JMA WIS Workshop
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Lao PDR country report

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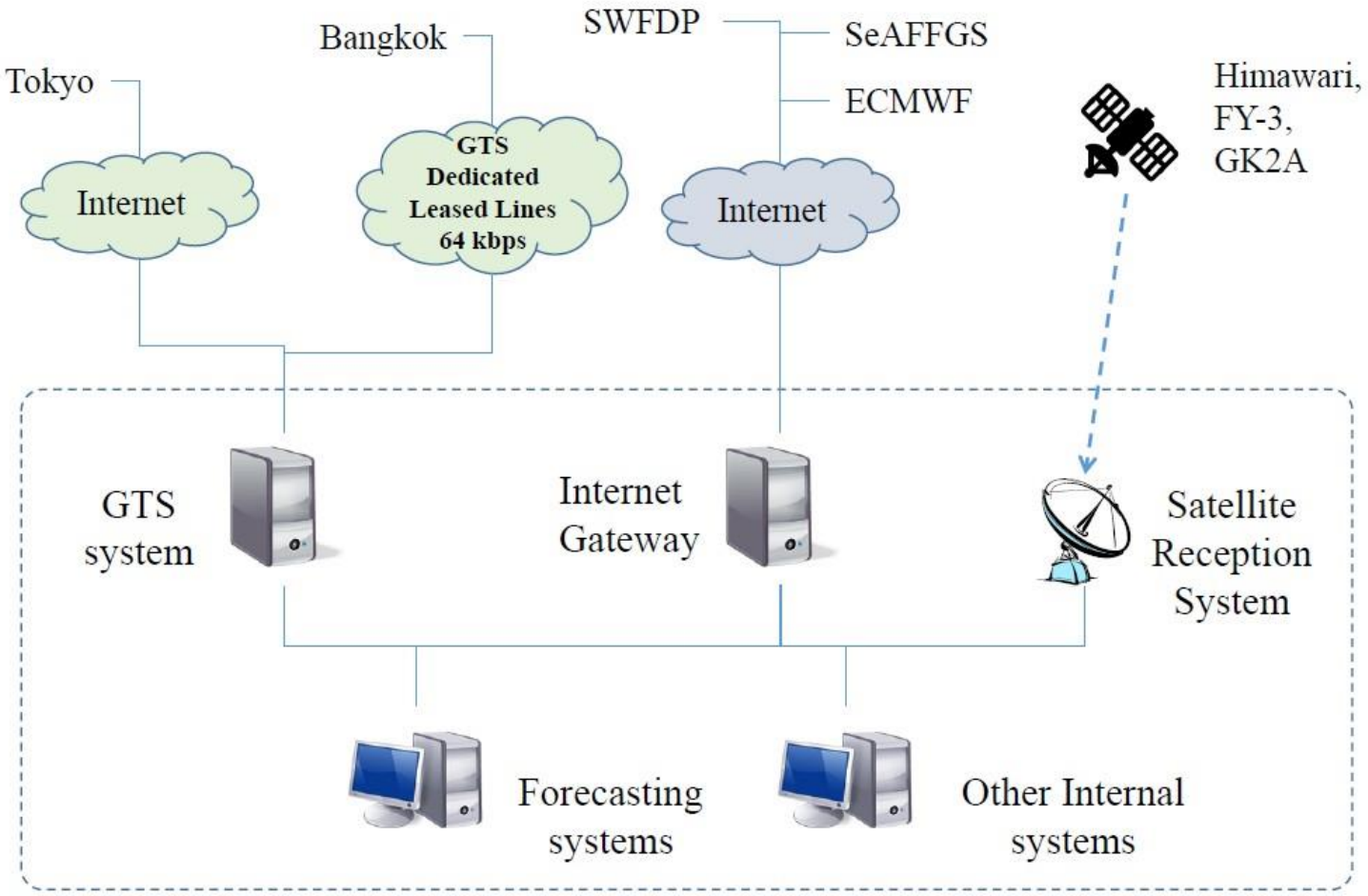
1. System/network configuration



Status of system/network configuration

- 2003: Start operation of the system (TRANSMET).
- 2017:Start operation of the current system (Moving Weather).
- 2025: Investigate the system and propose to Campbell Scientific France
- Propose WIS2.0 to CREWS project
- 2026: Set up and fix AWS online System Integration, Procure equipment

Encoding data to the right format, Set up system, Train staff ,Trial sending data.

- 2027: Maintain system, Train staff System Operation.

Observation Network

- Provide a summary of your observation network:
- Synoptic stations
- number of stations: 22
- number shared in GTS: 22, frequency: 5 stations/every 3 hours; 17 stations (00, 03, 06, 09 and 12 UTC)
- Which format: SYNOP

- Automatic Weather Stations (AWS)
- Total number of stations: 117
- Number of stations shared on GTS and update frequency: None
- Data logger types and data formats (OTT, HyDro Spider,

- Radio-sounding network
- Total number of stations: 0, under Donation Project (Wind Profiler)
- Number of stations shared on GTS and update frequency
- Data formats used (ASCII, BUFR, or other to specify)

❖ Status of system/network configuration

- Recent updates of network connection to other countries, etc.

Country	Protocol	Data
Tokyo	WMO Socket	JMA Model (GRIB), SYNOP, SHIP, TEMP, METAR …
Bangkok	WMO FTP	SYNOP, SHIP, TEMP, METAR, Forecast (NCEP), Warnings …
ECMWF	HTTP	Global Model (GRIB)
RSMC-Tokyo	HTTP	Typhoon Forecast, NWP, Warnings, ….
RFSC-Hanoi	HTTP	Satellite, NWP, Warnings, ….
SeAFFGS	HTTP	NWP, FFG, Warnings, ….

2.Challenges of the current system/network

- Maintenance problems: many projects to modernize hydro-met networks, each project has its own unique system which makes it difficult to implement.
- Lack of fund and human resource: Each project must be fully allocated budget to the management and maintenance of equipment within 2 years after the project is handed over.
- Lack of training about the system: Increase training for technical staff, such as short-term, medium-term and long-term to ensure the sustainable management of the system.
- There are not enough personnel

3.Status of WIS2.0

- The Department of Meteorology and Hydrology (DMH) of Lao PDR currently operates a centralized, web-based system " MNEO" to manage all meteorological and hydrological data workflows.
- This platform supports the collection, aggregation, storage, and dissemination of observational data from national and international sources.
- Data is collected from a diverse range of observation networks, including
- Automatic Weather Stations (AWS) provided through various programs and partners (WB-MIWRM, DRM, ADB, FAO, WMO, China, Korea, Japan, Thailand, MRC). These stations collect real-time meteorological and hydrological data.
- Other Observational sources :
- Lightning detection system (TOA)
- Satellite observations from GK2A, FengYun, and Himawari
- Data is transmitted using multiple protocols:
- GSM, FTP, HTTP REST API, and Socket connections.
- Collected data includes both meteorological and hydrological parameters, gathered in formats such as BUFR, CSV, and ASCII.
- All incoming data is routed directly into the MNEO system, where it is continuously monitored and processed.

4.Challenges of the WIS2.0 of system/network

- Lack of fund and human resource
- Lack of training about the system
- The internet system is not as fast it should be.
- The data transmission equipment in each locality is still insufficient

5. Expectation to JMA and other countries

- Request to GISC Tokyo for better services
- Ask for help from budget support.
- Request assistance in training for Department of Meteorology and Hydrology.
- Request of further cooperation with other countries, etc.
- DMH will host WIS2 solution: Public cloud based
- DMH will work with another country in the region: Japan(JMA),China(CMA)
- Under CREWS project to procure a new service with cloud vendor

Thank you for your kind attention!