



REQUEST FOR EXPRESSIONS OF INTEREST (CONSULTING SERVICES – INDIVIDUAL SELECTION)

**BADAN METEOROLOGI, KLIMATOLOGI DAN GEOFISIKA
METEOROLOGICAL, CLIMATOLOGICAL, AND GEOPHYSICAL AGENCY
INDONESIA DISASTER RESILIENCE INITIATIVE PROJECT (IDRIP)
Loan No./Credit No./ Grant No.: IBRD 89800**

**Assignment Title: Procurement of Individual Consultant Service for High Performance Computing (HPC) and Hyper Converged Infrastructure (HCI)
Reference No.: ID-BMKG-282654-CS-INDV**

The Government of Indonesia has received financing in the amount USD160 million from the World Bank toward the cost of the Indonesia Disaster Resilience Initiative Project, and intends to apply part of the proceeds for individual consulting services namely High Performance Computing (HPC) and Hyper Converged Infrastructure Consultant.

The scope of work for HPC and HCI under the supervision of the Database Center divided into several stages:

1. Preparation is preparing for the activity implementation, including coordinating with stakeholders, the technical team, other related parties to agree on work plans, work implementation methodologies and work outputs as well as drafting the concept of HPC and HCI IDRIP BMKG.
2. Implementation:
 - a. Designing Infrastructure Procurement for HPC and HCI;
 - b. Create an inventory list of HPC and HCI procurement needs;
 - c. Creating a Term of Reference and Draft Budget needed for the Procurement of HPC and HCI;
 - d. Conduct an assessment towards the Procurement infrastructure of HPC and HCI;
 - e. Conduct an analysis towards the assessment and method result used in implementing HPC and HCI;
 - f. Provide strategic technical advice related to all phases of activity implementation discussion options and possible solutions with PIU (if necessary).
 - g. Monitoring the design and implementation of HPC and HCI procurement activities as well as evaluating for continuous project improvement.

3. Evaluation and Activity Report:
 - a. Monitor the design and implementation of HPC and HCI;
 - b. Coordinate routine review activities of the project implementation evaluation with related parties, such as providers, users and others.
 - c. Coordinate closely with the PMU and PIU heads in reporting HPC and HCI Procurement Development activities and contribute to address the problem of work activities which requires strategic input on a regular basis.
 - d. Preparation of Activity Result Report

The consultant will be assigned approximately for 9 (nine) months. The expected commencement of service is April 2022.

The Terms of Reference (TOR) for the primary procurement stage for the assignment are attached to this request for expressions of interest.

Badan Meteorologi, Klimatologi, dan Geofisika (BMKG) - *Meteorological, Climatological, and Geophysical Agency* now invites eligible individual consultant (“Consultants”) to indicate their interest in providing the Services.

Interested Consultants should provide information demonstrating that they have the required qualifications and relevant experience to perform the Services. The shortlisting criteria are:

- a. Expert in the IT field with a Masters Degree (S2) education qualification, a graduate in Informatics Management/Informatics Engineering/Electrical Engineering/Computer Science/Computer Engineering;
- b. Have a minimum of 5 (five) years of accumulative experience in the implementation of High Performance Computing (HPC) or Hyper Converged Infrastructure (HCI) activities;
- c. Able to provide recommendations on the best IT solutions to solve problems;
- d. Have the ability to identify and analyze HPC and HCI;
- e. Broadly mastering HPC and HCI technology;
- f. Good command of document writing and verbal communication (in English and Indonesian).
- g. Experienced working as an IT consultant is required to be mentioned in the CV.
- h. Preferably have previous experience working on government projects funded by foreign loans/grants.
- i. Independent.

The attention of interested Consultants is drawn to Section III, paragraphs, 3.14, 3.16, and 3.17 of the World Bank’s “Procurement Regulations for IPF Borrowers” July 2016, revised November 2017 and August 2018 (“Procurement Regulations”), setting forth the World Bank’s policy on conflict of interest.

A Consultant will be selected in accordance with the Consultant Qualification Selection (CQS) method described in the Procurement Regulations.

Further information can be obtained at the address below during office hours at 08.00 to 16.00 hours.

Expressions of interest, including a curriculum vitae and a pricing quote, must be submitted in writing to the address below (by email) **by March 30th, 2022, at 16.00 Local Time.**

Badan Meteorologi, Klimatologi, dan Geofisika (BMKG)

Meteorological, Climatological, and Geophysical Agency

Attn: Pokja Pemilihan IDRIP BMKG

Jalan Angkasa I No.2 Kemayoran, Jakarta Pusat, DKI Jakarta 10610, Indonesia

PO Box 3540 Jkt

+62 21 4246321

+62 21 4246703

Email: pokja.idrip@bmkg.go.id

Website: www.bmkg.go.id

TERM OF REFERENCE (TOR)
PROCUREMENT OF CONSULTANT SERVICES
FOR
HIGH PERFORMANCE COMPUTING (HPC) AND HYPER
CONVERGED INFRASTRUCTURE(HCI)



METEOROLOGY, CLIMATOLOGY AND GEOPHYSICS
AGENCY
FINANCIAL YEAR 2022

TERM OF REFERENCE
INDONESIAN DISASTER RESILIENCE INITIATIVES PROJECT – IDRIP
PROCUREMENT OF INDIVIDUAL CONSULTANT FOR HIGH PERFORMANCE
COMPUTING (HPC) AND HYPER CONVERGED (HCI)
FINANCIAL YEAR 2022

A. Overview of High Performance Computing (HPC) dan HyperConverged Infrastructure (HCI) Procurement

Based on the Government Regulation number 46 of 2012, Chapter III article 25 regarding data management, that in order to produce information that is fast, precise, accurate, broad in scope and easy to understand, the management of the above data is intended as a process of collecting, processing, analysing, storage and access of data. On 22 December 2018, a tsunami incident caused by the eruption of Anak Krakatau in the Sunda Strait hits the costal areas of Banten and Lampung, Indonesia. Atleast 426 died and 7.202 was injured and 23 people was missing as a result of this incident. This tsunami was caused by high tides and underwater landslides due to the vulcanic eruption. Since this unpleasent event, the need to implement effective disaster measures in the future to minimize the impact caused by large earthquakes and tsunami began to surface.

BMKG as an agency that is obligated to detect and monitor potential disasters always upgrades a number of earthquakes and tsunami detection equipment, and also focuses on generated information therefore it quickly reaches the public community and stakeholders. One of the efforts to improve this information is by installing seismic sensors to strengthen the network. It is expected that by 2024 BMKG will have as many as 600 earthquake sensors.

With several seismic sensors present, therefore raw data generated by BMKG through sophisticated equipment or manual observations as well as with the support of HPC and HCI which has sufficient computational speed is expected to be able to assist BMKG's task to perform computations and processing appropriately accurate. Especially in the calculation of prevention and simulation of disaster mitigation which will ultimately help BMKG to generate better

information of the earthquake and tsunami.

HPC and HCI technology are expected to support the acceleration of the BMKG's role where currently Indonesia is entering the 4.0 era which is increasingly influenced by Disruptive Innovation requiring us to constantly innovate.

B. Purpose of Assignment

The Purpose of Individual Consulting Services for High Performance Computing (HPC) and Hyper Converged Infrastructure (HCI) are as follows:

- a. The availability of holistic, upgrade-able, and integrated High Performance Computing (HPC) and Hyper Converged Infrastructure (HCI) BMKG system Infrastructure designs and specifications.
- b. The availability of a technical requirement inventory for the BMKG HPC and HCI development system.
- c. The availability of plans and budget estimation cost in general, along with the technical specification plan for the proposed design plan.
- d. The availability of coordination lines with several stakeholders related to HPC and HCI development, both internally and externally BMKG.
- e. The compilation of recommendations for HPC and HCI technologies which are most suitable for the models and simulations in BMKG.

C. Scope of Services

The scope of work for High Performance Computing (HPC) and Hyper Converged Infrastructure (HCI) under the supervision of the Database Center is divided into several stages:

- 1. Preparation** is preparing for the activity implementation, including coordinating with stakeholders, the technical team, other related parties to agree on work plans, work implementation methodologies and work outputs as well as drafting the concept of High Performance Computing (HPC) and Hyper Converged Infrastructure (HCI) IDRIP BMKG.
- 2. Implementation:**
 - a. Conduct designing Infrastructure High Performance Computing (HPC)

and Hyper Converged Infrastructure (HCI) to speed up the process for analyzing earthquake and tsunami modeling;

- b. Create an inventory list of High Performance Computing (HPC) and Hyper Converged Infrastructure (HCI) procurement needs;
- c. Creating a Term of Reference and Draft Budget needed for the Procurement of High Performance Computing (HPC) and Hyper Converged Infrastructure (HCI);
- d. Conduct an assesment towards the Procurement infrastructure of High Performance Computing (HPC) and Hyper Converged Infrastructure (HCI).
- e. Conduct an analysis towards the assesment and metode result used in implementing High Performance Computing (HPC) and Hyper Converged Infrastructure (HCI).
- f. Provide strategic technical advice related to all phases of activity implementation discussion options and possible solutions with PIU (if necessary).
- g. Monitoring the design and implementation of High Performance Computing (HPC) and Hyper Converged Infrastructure (HCI) procurement activities as well as evaluating for continuous project improvement.

3. Evaluation and Activity Report:

- a. Monitor the design and impelementation of High Performance Computing (HPC) and Hyper Converged Infrastructure (HCI)
- b. Coordinate routine review activities of the project implementation evaluation with related parties, such as providers, users and others.
- c. Coordinate closely with the PMU and PIU heads in reporting High Performance Computing (HPC) and Hyper Converged Infrastructure (HCI) Procurement Development activities and contribute to address the problem of work activities which requires strategic input on a regular basis.

- d. Submit a monthly report before 10th regularly during the contract period

D. Qualification and Experience required

- a. 1 (one) expert in the IT field with a Masters/(S2) education qualification, a graduate in Informatics Management/ Informatics Engineering/ Electrical Engineering/ Computer Science/ Computer Engineering.
- b. Have a minimum of 5 (five) years of accumulative experience in the designing and implementation of High Performance Computing (HPC) or Hyper Converged Infrastructure (HCI) procurement activities.
- c. Able to provide recommendations on the best IT solutions to solve problems.
- d. Have the ability to identify and analyse High Performance Computing (HPC) and Hyper Converged Infrastructure (HCI) procurement.
- e. Broadly mastering High Performance Computing (HPC) and Hyper Converged Infrastructure (HCI) technology.
- f. Good command of document writing and verbal communication (in English and Indonesian).
- g. Experienced working as an IT consultant is required to be mentioned in the CV.
- h. Preferably have previous experience working on government projects funded by foreign loans/grants.
- i. Independent

E. Results

Individual Consultant of High Performance Computing (HPC) and Hyper Converged Infrastructure (HCI) are expected to provide work results in the form of:

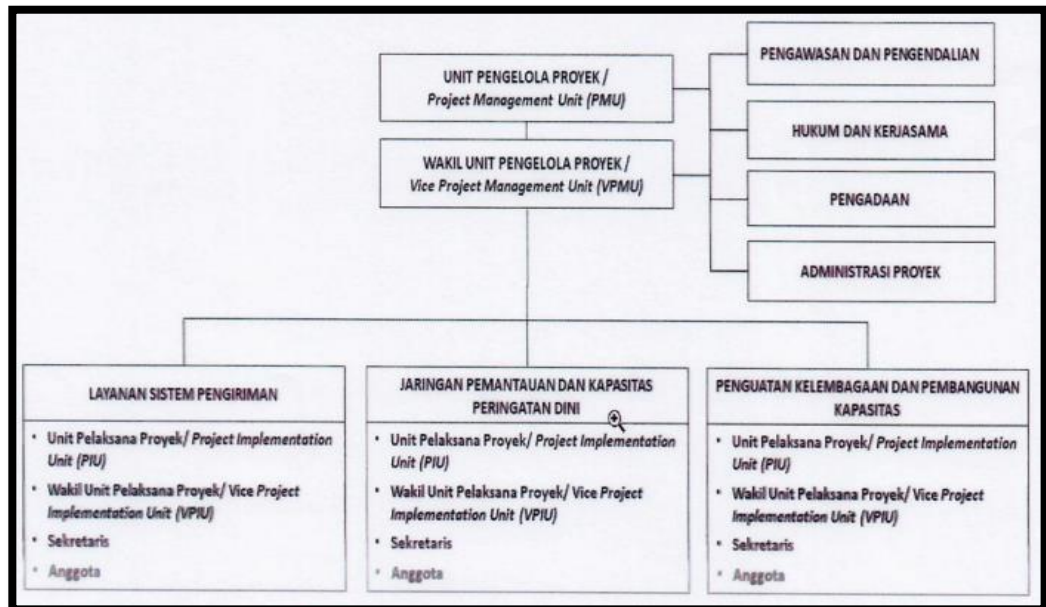
- a. Infrastructure design and inventory of High Performance Computing (HPC) dan Hyper Converged Infrastructure (HCI) development needs.
- b. Reports on the results of activity implementing on a regular basis, post activity reports in the form of final activity and/or other similar reports.
- c. Monitoring documents and implementation strategies for the procurement of High Performance Computing (HPC) dan Hyper

Converged Infrastructure (HCI) activities with clear and implementable directions and inputs.

- d. Other documents including presentations, meeting notes and document review related to Procurement of High Performance Computing (HPC) dan Hyper Converged Infrastructure (HCI).
- e. Procurement documents inputs for High Performance Computing (HPC) dan Hyper Converged Infrastructure (HCI) activities – Term of Reference and relevant tender documents as part of the preparation with technical input from stakeholders and other relevant technical specialists.

F. Organization Structure

Individual Consultant of High Performance Computing (HPC) and Hyper Converged Infrastructure (HCI) will work under the following organizational structure and report his work results to the VPMU through the Head of the Database Center in the Monitoring Network Component and Early Warning Capacity.



G. Activity Schedule

The activity will be conducted within 9 (nine) months, since the contract signing with details as follows:

No	Activities	Months								
		1	2	3	4	5	6	7	8	9
1	Mobilization of the Individual Consultant	■	■							
2	Infrastructure design and construction inventory requirements of HPC and HCI		■							
3	Assistance in the implementation for the HPC and HCI development		■	■	■	■	■	■	■	■
4	Conduct monitoring and evaluation activity		■	■	■	■	■	■	■	■
5	Activity Report		■	■	■	■	■	■	■	■

Jakarta, March 2022

Commitment Making Officer
Indonesia Disaster Resilience
Initiative Project (IDRIP)