



Republic of the Philippines  
Department of Science and Technology

**ADVANCED SCIENCE AND TECHNOLOGY INSTITUTE**



ASTI-FM 03-11  
REV 0/2 APR 2018

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

<b>ITB No:</b>	18-08-1991	<b>Date:</b>	August-03-2018
<b>PR No:</b>	DATOS-18-08-6193	<b>Date:</b>	August-03-2018
<b>Source of Funds:</b>	Remote Sensing and Data Science: DATOS Help Desk		
<b>Total ABC:</b>	Php 20,000,000.00		
<b>Time, Date &amp; Venue of Pre-bid Conference:</b>	August 20, 2018, 1:30 PM at DOST-ASTI		
<b>Time and Date of Submission of Bids:</b>	September 03, 2018, 12:00 PM		
<b>Time, Date &amp; Venue of Opening Bids:</b>	September 03, 2018, 1:30 PM at DOST-ASTI		
<b>Date of availability of Complete Set of Documents:</b>	August 10, 2018		
<b>Deadline of Potential Bidder's Clarifications:</b>	August 24, 2018		
<b>Deadline of ASTI's Supplemental Bid Bulletin:</b>	August 28, 2018		
<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,  
  
**Pedrito B. Mangahas**  
BAC Chairman

NO.	TECHNICAL SPECIFICATIONS	QTY	UNIT	UNIT PRICE(Php)	TOTAL PRICE(Php)
1	<p><b>Storage Server</b> Scope: Supply, Delivery, Installation and Configuration</p> <p>BLADE SERVER ( 10 Units)</p> <p>1) At least 2 x 2.4GHz, 14-core Intel processor, 35M L3 cache</p> <p>2) At least 128 GB total DDR4 RDIMM memory, 2400MT/s in 24 DIMMS slots</p> <p>3) 2 x 2.5" 600GB 10k RPM SAS, 128MB or above</p> <p>4) Must support RAID 0, 1</p> <p>5) 4x 10GE ports</p> <p>6) Must provide at least one PCIe slot</p> <p>7) Supports integrated system management:</p> <ul style="list-style-type: none"> <li>● Automatically restarts servers</li> <li>● Monitors and controls fan modules, power supplies and temperature</li> <li>● Starts and shuts down servers</li> <li>● Restarts servers in sequence</li> </ul>	1	lot	20000000.00	20,000,000.00

- Updates local firmware
  - Records error logs
- 8) Provides GUIs for management and other advanced management functions.
  - 9) Provides independent remote management and control ports and GUIs for remote monitoring to implement remote full control over servers independent of OSs. Remote full control includes remote startup, shutdown, and reset, and virtual floppy and DVD-ROM drives.
  - 10) Warranty Period: 3 years, 24x7x4H (4 hours response time)

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#### SERVER CHASSIS (1 unit)

- 1) At least support 16 units blade in single chassis
- 2) At least support 4 units switch module
- 3) At least provide redundant 10GE switch modules, and each switch module provides at least 16 x 10GE uplink ports with 8 unit transceivers
- 4) Provides a built-in touch LCD and LCD function description document for users to configure and maintain basic parameters (Optional)
- 5) Provides redundant hot-swappable management modules. Users can access, manage, and diagnose faults for hardware devices in the blade server architecture locally or remotely using the virtual media and remote KVM.
- 6) Provides hot-swappable, AC PSUs, with N+N redundancy
- 7) Provides at least 10 units redundant hot-swappable fan modules
- 8) Warranty Period: 3 years, 24x7x4H (4 hours response time)

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#### VIRTUALIZATION PLATFORM (1 unit)

- 1) Provides necessary license for blades server in this project
- 2) Provides at least 3 years subscription and support
- 3) Support VM high availability (HA), independent of management modules. If a VM breaks down due to a server hardware fault or runs improperly due to its OS fault, the virtualization platform must be capable of automatically starting the VM on another properly running server to restore the VM services
- 4) Support the capabilities of creating a VM using an open virtualization format (OVF) template and exporting a VM as an OVF template.
- 5) Support secure VM volume deletion that allows users to thoroughly delete all bits of a VM volume, thereby preventing a deleted VM volume from being restored for malicious purposes.
- 6) Support the network interface card (NIC) passthrough function, which enables a NIC to be associated with a specified VM or enables a VM to exclusively use a NIC to meet high bandwidth requirements.
- 7) Supporting VM operations with the following requirements:
  - Power on/off/recycle;
  - Reboot/shutdown;
  - Non-disruptive migration to other nodes in cluster

● Remote console;

8)Warranty Period: 3 years, 24x7x4H (4 hours response time)

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UNIFIED STORAGE (1 unit)

- 1) Provide SAN + NAS unified storage.
- 2) Provide active-active storage controller integrating SAN and NAS protocol without additional gateway
- 3) Provide at least 128G cache
- 4) Provide 8 x 10G ports for each controller
- 5) Supports 8G Fibre Channel, 1G iSCSI, 10G iSCSI, 10G FCoE ports, 16G Fibre Channel ports, 56G InfiniBand
- 6) Provide 12 Gbit/s SAS 3.0 back-end disk channel.
- 7) Provide at least 12 x 900G SSD SAS disk.
- 8) Provide at least 120 x 6TB NL-SAS disk.
- 9) Should support RAID 0, 1, 3 (optional), 5, 6, 10, and 50.
- 10) The maximum number of supported disk slots should be at least 730.
- 11) Provide thin provisioning to allocate resource on demand, realize zero detection, and reclaim space that has been deleted to improve space utilization.
- 12) Provide automatic storage Tier feature for different type of disk.
- 13) Provide Snapshots feature
- 14) Provide Clone feature
- 15) Provide Copy feature
- 16) Redundant power modules, fan modules, controllers, and caches under the power failure protection
- 17) Hot swappable disks, power modules, and I/O modules
- 18) Must provide graphical management software with comprehensive functions. Storage array and volume management software should be included.
- 19) Warranty Period: 3 years, 24x7x4H (4 hours response time)

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TOR DATA CENTER SWITCH (2 units)

- 1) Hardware Architecture
  - The equipment must support switching capacity of 640Gbps.
  - The equipment must support 28-port 10GE SFP+ and 2-port 40GE QSFP+ ;
  - The equipment must support a buffer size of larger than or equal to 9MB
  - The equipment must support front-to-rear ventilation channel.
- 2) Layer 2 features
  - The equipment must support Max 64K MAC address tables.
  - Indicate if the "VLAN Mapping" feature is supported.
  - The equipment must support the IEEE 802.1ad (Q-in-Q) standard
  - The equipment must support MUX VLAN or equivalent
  - The equipment must support STP/RSTP/MSTP. It must support 64 MSTP instances.
  - The equipment must support ERPS.
- 3) Quality of Service

- The equipment must support Quality-of-Service (QoS).

- The equipment must support egress traffic shaping.

- Any port must support at least 8 output queues.

- The equipment must support congestion management.

- The equipment must support flexible flow classification (802.1p, DSCP etc).

#### 4) Security

- The equipment must support the DAI (Dynamic ARP Inspection) feature

- The equipment must support DHCP Snooping feature

- The equipment must support the IP Source Guard feature

- The equipment must implement control plane protection.

- The equipment must support AAA including RADIUS and TACACS+.

#### 5) Availability

- The equipment must support power supply redundancy.

- The equipment must support Multi-chassis LAG for redundancy.

- The equipment must support fan redundancy.

#### 6) Operation and Maintenance

- The equipment must support SNMP v1, v2c and v3. The supplier must detail all supported MIBs.

- The equipment must support SYSLOG.

- The supplier must support management via CLI and NETCONF.

- The equipment must be able to synchronize its clock via NTP.

#### 7) Data Center Features

- The equipment must support 16 physical switches clustered as one logical switch for simple management.

- The equipment must support PFC/ETS/DCBX

- The equipment must support FIP Snooping Bridge

8) Warranty Period: 3 years, 24x7x4H (4 hours response time)

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#### CONVERGED CABINET WITH PDU and UPS (1 unit)

1) Converged Cabinet should be 42U Standard Rack Enclosure

2) Static load should be 1500 kg

3) Dynamic load should be 1000 kg

4) Front door should be single-swing door and Rear door should be double-swing door

5) Standard width should be 19 inches

6) Protection level should be IP20

7) Supports both top and bottom cable routing.

8) UPS capacity should be 6KVA

9) UPS output power factor should be 0.9

10) UPS efficiency should be 94.5%

11) Battery power backup time should be at least 15mins

12) Provide smoke sensor, temperature and humidity module, water detector

13) Warranty Period: 3 years, 9x5xNBD

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Others

- 1) Specifications listed for each item above are implicitly implied to be minimum specifications. Bidders are encouraged to propose better specifications in their bids so long as it does not deviate too much from the intent of the original specification.
- 2) Vendor shall shoulder all costs and expenses related to the implementation phase of the project. These will include, but not limited to, taxes, fees, purchase of additional cables / connectors / accessories for the units to be deployed if there are any, data center improvements to accommodate the deployment if there are any, transportation / shipping, consultants' fees, etc.
- 3) The winning bidder is required to conduct a requirements analysis for the configuration of the whole setup within 15 calendar days after receipt of Notice to Proceed. The bidder must submit complete documentation of the entire work plan, resource (hw/sw) requirements, manpower requirements, network design, course syllabus (for knowledge transfer) etc.
- 4) The winning bidder is required to deliver, install and configure the items to an ASTI-designated data center within 15 calendar days after receipt of Notice to Proceed.
- 5) The winning bidder is required to conduct knowledge transfer for all of the items delivered for at most 10 people. The total number of training days should not exceed 10. All costs related to the training will be shouldered by the winning bidder. These include but not limited to, lease of venue, meals, transportation of participants to and from the training venue, trainer fees, etc. ASTI may, at its discretion, prefer to conduct the training in its office premises. In that case, the lease of venue may be waived. The training must be conducted at an agreed schedule with the end user.
- 6) At the end of the implementation phase, the winning bidder must submit a comprehensive documentation on the final setup. The documentation should include a network / logical diagram, configuration settings, and all manuals.
- 7) Progress payment is allowed based on the following deliverable:

Activity : Delivery, Installation and Configuration of Hardware / Software

Duration: Within Fifteen (15) Calendar days from Issuance of NTP

% Progress: 95%

Activity : Implementation

Duration: Within thirty (30) calendar days from Issuance of NTP.

% Progress: 2.0%

Activity : Knowledge Transfer

Duration: Within thirty (30) calendar days from implementation acceptance.

% Progress: 2% Activity :Documentation Duration: Within <sup>thirty</sup> <del>thirty</del> (10) calendar days from conduct of knowledge transfer % Progress: 1%				
<b>TOTAL APPROVED BUDGET FOR THE CONTRACT (ABC):</b>				<b>Php 20,000,000.00</b>
<b>RESERVATION CLAUSE</b>				
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.				