

Proposal for Collaboration
Multi-GNSS Integrated Real Time and Archived Information System “MIRAI”

National Space Policy Secretariat, Cabinet Office

June 27th, 2022

1. Introduction

To establish a GNSS global cooperative network, Multi-GNSS Integrated Real Time and Archived Information System “MIRAI” has been built by the Cabinet Office (CAO). Figure 1 shows the system diagram of MIRAI. This system provides the following services;

- Collecting real-time observation data and redistributing them to public users.
- Archiving observation data and redistributing them to public users.

The objective of this proposal is to establish the GNSS global cooperative network by supporting current GNSS tracking network operators.

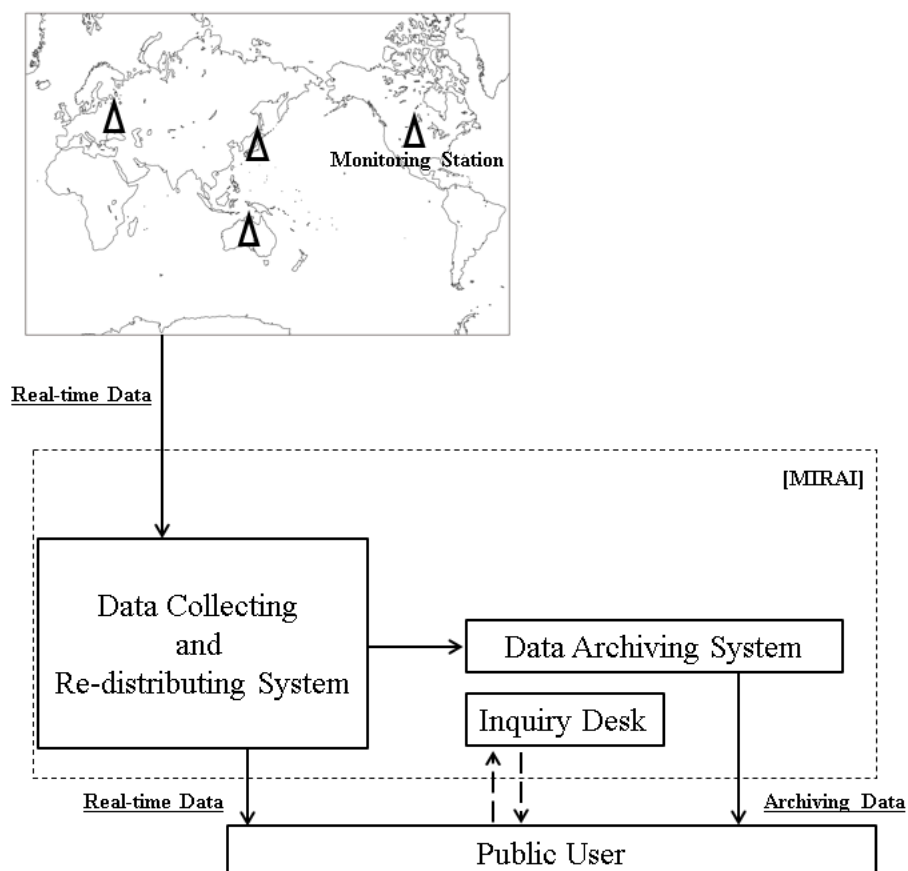


Figure 1 System Diagram of MIRAI

2. System Performance

Table 1 shows system performance of MIRAI

Table 1 System Performance of MIRAI

| | | |
|---|------------------------------|--|
| 1 | Operation Start Date | April 1 st , 2022 |
| 2 | Operation | 365 days per year |
| 3 | Language | English |
| 4 | Signals | <ul style="list-style-type: none"> ● QZSS : L1C/A, L1C/B, L2C, L5, L1C ● GPS : L1C/A, L2P, L2C, L5, L1C ● GLONASS : G1, G2 ● Galileo : E1B, E5a ● BeiDou : B1, B2, B3 |
| 5 | Real-time Output Data Format | RTCM 3 via NTRIP caster |
| 6 | Delay (system latency) | < 0.1 s |
| 7 | Archiving System | <ul style="list-style-type: none"> ● Archive Period: 1.5 year ● Archive Format: RINEX |

3. Division of Roles between CAO and Hosting Organization

This system is to be managed on the basis of mutual investment by the two parties. No funding will be transferred between parties except under special circumstances. The following roles between the CAO and the hosting organization are to be applied.

CAO will:

- operate receiver remotely via internet access if necessary.
- set up NTRIP caster to broadcast collected real-time observation data streams.
- provide the hosting organization a special user account by which the hosting organization can connect with MIRAI on a priority basis.

Hosting organization will:

- send real-time observation data stream to CAO's NTRIP caster.
- operate the Multi-GNSS receiver, when the CAO and hosting organization mutually agree to be necessary.

4. Terms and Conditions

Terms and conditions should be accepted by host organization and the CAO, mutually, which defines purpose of the collaboration, roles of both parties, termination process, and other general matters related to this network establishment.

Terms and Conditions

GENERAL CONDITIONS ON THE COOPERATION CONCERNING
Multi-GNSS Integrated Real Time and Archived Information System “MIRAI”

(General Provision)

1. These general conditions provided herein are applicable to the cooperation concerning the MIRAI based on the "Proposal for Collaboration" issued in 1st of April, 2022 by Cabinet Office (CAO).
2. These general conditions remain in effect until the end of each Japanese fiscal year (31st of March) and will be automatically renewed and continue on a year to year basis unless CAO and Hosting organization agree to terminate at least three months before the expiration.

(Purpose)

3. The cooperation implemented under these general conditions ("this cooperation") will be exclusively for the peaceful purpose.

(Responsibilities)

4. In accordance with the "Proposal for Collaboration," CAO will make reasonable efforts to
 - operate receiver remotely via internet access if necessary.
 - set up NTRIP caster to broadcast collected real-time observation data streams.
 - provide the hosting organization a special user account by which the hosting organization can connect with MIRAI on a priority basis.
5. In accordance with the "Proposal for Collaboration," the hosting organization will make reasonable efforts to
 - send real-time observation data to the CAO's NTRIP caster,
 - operate the Multi-GNSS receiver, when the CAO and hosting organization mutually agree to be necessary.

(Funding)

6. The CAO and hosting organization will be responsible for funding their respective activities under this cooperation.
7. Obligations under this cooperation will be subject to the availability of appropriated funds and to each party's respective funding procedures.

(Data and Results)

8. The CAO provides real-time data and archive data observed through this cooperation openly to general users.
9. The CAO and hosting organization do not limit commercial use of the real-time data and archive data observed through this cooperation, but only for peaceful use.
10. Research results generated solely by one party in the course of this cooperation will be owned by that generating party.

(Confidentiality)

11. The CAO and hosting organization will keep any information obtained through this cooperation confidential when such information is marked confidential and will not disclose such information without prior approval of the providing party.

(Liability)

12. With regard to the activities undertaken under this cooperation, the CAO and hosting organization will not make any claim against the other party with respect to damages or loss of any kind except in the case that such a damage or loss arises through gross negligence or willful misconduct, except as otherwise provided herein.

(Termination)

13. The CAO and hosting organization may terminate this cooperation,
 - when the other party commits a dishonest and/or inequitable act that irreparably harms the mutual trust between the CAO and hosting organization,
 - when the other party violates any of these general conditions.

Applying hosting organization and the CAO recognize and fully agree the terms and conditions set forth in the GENERAL CONDITIONS ON THE COOPERATION CONCERNING Multi-GNSS Integrated Real Time and Archived Information System “MIRAI”.

Date:

[Applying Hosting Organization]

Organization:

Department/Section:

Title:

Name:

[Cabinet Office]

Department/Section: National Space Policy Secretariat

Title:

Name: