ASTI – FM 03-17
REV 2 / 31 January 2020

PURCHASE ORDER

Supplier:	**Microdata Systems & Management, Inc.**	**PO No.:**	**NetMesh-21-12-001**
Address:	**Crystal Bldg., 199 C.M. Recto cor. A. Mabini St. San Juan City**	**PO Date:**	**December 22, 2021**
TIN:	**000-132-948-000**	**Mode of Procurement:**	**Competitive Bidding**

Gentleman:

Please furnish this Office the following articles subject to the terms and conditions contained herein:

Place of Delivery:	**ASTI Bldg., C.P. Garcia Ave., U.P. Technology Park Complex, U.P. Campus, Diliman, Quezon City 1101**	**Delivery Term:**	**Ninety (90) calendar days upon issuance of NTP**
Date of Delivery:		**Payment Term:**	**Government Terms**
		Warranty Term:	

Stock / Property No.	Unit	Description	Quantity	Unit Cost	Amount
1	**Unit**	**Router - charged to NTC Region 3** Supply, Delivery, and Testing of Router Unit 1. BACKGROUND AND OBJECTIVES: 1.1. The Advanced Science and Technology Institute is seeking qualified and competent bidders for the supply and delivery of Border Router. 1.2. The approved budget for the contract is inclusive of all applicable government taxes and services charges. 1.3. This Border Router will serve as the main border router and an upgrade to the core network. This device will handle connection from uplink providers and as transit for a Wide Area Network with an interface speed of 100Gbps. 1.4. The technical specifications indicated herein are minimum requirements unless otherwise specified. 1.5. One (1) Unit of Router 2. TECHNICAL SPECIFICATIONS: 2.1. Hardware Summary: 2.1.1. Form Factor: 2 RU 2.1.2. Redundant AC Power Supply Unit with C13 power cables rated for 220v/30A 2.1.3. Supplier warranty for 1 year 2.1.4. Switching: 120Gbps 2.2. Integrated Route Switch Processor 2.2.1. High-capacity full-duplex integrated dual switch fabric 2.2.2. Processor: 4 cores, 2.4Ghz Intel CPU or equivalent 2.2.3. 32-GB ECC-protected DRAM 2.2.4. Memory external: USB 2.0 Type A receptacle 2.2.5. Timing: Two independent clock source connections 2.2.6. Ports: 42 integrated ports (16x1G, 24x1/10G (Dual Rate),2x100G ports) 2.2.7. Included transceivers 4x10GESFP+ LR and 10 x 1GE SFP LX/LH 2.3. Management 2.3.1. Two (2) 100/1000 BASE-T (RJ-45) LAN management ports 2.3.2. One console port	**1**	**₱4,379,949.00**	**₱4,379,949.00**

		2.3.3. One auxiliary port 2.4. Environmental Specifications: 2.4.1. Operating Temperature: 41Degrees to 104 Degrees Fahrenheit (5 Degrees to 40 Degrees Celsius) 2.4.2. Storage Temperature: -40 to 167 Degrees Fahrenheit (-40 to 75 Degrees Celsius) 2.4.3. Relative Humidity: 10 to 85%, noncondensing 2.4.4. Airflow: Front to Back 2.5. Power: 2.5.1. Worldwide ranging AC (90-265V; 50-60 Hz) 2.5.2. Worldwide ranging DC (-40V to -72V) 2.5.3. Power consumption: 850 watts typical, 1100 watts maximum 2.6. Compliance: 2.6.1. Network Equipment Building Standards (NEBS): 2.6.1.1. SR-3580: NEBS Criteria Levels (Level 3) 2.6.1.2. GR-1089-CORE: NEBS EMC and Safety 2.6.1.3. GR-63-CORE: NEBS Physical Protection 2.6.1.4. VZ.TPR.9205: Verizon TEEER 2.6.2. ETSI: 2.6.2.1. EN300 386: Telecommunications Network Equipment (EMC) 2.6.2.2. ETSI 300 019 Storage Class 1.1 2.6.2.3. ETSI 300 019 Transportation Class 2.3 2.6.2.4. ETSI 300 019 Stationary Use Class 3.1 2.6.2.5. EN55022: Information Technology Equipment (Emissions) 2.6.2.6. EN55024: Information Technology Equipment (Immunity) 2.6.2.7. EN50082-1/EN-61000-6-1: Generic Immunity Standard 2.6.3. EMC: 2.6.3.1. FCC Class A 2.6.3.2. ICES 003 Class A 2.6.3.3. AS/NZS 3548 Class A 2.6.3.4. CISPR 22 (EN55022) Class A 2.6.3.5. VCCI Class A 2.6.3.6. BSMI Class A 2.6.3.7. IEC/EN 61000-3-2: Power Line Harmonics 2.6.3.8. IEC/EN 61000-3-3: Voltage Fluctuations and Flicker 2.6.3.9. EN 50121-4: Railway EMC 2.7. Software Features: 2.7.1. Layer 3 Routing: 2.7.1.1. IPv4 Routing (BGP, Intermediate System-to-Intermediate System [IS-IS], and Open Shortest Path First [OSPF]), Hot Standby Router Protocol (HSRP), Virtual Router Redundancy Protocol (VRRP), and IPv6 routing (OSPF v3 and ISIS) 2.7.1.2. MPLS: 2.7.1.3. Label Distribution Protocol (LDP), Targeted LDP (T-LDP), Resource Reservation Protocol (RSVP), Differentiated Services (DiffServ)-aware traffic engineering, MPLS L3VPN (including Carrier Supporting Carrier [CSC]), IPv6 Provider Edge and IPv6 VPN to Provider Edge 2.7.1.4. MPLS Traffic Engineering (including TE-FRR) 2.7.1.5. MPLS TE Preferred Path 2.7.1.6. More than 3 million queues per system Class-Based Weighted Fair Queuing (CBWFQ) 2.7.1.7. Weighted Random Early Detection (WRED) 2.7.1.8. Priority Queuing with propagation 2.7.1.9. 2-rate 3-color (2R3C) Policing 2.7.1.10. Modular QoS CLI (MQC) 2.7.1.11. 4-level H-QoS			

		2.7.2. Multicast: 2.7.2.1. IPv4 Multicast: 2.7.2.1.1. Source-based and shared distribution trees, Protocol Independent Multicast sparse mode (PIM-SX), PIM Source-Specific Multicast (PIM SSM), Automatic route processing (AutoRP), Multiprotocol BGP (MBGP), Multicast Virtual Private Network (MVPN), and Multicast Source Discovery Protocol (MSDP) 2.7.2.1.2. Internet Group Management Protocol Versions 2 and 3 (IGMPv2 and v3) 2.7.2.1.3. IGMPv2 and v3 snooping 2.8. Security: 2.8.1. ACLs; control-plane protection; routing authentications; authentication, authorization, and accounting (AAA) and TACACS+; Secure Shell (SSH) Protocol; SNMPv3; and leading RPL support 2.8.2. Layer 2 ACLs: Can be used to filter packets under an EVC based on MAC addresses 2.8.3. Layer 3 ACLs: Provides ACL matching by IPv4 packet attributes 2.8.4. Security: Critical security features supported 2.8.5. 802.1ad Layer 2 Control Protocol (L2CP) and bridge-protocol-data-unit (BPDU) filtering 2.8.6. MAC limiting per EFP or bridge domain 2.8.7. Unicast, multicast, and broadcast storm-control blocking on any interface or port 2.8.8. Unknown Unicast Flood Blocking (UUFB) 2.8.9. Dynamic Host Configuration Protocol (DHCP) snooping 2.8.10. Unicast Reverse Path Forwarding (URPF) 2.8.11. Control-plane security 2.8.12. Dynamic ARP Inspection (DAI) 2.8.13. IP Source Guard (IPSG) 3. ACCESSORIES: 3.1. SFP: Four (4) x 10GBASE-LR 3.2. SFP: Ten (10) x 1000BASE-LX 3.3. Power Cable: Two (2) pcs. C13 power cables rated for 220v/30A 3.4. One (1) Manufacturer’s console cable 3.5. One (1) set Mounting Kit 4. AFTER SALES/TECHNICAL SUPPORT SERVICE 4.1. Technical support service must be available 9 hours per day. Monday to Friday (including holidays), during business hours, 9-6 PM Philippine Standard Time (UTC+8), and must respond: 4.1.1. 4 business hours, and updates every 3 business days for critical severity issues that impact a high number of staff 4.1.2. 8 business hours, and updates every 5 business days for high severity issues that incur serious degradation to application performance or functionality 4.1.3. 24 business hours 4.1.4. , and updates by request for medium severity issues that moderately impact user operations 4.1.5. 48 business hours, and updates by request for low priority issues such as inquiries or issues with limited impact to user operations 4.1.6. End-user must be able to request technical support by phone or email 4.1.7. Onsite technical support may be requested 4.1.8. on special cases or critical severity issues 5. DOCUMENTARY REQUIREMENTS 5.1. The manufacturer of the equipment must possess ISO certification (or any equivalent			

		certification) that guarantees that their production process is governed by quality management practices. The bidder must submit documentary proof of ISO certification of the offered brands issued by accredited registrars or any equivalent certification body. 5.2. 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. One (1) year manufacturer's warranty, parts, and labor 6.1.1. With Firmware upgrade support within the warranty period 6.1.2 With Security patches support within the warranty period 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. 6.4. The Server must be shipped with a 30-calendar day return for an advanced replacement on DOA parts and components, and a 3-year limited warranty that covers defects in materials and workmanship. 7. PAYMENT AND DELIVERY TERMS 7.1. Delivery of the Router shall be made by the supplier within Ninety (90) calendar days upon issuance of Notice to Proceed (NTP) 7.2. Payment shall be made only upon certification/acceptance by the End-user to the effect that the Goods have been delivered in accordance with the terms of this contract and have been duly inspected and accepted. 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) days testing period to check for manufacturers defect before the acceptance. *(Please see attached offer.)*			
				TOTAL:	**₱4,379,949.00**
(Total Amount in Words)		**Four Million Three Hundred Seventy Nine Thousand Nine Hundred Forty Nine Pesos Only**			

The contract price is inclusive of taxes and other fees or charges. In case of failure to make the full delivery within the time specified above, a penalty of one-tenth (1/10) of one percent for every day of delay shall be imposed on the undelivered item/s. Once the cumulative amount of liquidated damages reaches ten percent (10%) of the amount of the contract, DOST-ASTI may rescind or terminate the contract, without prejudice to other courses of action and remedies available under the circumstances and in accordance with the provisions of the latest implementing rules and regulations of RA 9184.

Conforme:

(Signature over Printed Name of Supplier)

(Date)

Very Truly Yours

Digitally signed by De Leon Franz Asunta

FRANZ A. DE LEON, Ph.D.

Director, DOST-ASTI

Digitally signed by Gubs Date: 2021.12.23 18:16:13 +08'00'

Fund Cluster:	07	ORS / BURS No.:	073086012021-12-000242
		ORS / BURS Date:	December 23, 2021
Funds Available:	PHP 4,379,949.00	Amount:	₱ 4,379,949.00

Digitally signed by Gay Concepcion S. Bugagao

GAY CONCEPCION S. BUGAGAO

Accountant III