

## ***Section VII. Technical Specifications***

### **Notes for Preparing the Technical Specifications**

A set of precise and clear specifications is a prerequisite for Bidders to respond realistically and competitively to the requirements of the Procuring Entity without qualifying their Bids. In the context of Competitive Bidding, the specifications (*e.g.* production/delivery schedule, manpower requirements, and after-sales service/parts, descriptions of the lots or items) must be prepared to permit the widest possible competition and, at the same time, present a clear statement of the required standards of workmanship, materials, and performance of the goods and services to be procured. Only if this is done will the objectives of transparency, equity, efficiency, fairness, and economy in procurement be realized, responsiveness of bids be ensured, and the subsequent task of bid evaluation and post-qualification facilitated. The specifications should require that all items, materials and accessories to be included or incorporated in the goods be new, unused, and of the most recent or current models, and that they include or incorporate all recent improvements in design and materials unless otherwise provided in the Contract.

Samples of specifications from previous similar procurements are useful in this respect. The use of metric units is encouraged. Depending on the complexity of the goods and the repetitiveness of the type of procurement, it may be advantageous to standardize the General Technical Specifications and incorporate them in a separate subsection. The General Technical Specifications should cover all classes of workmanship, materials, and equipment commonly involved in manufacturing similar goods. Deletions or addenda should then adapt the General Technical Specifications to the particular procurement.

Care must be taken in drafting specifications to ensure that they are not restrictive. In the specification of standards for equipment, materials, and workmanship, recognized Philippine and international standards should be used as much as possible. Where other particular standards are used, whether national standards or other standards, the specifications should state that equipment, materials, and workmanship that meet other authoritative standards, and which ensure at least a substantially equal quality than the standards mentioned, will also be acceptable. The following clause may be inserted in the Special Conditions of Contract or the Technical Specifications.

#### **Sample Clause: Equivalency of Standards and Codes**

Wherever reference is made in the Technical Specifications to specific standards and codes to be met by the goods and materials to be furnished or tested, the provisions of the latest edition or revision of the relevant standards and codes shall apply, unless otherwise expressly stated in the Contract. Where such standards and codes are national or relate to a particular country or region, other authoritative standards that ensure substantial equivalence to the standards and codes specified will be acceptable.

Reference to brand name and catalogue number should be avoided as far as possible; where unavoidable they should always be followed by the words "*or at least equivalent.*" References to brand names cannot be used when the funding source is the GOP.

Where appropriate, drawings, including site plans as required, may be furnished by the Procuring Entity with the Bidding Documents. Similarly, the Supplier may be requested to provide drawings or samples either with its Bid or for prior review by the Procuring Entity during contract execution.

Bidders are also required, as part of the technical specifications, to complete their statement of compliance demonstrating how the items comply with the specification.

# Technical Specifications

Item No.	Specification	Statement of Compliance
		<p><i>[Bidders must state here either “Comply” or “Not Comply” against each of the individual parameters of each Specification stating the corresponding performance parameter of the equipment offered. Statements of “Comply” or “Not Comply” must be supported by evidence in a Bidders Bid and cross-referenced to that evidence. Evidence shall be in the form of manufacturer’s un-amended sales literature, unconditional statements of specification and compliance issued by the manufacturer, samples, independent test data etc., as appropriate. A statement that is not supported by evidence or is subsequently found to be contradicted by the evidence presented will render the Bid under evaluation liable for rejection. A statement either in the Bidder’s statement of compliance or the supporting evidence that is found to be false either during Bid evaluation, post-qualification or the execution of the Contract may be regarded as fraudulent and render the Bidder or supplier liable for prosecution subject to the applicable laws and issuances.]</i></p>
1.	<p><b>2-NODES GEN3 HYPER-CONVERGED INFRASTRUCTURE (HCI) WITH MANAGED SWITCH</b></p> <p>A. 2-NODE GEN3 HCI APPLIANCE:</p> <ul style="list-style-type: none"> <li>• FOR EACH NODE:           <ul style="list-style-type: none"> <li>- 2x CPUs (Intel Xeon Silver 4314 2.4GHz 16C/32T 135W)</li> <li>- 256GB RAM</li> <li>- 2x 240GB OS disks (Configured with RAID1)</li> <li>- 8x 8TB 7200RPM 3.5" SATA HDD (Enterprise).</li> <li>- 4x 1.9TB Enterprise Grade SSD (3D NAND TLC, 2.5", mixed-use, SATA 3.0 6Gbps)</li> <li>- 32 RAM Slots</li> <li>- 1x RAID Card</li> <li>- 12x 3.5in Disk Slots</li> <li>- 4x GE + 2x 10GE Network Interface Cards</li> </ul> </li> </ul>	



- 4x USB3 ports
  - 3x PCIE Slots with Pre-installed 1x PCIE NIC Card 2/4-Port 10GE NIC
  - Redundant Power Supply, 227W-900W Working Power
- HCI Accessories and Peripherals:
    - 8x 3m LC-LC Multimode Fiber Optic Cables
    - 8x SFP+ 10GE Multimode Optical Transceiver, for short-distance transmission (850nm, 300M).
    - 16x Premium Line Cat6 UTP, Slimline Patchcord, Blue
- 3-Year HCI Software License with functionalities including:
    - 4x Server Virtualization (HA, DRS, Automated Hot Add, Backup, Clone, Sub Administrator)
    - 4x Network Virtualization (Distributed Firewall, Drawable Topology, visualized network, aSwitch, aRouter, etc.)
    - 4x Storage Virtualization (2-3 Copies, SSD Read & Write Acceleration, Storage Tiering, Data Locality)
    - 3-year Software license subscription & upgrade, upgrade license included for 1 year, CTI technical support 7\*24 for 1 year.
- B. 2X MANAGED SWITCH:**
- 2 units managed Switch: 12x 100M/1000M/2.5GE/5GE/10GE electrical ports with auto-negotiation, 4x 10G/25G QSFP28 ports, support PoE/PoE+/PoE++ ,1 fixed AC power supply and 2 fixed fans.
- C. 1X RACKMOUNT UPS:**
- 1 unit UPS 3000VA/2700W Rackmounted with 6x AC Output (USB, RS232, EPO, and additional slots for optional cards, LED, LCD, and function keys (parameters: voltage, frequency, percentage load, battery voltage, output voltage, estimated uptime, UPS temperature).
- Integration Services:

	<ul style="list-style-type: none"> <li>- The new HCI infrastructure, consisting of two 2-node HCI servers, two management switches, a rackmount UPS, network cables, and necessary accessories (including licenses), will be seamlessly integrated with the existing HCI system to form a single, expanded infrastructure. This integration will involve merging network configurations and cabling to create a unified network with enhanced storage redundancy and optimized network and compute capabilities.</li> <li>• With In-Person Professional Training: <ul style="list-style-type: none"> <li>- Develop a training schedule approved by USTP-DTO.</li> <li>- Provide in-person, all-expense paid technical training at Cagayan de Oro City for 10 participants for 5 days.</li> <li>- Provide training materials and resources accessible to trainees.</li> </ul> </li> </ul>	
<p><b>***** Nothing Follows*****</b></p>		

**Additional Requirements:**

The technical specification that shall be submitted by the Bidder shall include, among others:

- a. *offered product specifications as supported by brochures or catalogues;*
- b. *certificate of 3-year subscription to HCI software licenses with patches and upgrades;*
- c. *certificate of 3-year warranty on HCI server and certificate of 1-year warranty on other hardware components with on-site repair and maintenance including provision of RTF option (Return-To-Factory);*
- d. *certificate of Technical Support for 1-year with HCI Solution must have direct local support in the Philippines;*
- e. *Provide a notarized affidavit of undertaking for after-sales support, ensuring commitment during the warranty and after the warranty period;*
- f. *Certificate as an authorized HCI Server reseller or partnership agreement from the manufacturer. This ensures the bidder has a direct relationship with the HCI manufacturer and access to technical support, resources, and genuine equipment;*
- g. *Certificate of Training center located within the Mindanao area. Having a local training center in Mindanao allows for easier access to training for USTP staff after installation;*
- h. *Certificate that HCI solution is from a reputable international brand with a local presence and a local depot of parts and supplies;*
- i. *Personnel with valid certifications and proof of employment. The specified certifications demonstrate the bidder's personnel possess the knowledge and skills necessary for a successful HCI implementation:*
  - i. *At least one (1) Certified Enterprise Network Professional.*
  - ii. *At least one (1) Secured Cloud Computing Practitioner.*
  - iii. *At least one (1) Certified Specialist in Data Center Core and Certified Specialist in Enterprise Advanced Infrastructure.*



- iv. *At least one (1) Certified Specialist in Enterprise Design.*
- v. *At least one (1) Trainer with Expert Level Instructor Certificate.*
- vi. *At least one (1) professional certification in either Cybersecurity Operations, Certified AppSec Practitioner, Certified Network Security Practitioner, Certified Computer Forensic Investigator in Microsoft, or Linux systems environment.*
- j. *bidder shall present a project organizational structure of the implementation team who shall liaise with USTP and shall implement and support the system 24/7. This document shall be notarized and include the names, contact numbers and proof of employment of the implementation team:*
  - i. *One (1) Project Manager.*
  - ii. *One (1) Technical Lead.*
  - iii. *Implementation Team: Composed of qualified engineers with experience in HCI deployments.*
  - iv. *Training Team: Led by a certified trainer with an Expert Level Instructor Certificate. Comprised of personnel with relevant HCI certifications (e.g., network security, storage) depending on the specific training modules offered.*
- k. *HCI Solution manufacturer/vendor must have Capability Maturity Model Integration (CMMI) Level 5 certified to ensure the maturity and long-term support of the HCI manufacturer/vendor.*
- l. *HCI Solution manufacturer/vendor is included in the Gartner Magic Quadrant for Hyper-converged Infrastructure to ensure long-term support.*
- m. *Experience in supplying and installing HCI systems.*

I hereby verify to comply with all the above requirements.

\_\_\_\_\_  
Signature over printed name of the authorized representative

\_\_\_\_\_  
Company name

\_\_\_\_\_  
Date