



ICAO

*International Civil Aviation Organization***Twenty Eighth Meeting of the Communications/
Navigation and Surveillance Sub-group (CNS SG/28)
of APANPIRG**

Bangkok, Thailand, 01-05 July 2024

Agenda Item 4: Information Management (IM)**PROGRESS UPDATE ON SWIM IMPLEMENTATION IN MALAYSIA**

(Presented by MALAYSIA)

SUMMARY

This paper presents progress update on SWIM implementation in Malaysia. These new updates incorporate information with regards to work and activities carried out in throughout the year 2023 up to Q1 of 2024. This paper will also touch on future works involving SWIM implementation in the country.

1. INTRODUCTION

- 1.1 Malaysia has started its involvement in SWIM development since 2016 through participation in meetings, research works and development activities. CAAM as the agency leading the implementation, has partnered with local and international technology players to support this effort. CAAM has appointed Telekom Malaysia (TM) as its main technology partner in for SWIM development in Malaysia.

2. DISCUSSION**2.1 Development Journey in Malaysia**

- 2.1.1 The development journey for SWIM in Malaysia started with the development of SWIM Malaysia Roadmap. The roadmap, which was developed with the support of IATA Consulting, has been the main reference for Malaysia to steer the course of this journey.
- 2.1.2 Continuous participations in ICAO APAC activities such as SWIM Task Force meetings, SWIM ASEAN Demo and other related activities is also a notable milestone in this journey.
- 2.1.3 To date, Malaysia has successfully completed the development of its SWIM Technical Infrastructure (SWIM-TI) which include the upgrade of the national ground ATS communication network to a modern IP based network, establishment of SWIM EMS in two Tier-3 data centers and network interface preparation for future connection of SWIM EMS to the CRV.
- 2.1.4 Malaysia has also started to develop its SWIM Information Service to kick-start the utilisation of information through SWIM. To date, majority of the MET Malaysia

information is now ready in the SWIM-TI in IWXXM format. Other ATS information service (e.g. FPL, NOTAM) is also made available in the SWIM-TI but using the legacy format (encoded to standard XML) instead of the standard SWIM information exchange model (FIXM, AIXM & IWXXM). This is to support the transition plan from AMHS/AFTN to SWIM in year 2030 planned for APAC region which both AMHS/AFTN and SWIM will co-exist in APAC eco-system.

2.1.5 Malaysia has also developed a document namely the ATM Information Exchange Interoperability Framework (ATMIEIF) to guide the aviation stakeholder involved in information system development and usage of information to correctly design, develop, upgrade, or enhance their current or new system to ensure seamless interoperability with the Malaysia SWIM-TI.

2.1.6 Malaysia has also participated and contributed to the SIPG and SURSG Joint Event hosted by HKCAD held on 28th and 29th May 2024 in Hong Kong, China. During the event, Malaysia provided and connected its EMS to the psuedoCRV established by PCCW for this event and publishes recording of ADS-B surveillance data from Lumpur FIR and Kinabalu FIR to be subscribed by other participants states namely Singapore, Japan, South Korea and Thailand during scenario demonstrations. Malaysia has also successfully subscribed to other published surveillance data and displays these data on a special GUI.

2.2 Method and approach of Malaysia SWIM Implementation

2.2.1 In further developing and expanding the SWIM Information Service for Malaysia, guideline on method and approach of interfacing, integrating and utilisation of the CAAM SWIM-TI shall be developed. To fulfil this, CAAM together with TM has developed the ATM Information Exchange Interoperability Framework (ATMIEIF) to provide documentation and standardisation for stakeholders, especially system developer and integrator on the process flow and technical requirement involved to subscribe and integrate to existing SWIM information service or publish a new information service to the CAAM SWIM-TI. Diagram 1 below shows the high-level view of the framework.

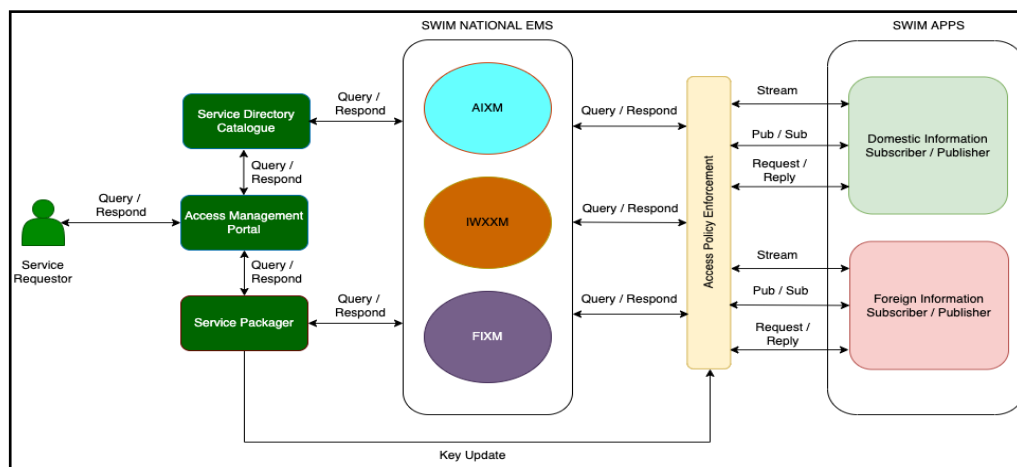


Diagram 1. CAAM SWIM Information Exchange Interoperability Framework

2.2.2 From Diagram 1 above, the initial step towards the access of the SWIM-TI started at the SWIM Portal provided as one of the framework components to manage the process. The SWIM Portal periodically updates latest collection of the SWIM information service status based on its automated query/respond transactions from the SWIM Service Directory

Catalogue. The real-time status of each information service will be made available to the subscriber to select and further processing process shall continue in accordance with the business process in the framework.

- 2.2.3 Based on discussion held during the monthly meetings of SWIM Implementation Pioneer Group (SIPG), it is decided that one of the way-forward for SWIM implementation in APAC is for each EMS provider to have a SWIM Registry which is discoverable by other EMS provider or information users. In line with the decision, Malaysia is willing to enhance its SWIM Service Directory Catalogue, which is currently part of the CAAM SWIM TI, to become the Malaysia SWIM Registry with the utilisation of standards and method as agreed by SIPG. This is a work in progress and has started after the SIPG demo event in Hong Kong.

2.3 Conclusion

With the readily available SWIM-TI and full support from the development team, Malaysia is keen in becoming one of the pioneering states that formed Version 1.0 of the SWIM Asia Pacific. The SIPG & SURSG Joint Event Demonstration success also manifest the cooperation between states in APAC and this will be one of the catalysts in ensuring the success of SWIM implementation in this region.

3 ACTION BY THE MEETING

- 3.1 The meeting is invited to:
- a) note the information contained in this paper; and
 - b) discuss any relevant matter as appropriate
