



ASTI-FM 03-11  
REV 1/13 January 2020

**DOST-ASTI Bids and Awards Committee  
Invitation to Bid (Public Bidding)**

<b>ITB No:</b>	22-04-3813	<b>Date:</b>	April-25-2022
<b>PR No:</b>	GAA-22-04-13523	<b>Date:</b>	April-07-2022
<b>Source of Funds:</b>			
<b>Total ABC:</b>	Php 4,443,769.00		
<b>Time, Date &amp; Venue of Pre-bid Conference:</b>	May 11, 2022, 9:00 AM at Via videoconferencing		
<b>Time and Date of Submission of Bids:</b>	May 23, 2022, 09:00 AM		
<b>Time, Date &amp; Venue of Opening Bids:</b>	May 23, 2022, 9:30 AM at DOST-ASTI and Videoconferencing		
<b>Date of availability of Complete Set of Documents:</b>	May 03, 2022		
<b>Deadline of Potential Bidder's Clarifications:</b>	May 13, 2022		
<b>Deadline of ASTI's Supplemental Bid Bulletin:</b>	May 16, 2022		
<b>Delivery Schedule:</b>			

The Advanced Science and Technology Institute (ASTI), through its Bids and Awards Committee (BAC), hereby invites all interested bidders to submit their bids for the item(s) listed below. Guidelines regarding the format, eligibility, technical and financial documents needed are described in the Instruction to Bidders of the Philippine Bidding Documents

Bidding will be conducted through open competitive bidding procedures using a non discretionary "pass/fail" criterion as specified in the 2016 R-IRR of RA 9184.

A complete set of Bidding Documents may be purchased by interested bidders upon payment of a fee for the Bidding Documents. It is also downloadable for free of charge at DOST-ASTI's website - [www.asti.dost.gov.ph](http://www.asti.dost.gov.ph)

For further inquiries, contact ASTI's BAC Secretariat via email at [bac-sec@asti.dost.gov.ph](mailto:bac-sec@asti.dost.gov.ph). Interested bidders may also call the number - (632)-426-7423 and look for ASTI's BAC Secretariat.

Respectfully,

**BAYANI BENJAMIN R. LARA**  
BAC Chairperson

NO.	TECHNICAL SPECIFICATIONS	QTY	UNIT	UNIT PRICE(Php)	TOTAL PRICE(Php)
1	<p><b>Network Router</b> Supply and delivery of Network Router</p> <p>1. General Statement / Background / Objectives: 1.1. The Advanced Science and Technology Institute (herein referred as to the "Institute") is seeking qualified and competent bidders for the supply and delivery of network router to be use as a core router for the regional network operations segment of PREGINET. 1.2. The approved budget for the contract is inclusive of all applicable government taxes and services charges. 1.3. The technical specifications indicated herein are minimum requirements, unless otherwise specified. 1.4. Quantity: One Lot (1) of Network Router</p> <p>2. Technical Specifications:</p>	1	lot	4443769.00	4,443,769.00

- 2.1. Hardware Specifications:
  - 2.1.1. With at least eight (8) x 1/10GbE SFP-based ports
  - 2.1.2. With at least two (2) x 1/10GbE dedicated high availability (HA) ports
  - 2.1.3. With one (1) x 1GbE dedicated Out-of-Band (OOB) management port
  - 2.1.4. With one (1) x console port
  - 2.1.5. With one (1) x USB2.0 (type A) port
  - 2.1.6. 64GB system memory
  - 2.1.7. 240GB 1+1 RAID storage
  - 2.1.8. Redundant power supplies
  - 2.1.9. Supports both AC and DC power supplies
  - 2.1.10. 1 RU form factor
  - 2.1.11. Airflow/cooling: Front to back
- 2.2. The proposed device must support the following performance and capacity:
  - 2.2.1. Throughput Performance:
    - 2.2.1.1. 1518B packet size firewall performance: up to 80 Gbps
    - 2.2.1.2. Internet Mix (IMIX) packet size firewall performance up to 40 Gbps
    - 2.2.1.3. Internet Mix (IMIX) packet size IPSEC VPN: up to 9.5 Gbps
    - 2.2.1.4. 44KB packet size HTTP application visibility and control: up to 55Gbps
    - 2.2.1.5. 44KB packet size HTTP IDP: up to 30Gbps
    - 2.2.1.6. 44KB packet size HTTP application FW, IPS and URL filtering: up to 19Gbps
  - 2.2.2. System Capacity:
    - 2.2.2.1. Routing table size: up to 2 million entries
    - 2.2.2.2. Forwarding table size: up to 1 million entries
    - 2.2.2.3. Concurrent sessions: up to 10,000,000
    - 2.2.2.4. Connection Per Second: up to 500,000
    - 2.2.2.5. Security Policies: up to 60,000
    - 2.2.2.6. IPSEC VPN tunnels: up to 7,500
    - 2.2.2.7. Number of remote access VPNs: up to 7,500
    - 2.2.2.8. Tenant System: up to 200
- 2.3. The proposed device must support the following routing protocols:
  - 2.3.1. IPv4 and IPv6 routing
  - 2.3.2. Static Route
  - 2.3.3. RIP v1/v2
  - 2.3.4. OSPF and OSPF v3
  - 2.3.5. BGP with route reflection
  - 2.3.6. IS-IS
  - 2.3.7. Encapsulation: -
    - 2.3.7.1. VLAN (Virtual LAN)
    - 2.3.7.2. Point-to-Point Protocol over Ethernet (PPPoE)
  - 2.3.8. Virtual Router
  - 2.3.9. Policy-Based Routing
  - 2.3.10. Equal-Cost Multipath (ECMP)
- 2.4. The proposed device support the following advanced routing features:
  - 2.4.1. MPLS LDP
  - 2.4.2. MPLS RSVP
  - 2.4.3. MPLS traffic engineering
  - 2.4.4. MPLS fast reroute
  - 2.4.5. Circuit Cross-Connect (CCC)
  - 2.4.6. Translation Cross-Connect (TCC)
  - 2.4.7. MPLS L2VPN

- 2.4.8. MPLS L3VPN
- 2.4.9. Virtual Private LAN Service (VPLS)
- 2.4.10. Next-Generation Multicast VPN (NG-MVPN)
- 2.4.11. Routing License must be included
- 2.5. The proposed device must support the following HA features:
  - 2.5.1. Virtual Router Redundancy Protocol (VRRP)
    - 2.5.1.1. Stateful High Availability / clustering
      - 2.5.1.1.1. Active-Passive Cluster
      - 2.5.1.1.2. Active-Active Cluster
      - 2.5.1.1.3. Cluster-wide configuration synchronization
      - 2.5.1.1.4. Cluster-wide firewall session synchronization
      - 2.5.1.1.5. Device failure detection and failover
      - 2.5.1.1.6. Interface failure detection and failover
- 2.6. Software Features and Performance:
  - 2.6.1. The proposed device must support the following firewall features:
    - 2.6.1.1. Stateful and stateless firewall
    - 2.6.1.2. Zone-based firewall
    - 2.6.1.3. Screens and Distributed Denial of Service (DDoS) protection
    - 2.6.1.4. Protection from protocol and traffic anomalies
    - 2.6.1.5. User role-based firewall
    - 2.6.1.6. SSL inspection
  - 2.6.2. The proposed device must support the following Network Address Translation (NAT) features:
    - 2.6.2.1. Source NAT with Port Address Translation (PAT)
    - 2.6.2.2. Bidirectional 1:1 static NAT
    - 2.6.2.3. Destination NAT with PAT
    - 2.6.2.4. Persistent NAT
    - 2.6.2.5. IPv6 address translation
  - 2.6.3. The proposed device must support the following Virtual Private Network (VPN) features:
    - 2.6.3.1. Tunnels:
      - 2.6.3.1.1. Site to Site, Hub and Spoke, Dynamic Endpoint , AutoVPN, ADVPN, Group VPN (IPv4/IPv6/Dual Stack)
      - 2.6.3.1.2. IPSEC remote access VPN
      - 2.6.3.1.3. SSL remote access VPN
    - 2.6.3.2. IKE encryption algorithms:
      - 2.6.3.2.1. AES-128-CBC, AES-128-GCM, AES-192-CBC, AES-256-CBC, AES-256-GCM
    - 2.6.3.3. IKE authentication algorithms:
      - 2.6.3.3.1. SHA-256, SHA-384, SHA-512
      - 2.6.3.3.2. IPSEC: Authentication Header (AH) / Encapsulation Security Payload (ESP)
    - 2.6.3.4. IPSEC authentication algorithms:
      - 2.6.3.4.1. HMAC-MD5-96, HMAC-SHA1-96, HMAC-SHA-256-128, HMAC-SHA-384, HMAC-SHA-512
    - 2.6.3.5. IPSEC encryption algorithms:
      - 2.6.3.5.1. AES-128-CBC, AES-128-GCM, AES-102-CBC, AES-192-GCM, AES-256-CBC, AES-256-GCM
    - 2.6.3.6. Authentication:
      - 2.6.3.6.1. Pre-shared key
      - 2.6.3.6.2. Public Key Infrastructure
    - 2.6.3.7. VPN Monitor:
      - 2.6.3.7.1. Dead Peer Detection

- 2.6.3.7.2. VPN Monitoring
- 2.6.3.8. VPN Types:
  - 2.6.3.8.1. GRE, IPSEC, GRE over IPSEC MPLS over GRE over IPSEC, IP-IP
- 2.7. The proposed device must support the following threat defense and intelligence services:
  - 2.7.1. Intrusion Detection and Prevention (IDP)
  - 2.7.2. ICMP flood protection
  - 2.7.3. ICMP fragment protection
  - 2.7.4. Large size ICMP packet protection
  - 2.7.5. IP Address Spoof
  - 2.7.6. IP Address Sweep
  - 2.7.7. IP record route option
  - 2.7.8. Land Attack Protection
  - 2.7.9. Port Scan
  - 2.7.10. SYN flood protection
  - 2.7.11. SYN fragment protection
  - 2.7.12. SYN and FIN flags set protection
  - 2.7.13. SYN-ACK-ACK proxy protection
  - 2.7.14. UDP flood protection
  - 2.7.15. Unknown protocol protection – ID number of 137 or greater
  - 2.7.16. IDP bad IP options
  - 2.7.17. IDP custom attack objects
  - 2.7.18. IDP custom signature
  - 2.7.19. IDP packet capture
  - 2.7.20. IDP QoS enforcement
  - 2.7.21. Support inline blocking
  - 2.7.22. Support file blocking with unknown verdict
  - 2.7.23. Support user notification
  - 2.7.24. Support up to 32MB max file size
- 2.8. The proposed device must support the following layer 2 features:
  - 2.8.1. MAC address learning
  - 2.8.2. VLAN addressing
  - 2.8.3. Integrated Routing and Bridging (IRB) / Routed VLAN Interface (RVI) support
  - 2.8.4. Link Aggregation and LACP
- 2.9. Supports the following management features:
  - 2.9.1. Provisioning for addition of configuration and monitoring of interface
  - 2.9.2. The device must be able to support comparison of current edited configuration without system reboot (must be able to save the last 50 committed configuration, including the rollback number, date, time, and the name of the user who issued the commit configuration)
  - 2.9.3. By entering a configuration command into the device, the particular feature must not be activated immediately.
  - 2.9.4. The device must be able to support configuration rollback without system by entering a configuration command into the device.
  - 2.9.5. The device must support temporarily activate edited configuration and the control and forwarding planes must be separated
  - 2.9.6. The device must support off-box automation tools such as Python
  - 2.9.7. The device must support on-box automation tools such as SLAX and XSLT
  - 2.9.8. OS configuration rescue and rollback, image

- rollback
- 2.9.9. Wildcard-based configuration groups and inheritance model
- 2.10. Certification:
  - 2.10.1. Safety:
    - 2.10.1.1. CAN/CSA C22.2 No. 60950-1-07, 2nd Edition, 2014-10
    - 2.10.1.2. EN 60950-1:2006 + A11:2009 + A1:2010 + A12:2011 + A2:2013
    - 2.10.1.3. EN 60825-1 Safety of Laser Products - Part 1: Equipment Classification, Requirements and User's Guide
    - 2.10.1.4. EN 60825-2 Safety of Laser Products - Part 2: Safety of Optical Fiber Communication Systems
    - 2.10.1.5. UL 60950-1, 2nd Edition, 2014-10-14
    - 2.10.1.6. CAN/CSA C22.2 No. 62368-1-14
    - 2.10.1.7. EN 62368-1: 2014+A11: 2017
    - 2.10.1.8. UL 62368-1: 2014
    - 2.10.1.9. IEC 62368-1:2014 (Second Edition)
    - 2.10.1.10. IEC 60950-1:2005 (Second Edition); Am1:2009 + Am2:2013
    - 2.10.1.11. CE
  - 2.10.2. EMC
    - 2.10.2.1. FCC Part 15 Class A (2007) USA Radiated Emissions
    - 2.10.2.2. EN 55022 Class A (2006) European Radiated Emissions
    - 2.10.2.3. VCCI Class A (2007) Japanese Radiated Emissions
    - 2.10.2.4. FCC 47CFR , Part 15 Class A (2009) USA Radiated Emissions
    - 2.10.2.5. BSMI Class A (Taiwan)
    - 2.10.2.6. EN 300 386 V1.3.3 (2005) Telecom Network Equipment— EMC requirements
    - 2.10.2.7. ICES-003 Class A
    - 2.10.2.8. AS/NZS CISPR 22 Class A
    - 2.10.2.9. CISPR 22 Class A
  - 2.10.3. Immunity
    - 2.10.3.1. EN-61000-3-2 Power Line Harmonics
    - 2.10.3.2. EN-61000-3-3 Voltage Fluctuations and Flicker
    - 2.10.3.3. EN-61000-4-2 ESD
    - 2.10.3.4. EN-61000-4-3 Radiated Immunity
    - 2.10.3.5. EN-61000-4-4 EFT
    - 2.10.3.6. EN-61000-4-5 Surge
    - 2.10.3.7. EN-61000-4-6 Conducted Immunity
    - 2.10.3.8. EN-61000-4-11 Voltage Dips and Sags
    - 2.10.3.9. EN 55024 +A1+A2 (1998) Information Technology
    - 2.10.3.10. 1KV / 2KV surge required (no 4KV / DT)
  - 2.10.4. ROHS
    - 2.10.4.1. Reduction of Hazardous Substances (ROHS) 6
  - 2.10.5. Telco
    - 2.10.5.1. Common Language Equipment Identifier (CLEI) code
- 3. Accessories:
  - 3.1. Manufacturer's mounting kit
  - 3.2. Two (2) C13 power cables rated for 220V
  - 3.3. Documentation manual
- 4. Technical Support Service (Aftersales)

#### 4.1. Service Request

4.1.1. End-user must be able to request technical support by phone or email or through a website

4.1.2. Onsite technical support may be requested for special cases or critical severity issues

#### 4.2. Response Time

4.2.1. Technical support service must be available nine (9) hours per day. Monday to Friday (including holidays), during business hours, 9:00 AM – 6:00 PM Philippine Standard Time (UTC+8) and must respond:

4.2.2. Four (4) business hours, and updates every three (3) business days for critical severity issues that impact a high number of staff

4.2.3. Eight (8) business hours, and updates every five (5) business days for high severity issues that incur serious degradation to application performance or functionality

4.2.4. Twenty-Four (24) business hours, and updates by request for medium severity issues that moderately impact user operations

4.2.5. Forty-Eight (48) business hours, and updates by request for low priority issues such as inquiries or issues with limited impact to user operations

#### 5. Other Documentary Requirements

5.1.1. The supplier/retailer/manufacturer of the equipment must possess ISO certification (or any equivalent certification) that guarantees that their production process is governed by quality measurement practices. The bidder must submit documentary proof of ISO certification of the offered brands issued by accredited registrars or any equivalent certification body.

5.1.2. The prospective bidder must supply a hardcopy certification signed by the original equipment manufacturer or its authorized Philippine distributor, authorizing the aforementioned to promote, distribute, sell, and provide post-sales technical support for the equipment

#### 6. Warranty Service

6.1. Coverage: Three (3) years manufacturer's warranty

6.2. Shall also include onsite services, parts and labor

6.3. The obligation for warranty shall be submitted upon delivery. It shall be covered by either retention money in an amount equivalent to at least five percent (5%) of every progress payment, or a special bank guarantee equivalent to at least five percent (5%) of the total contract price.

#### 7. Delivery Terms

7.1. Delivery of the Network Router shall be made by the Supplier within Ninety (90) calendar days upon issuance on Notice to Proceed (NTP).

7.2. Payment shall be processed only upon certification/acceptance by the End-User to the effect that the Network Equipment have been delivered in accordance with the terms of this contract and have been duly inspected. No payment shall be made for services not yet rendered or for Goods, supplies, and materials not yet delivered under this contract.

7.3. Other Delivery terms: With Seven (7) working days testing period to check for manufacturers defect

before the acceptance.

**TOTAL APPROVED BUDGET FOR THE CONTRACT (ABC):**

**Php 4,443,769.00**

**RESERVATION CLAUSE**

The Advanced Science and Technology Institute reserves the right to accept or reject any proposal, to annul the bidding process, and to reject all proposals at any time prior to contract award, without thereby incurring any liability to the affected proponent or proponents.