International Civil Aviation Organization

The Seventh Meeting of System Wide Information Management Task Force (SWIM TF/8)

Bangkok, Thailand, 08 – 10 November 2023

Agenda Item 3:   Progress of SWIM Implementation Pioneer Ad-Hoc Group

SWIM IMPLEMENTATION PROGRESS IN MALAYSIA

(Presented by MALAYSIA)

SUMMARY

This paper presents the progress of SWIM implementation activities in Malaysia. It shall cover the background and history of SWIM implementation in Malaysia, its current activities, and the plan envisaged in the SWIM Malaysia Roadmap. The paper shall also highlight essential milestones in the implementation and its outcomes regarding regional and global objectives.

1.   INTRODUCTION

1.1   Background

Malaysia has been actively implementing the System Wide Information Management (SWIM) initiative since 2016. CAAM appointed Telekom Malaysia (TM) as its development partner in 2017 to support activities in developing SWIM for the country. The initiative initially aims to educate Malaysia's aviation stakeholders and provide an experimental platform for demonstration and testing. It then evolves to a much more significant development towards achieving Malaysia's adopting and implementing objectives SWIM. This paper provides an update on Malaysia's efforts in implementing SWIM-related initiatives and outlines the progress to date.

1.2   Implementation Highlights

1.2.1   Malaysia SWIM Roadmap

CAAM, TM and IATA Consulting jointly developed the SWIM Malaysia Roadmap document in January 2018. The document is the main guideline for CAAM in implementing SWIM. The roadmap is a live document and the target date specified in the roadmap timeline is continuously reviewed. However, the main milestones set in the roadmap are still intact and relevant to the whole initiative. The high-level current timeline of the roadmap is as per **Figure 1**.
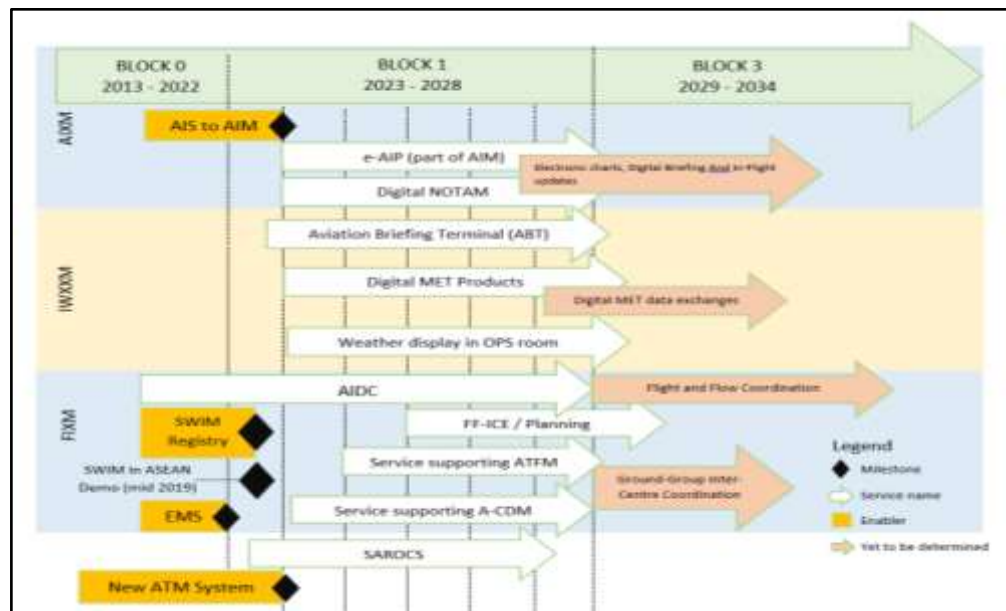
Figure 1. SWIM Malaysia Roadmap

1.2.2   Network Infrastructure Upgrade

Malaysia has upgraded its network infrastructure to support SWIM implementation, which includes upgrading the network bandwidth, technology, and hardware to ensure secure, efficient, and stable information and data exchange transmission. The migration of the domestic network to full IP technology and the provision of data centres to host the SWIM EMS was completed in September 2021. As for international connectivity, Malaysia has also provisioned its CRV gateway in May 2022 and has migrated the AMHS international-facing connection into CRV. Malaysia SWIM Technical Infrastructure (TI) is now ready to move on to the next stage of the roadmap.

1.2.3   National Enterprise Messaging Service (National EMS)

Malaysia completed its National EMS (NEMS) design and implementation in August 2022 to create the CAAM SWIM Technical Infrastructure. The NEMS is hosted in two Tier-3 data centers providing high availability and secure services. On top of the SWIM data exchange model (e.g., FIXM, AIXM and IWXXM), the NEMS also support standard XML data exchange model to ensure a non-SWIM application could also apply the information hosted in the NEMS during the transition period. CAAM is working on completing a few information services, including packages for MET, ATS eTOD, eAIP, and NOTAM to be hosted on the NEMS. The CAAM SWIM Technical Infrastructure (TI) is shown in Figure 2.
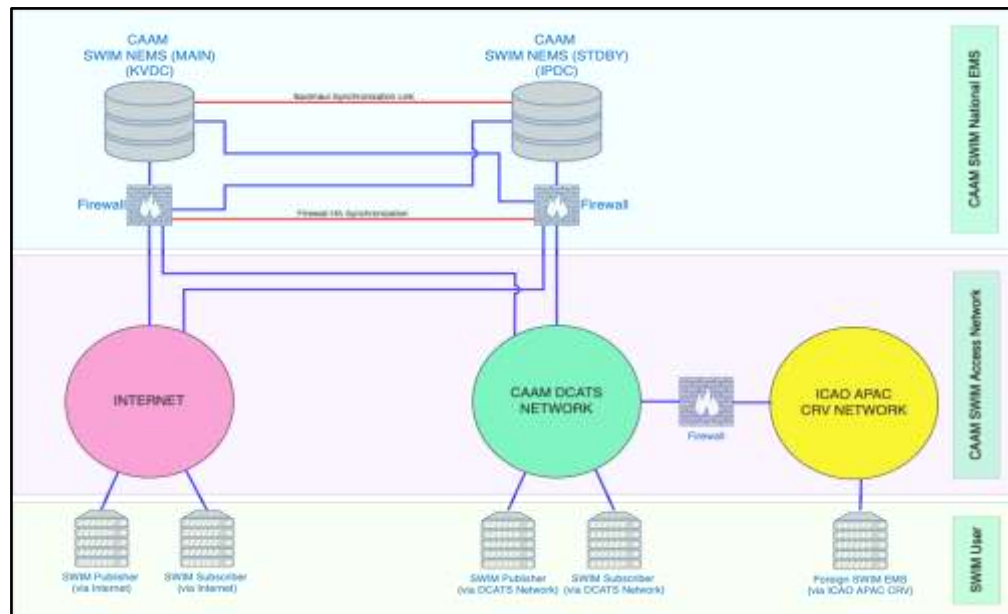
Figure 2. CAAM SWIM Technical Infrastructure

1.2.4   Awareness Programme

Continuous awareness programs on SWIM have been conducted for all stakeholders since 2017. The awareness programs include participants from CAAM, airport operators, airline operators and the military. Engagement between focus groups within CAAM involving multiple departments is also conducted regularly to ensure understanding of SWIM benefits can be appreciated by the stakeholders. The awareness program includes focus group discussions, user requirement discussions and workshops. These programs are conducted regularly to ensure the information and SWIM awareness are communicated correctly to all stakeholders.

1.2.5   ATM Information Exchange Interoperability Framework

The ATM Information Exchange Interoperability Framework (ATMIEIF) on the operation of SWIM is currently under development. The framework shall address the business processes involving interoperability, cybersecurity, and access control. The finalised framework is envisioned to be the basic guideline for all future ATM-related system development specifications. The framework document shall provide information and guidelines for future system developer and integrators on how to design and utilise the available interfaces and information services provided by the CAAM SWIM TI and incorporate them into their application system design and development. The components diagram of the CAAM ATMIEIF framework is shown in Figure 3.
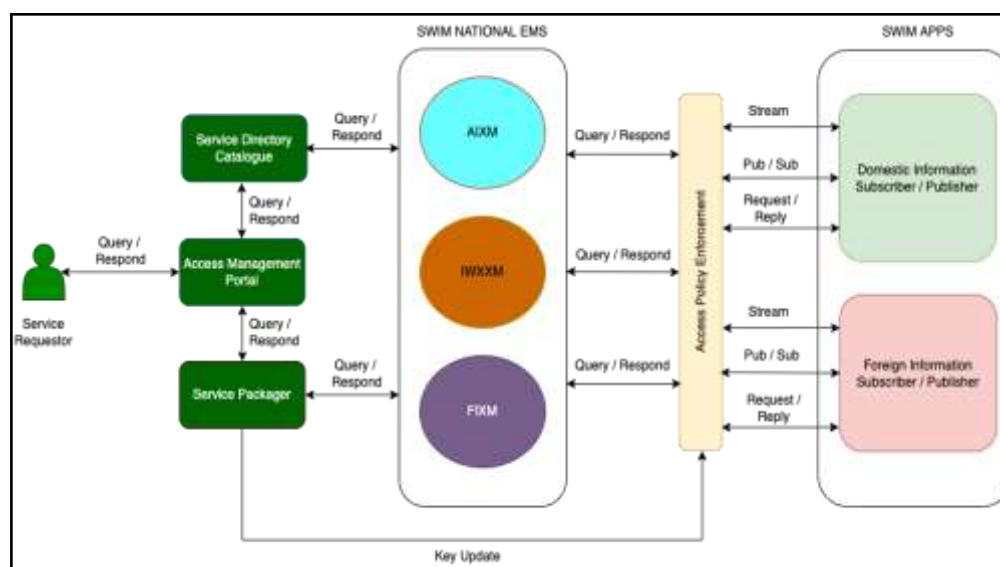
Figure 3. CAAM SWIM Information Exchange Interoperability Framework

2   DISCUSSION

2.1   Malaysia is committed to implementing SWIM as per the country roadmap and in line with the regional objectives.

2.2   Malaysia also participated in regional activities such as the SWIM ASEAN Demo successfully conducted in November 2019 to ensure that the development of SWIM in Malaysia can benefit from the lessons learned from these activities.

2.3   Malaysia is also committed to becoming one of the pioneering states to adopt SWIM in its ATM information exchange paradigm.

3   ACTION BY THE MEETING

The meeting is invited to:

     a)   note the information contained in this paper; and

     b)   discuss any relevant matter as appropriate.

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