Approx. 7.7 ipm / 3.8 ipm

Scan Function

- **Scanner Type :** Flatbed color image scanner
- **Optical Resolution:**1200 x 2400 dpi
- **Max Document Size:**216 x 297mm (8.5 x 11.7")

Scan Speed:

- **Flatbed (Black / Color):**300 dpi: 16 sec / 34 sec
- **ADF Monochrome (Simplex / Duplex):**300 dpi: 2.0 ppm
- **ADF Color (Simplex / Duplex):**300 dpi: 2.0 ppm

ADF Specifications:

- **Support Paper Thickness:** 64-95g/m
- **Paper Capacity:** 30 sheets (64g/m)

Fax Function:

- **Fax Resolution (Black & White):** Standard: 8 pels/mm x 3.85 lines/mm
  Fine: 8 pels/mm x 7.7 lines/mm
  Photo: 8 pels/mm x 7.7 lines/mm
- **Fax Resolution (Color):** Fine: 200 x 200 dpi
  Photo: 200 x 200 dpi

Connectivity:

- **Standard:** USB 2.0**Network:**Ethernet
  Wi-Fi IEEE 802.11b/g/n
  Wi-Fi Direct

Supported OS and Applications:

- **Supported OS:** Windows XP / Vista / 7 / 8 / 8.1 / 10
  Mac OS X 10.6.8 or later

VII. OTHER REQUIREMENTS

A. WARRANTY AND AFTER-SALES SUPPORT

1. One (1) year on parts, labor
2. On-site support shall be provided for the delivered within twenty-four (24) hours from verbal/written notification by the END-USER AGENCY, with cut-off time at 2:00 pm per working day. Verbal/ written notifications received after 2:00 pm will be addressed by suppliers the following working day.

3. Within the warranty period, machines that cannot be repaired within forty-eight (48) hours shall be immediately replaced with a service unit of similar specifications or better at no cost to the MARINA

B. TRANSFER OF TECHNOLOGY

1. The bidder must provide a free training program to qualified staff/employee of the Maritime Industry Authority (MARINA) in installation, configuration, administration of all of the deliverables.
2. Appropriate manuals such as Equipment, User and Operational Manual shall be provided to each participant and written in a simple manner that everybody can understand.
3. Training and Technology Transfer should be conducted before final project acceptance.

C. RESPONSIBILITY OF THE BIDDER

1. All installation and configuration must be done inside the MARINA premises. The bidder shall Format hard disk in the manner of 40% for the system disk and 60% data disk;
2. The bidder must submit original brochure of all deliverables.

VIII. PROJECT TIMEFRAME

The project shall be completed within a period of sixty (60) days upon receipt of the Notice to Proceed.

IX. TERMS OF PAYMENT

Payment shall be made within fifteen (15) working days upon issuance of Final Acceptance.