



**Tender Title: Supply and Installation of WACREN NOC Equipment**

**Tender Reference Number: WACREN-NOC-2024**

**Issue Date: 29 July 2024**

**Submission Deadline: 30th August 2024**

## **1. Invitation for Bids**

WACREN invites sealed bids from eligible and qualified suppliers for the supply and installation of the specified NOC equipment. The equipment is categorized into Network Devices, Servers, Laptops and Desktops, Monitors, Power Supplies, Furniture, Security Systems, and Video Conferencing Tools.

## **2. Scope of Work**

The supplier shall provide, install, and configure the following equipment:

### **LOT 1 - Network Devices**

#### **Router (2)**

- 2 x 100GE, 12 x 25/10/1GE
  
- 5 x 1GE LAN Ports
- Minimum 4GB RAM
- Load Balancing
- Dual Core CPU
- 8GB Flash Memory
- Operational capabilities: BGP, OSPF, VLANs, SNMP, IPsec VPN Tunnelling, Telnet, SSH
- EVPN, MPLS, Dual stack routing, Multicast, LDP, RSVP
  
- SFP 8 X 1GE/10GE/100GE

#### **Firewall (1)**

- 2 x USB Ports
- 1 x Console Port
- 2 x GE RJ45 MGMT/HA Ports
- 16 x GE RJ45 Slots
- 8 x GE SFP Slots
- 4 x 10GE/GE SFP+/SFP Slots

- 4 x 25GE/10GE SFP28/SFP+ Ultra Low Latency Slots
- IPv4 Firewall Throughput: 139 / 137.5 / 70 Gbps (1518 / 512 / 64 byte, UDP)
- IPv6 Firewall Throughput: 139 / 137.5 / 70 Gbps (1518 / 512 / 64 byte, UDP)
- Firewall Latency: 4.12  $\mu$ s / 2.5  $\mu$ s
- Firewall Throughput (Packets per Second): 105 Mpps
- Concurrent Sessions (TCP): 8 Million
- New Sessions/Second (TCP): 550,000
- Firewall Policies: 30,000
- IPsec VPN Throughput: 155 Gbps
- Gateway-to-Gateway IPsec VPN Tunnels: 2000
- Client-to-Gateway IPsec VPN Tunnels: 50,000
- SSL-VPN Throughput: 64.3 Gbps
- Concurrent SSL-VPN Users: 10,000
- SSL Inspection Throughput: 39 Gbps
- SSL Inspection CPS: 7500
- SSL Inspection Concurrent Sessions: 840,000

### **Switch (1)**

- 24-port 10/100/1000BaseT
- 4 x 1/10G SFP/SFP+
- VLAN aware
- SNMP
- SSH
- Telnet

## **LOT 2 - Servers**

### **Server (1)**

- Server class board with dual socket
- Support for 1600 MHz ECC RAM, minimum 4 slots
- PCIe-3 bus with at least one 8 lanes port
- 2 CPUs at minimum 2.5 GHz (4 cores)
- 2 x 8 GB or 4 x 4 GB 1600 MHz ECC RAM
- 2 x 1 TB SATA-3 7200 RPM hot swap HD
- On-board 10GE LAN
- Redundant power supply

## **LOT 3 - Laptops and Desktops**

### **Laptops (2)**

- CPU at minimum 2.5 GHz (Intel Core i5)
- 1 x 8 GB or 2 x 4 GB 1600 MHz DDR3 RAM
- 500 GB SATA HD
- USB 3.0 Port
- HDMI Port

## **Desktops (2)**

- CPU at minimum 2.5 GHz (Intel Core i5)
- 1 x 8 GB or 2 x 4 GB 1600 MHz DDR3 RAM
- 500 GB SATA HD
- USB 3.0 Port
- 1 or 2 HDMI Port

## **Desk Monitors (2)**

- 60.45 cm (23.8")
- FHD (1920 x 1080)
- On-screen controls
- AMD FreeSync™
- Low blue light mode
- Anti-glare
- Response time: 5ms GtG (with overdrive)

## **Monitors (4)**

- LCD technology: PA-VA
- Screen haze: 44%
- Resolution: Full HD (1920 x 1080)
- Backlight: Direct LED
- Aspect ratio: 16:9
- Size: 1213.5 x 683 x 94.9 mm
- Active screen diagonal: 55"
- DisplayPort: 2 DP1.2 inputs
- HDMI: 2 HDMI 1.4 inputs, 1 HDMI 1.4 output
- USB: 2 (for power only)
- Ethernet port: 2
- HDCP

## **LOT 4 - Power**

### **UPS (4)**

- Power Supply: 5KVA
- 5000VA/4000W
- Phase: Single Phase
- UPS Type: Line Interactive
- Weight: 48kg
- Size: 540 x 270 x 590 mm
- Input Voltage Range: 160-275V AC
- Nominal Input Voltage: 220V/230V/240V/110V/120V AC
- Input Frequency: 45-65Hz

- Nominal Output Voltage: 220V/230V/240V/110V/120V AC
- Output Voltage Range (Normal Mode): 220V/230V/240V/110V/120V AC  $\pm 10\%$
- Output Voltage Range (Battery Mode): 220V/230V/240V/110V/120V AC  $\pm 10\%$  (Modified Sine Wave)

### **Generator (1)**

- 33kVA Standby Power / 3-Phase
- 30kVA Prime Power / 3-Phase
- Cat C3.3 Inline 4-stroke diesel engine
- Alternator: High-efficiency, 400V, 3-phase alternator
- Fuel consumption, Prime Power
- Optional: Bunded tanks, Coolant heater, Battery charger

### **LOT 5 - Furniture**

#### **Ergonomic Desks (4)**

- Ergonomic design suitable for NOC operations
- Adjustable ergonomic chairs suitable for extended use

### **LOT 6 - Security**

#### **CCTV Cameras (8)**

- Full HD 2MP Dome Network Camera with Built-in Mic
- 98ft Night Vision
- IP67 & IK10 PoE Network Camera
- Varifocal 2.8-12mm Lens

#### **CCTV Camera Hub (1)**

- 8 Gigabit RJ45 Ports
- 1 x SFP, 1 x SFP+ Port
- 10 WAN Ports
- Highly Secure VPN, Support IPsec/GRE/L2TP/PPTP VPN
- 16 Channel PoE Kit
- 98ft Night Vision
- Pre-installed 4TB HDD
- Without Network Cables

#### **Biometric Entry Access System (3)**

- Advanced biometric access control system to secure entry points

## **LOT 7 - Video Conference**

### **Video Conference System (2)**

- Ultra HD 4K Video Conference Camera for Small & Midsize Rooms
- AI Tracking & 121° Wide Angle
- All-in-one USB/Audio Conference Camera and needed telephony
- 55" High Resolution Display HDMI: 2 HDMI 1.4 inputs, 1 HDMI 1.4 output, Smart TV with wireless internet connection capability.

## **3. Eligibility Criteria**

- Valid business registration and tax clearance certificates
- Proven track record of supplying and installing similar equipment
- Relevant certifications and partnerships with OEMs
- Adequate financial capability
- Compliance with local and international standards

## **4. Evaluation Criteria**

- Compliance with technical specifications
- Cost effectiveness
- Supplier's experience and past performance
- Delivery timeline
- Warranty and support services

## **5. Bid Submission**

Bidders must submit their bids in sealed envelopes clearly marked with the tender reference and the lot number in person or via courier to:

**WACREN**  
**VCG Office Complex**  
**IPS Road**  
**Accra – Ghana**  
**Tel.: +233 302942873**

The bid must include:

- Technical proposal
- Financial proposal
- Company profile and relevant certifications
- Delivery timeline
- Warranty details

## 6. Contact Information

For any inquiries or further details, please contact: [Procurement@wacren.net](mailto:Procurement@wacren.net), copying [NOC@wacren.net](mailto:NOC@wacren.net).

## 7. Terms and Conditions

Delivery location is Accra, Ghana.

Installation cost should be explicitly mentioned if applicable.

Total cost should include all applicable taxes.

The currencies to be used are Euro (€), US Dollar (US\$), Ghana Cedi (GHS) or FCFA (XOF)

WACREN reserves the right to accept or reject any bid and to annul the bidding process at any time, without incurring any liability to the affected bidder(s).

Please ensure all submissions meet the specified criteria and are delivered by the submission deadline. We look forward to receiving your bid. Thank you.