TECHNICAL SPECIFICATIONS

TERMS OF REFERENCE

MAINTENANCE OF DATA ROOM AT BUILDING 2,
PORT OF CAGAYAN DE ORO (MPF-MOC-24-2025)

A. DESCRIPTION

The project outlines the requirements for the maintenance of data room located in Building 2 that is a critical facility housing IT infrastructure, including servers, networking equipment and data storage systems essential to the organization's operations. This is to ensure continuous functionality, security and efficiency which regular maintenance of this facility is required.

B. OBJECTIVES

The objective is to supply all necessary materials, labor and equipment for the maintenance of data room to ensure it remains in optimal operating condition through scheduled maintenance, immediate response to incidents and compliance with safety and IT infrastructure standards.

C. GENERAL SCOPE OF WORKS

The supplier/contractor shall undertake the project in accordance with the accepted industry standards and procedures.

The services to be rendered by the said supplier shall include but not limited to the following:

1. Consult with the Authority, thru the Engineering Services Division Technical Staff, to ascertain the objectives and requirements of the services and confirms such requirements to the Authority.
2. Conduct ocular inspection of all components and conduct actual measurement at the site.
3. Supply of labor and materials for the maintenance of structured cabling including termination, fusion, testing and commissioning.

MATERIALS	QUANTITY	UNIT
24 Ports PoE Manageable Switch for internet WIFI with (Cloud Remote Management Capabilities, Bandwidth Management, Web Portal and Landing Page)	1.00	Unit
Wired Internet Access Point 1GB Ethernet Port (Ceiling Type)	4.00	units
Cable Management 1U Rock Mounted 24 Slot	1.00	units
UTP Cable Patch Cord Cat6 (Company Crimp) – 1 meter	15.00	pcs
Cat6 UTP Cable (Pure Copper)	2.00	box
Flexible Hose ½	500.00	l.m
Plastic Molding, RJ46 cat 6	1.00	lot

SPECIFICATIONS:

“24 Ports PoE Manageable Switch for internet WIFI with (Cloud Remote Management Capabilities, Bandwidth Management, Web Portal and Landing Page)”

I/O ports and slots:

- 24 RJ-45 autosensing 10/100/1000 Class 4 PoE ports (IEEE 802.3 Type 10BASE-T, IEEE 802.3u Type 100BASE-TX, IEEE 802.3ab Type 1000BASE-T); Duplex: 10BASE-T/100BASE-TX: half or full; 1000BASE-T: full only.
- 4 SFP+ 1/10GbE ports

Physical Characteristics:

- Dimensions: 17.42(w) x 10.42(d) x 1.73(h) in (44.25 x 26.47 x 4.39 cm); (1U height)
- Weight: 7.71 lb (3.50 kg)

Processor and memory:

- ARM Cortex-A9 @ 800 MHz, 512 MB SDRAM, 256 MB flash; packet buffer: 1.5 MB

Performance:

- 100 Mb Latency : < 4.7 uSec
- packet size : 64B
- 1000 Mb Latency : < 2.4 uSec
- packet size : 64B
- 10000 Mb Latency : < 1.3 uSec
- packet size : 64B
- Throughput (Mpps) : 95.23 Mpps
- packet size : 64B
- switching capacity : 128 Gbps
- Routing Table size (# of static entries) : 32 static entries
- MAC Address table size (# of entries : 16,000 entries
- Reliability MTBF (years) : 76

Environment

- Operating temperature : 32°F to 104°F (0°C to 40°C)
- Operating relative humidity : 15% to 95% @ 104°F (40°C
- Nonoperating/Storage temperature : -40°F to 158°F (-40°C to 70°C)
- Nonoperating/Storage relative humidity : 15% to 95% @ 140°F (60°C
- Altitude : up to 10,000 ft (3 km)
- Acoustic : Pressure: 46.1 dBA Power: 60.5 dB

Electrical Characteristic

- Frequency : 50/60 Hz
- AC voltage : 100 - 127 / 200 - 240 VAC
- Current : 5/2.5 A
- Maximum power rating : 460.0 W
- Idle power : 34.5 W
- PoE power : 370 W Class 4 PoE
- Power supply : Internal power supply

Safety

UL 60950-1; IEC 60950-1; EN 60950-1; CAN/CSA-C22.2 No. 60950-1; EN 60825-1 UL 62368-1 Ed. 2; IEC 62368-1 Ed. 2; EN 62368-1:2014

Emissions

VCCI-CISPR 32, Class A; CNS 13438; ICES-003 Issue 6 Class A; FCC CFR 47 Part 15, Class A; EN 55032: 2015 +AC:2016/CISPR-32, Class A

Immunity

- Generic : CISPR 24 / CISPR 35
- EN : EN 55024:2010 / EN 55035:2017
- ESD : IEC 61000-4-2
- Radiated : IEC 61000-4-3
- EFT/Burst : IEC 61000-4-4
- Surge : IEC 61000-4-5
- Conducted : IEC 61000-4-6
- Power frequency magnetic field : IEC 61000-4-8
- Voltage dips and interruptions : IEC 61000-4-11
- Harmonics : EN 61000-3-2, IEC 61000-3-2
- Flicker : EN 61000-3-3, IEC 61000-3-3

Device Management

- Portal; Web browser; SNMP Manager

Accessories:

Transceivers :

“Wired Internet Access Point 1GB Ethernet port (Ceiling Type)”

Specifications:

RADIOS

- Dual radio for simultaneous dual-band operation
- 5 GHz 802.11ax 2x2 MIMO for up to 1.2 Gbps wireless data rate, with Multi User
- MIMO support (Wi-Fi 6)
- 2.4 GHz 802.11ax 2x2 MIMO for up to 574 Mbps wireless data rate (Wi-Fi 6)

MAXIMUM (AGGREGATE, CONDUCTED TOTAL) TRANSMIT POWER (LIMITED BY LOCAL REGULATORY REQUIREMENTS)

- 5GHz band: +21dBm (+18dBm per chain, 3dB MIMO gain)
- 2.4Ghz band: +21dBm (+18dBm per chain, 3dB MIMO gain)

INTERFACES

- Uplink Gigabit Ethernet port, with PoE-in support (802.3af)
- DC power connector (12V) Bluetooth Low Energy (BLE) radio LED status indicators (2) Reset/LED control button Kensington security slot

PHYSICAL SPECIFICATIONS

- 160mm x 160mm x 37mm, excluding mount accessories
- Weight: 500g

POWER

Power over Ethernet (POE): 802.3af (class 3)

Max power consumption (worst-case): 10.1W (PoE), 8.8W (DC)

DC power (12V)

Note: Power sources are sold separately unless you purchase the bundle SKU which comes with power options.

ANTENNAS

- Down-tilt omni-directional antennas for 2x2 MIMO with peak antenna gain of 4.3dBi in 2.4GHz and 5.6dBi in 5GHz (of the effective, combined pattern for both antennas in each band).

ENVIRONMENTAL & RELIABILITY

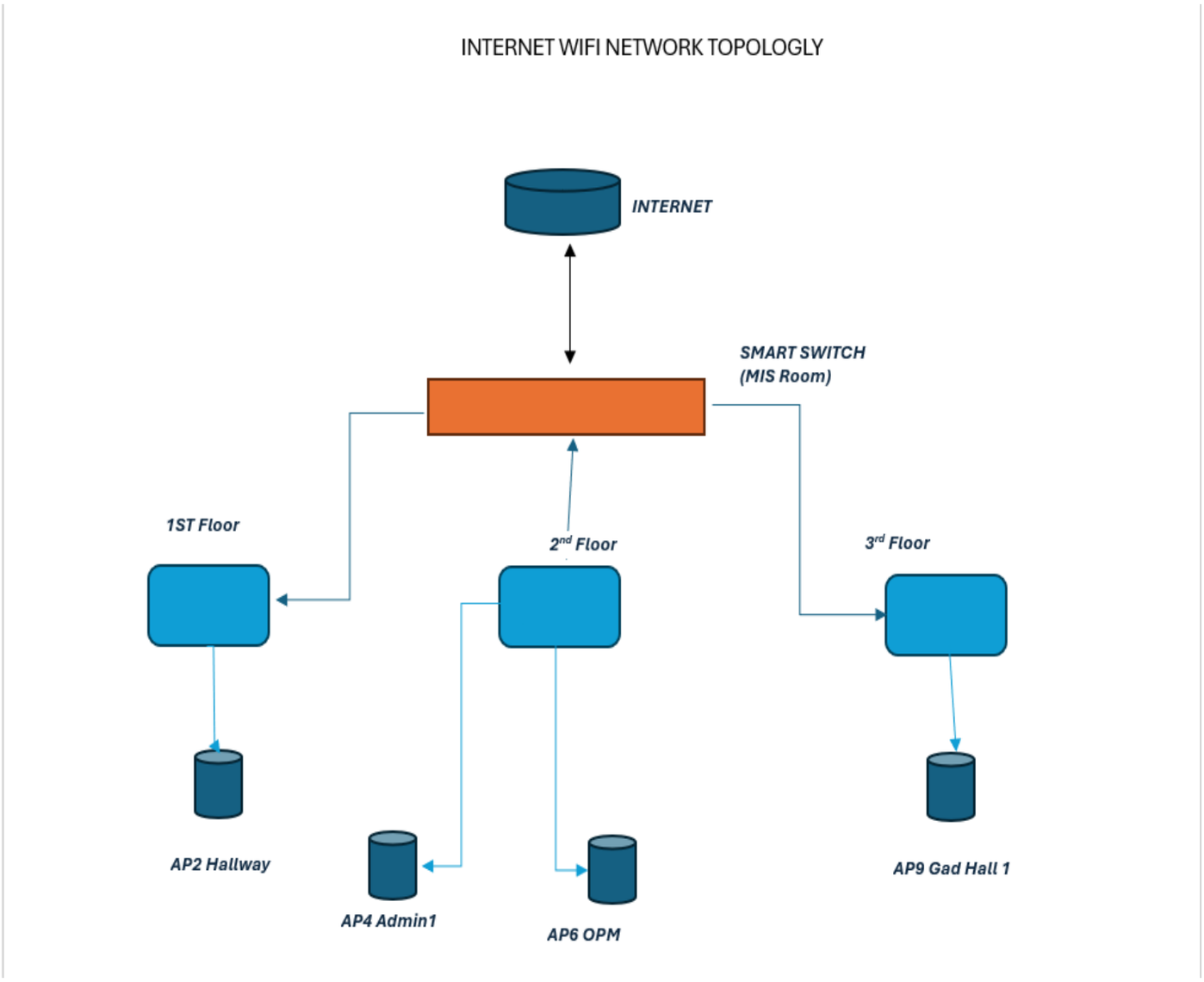
- Operating temperature: 0° C to +40° C (+32° F to +104° F)
- MTBF: 795khrs (91yrs) at +25° C

INDUSTRY CERTIFICATION

- Wi-Fi Alliance certified (WFA) 802.11ax with (Wi-Fi 6), WPA2, WPA3

4. Perform other services or reasonable tasks that relate to the foregoing deliverables, which the Authority or its authorized representative may direct.

TOPOLOGY:


INTERNET WIFI NETWORK TOPOLOGLY
INTERNET
SMART SWITCH
(MIS Room)
1ST Floor
2nd Floor
3rd Floor
AP2 Hallway
AP4 Admin1
AP6 OPM
AP9 Gad Hall 1

D. TERMS AND CONDITION

1. **Scope of Work:**

   - The contractor shall undertake Routine Maintenance, Corrective Maintenance, Compliance and Standards.

2. **Responsibilities:**

   - Provide qualified and certified network technicians
   - Supply necessary testing and repair equipment
   - Maintain confidentiality and data security while operating sensitive environments.

E. TIMETABLE

The supplier shall commence the activities effective a day after the receipt of the Notice to Proceed. The completed project shall be delivered, installed, tested and made operational within Thirty (30) calendar days from the commencement of the activities.

F. FIRM AND STAFF REQUIREMENTS

The supplier shall be responsible in ensuing the timely completion of the project and shall have personnel complementation of adequate technical background, experience and capability.

The supplier shall provide appropriate personal protective equipment (PPE) such as hard hat, safety reflectorized vest, gloves and other appropriate PPE to their staff and crew when working on the project.

G. SCHEDULE OF PAYMENTS

All payments shall be processed only upon completion and issuance of a Certificate of Completion and Acceptance, subjected to accounting and auditing rules and regulations.

H. BUDGET

The Approved Budget of the Contract for the project "***MAINTENANCE OF DATA ROOM AT BUILDING 2, PORT OF CAGAYAN DE ORO***" is ***Two Hundred Sixty-Seven Thousand Eight Hundred Sixty-Seven and 00/100 Pesos (Php 267,867.00).***

I. MODE OF PROCUREMENT/QUALIFICATION OF BIDDERS

The contract for the **MAINTENANCE OF DATA ROOM AT BUILDING 2, PORT OF CAGAYAN DE ORO** shall be procured through Small Value Procurement, in accordance with Section 53.9 and Annex "H" of the 2016 Revised Implementing Rules and Regulations of RA 9184.

Interested bidders must submit their proposals on or before _____, at _____ am/pm, at the address provided. Prospective bidders will be evaluated based on a non-discretionary "pass/fail" criterion, and shall submit the updated/renewed printed copies of the following documents as part of the technical/financial proposal/envelope:

Technical Proposal	• ***PhilGEPS Certificate of Registration, with corresponding Annexes*** • ***Certificate of Registration from SEC/DTI whichever is applicable*** • ***Valid Mayor's Permit*** • ***PCAB License*** • ***Income/Business Tax Return*** • ***Omnibus Sworn Statement***
Financial Proposal	• ***Duly Accomplished Request for Quotation***

Prepared and Submitted By:

KAREL T. SUMICAD
Construction Foreman

Recommending Approval:

ANTONIO M. TORCINO, JR.
Acting ESD Manager

Approved:

Digitally signed by FERNANDO B. MAPALO, JR
Date: 2025.06.04 13:30:00 +08'00'

FERNANDO B. MAPALO, Jr.
Acting Port Manager