ANNEX A: TECHNICAL SPECIFICATIONS

PROCUREMENT OF CLOUD INFRASTRUCTURE SUBSCRIPTION AND MANAGED SERVICES

I. **BACKGROUND**

Pursuant to Section 5.1 of Department Circular No. 2017- 02 of the Department of Information and Communications Technology (DICT), "Prescribing the Philippine Government's Cloud First Policy," declaring the government has to adopt a "cloud first" approach and for government departments and agencies to consider cloud computing solutions as a primary part of their infrastructure planning and procurement.

The TPB has constantly been utilizing Cloud Solutions as early as C.Y. 2000 to host and maintain the TPB websites and Applications. Currently, the TPB has a list of systems and applications that must be placed in a Managed Cloud environment; the following are the corresponding technical requirements.

List of TPBs Information Systems and Application

No	Information Systems	WEB Server Capacity (Technical Specification)		
		Processor (Core)	Memory (G.B.)	Storage (T.B.)
1	Corporate Website	4	16	2
2	TPB Membership website	4	8	2
3	Motorismo	4	8	2
4	Regional Travel Fair	2	8	5
5	Philippine Travel Exchange (PHITEX)	4	4	1
6	MICECONnect	4	4	1
7	MiceCon	4	4	1
8	DTS	4	8	1
9	Digital Archiving System	8	8	1
10	PAMS	8	8	2
11	Philippine Travel App	16	16	2
12	Virtual Tours	16	30	30
13	File Server	8	8	1
	Total	86	130	51

This Project is only Phase 1 of the budget set aside for C.Y. 2022; the remaining system and applications not included will be part of Phase 2 of this Project.

Therefore, the TPB is pursuing the procurement of Managed Cloud Services within the Philippines that will provide cloud infrastructure and an environment highly compatible with the technologies.

II. **OBJECTIVES**

The Project's objective is to provide the Tourism Promotions Board with the following

a. Provide managed cloud services to TPB's systems, applications, and websites that can be made highly available, stable and secure, and scalable platform functionalities

b. Deliver, install and configure, migrate, host, manage and maintain the core applicable and authorized online services of the Tourism Promotions Board, including but not limited to the following:

List of TPBs Information Systems and Application

No	Information Systems	WEB Server Capacity (Minimum Technical Specification)		
		Processor (Core)	Memory (G.B.)	Storage (T.B.)
1	Corporate Website	4	16	2
2	TPB Membership website	4	8	2
3	Motorismo	4	8	2
4	Regional Travel Fair	2	8	5
5	Philippine Travel Exchange (PHITEX)	4	4	1
6	MICECONnect	4	4	1
7	MiceCon	4	4	1
8	DTS	4	8	1
9	PAMS	8	8	2
10	File Server	8	8	1
	Total	46	76	18

c. Provide fast and easy accessibility of data.

III. **SCOPE OF WORK**

The SOLUTION PROVIDER shall provide the following features and specifications

Software Features	Requirements
Disaster Recovery and Business Continuity	Automate the recovery of services when a site outage happens at the primary data center. Bring over applications in an orchestrated way to help restore services quickly.
Automation	A cloud-based automation and configuration service that provides consistent management across platforms. Must have the following capabilities: -Orchestrate process using a graphical user interface -Collect inventory -Track changes -Assess compliance -Schedule update installation -Role-based access control -Heterogenous
Traffic Management	Capability to control the distribution of traffic across your application endpoints. Continuous monitoring of endpoint health and automatic failover when endpoints fail.
Data Management	SQL Database, Data Storage, Import/Export Capabilities, and File Services. Must support Microsoft SQL Server 2012 and higher.
Identity Management	Capability to run Windows Active Directory to tie the local network and the cloud network together
I.P. Requirement	Provide Public I.P. resources to communicate with other cloud resources, on-premises networks, and the Internet.

Security	Inclusion of a unified security management platform that includes the following features: • security health monitoring for both cloud and on-premises workloads • security threat blocking through access and
	app control, adjustable security policies for maintaining regulatory and standards compliance • security vulnerability discovery tools and patches • advanced threat detection through security
Privacy	alerts and analytics must be resilient to attack, safeguard user access to the cloud environment, and keep customer data secure. Must offer continuous security-health monitoring For the entire environment across public cloud and on-premise infrastructure Must be covered by the Data Privacy Act.
Back up Capability	Must include automated backups and database replication, and redundancy capabilities
Scalable Resources	As needed, provide the capability to increase/decrease resources to support unpredictable high/low usage periods. Scalable resources include but are not limited to: • Bandwidth • Servers • Storage • Database instances
Software licenses requirements	SOLUTION PROVIDER will be responsible for licensing, including but not limited to operating systems, servers, databases, and applications.
Period of Performance	The period of performance for this subscription is One (1) Year service from User Acceptance Test (UAT)

Knowledge transfer	SOLUTION PROVIDER must provide knowledge transfer/handover technical sessions and training for TPB Key Technical Personnel. The minimum recommendations are the following; ▪ Cloud Architecting ▪ Advanced Architecting ▪ System Operations ▪ Security Engineering
Cloud Administration Services	• SOLUTION PROVIDER shall migrate all resources from the current onsite computing service platform or its current site to the new cloud computing service platform. • Implementation services for all cloud components • The SOLUTION PROVIDER will monitor system and resource alerts, resource utilization, and resource contention to support the environment • The SOLUTION PROVIDER will utilize existing cloud tools to collect and track metrics, collect, and monitor log files, set alarms, and automatically react to changes in TPB's cloud resources • As part of the service improvement plan, the SOLUTION PROVIDER will provide TPB recommendations on cost optimization. • The SOLUTION PROVIDER will administer the deployed security controls to manage user access using Identity and Access Management tools

IV.   TECHNICAL SPECIFICATIONS

   a. Hardware Requirement for the Dedicated Server (minimum requirement)

DESCRIPTION	QTY
DEDICATED CLOUD SERVER	
Server CPU 2*Intel Xeon Gold 6226R 2.2G, 24c/48t, 448G (32G*14) Memory, 12*3.5" disk slots and 2*2.5" slots in backend, 2*240G OS Disk, configured with 2*RAID card, RAID1/JBOD, 4*GE+4*10GSFP+, no cache disk or data disk	1
OFBL-LLM3 LC-LC, Multimode, 3 Meters	4
OM-SFP+-10GE-MM SFP+ 10GE Multimode Optical Transceiver for a short distance transmission	4
SATA10T 10 T.B. 7200RPM 3.5" SATA HDD (Enterprise)	4
SSD960G 1.9TB SSD Intel S4600 3D NAND TLC SSD 2.5" SATA 3.0 6Gbps	4

   b. Platform Requirement

   i.   Software Defined Architecture, built with standardized x86 server and Layer 2 networking, specified hardware is not required
   ii. The crucial components for cloud platforms, such as computing, storage, networking, and network functions, are provided by the same SOLUTION PROVIDER to ensure scalability and compatibility.
   iii. Support license-activated application delivery controller, CDP module, SSLVPN, application firewall, bandwidth manager, and SD-WAN that comes from the same SOLUTION PROVIDER to ensure compatibility and operability

   c. Computing Requirements
   i.   Support connecting to AWS account and operation with Elastic Compute Cloud (EC2) in different Availability Zones (A.Z.s) under the same cloud portal
   ii. Support management to hosted VMWare cluster (vCenter) under the same cloud portal
   iii. Support Lifecycle Management of Physical Server, Support assign and recycle, collect info from IPMI under the same cloud portal
   iv. Support a Drag-n-Drop VPC topology, support direct edit within the topology with correlated Gateway, Router, Subnet, V.M., Security, Dedicate Line &, etc.
   v.   Support AI-Enhanced database performance optimization with a built-in self-adaptive performance optimization engine

d. Network
- i. Support Dedicated Internet, Direct Private network (MPLS, Private Lease Line) or D.C. cross-connect network options
- ii. Must have no additional charge on network traffic from VPC, Gateway, or the Internet; transfer capacity should be limited by bandwidth only
- iii. Support built-in distributed firewall to apply granular access control policy between V.M.s, securing east-west traffic (also known as Micro-segmentation)
- iv. Must have built-in CDP Policy for Virtual Machine level to support seconds level RPO

e. Security
- i. Must have license-activated Next Generation Application Firewall software
    1. Support 200Mbps threat prevention bandwidth
    2. SSL VPN for 30 concurrent users, new malware detection (both engine zero and neutral-X), anti-virus file detection, ips, and security visibility.
    3. Required 2vCPU cores, 4 G.B. memory, and 32 G.B. disk.
- ii. Deploy Web Application Firewall Software
    1. Support 120Mbps web anti-defacement, web application protection, web scanner, vulnerability scanner, and security report.
    2. Required 2vCPU cores, 4 G.B. memory, and 32 G.B. disk.
- iii. Support correlated security service with intelligent threat detection and response platform to automatically take actions (such as quarantine V.M. by a distributed firewall, take a snapshot for V.M., etc.) against malicious activities detected by the security platform.

f. Disaster Recovery
- i. Must have license-activated Disaster Recovery Service
- ii. Must have License-activated DR Service coming from the same SOLUTION PROVIDER to ensure operability and compatibility with no additional backup or replication software required
- iii. Support flexible RPOs, minimum 1 second
- iv. Support non-disruptive D.R. testing to validate D.R. Service effectiveness with zero impact on the production business
- v. Support data compression and encryption in the replication

g. Bandwidth
Dedicated Internet Access of 50Mbps with

h. Data Center
- i. Support Tenant approved 3rd party auditing or inspection onsite
- ii. Support Cage and Rack with access control and CCTV surveillance
- iii. The managed cloud data center must be in Metro Manila

i. Support
- i. At least one (1) year for the Project's hosted service and technical support.

ii. The SOLUTION PROVIDER must have an office in the Philippines and can provide local technical support.

iii. Shall provide 24x7 Technical Support to all instances and resources subscribed by TPB. Support services must include communication mediums such as but not limited to telephone, chat, email, live screen sharing, and the like.

V. QUALIFICATION REQUIREMENTS

The following are the minimum qualifications and requirements for the Supplier or Solution Provider:

i. The SOLUTION PROVIDER must be an I.T. operational company for at least five (5) years

ii. The SOLUTION PROVIDER must have implemented at least three (3) similar projects within the last five (5) years.

iii. The SOLUTION PROVIDER should be a certified reseller and partner

iv. The SOLUTION PROVIDER should possess a technical certification about the Cloud Platform

v. To ensure the maturity of the Cloud solution, the SOLUTION PROVIDER must be CMMI L5 certified.

The proposed Cloud solution must have the below ISO certifications,
- ISO 9001:2015
- ISO/IEC 27001:2013
- ISO 14001:2015
- ISO/IEC 20000-1:2018

vi. The SOLUTION PROVIDER must present a certification that the Data Center is located here in the Philippines.

vii. The SOLUTION PROVIDER must present the Certification of Accreditation as a Cloud Service Provider of DICT.

V. DUTIES AND RESPONSIBILITIES OF TPB

- Grant access to any authorized representative/s of the SOLUTION PROVIDER to TPB premises to perform its obligations as accompanied by Data Center personnel;
- Reject any system or any services thereof that fail to pass any test and/or inspection or does not conform to the specifications;
- Report the problem on the system to the SOLUTION PROVIDER for appropriate action and
- Pay the SOLUTION PROVIDER in accordance with Section VIII hereof.

VI. TIMELINE

Description	Activities / Deliverables	Timeline (From Receipt of NTP)
Project Kick-off	• Data gathering and assessment • Final detailed Project Plan • Final detailed work plan • Roles and Responsibilities Definition	Within 2 weeks
Project Implementation	• Delivery, Configuration and Installation, Setup, and Configuration of Cloud Infra, Security tools • Server Hardening	Within 5 weeks
Migration	• Server Migration	Within 6 weeks
Go Live Stabilization and Monitoring	• Go live (Cloud Infra, Security Tools) • Monitoring and Issue Resolution	Within 8 weeks
Turnover / Documentation and Project Closure	• Implementation reports and documentation • Knowledge Transfer • User Acceptance / Sign Off	Within 10 weeks

VII. OTHER CONDITIONS

A. Data Sovereignty, Data Residency, and Data Privacy Compliances

The SOLUTION PROVIDER is required to comply with Data Sovereignty Guidelines and Policies as prescribed in the Philippine Government's Cloud First Policy:

▪ All data created, collected, organized, modified, retrieved, used, consolidated, sourced from, or owned by the Philippine Government, including all its agencies and instrumentalities, or by any national of the Philippines or any entity that has links to the Philippines, which are in the cloud, regardless of location, shall be governed by Philippine Laws, policies, rules, and regulations.

▪ Except as otherwise permitted under Philippine Law, no such data shall be subject to foreign laws or be accessible to other countries, regardless of the cloud deployment model used, the nationality of the SOLUTION PROVIDER, or the data's place of storage, processing, or transmission. No right appurtenant to such data shall be deemed transferred or assigned by virtue of the storage, processing, or transmission

thereof by the SOLUTION PROVIDER.

- SOLUTION PROVIDER and other entities engaged in the storage, processing, or transmission of such data shall comply with all applicable Philippine Laws, policies, rules, regulations, and issuances relating to data sovereignty and confidentiality, inclusive of RA 10844, RA 10173, RA 10175, their implementing rules, and regulations.

The SOLUTION PROVIDER shall adhere to the Philippine Cloud First Policy on Data Residency, specifically for the handling of Government Data as defined in Section 12.2., item "a" of the Department of Information and Communications Technology (DICT) Department Circular No. 010, more specifically known as the Amendments to the Prescribed Philippine Government's Cloud First Policy.

The Philippine Territory. As a general rule, no residency restrictions shall be placed on government data stored or processed in the cloud, provided that appropriate controls and security measures are present. By way of exception, the storage or processing of sensitive government data shall be restricted to the following:

- Other territories over which the Philippines exercises sovereignty or jurisdiction.

- Other countries or states with which the Philippines has enforceable extradition treaties for the turnover of persons accused or convicted of violating Philippine laws, provided such other countries or states shall:

- Similar or higher standards of protection for Philippine Government data as Philippine Laws and issuances; or

- Existing agreements with the Philippine government for providing similar or higher protection to Philippine government data as Philippine Laws and Issuances.

- The SOLUTION PROVIDER shall abide by Republic Act (R.A.) 10173, otherwise known as the Data Privacy Act of 2012.

VIII. PAYMENT SCHEME

Description	Activities / Deliverables	% Of the Contract Price
Project Kick-off	• Data gathering and assessment • Final detailed Project Plan • Final detailed work plan • Roles and Responsibilities Definition	15%
Project Implementation	• Installation, Setup, and Configuration of Cloud Infra, Security tools • Server Hardening	25%
Migration	• Server Migration	25%
Go Live, Stabilization, and Monitoring	• Monitoring and Issue Resolution	25%
Turnover / Documentation and Project Closure	• Implementation reports and documentation • Knowledge Transfer • User Acceptance / Sign Off	10%

XI. APPROVED BUDGET CEILING (ABC)

The ABC for this Project is **FIVE MILLION THREE HUNDRED FIFTY THOUSAND** pesos (**Php 5,350,000.00)** inclusive of all applicable taxes.