



ICAO

The Fourth Meeting of System Wide Information Management Task Force (SWIM TF/4)

Web-conference, 3 – 6 November 2020

Agenda Item 5: Updates on the assigned tasks by task leads/contributors including progress Report and issues

g) Coordination and Promotion

- Monitoring of Panels' Work
 - Task 9 (Contains previous Task 1-7)
- Regional Coordination and SWIM Related Information
 - Task 10 (Contains previous Task 1-3)
- SWIM Implementation Education and Promotion
 - Task 11 (New Task)

UPDATE ON TASK 1-3: REGIONAL COORDINATION

(Presented by IATA)

SUMMARY

This paper presents a summary of activities related to Task 1.3 of the SWIM Task Force.

1. INTRODUCTION

1.1 The objective and scope of Task 1.3 is to identify SWIM related activities (and their interdependencies) in planning or development within other Working Groups (WGs) and Task Forces (TFs). It is to liaise with relevant regional TF/WGs to refine operational and communications requirements, provide guidance to those WG/TFs developing and using SWIM, and influence outcomes from other WGs and TFs that will support successful expansion of SWIM. This involves confirming inclusion on agendas and appropriate discussions ensuing.

1.2 Whilst Task 1.3 specifically states “Coordinate SWIM TF and MET IE/WG outcomes and activities”, the action is primarily about broader coordination of SWIM activities in APAC (not solely MET) and raising awareness of the work of the SWIM Task Force.

1.3 This summary endeavors to report on all activities related to SWIM in APAC but acknowledges there may be some missing. This is not intentional, and any additional input and updates are welcomed.

1.4 Given meeting delays caused by the COVID-19 pandemic, some of the updates from H2/2019 have been surpassed by further work in 2020.

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2. DISCUSSION

2.1 Updates on SWIM initiatives and objectives in APAC:

2.1.1 SWIM in ASEAN Demonstration: The SWIM in ASEAN Demonstration was the primary activity for collaboration by States for SWIM development in the region since last TF meeting. Conducted over two days in Bangkok and Singapore in the week 11-15 November 2019 it included participants and audience from ten ASEAN States, 4 non-ASEAN States, five airlines and several technical vendors.

2.1.2 During the event the benefits of SWIM were demonstrated through operational scenarios with real-time data exchange among participants' on-site SWIM systems located across the APAC region.

2.1.3 A brief on SWIM in ASEAN Demo was provided to APANPIRG/30 and full details will also be included in a separate paper in this meeting.

Common aeRonautical Virtual Private Network (CRV)

2.1.4 Seventh Meeting of the Common aeRonautical Virtual Private Network Operations Group (CRV OG/7) was held 20 - 22 January 2020

2.1.5 MPLS/IP Based Inter-Regional Connection – The meeting agreed to a proposal to develop a high-level concept on the interconnection of the CRV with other regional network such as REDDIG/MEVA/PENS. Several States that connect to the CRV are also required to connect to other regional networks. There are potential benefits with implementing interconnections between regional networks such as harmonization and efficiency in the connection for services like SWIM and reducing costs for States that connect to other regional networks.

2.1.6 The meeting heard a proposal for a SWIM Demonstration on CRV hosted by Hong Kong China in March 2020 to demonstrate the operational benefits of using CRV to carry SWIM data, and the corresponding services envisaged as necessary or complementary to support implementation of SWIM in APAC region. Through an operational scenario using real exchange of SWIM data the demonstration was to be conducted over a dedicated mini-CRV provided by PCCWG while not impacting normal operations for the routine traffic being exchanged.

2.1.7 Due to the COVID-19 crisis the demonstration was not able to progress. Hong Kong China will notify interested parties of a new date once available.

Air Traffic Flow Management (ATFM)

2.1.8 APAC ATFM Steering Group (SG)/10 meeting was held 4-8 May 2020.

2.1.9 The meeting was informed that the APAC FIXM 4.1 Extension, initiated by ATFM/SG and developed by the APAC SWIM Task Force (TF), had been reviewed by the FIXM Change Control Board (CCB) and subsequently published on the FIXM website at <https://fixm.aero>. APANPIRG 30 subsequently adopted the FIXM extension under Conclusion APANPIRG/30/12 (CNS SG/23/6-SWIM TF/3/4) – Asia/Pacific FIXM Extension for ATFM. The FIXM extension was subsequently posted on the ICAO APAC Regional Office eDocuments web-page for immediate use by APAC administrations, where capability to do so existed (<https://www.icao.int/APAC/Pages/eDocs.aspx>).

2.1.10 A paper was presented describing a refined proposal to develop APAC use cases and user requirements for SWIM-based MET information services supporting ATFM. The information provided included recent global and regional developments relating to MET and ATM in the SWIM environment.

2.1.11 Several papers and discussions acknowledged that ATFM data exchange, particularly cross-border, would be constrained to legacy technologies until SWIM capabilities became more broadly utilised and that interim steps should move towards enabling that longer-term outcome.

Meteorology

2.1.12 MET/R WG/9 agreed to establish a new deliverable as follow-up to Decision MET SG/23/7 – *Development of APAC User Requirements for SWIM-based MET Information Services Supporting ATFM*.

2.1.13 The meeting reviewed a proposal on the development of APAC use-cases and user-requirements for System-Wide Information Management (SWIM)-based meteorological (MET) information services supporting air traffic flow management (ATFM). This was follow-up from initiation of the work at earlier meetings.

2.1.14 The proposal included a list of proposed terms of reference for the work, as well as examples of use-cases and data catalogues and a draft table of contents of user-requirements for SWIM-based MET information services supporting ATFM.

2.1.15 The meeting established an ad-hoc group to work with other relevant bodies of APANPIRG (particularly the ATFM WG) to continue the work under the following proposed terms of reference:

- a) To focus on SWIM-based MET information services specifically addressing the needs of ATFM in the APAC Region;
- b) To document user requirements and use cases from ATFM in the APAC Region to facilitate the development of future SWIM-based MET information services;
- c) To supplement the global concept described in the MET-SWIM Plan, prepared by the METP WG-MIE, and the MET requirements being developed by the METP Working Group on Meteorological Requirements and Integration (WG-MRI) in a global sense and IWXXM development by METP WG-MIE for effective exchange of MET information supporting AFTM operation;
- d) To assist SWIM TF in identifying and developing the specifications of information services required to support operations based on user needs;
- e) To identify MET and ATFM data to be exchanged using SWIM-based Information Exchange Services in the Region to enable the effective MET/ATM integration and to provide the baseline for further development of the regional SWIM data catalogue and service catalogue; and

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- f) To identify other granular MET-related requirements from ATFM perspective such as update frequency and forecast lead time of MET information to better support the development of future MET Information Exchange Services in the Region.

2.1.16 The Eighteenth Meeting of the Meteorological Information Exchange Working Group (MET/IE WG/18) and the Tenth Meeting of the Meteorological Services Working Group (MET/S WG/10) were held 27 – 31 July 2020.

2.1.17 The terms of reference for both WGs were updated to include specific reference to IWXXM and SWIM in relation to facilitating digital aeronautical meteorological information exchange and SWIM in relation to the development of regional guidance material.

2.1.18 Ongoing activities by the MET WGs include assisting in the definition of the APAC SWIM Met service and data catalogues, and development of those SWIM MET services.

Airport Collaborative Decision Making (A-CDM)

2.1.19 The Sixth Meeting of the Asia/Pacific ATS Inter-facility Data-link Communication Implementation Task Force (APA-CDM TF/5) was held 14-16 July 2020.

2.1.20 CANSO provided a preview of its draft ATFM/A-CDM Integration Guide aimed to be published in mid-2020 and which identifies SWIM as one of the items considered to be the minimum for effective integration of A-CDM and ATFM.

2.1.21 The meeting noted that the information exchanges between ATFM and A-CDM should be scalable to allow a phased expansion of functionality on both systems. On interoperability, it was recommended using SWIM concept with the most current FIXM / FIXM Extension.

2.1.22 The group has an ongoing action to identify any other data attributes which are necessary to support the A-CDM and ATFM integrated operations (from A-CDM perspective), in addition to the ones already included in the current version of the FIXM v4.1 Extension in collaboration with experts from ATFM/SG and SWIM TF. A-CDM experts were strongly encouraged to attend ATFM/SG and/or SWIM/TF.

Aeronautical Communications Services (ACS)

2.1.23 The Seventh Meeting of Aeronautical Communications Services (ACS) Implementation Co-ordination Group of APANPIRG (ACSICG/7) took place 21-23 July 2020.

2.1.24 Several States updated on readiness of AMHS and/or CRV to support IWXXM exchanges:

- USA informed the meeting that FAA is developing an AMHS SWIM Gateway (ASG) prototype to enable international exchange of IWXXM data. The AMHS SWIM Gateway will send and receive OPMET data formatted using IWXXM utilizing AMHS File Transfer Body Part (FTBP) attachments.

- Indonesia conducted stage 1 of a trial on AMHS Jakarta for delivering OPMET messages with IWXXM format on 14 February 2020. Stage 2 of the trial planned in April 2020 was postponed due to the COVID-19 pandemic situation.
- Singapore commenced AMHS/FTBP over CRV testing with Japan from December 2019. AMHS over CRV testing with Australia and the Philippines are planned in Q3 2020. Singapore is also arranging inter-regional IWXXM over AMHS testing with United Kingdom and is open to AMHS/IWXXM over AMHS testing using CRV with interested States/ Administrations.
- Republic of Korea reported that their implementation of CRV was completed in November 2019 to facilitate IWXXM over AMHS testing with other CRV members.
- Fiji reported they are expanding their bandwidth to enable exchange of the required meteorological information in IWXXM GML form using FTBP over AMHS.
- Japan continues connection tests with Hong-Kong and Singapore using AMHS/FTBP over CRV since December 2019 and same is planned with China for 4Q2020 and with Korea for Q2021.

Surveillance

2.1.25 The Fifth Meeting of the Surveillance Implementation Coordination Group (SURICG/5) was held 22 - 24 September 2020.

2.1.26 Following the Conclusion CNS SG/23/10 (SURICG/4/1) - *ADS-B and Flow Management*, it was agreed there is a need to share surveillance data to provide surveillance from “departure to destination”. Singapore proposed solutions for sharing of surveillance data using SWIM/CRV and PCCW Global, the selected CRV service provider through ICAO TCB process, presented their capability to provide a hosted platform over SWIM/CRV for sharing of surveillance data.

2.1.27 Singapore proposed a multidisciplinary study group be established, to be led by SURICG, including experts from surveillance, SWIM and ATFM and it was intended that they inform this meeting of further details.

SWIM Education and Training

2.1.28 The Information Management Panel (IMP) is in the process of developing a draft SWIM Manual Vol.II to provide top-level guidance. After review at the IMP/2 meeting in Q4/2019, discussions have continued on the provisions but have been slowed due to COVID-19. It is expected the Manual will now be finalised in Q1/2021.

2.1.29 Early drafts of Table of Contents for *APAC SWIM Implementation Materials* and *APAC SWIM Education Programme* were shared and discussed at SWIM TF/3. Further work on the documents was to progress between then and this meeting however loss of resources in ICAO and the global impacts of COVID-19 has delayed progress. Notwithstanding, it was already noted that target date for completion of regional documents would be after the availability of the global implementation manual as the gaps for the regional needs could be identified. Task Force members were then, and still are now, requested to contribute to development of the documents.

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2.1.30 ICAO APAC is progressively loading SWIM reference and education material to the SWIM-APAC site of the ICAO Secure Portal. To gain access please follow these steps:

- Access the portal website: <https://portallogin.icao.int/>
- Subscribe to the group APAC-SWIM.
- Following the guidance, input your profile information.
- Wait for approval.
- You will receive an email to notify you once processed.

2.1.31 SWIM awareness / educational videos are available from both ICAO at <https://youtu.be/wXI9ep98Z8E> and IATA at <https://youtu.be/QplD6sP--gg>

2.1.32 IATA also offers a two-day IATA SWIM Training classroom course and during COVID-19 has also developed a two-hour online SWIM introductory course, both of which participants can register for at <https://www.iata.org/en/training/>.

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
