TERMS OF REFERENCE

PROJECT TITLE

Provision of Colocation Services for BTr Operations

DESCRIPTION

The project calls for the procurement of data center colocation services for the Bureau of the Treasury (BTr) computer operations, including the provision of Internet Access Service at the colocation site.

APPROVED BUDGET OF THE CONTRACT

The agency budget estimate for the project is **EIGHT HUNDRED THIRTY-THREE THOUSAND TWO HUNDRED FOURTY PESOS** (Php 833,240.00), inclusive of all applicable taxes.

IMPLEMENTATION START DATE AND DURATION OF THE CONTRACT

1. Implementation start date must be within 60 calendar days after Receipt of Notice to proceed or Purchase Order.
- 1.1. A "Certificate of Acceptance" shall be issued after the ten (10) working day testing period, provided that the following conditions are met:
  - 1.1.1. Completion of required tests of all hardware and software requirements of the project to ensure operationality of the facility.
  - 1.1.2. Average latency of the IAS should not exceed:
    - 1.1.2.1. 80milliseconds average round trip from BTr Site to ISP port
    - 1.1.2.2. 200milliseconds average round trip from ISP port to US/International port.
    - 1.1.2.3. Stable Internet service connection.

2. DURATION OF THE CONTRACT

- 2.1. Contract period shall be ten (10) months from the start date of service implementation.
  - 2.1.1. The effective start of the required service shall be based on the issuance of the Certificate of Acceptance by BTr-MISS.

SCOPE OF WORK AND TECHNICAL SPECIFICATIONS

Purchaser's Specifications	Supplier's Specification
The minimum requirement specified in this Scope of Work shall be complied with. Non-compliance with these requirements is a ground for disqualification. **3.** Colocation Services 3.1. Requirement 3.1.1. One (1) Full Rack with 20A rated Power 3.1.2. Copper Cross Connection 3.1.3. Other services required to ensure operationality of the collocated equipment. 3.2. Responsibilities: 3.2.1. BTr 3.2.1.1. Shall be responsible for the provision of servers, top of rack switches and security equipment necessary to securely run its applications. 3.2.1.2. Shall be responsible for the installation and configuration of servers and security equipment. 3.2.2. Service Provider 3.2.2.1. Shall be responsible for the installation and provision of cabling (up to the assigned rack) necessary to connect BTr servers to the Internet and other telecommunication lines. 3.2.2.2. Shall be responsible for the relocation of the BTr equipment in the event that the colocation facility was compromised at no cost. 3.3. Service Level Requirement 3.3.1. Provision of 24x7 support services. 3.3.2. Must provide a single point of contact for all technical issues. 3.3.3. Rebates as a result of downtimes or service disruption must be reflected on the following month billing. 3.3.4. Any maintenance service incurred during the contract period shall be at no cost to BTr. 3.3.5. BTr must be notified in 3 days advance for any scheduled maintenance activities or service interruption.	

3.3.6. Must submit a corresponding Service Level Agreement (SLA) document to include service level requirements with a corresponding "Performance Credit" or "Rebate" in favor of BTr should there be any disruption of service. 3.4. Colocation Environmental Requirements 3.4.1. Building Structure 3.4.1.1. Must be designed in accordance with the National Structure Code of the Philippines using the highest consideration for building construction, maximum security and safety. 3.4.1.2. Must be at least Seismic Zone 4 compliant, can withstand at least an Intensity 8 earthquake and should not be more than five (5) years old from the time it was built. 3.4.1.3. For diversity and alternative sites in the event that the client would require its data center (DC) to be extended over to an alternative location, the provider must have data centers located and operated across the country's major business hubs, like in Cebu and North Luzon. 3.4.1.4. The DC must be compliant to the DC Tier 3 Requirements. 3.4.1.5. The DC provider must be able to guarantee an SLA of at least 99.99% uptime. 3.4.1.6. The DC provider must be the owner of the facility and not a leased property. 3.4.1.7. The DC must be concurrently maintainable, allowing the ability to shut-down any particular electrical component for maintenance & testing without requiring that the critical load will be offline. 3.4.1.8. The DC must be able to withstand wind velocity considerations of 250kph. 3.4.1.9. The floor loading capacity must be at least 250psf. 3.4.2. Heating, Ventilation and Air-Conditioning (HVAC) 3.4.2.1. Must provide a minimum of N+1 configuration for major mechanical equipment such as pumps, cooling towers, and condensers. 3.4.2.2. Must provide a minimum of N+1 configuration for CRAC units.	

3.4.2.3. The CRACs must be located in separate rooms with separate entry and maintenance works from the server farm to lessen security risks to client equipment & data. 3.4.2.4. CRACs must have dual power supplies to eliminate a single point of failure. 3.4.3. Uninterruptible Power Supply 3.4.3.1. Must provide separate UPS systems for the IT load and Cooling load. 3.4.3.2. Must provide a minimum of N+1 configuration for UPS, and 15 min back-up for CRAC supply. 3.4.3.3. Must provide a minimum of 2N configuration and 15 min back-up for client racks supply. 3.4.3.4. Each UPS must have its own static transfer switch (STS) so it can operate independently. 3.4.3.5. UPS batteries should have a separate room for added protection. 3.4.4. Backup Generators 3.4.4.1. Must provide a minimum of 2N configuration to support the power requirements of the Data Center. 3.4.4.2. In the case of a disaster, the generators must be able to provide power for at least four (4) days of continuous operation without commercial power. 3.4.4.3. The Generator sets must be Data Center Grade allowing for it to run continuously without the need to rotate the units to cool it down. 3.4.4.4. The Generator Sets must have multiple fuel storage tanks with multiple pumps and piping systems to eliminate single point of failure. 3.4.5. Fire Suppression System 3.4.5.1. Must provide an environment friendly Gas-based fire suppression system at the server farm, equipment room and TELCO rooms. 3.4.5.2. The server farms must have discharge nozzles and smoke detectors both at the ceiling and under the raised flooring. 3.4.5.3. The facility must have a Very Early Warning Smoke Detection system. 3.4.6. Raised Floor Specifications	

3.4.6.1. Must have raised floor panels with at least 61cm x 61cm (24" x 24") dimension. 3.4.6.2. Must have a minimum of 0.7m vertical clearance under-floor. 3.4.6.3. Must have at least 250psf floor loading capacity with max rack weight of 1,500 Kg. 3.4.6.4. The raised floor must have seismic bracing to provide additional stability in the event of an earthquake. 3.4.7. Network Backbone Architecture 3.4.7.1. To avoid complete dependence to a single telco carrier, the provider must be Carrier-agnostic. 3.4.7.2. Must have a minimum of three (3) Carrier service entrances, allowing for a resilient (multi-carrier) design configuration. 3.4.7.3. Must have a minimum of two (2) diverse cable risers to the server farm up to the rack level. 3.4.7.4. The data center network must be Software-Defined Network (SDN) ready. 3.4.7.5. Must have Meet-Me-Rooms where other TELCO providers can provide connectivity requirements of the clients. The rooms must have redundant power for the TELCO equipment cages. 3.4.8. Building Management System 3.4.8.1. The provider must have water leak detection (WLDS) systems under the raised floor. 3.4.8.2. The provider must have a Data Center Infrastructure Management (DCIM) that will allow for a reliable and centralized monitoring of the following DC equipment: 3.4.8.3. Electrical system showing the status (ON/OFF & trip position of CB's), essential parameters, utilization of equipment capacity and branch circuit monitoring of each server rack load. 3.4.8.4. DCIE / PUE metering. 3.4.8.5. UPS & batteries status, essential parameters and alerts. 3.4.8.6. Static Transfer Switch (STS) status, essential parameters and alerts. 3.4.8.7. Air-conditioning systems such as the chiller system and CRAC's status and essential parameters.	

3.4.8.8. White space cold aisles temperature and humidity status and alerts. 3.4.8.9. Water leak detection system status and alerts. 3.4.8.10. Fire protection status and alerts. 3.4.8.11. Generator system essential parameters and fuel level status. 3.4.9. Support Services 3.4.9.1. The provider must have (at a minimum) the following capabilities: 3.4.9.1.1. 24 x 7 Helpdesk, phone and email support; 3.4.9.1.2. Remote Hands; and 3.4.9.1.3. 24 x 7 site access to customer 3.4.9.2. The Data Center must have a 24 x 7 Network Operations Center (NOC) that provides a centralized monitoring system. 3.4.9.3. The NOC should be able to view each and every floor as well as all the rooms, zero in on the client's particular rack, monitor its temperature, humidity, heat dissipation, power consumption and even up to the server status level. 3.4.9.4. The NOC must be capable of viewing a representation of the client equipment installed inside the racks making it easier to do rack equipment inventory and monitoring. 3.4.10. Security 3.4.10.1. The provider must have multiple layers of security between the main entrance of the facility and the co-located racks for purposes of ensuring physical security. Should have 8 or more layers of Security. 3.4.10.2. Physical access to the server farm should be controlled by a man trap. 3.4.10.3. For access to the server farm, the use of both tap card and biometric authentication is a must. 3.4.10.4. Must provide video surveillance cameras located in strategic areas of the building and its perimeter. 3.4.10.5. Video surveillance systems must have at least a 6 months retention period. 3.4.10.6. Employees must not be allowed to bring in their personal belongings. Lockers must be provided where employees can store	

their gear while they are inside the building premises.

3.4.11. Service and Client Corridors
- 3.4.11.1. Access of service personnel must be separate from the client access going to and from the service farm.
- 3.4.11.2. For safe and easy mobilization of equipment, the service corridors must have at least 3m width.
- 3.4.11.3. Data Center must have a minimum of 4-hours fire-rating providing the necessary protection and buffer for the server farm.

3.4.12. Electrical Rooms (High Voltage Switchgear (HVSG), Low Voltage Switchgear (LVSG) Rooms and Transformers)
- 3.4.12.1. All electrical systems must have their own redundant rooms.
- 3.4.12.2. The HVSG must utilize vacuum type circuit breakers for safety protection during maintenance.
- 3.4.12.3. The LVSG, must have integrated automatic transformer switch (ATS) & must utilize draw-out circuit breakers for safety protection during maintenance.

3.4.13. Loading and Unloading Docks
- 3.4.13.1. The facility must have a provision for loading and unloading dock.
- 3.4.13.2. The loading/unloading dock must have direct access to the freight elevator so there is less stress on the equipment during movement.
- 3.4.13.3. The facility must have a quarantine room and staging area for equipment.

3.4.14. Freight Elevator
- 3.4.14.1. This lift must be at least 2.4m wide, 2.7m deep, 2.5 high and can carry a maximum load of 3,000kgs.
- 3.4.14.2. It must have direct access to all floors of the data center, thereby making ingress & egress as quick & as secure as possible.
- 3.4.14.3. Must have security camera installed so it can monitor 3rd party vendors and other external visitors doing ingress/egress.

3.4.15. Server Farms
- 3.4.15.1. Server Farms must be surrounded by “double wall” protection from the outside environment.

3.4.15.2. The racks must follow a standard cold aisle-hot aisle configuration to improve cooling efficiency. 3.4.15.3. To help achieve a more consistent ambient temperature the hot aisles should be significantly narrower to allow hot air to rise faster and speed up the cooling cycle. 3.4.15.4. The server farm must be modular and flexible to allow for contiguous expansion of up to at least 200+ racks. 3.4.15.5. Standard racks must have a minimum of 2 x 20Amps power source. 3.4.15.6. Server racks must provide an external indicator for door closed/open status. 3.4.15.7. Data cables must route overhead while power must route underneath the raised floor. 3.4.15.8. Floor-to-ceiling heights for racks must at least be 3m. 3.4.16. Location 3.4.16.1. Must be at least 80KM away from BTr Central office. 3.4.16.2. Must be accessible via land and air transportation. **4.** Internet Access Service (IAS) 4.1. 2 Mbps burstable to 50 Mbps Dedicated Internet Access Service 4.1.1. 1:1 ratio with at least 8 international uplinks and peering. 4.1.2. IPv6 ready and/or compliant connection. 4.1.3. Average latency should not exceed: 4.1.3.1. 80milliseconds average round trip from BTr to ISP port; and 4.1.3.2. 200milliseconds average round trip from ISP port to US/International port. 4.1.4. Provision of usable 14 (/28) Public IP Addresses, if required by BTr. 4.1.5. Provision of router equipment for each site. 4.1.6. Provision of diagnostic reports and updates in case of connection failure. 4.1.7. Hosting of BTr DNS records with reliable forwarding and secondary DNS, if necessary, and must provide DNS reverse lookup for entries with the assigned classless network. 4.1.8. Installation and configuration of routers, as necessary. 4.2. Service Level Requirement 4.2.1. Provision of 24x7 support services.	

4.2.2. Must provide a single point of contact for all technical issues. 4.2.3. Support response time: 4.2.3.1. 30 minutes for emergency tickets for the following categories: 4.2.3.1.1. Link connection is down; 4.2.3.1.2. Packet loss, variation in latency; and 4.2.3.1.3. Routing issue. 4.2.3.2. Two (2) hours for technical problems that require on-site services. For problems reported after 4:00 PM, services shall be rendered 8:00 in the morning of the following business day. 4.3. Rebates must be reflected on the following month's billing. 4.4. Any maintenance service incurred during the contract period shall be at no cost to BTr. 4.5. BTr must be notified in advance for any scheduled maintenance activities or service interruption. 4.6. Must submit corresponding Service Level Agreement (SLA) document to include service level requirements with a corresponding "Performance Credit" or "Rebate" in favor of BTr should there be any disruption of service.	
5. BIDDER REQUIREMENTS 5.1. The Telecommunications Company must be the owner of the Fiber facility and the last mile to deliver the service requirement. Subcontracting is not allowed. 5.2. Bidders must have the capacity and ability to provide maintenance services and technical support to Internet Access Service and Direct Leased Line. 5.3. Bidders must have the capacity and ability to provide maintenance services and technical support. 5.4. The Bidder must be a Telecommunications company, certified by the National Telecommunications Commission (provide a copy of the certification) and have been operating as a Telecommunications Company for the past 15 years.	
6. OTHER REQUIREMENTS 6.1. Bidders must submit a detailed work plan specifying installation design, detailed activities, connectivity diagram from end user premise to the last mile and timelines in order to determine compatibility with the existing BTr network infrastructure, configuration, and electrical power rating.	

6.2. Bidders may arrange a schedule, prior to submission of their respective bids, for the conduct of site inspection to ensure that all project requirements are fully understood and verified to ensure successful implementation of the project.	
7. MODE OF PAYMENT 7.1. Monthly payment shall be made upon submission of required monthly service reports and billing invoice and upon issuance of certification of completed services by BTr 7.2. Other colocation fees outside of the monthly recurring charges and Internet access usage in excess of 2Mbps must be accompanied by a report as a supporting document to the billing invoice of the provider.	
8. OTHER CONDITIONS AS SPECIFIED IN THE BIDDING PROCESS	
9. NON-GRAFT CLAUSE The winning bidder warrants that it has not given nor promised to give any money or gift to any officer or employee of the BTr, or any member of the Bids and Awards Committee (BAC), BAC Secretariat or TWG, to secure this contract.	

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