



ICAO

International Civil Aviation Organization

The Ninth Meeting of System Wide Information Management Task Force (SWIM TF/9)

Bangkok, Thailand, 14 – 17 May 2024

Agenda Item 3: Outcomes of relevant Meetings on SWIM related matters

OUTCOMES OF SWIM TF Task Leads (TLs) MEETINGS AND JOINT CRV OG AD-HOC EXPERT GROUP AND SWIM TF TLS MEETINGS AFTER SWIM TF/7

(Presented by the Secretariat)

SUMMARY

The paper presents outcomes of SWIM TF TLs Meetings and Joint CRV OG Ad hoc Expert Group and SWIM TF TLs Meetings after SWIM TF/7.

1. INTRODUCTION

1.1 The Seventh Meeting of System Wide Information Management Task Force (SWIM TF/7) was held *from 9 to 12 May 2023* in ICAO Asia and Pacific Regional Office, Bangkok, Thailand. The Meeting was attended by **73** participants from **16** States/Administrations, **2** International Organizations and **1** telecommunication service provider. The SWIM TF/7 meeting report, working papers, information papers, and other resources can be accessed at <https://www.icao.int/APAC/Meetings/Pages/2023-SWIM-Seminar-and-SWIM-TF7.aspx>

1.2 After CNS SG/27, the Eighth Meeting of the System Wide Information Management Task Force (SWIM TF/8) was held *from 8 to 10 November 2023* in ICAO Asia and Pacific Regional Office, Bangkok, Thailand. The Meeting was attended by **79** participants from **15** States/Administrations, **3** International Organizations and **1** telecommunication service provider. The SWIM TF/8 meeting report, working papers, information papers, and other resources can be accessed at <https://www.icao.int/APAC/Meetings/Pages/2023-workingSessionandSWIMTF8.aspx>

1.3 As an established effective practice in progressing various tasks of the SWIM TF, online Task Leads (TLs) coordination Meetings have been organised from time to time between Task Force Meetings to follow up on the progress of each task more effectively and better understand the regional information exchange requirements to be supported by APAC SWIM as well as the feasible and appropriate approach to establish SWIM over the regional network.

1.4 Additionally, the CRV OG Ad-hoc Group Meeting held on 2 June 2022 discussed the need for combined Meetings of CRV OG and SWIM TF to discuss the expectations of SWIM TF from the CRV network. To follow up on ACTION ITEM-2 of the Meeting, the ICAO Secretariat coordinated with CRV and SWIM experts, and joint quarterly meetings have been organised since 2022.

1.5 This paper summarises the outcomes of the SWIM TF TLs Meetings and Joint CRV OG Ad hoc Expert Group and SWIM TF TLs Meetings after SWIM TF/7.

2. DISCUSSION

SWIM TF Task Leads coordination Meetings after SWIM TF/7

2.1 A total of one (1) SWIM TF Task Leads coordination Meeting was held after SWIM TF/7 and two (2) meetings after SWIM TF/8 to review the outstanding SWIM TF/7 and SWIM TF/8 action items, which included relevant SWIM updates such as APAC SWIM implementation roadmap, SIPG and editorial ad-hoc group updates, joint events preparation, SWIM TI-related specifications, etc. The Minutes of the Meetings (MoM) of the three Meetings on 24 August 2023, 12 January 2024, and 26 March 2024 were shared with SWIM TF TLs. The reports are also provided in **Appendix A**, **Appendix B**, and **Appendix C**.

Joint CRV OG Ad hoc Expert Group and SWIM TF TLs Meetings

2.2 A total of three (3) Joint Meetings of the CRV OG expert Ad-hoc group and SWIM TF TLs were conducted on 23 June 2023, 5 October 2023, and 7 March 2024. The MoM of three joint Meetings are provided in **Appendix D**, **Appendix E**, and **Appendix F**.

3. ACTION BY THE MEETING

3.1 The Meeting is invited to:

- a) note the information contained in this paper; and
- b) discuss any matters as appropriate.

Minutes of the Meeting of SWIM TL Meeting: 24 August 2023 08:00 AM-10:00 AM BKK time

Meeting Date: 08/24/2023 08:00 AM

Location: Microsoft Teams Meeting

Participants:

✓	Dr. Amornrat Jirattigalachote	Thailand	Co-Chair, Task 1, 4, 7 Lead
✓	Mr. Yasushi Iwasawa	Japan	Task 2, 5, 8, 9 Lead
✓	Mr. Henry Chan	Hong Kong, China	Task 2 Lead
✓	Mr. Sehwan Han	ROK	
✓	Mr. Marco Kok	Hong Kong, China	Task 6 Lead
✓	Ms. Soniya Nibhani	ICAO	SWIM TF Secretary
✓	Ms. Zhong, Wenhan	ICAO	

Notes:

The Meeting was chaired by Dr. Amornrat Jirattigalachote, Strategic Planning Manager (Engineering), Policy and Strategy Management Bureau of AEROTHAI. Ms. Soniya Nibhani, Regional Officer ANS (CNS) Implementation, ICAO Asia and Pacific Regional Office, acted as the meeting secretary.

Adoption of agenda:

The Meeting adopted the attached provisional agenda.



Tentative Provisional
Agenda SWIM_Leader

Agenda Item 1: Welcome & Opening Remarks

- Dr. Amornrat Jirattigalachote welcomed all delegates to the SWIM TF TL Meeting and shared opening remarks with delegates.
- The presentation used to moderate the Meeting is attached herewith for detailed information:



SWIM TF TL Meeting
24 August 2023 final.

Agenda Item 2:

Outstanding SWIM TF/7 Action Items Review

- Review of *APAC SWIM Technical Infrastructure Profiles- Draft Version* (Appendix F of the SWIM TF/7 Report)
- Review and Reproduction of SDS Implementation Specification Document for APAC Region

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- Update of SOWs
 - Update on APAC SWIM Implementation Guidance materials (IGD)
- The Meeting noted that no comments were received for the APAC SWIM Technical Infrastructure Profiles – Draft Version and no updates on reproducing the SDS Implementation Specification Document for the APAC Region were provided. The Meeting was requested to review the documents and provide inputs so that the first draft/initial version of guidance material can be available.
- Task 1 lead is consolidating all documents to prepare the initial version of APAC SWIM Implementation Guidance materials for the editorial ad-hoc group's review.

Agenda Item 3: Update on SWIM Implementation Pioneer Ad-hoc Group

Agenda Item 4: Update on S3TIG-organised Demo/Trial

- SWIM Implementation Pioneer Ad-hoc Group (SIPG) meeting and S3TIG-organised Demo/Trial meeting have been organized back-to-back on monthly basis since June 2023.
- In SWIM Implementation Pioneer Ad-hoc Group, the following have been the main topic of discussion:
 - The scope of the initial version of APAC SWIM infrastructure;
 - The timeline to establish pseudo-CRV and to conduct message test and network test; and
 - A list of information services to be provided in the first version of the APAC SWIM.
- The timelines of SIPG, especially the pseudo-CRV establishment and related tests around November – December 2023 timeframe, were planned to be well aligned with the S3TIG-organised Demo/Trial timelines.
- The latest status of the S3TIG demo/trial was shared, specifically the ongoing discussion on a data format to be used for sharing SUR data in SWIM environment. The Meeting was informed that ASTERIX and JSON are currently the formats being supported by majority of the S3TIG members.

Agenda Item 5: Update on the Regional Coordination Meeting

- SWIM TF/CRV OG Coordination Meeting
- CRV OG Chairs kindly attended the S3TIG meeting and the following Demo/Trial-related questions raised by the CRV OG experts were addressed at the meeting held on 24 June 2023.
 - a. Bandwidth and CoS proposed for the Package D connections;
 - b. Network drawings for the Trial;
 - c. System drawing for the Trial;
 - d. Test Plan for the Trial;
 - e. Access to the PCCWG portal for the 5 Package D circuits to observe the network performance; and
 - f. Access to the test report.
- The Meeting was updated on the following responses of PCCWG on the queries previously made by the SWIM experts
 - To exchange data over CRV, the same GRE tunnel can be utilized for both AMHS and SWIM data, however, subject to the availability of existing capacity;

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- Regarding access to CRV, a single access point to CRV can be provided to exchange AMHS and SWIM data;
- CRV users, who have their own EMSs, can connect their EMSs to CRV without the need to use PCCWG's EMS. However, it is still unclear how the capacity limitation issued will be addressed in this case.
- During the transition, PCCWG can provide an AMHS/SWIM gateway. In the case where ANSPs/other organizations have their own AMHS/SWIM gateway, such capability can be used on CRV as well.

Agenda Item 6: Updates on the assigned tasks by task leads/contributors, including progress reports and issues

- **Task 1:** Regional Implementation Philosophy & Roadmap
 - ✓ Task group mainly focused on the work of the SWIM Implementation Pioneer Ad-Hoc Group, for which an update was provided under Agenda Item 3.
- **Task 2:** Regional SWIM Infrastructure
 - ✓ Update provided under agenda item 3 under Review of *APAC SWIM Technical Infrastructure Profiles-draft version*.
- **Task 3:** Security Services
 - ✓ Trust Framework Panel (TFP) is developing an Information Security Management System (ISMS) Manual expected to be released in 2024. TFP's next Meeting will be held on October 30th – November 2nd, 2023. The ISMS Manual being drafted will be a good input for framing security services requirements for APAC.
- **Task 4:** Development and Maintenance of Regional Information Exchange Models
 - ✓ The FIXM version 4.2 Extension adopted by SWIM TF/7 will be submitted for endorsement by CNS SG/27 and APANPIRG/34, consequently.
 - ✓ The Meeting was informed that AEROTHAI is conducting a review of FIXM version 4.3 to assess the need to update the FIXM version 4.2 Extension to version 4.3.
- **Task 5:** Task 5: Regional SWIM Governance Framework
 - ✓ No updates.
- **Task 6:** Information Services
 - ✓ The Meeting noted the update from Task 6, as shown in the following presentation.



Task 6.pptx

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- **Task 7: SWIM Demonstration**
 - ✓ Task group mainly focused on the work of the S3TIG-organised Demo/Trial.
- **Task 8: SWIM Services and Application Validation**
 - ✓ No updates
- **Task 9: Monitoring of Panels' Work**
 - ✓ The Meeting was informed that the IMP-WG/11 will be held at ICAO HQ on September 5th – 8th, 2023. Updates on significant outcomes will be shared at the future SWIM TF or SWIM TF TL meeting.
- **Task 10: Regional Coordination and SWIM Related Information Sharing**
 - ✓ No updates.
- **Task 11: SWIM Implementation Education and Promotion**
 - ✓ The Meeting was requested to share the relevant contents, if any, to support the development of the regional SWIM implementation education and promotion catalog.

Agenda Item 6: Next Meeting and Any other business

- ✓ The Meeting was informed of a two-day **SWIM Business Requirement Brainstorming, an In-Person Working Session**, followed by a three-day **SWIM TF/8 Meeting** from 6-10 November 2023 in Bangkok, Thailand.
- ✓ The Meeting agreed to have the next task lead Meeting in **January 2024**, followed by a second Meeting in March 2024. ICAO Secretariat will share a Doodle poll for **9 January to 12 January 2024** to finalize the final date with contributors and task leads.

Minutes of the Meeting of SWIM TL Meeting: 12 January 2024 08:00 AM-10:00 AM BKK time

Meeting Date: 01/12/2024 08:00 AM

Location: Microsoft Teams Meeting

Participants:

Dr. Amornrat Jirattigalachote	Thailand	Co-Chair, Task 1,4, 7 Lead
Ms. Kristin Cropf	USA	Co-Chair
Mr. David Leow	Singapore	Task 1, 7 Lead
Mr. Yasushi Iwasawa	Japan	Task 2, 8, 9 Lead
Mr. Henry Chan	Hong Kong, China	Task 2 Lead
Mr. Mark Kaplun	USA	Task 5 Lead
Ms. Honglei Gao	China	Task 8 Lead
Mr. Marco Kok	Hong Kong, China	Task 6 Lead
Mr. Lu Xiaodong	Japan	
Mr. Thomas Green	USA	Task 11 Lead
Ms. Soniya Nibhani	ICAO	SWIM TF Secretary

Notes:

The Meeting was chaired by Dr. Amornrat Jirattigalachote, Strategic Planning Manager (Engineering), Policy and Strategy Management Bureau of AEROTHAI and Ms. Kristin Cropf, SWIM Program Manager, Federal Aviation Administration (FAA). Ms. Soniya Nibhani, Regional Officer ANS (CNS) Implementation, ICAO Asia and Pacific Regional Office, acted as the meeting secretary.

Adoption of agenda:

The Meeting adopted the attached provisional agenda.



Tentative Provisional
Agenda SWIM_Leader

Agenda Item 1: Welcome & Opening Remarks

- Dr. Amornrat Jirattigalachote welcomed all delegates to the SWIM TF TL Meeting and shared opening remarks with delegates.
- The presentation used to moderate the Meeting is attached herewith for detailed information:



SWIM TF TL Meeting
12 Jan 2024_final.ppt

SWIM TF/9
Appendix B to WP/08

Agenda Item 2:

Outstanding SWIM TF/7 and SWIM TF/8 Action Items Review

- Review of APAC SWIM Technical Infrastructure Profiles- Draft Version (Appendix F of the SWIM TF/7 Report and Appendix B of SWIM TF/8 Report)
- Review and reproduction of SDS Implementation Specification Document for APAC Region
- Update on an online survey for proposed APAC Common SWIM Information Services
- Update of SOWs of Tasks
- Update on APAC SWIM Implementation Guidance materials (IGD)

- The Meeting noted that no comments were received for the APAC SWIM Technical Infrastructure Profiles – Draft Version, and no updates on reproducing the SDS Implementation Specification Document for the APAC Region were provided.

- The Meeting noted that the *Draft APAC SWIM Technical Infrastructure Profiles Review Outcomes* updates provided by the Task 2 lead used a document different from Appendix B to the SWIM TF/8 report. Task 2 Lead will take further action to revise the draft document. **ACTION ITEM 2-1**

- In SWIM TF8, SDCM is adopted as a candidate Baseline SWIM Discovery Service Standard for Asia/Pacific for SWIM registry interoperability. FAA released a new version of SDCM 3.0, which was reviewed by some APAC States, too. It is published on discovery.aero and in draft. FAA informed that it holds no exclusive right to this document and is open to everyone. Additionally, if IMP adopted this document, the document would not need any particular rights.

- The Meeting noted that the new version of SDCM is not expected to have a lot of changes. SDCM v2.0 is published and SDCM v3.0 may be finalized by March 2024. We can incorporate it in the guidance document.

- For the proposed APAC Common SWIM Information Services online survey, 60 responses from 17 States/Administrations, 2 airlines and one service provider were received. The analysis of responses was going on.



APAC_Common_SWI
M_Information_Servic

- The Aerothai team is preparing the draft of the information exchange model based on the FIXM 4.3 version. The registry model (Task 5) team will have the first draft by March 2024. A list of SWIM common information services will be prepared based on survey results.
- An update of SOW is required based on the new SWIM TF ToR. In SWIM TF/9, it will be reviewed and updated. The agreed timeline for this Task is:

SWIM TF/9
Appendix B to WP/08

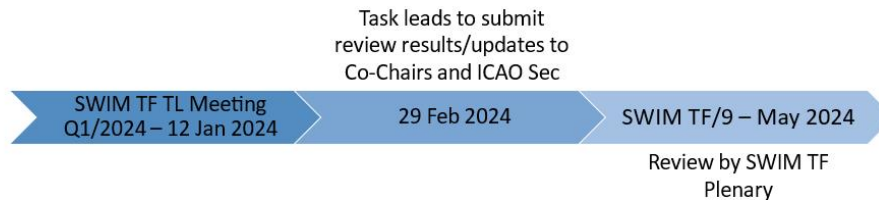


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Proposed Timeline – SOW Update



- Task 1 has been taken by SIPG. The proposal to close Task 1 may be presented by Task 1 lead in SWIM TF/9.

Agenda Item 3: Update on SWIM Implementation Pioneer Ad-hoc Group

Agenda Item 4: Update on S3TIG-organised Demo/Trial

- In the SWIM Implementation Pioneer Ad-hoc Group, the following have been the main topic of discussion:
 - The APAC SWIM infrastructure is finalized in SWIM TF/8: 4 gateway EMS can ping each other. Edge EMS gateways connectivity test is going on;
 - Concern was shared about the lack of response from India and no participation in the SIPG meeting. ICAO Secretariat will coordinate with India; **ACTION ITEM 2-2**
 - The latest status of S3TIG work was shared at the Meeting.
 - The S3TIG demo and SURSG/4 meeting will be joint events.
 - The Meeting noted that April 2024 timelines for joint events are unsuitable due to holidays and IMP meetings.
 - The joint event/SURSG4 could be planned in June 2024.

Agenda Item 5: Update on the Regional Coordination Meeting

- SWIM TF/CRV OG Coordination Meeting

- No coordination meeting was done after SWIM TF/8. The next Meeting is on 7 March 2024.
- CRV OG/12 is from 23-26 Jan 2024. CRV governance, bandwidth requirements, the cost model for bandwidth extension and other SWIM requirements from CRV.
- Task 2 lead is working on estimating bandwidth requirements. More information can be provided after the joint event.
- Another CRV event with SWIM experts is being planned in the CRV workshop.

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- SWIM TF is expecting a security framework for CRV, bandwidth, and SWIM/AMHS gateway requirements from CRV OG. Who will provide the gateway and if it will be part of the CRV tender document?

Agenda Item 6: Updates on the assigned tasks by Task leads/contributors, including progress reports and issues

- **Task 1:** Regional Implementation Philosophy & Roadmap

✓ Task 1 group is proposing to close Task 1 as work is taken over by SIPG.

- **Task 2:** Regional SWIM Infrastructure



Task2-Task8_Report2
40112.pptx

- **Task 3:** Security Services

✓ No APAC task lead as of today. The ISMS manual is to be issued by the Trust Framework Panel by November 2024. The regional implementation should not be different from the ISMS manual. Wait for the manual release.

- **Task 4:** Development and Maintenance of Regional Information Exchange Models

✓ The FIXM version 4.2 Extension was adopted by APANPIRG/34 as a regional extension, but FIXM v4.3 is coming.

✓ A small exercise with ATFM experts was done, but they did not identify any additional requirements for FIXM extension development.

- **Task 5:** Task 5: Regional SWIM Governance Framework

✓ SDS version 2.0 would possibly be ready by March 2024. There's work going on for the working draft as well as its publication on the discovery.aero website. There would be a discussion within the Task 5 group on the suggested solution, and we can have the document for which version of the SDCM and SDS.

- **Task 6:** Information Services

✓ The Meeting noted the update from Task 6, as shown in the following presentation.



SWIM_TF_Task6_info
rmation_service_2024

- **Task 7:** SWIM Demonstration

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✓ Task group mainly focused on the work of the S3TIG-organised Demo/Trial.

- **Task 8: SWIM Services and Application Validation**



Task2-Task8_Report2
40112.pptx

- **Task 9: Monitoring of Panels' Work**

✓ PANS IM discussion ended in November 2023. Information service work is scheduled for the next end of February 2024 and the governance work is scheduled for the end of March 2024.

- **Task 10: Regional Coordination and SWIM Related Information Sharing**

✓ No updates.

- **Task 11: SWIM Implementation Education and Promotion**

✓ The draft of the brochure was prepared by the Task 10 lead. The ICAO Secretariat will share the draft brochure with Task leads for comments and feedback. **ACTION ITEM 2-3**

Agenda Item 6: Next Meeting and Any other business

- ✓ The CRV OG and SWIM TF coordination meeting is on 7 March 2024.
- ✓ SWIM TF/9 is from 10-13 May 2024, with a day SWIM event on 9 May 2024.
- ✓ SWIM fundamental training is being planned for 22-26 July 2024.
- ✓ The Meeting agreed to have the following task lead Meeting in **Late March 2024**. ICAO Secretariat will share a Doodle poll for **26-28 March** to finalize the final date with contributors and Task leads. **ACTION ITEM 2-4**

Minutes of the Meeting of SWIM TL Meeting: 26 March 2024 08:00 AM-10:00 AM BKK time

Meeting Date: 03/26/2024 08:00 AM

Location: Microsoft Teams Meeting

Participants:

Dr. Amornrat Jirattigalachote	Thailand	Co-Chair, Task 1, 4, 7 Lead
Ms. Kristin Cropf	USA	Co-Chair
Mr. David Leow	Singapore	Task 1, 7 Lead
Mr. Yasushi Iwasawa	Japan	Task 2, 8, 9 Lead
Mr. Henry Chan	Hong Kong, China	Task 2 Lead
Mr. Mark Kaplun	USA	Task 5 Lead
Mr. Lu Xiaodong	Japan	
Mr. Thomas Green	USA	Task 11 Lead
Ms. Soniya Nibhani	ICAO	SWIM TF Secretary

Notes:

The Meeting was chaired by Dr. Amornrat Jirattigalachote, Strategic Planning Manager (Engineering), Policy and Strategy Management Bureau of AEROTHAI and Ms. Kristin Cropf, SWIM Program Manager, Federal Aviation Administration (FAA). Ms. Soniya Nibhani, Regional Officer ANS (CNS) Implementation, ICAO Asia and Pacific Regional Office, acted as the meeting secretary.

Adoption of agenda:

The Meeting adopted the attached provisional agenda.



Tentative Provisional
Agenda SWIM_Leader

Agenda Item 1: Welcome & Opening Remarks

- Dr. Amornrat Jirattigalachote welcomed all delegates to the SWIM TF TL Meeting and shared opening remarks with delegates.
- The presentation used to moderate the Meeting is attached herewith for detailed information:



SWIM TF TL Meeting
26 March 2024-final.p

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Agenda Item 2:

Outstanding SWIM TF/7 and SWIM TF/8 Action Items Review

- Review of APAC SWIM Technical Infrastructure Profiles- Draft Version (Appendix F of the SWIM TF/7 Report and Appendix B of SWIM TF/8 Report)
 - Review and reproduction of SDS Implementation Specification Document for APAC Region
 - Update on an online survey for proposed APAC Common SWIM Information Services
 - Update of SOWs of Tasks
 - Update on APAC SWIM Implementation Guidance materials (IGD)
- As per Action Item 8-8, Dr. Amornrat, Thailand's IMP nominated member, presented the work on SWIM Discovery Service Development in APAC to IMP/WG-I/S/2 (27 February - 1 March 2024) and IMP/WG-G/11 (18 – 21 March 2024). The IMP/WG-I/S/2 meeting requested the SWIM TF Co-Chair to present registry model analysis details to the SWIM Service Registry Interoperability job card team.
 - To support the work of this job card at the IMP/WG-I/S, Dr. Amornrat will present the analysis details discussed at the SWIM TF to the job card team to consider the possibility of adopting this model for global standardization.
 - At the IMP/WG-I/S/2, it was also noted that there is a likelihood of regions implementing solutions for interoperable registries prior to the publication of global standard. To reduce the risk that there may be conflicts between regional implementations and the global standard, it was reinforced to the IMP/WG-I/S that the experiences should be shared among the IMP as implementations are matured.
- Regarding the review of APAC SWIM Technical Infrastructure Profiles – Draft Version, Xiaodong shared the following updates on SWIM TF:



SWIM-TI-Profiles-ProposedChanges_ENR12

- The Meeting was informed that Manual on Information Security being developed by the Trust Framework Panel (TFP) is assigned a number as ICAO Doc 10204. Inclusion of the number of this manual in the APAC SWIM Technical Infrastructure Profiles document was discussed. It was concluded that, considering the draft status of this manual, it may be premature to include its number in the APAC document. However, it was also shared that the endorsement of this manual may happen at the second meeting of TFP (TFP/2) to be held on 29 April – 3 May 2024. In the case where the manual is endorsed at the TFP/2, the Meeting agreed to include the ICAO document number of Manual on Information Security in the APAC SWIM Technical Infrastructure Profiles document with the indication that it is still a draft being processed for formal publication by ICAO.
- TFP is developing other documents such as a digital identity management manual and aviation common certification policy document which is related to and may be of use for regional SWIM implementation.

- All Task leads was requested to review the proposed changes related to the SWIM TI Profiles provided by Xiaodong and provide feedback prior to the SWIM TF/9, if possible.

ACTION ITEM 3-1

- On an online survey on APAC Common SWIM Information Services, Marco shared survey results as follows:



SWIM_service_functionality_survey_result

- The minimum set of common information services to be discussed at the SWIM TF/9 will be presented to other APANPIRG contributory bodies/groups, including AAITF, AOP SG, ATM SG, MET SG for further consideration by subject matter experts. **ACTION ITEM 3-2**
 - In the working paper to be presented to the SWIM TF/9, Marco, with support of other SWIM TF Task leads, will add the description on functionality of each proposed SWIM information service to provide better clarity on the expected service function. **ACTION ITEM 3-3**
- The items highlighted in the yellow boxes are focus areas for the APAC Regional Implementation Guidance (IGD):

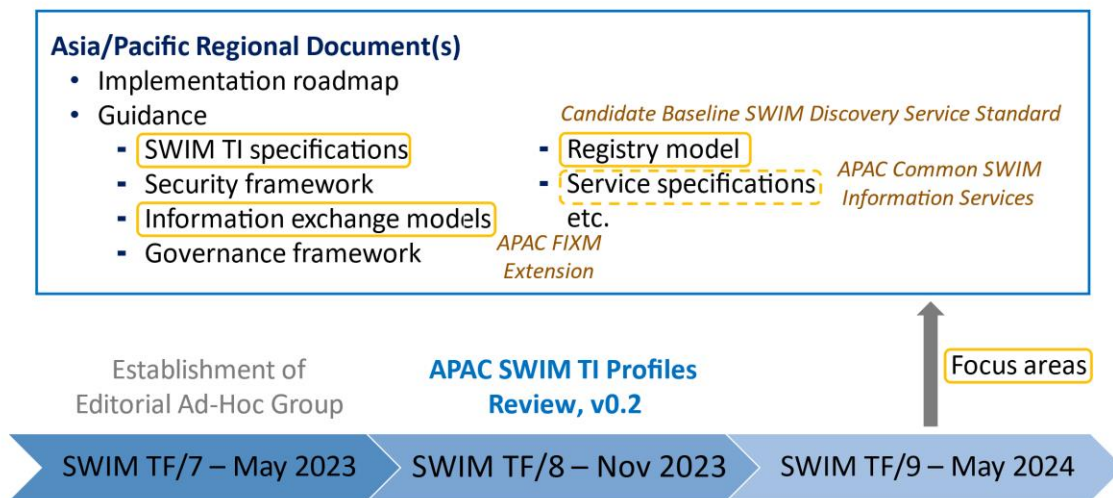


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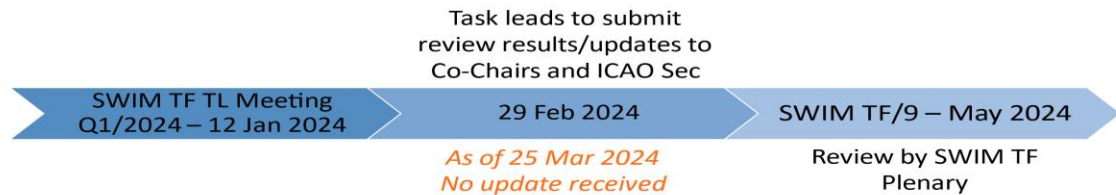
Draft Work Plan for IGD



- An update of SOW is required based on the SWIM TF ToR adopted by CNS SG/26 in 2022. The updated SOWs, if any, are needed to be reviewed and agreed at the SWIM TF/9. The agreed timeline for this task is:



Timeline – SOW Update



Agenda Item 3: Update on SWIM Implementation Pioneer Ad-hoc Group

Agenda Item 4: Update on S3TIG-organised Demo/Trial

- For the update of SWIM Implementation Pioneer Ad-hoc Group (SIPG), the following information, especially the connection status among gateway EMSs and edge EMSs, was shared:



David SIPG-Gateway
EMS connectivity Mat

- The Meeting was informed that Malaysia and India were encouraged to prepare some operational scenarios to showcase the technical capability of a hierarchy SWIM TI architecture and operational benefits of SWIM at the upcoming joint event.
- The latest status of S3TIG work was shared at the Meeting.
- The joint event/SURSG4 is scheduled from 28-31 May 2024.

Agenda Item 5: Update on the Regional Coordination Meeting

- SWIM TF/CRV OG Coordination Meeting


- The outcomes of the coordination meeting of SWIM TF TLs and CRV OG experts held on 7 March 2024 were shared.
- Regarding filling the form for new CRV requirements, concern was shared that the parameters included in the form are mostly related to communication experts and involved not only data communication but also voice communication. SWIM experts may have difficulties providing the responses. SWIM TF Task leads will share the information in the form by 15 April 2024. **ACTION ITEM 3-4**

Agenda Item 6: Updates on the assigned tasks by Task leads/contributors, including progress reports and issues

- Task 1: Regional Implementation Philosophy & Roadmap

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- Task 1 work was provided under Agenda Item 3 SIPG updates.
 - Task 2: Regional SWIM Infrastructure
- Task 2 updated was provided under Agenda Item 1 Review of APAC SWIM TI Profiles – Draft Version.
 - Task 3: Security Services
- As of today, there is no task lead from the Asia region.
- Manual on Information Security is being developed by TFP and expected to be published in Q3/2024 with applicability in November 2024.
- It was discussed that the regional implementation should not be different from the Manual to be available.
 - Task 4: Development and Maintenance of Regional Information Exchange Models
- The FIXM version 4.2 Extension was adopted by APANPIRG/34 as an APAC regional Extension. It was presented to the FIXM CCB in March 2024 for reviewing and validating the Extension. Progress will be shared with the SWIM TF/9.
- The Meeting was informed that FIXM version 4.3 will be proposed to the ATFM SG/14, which will be held on 22-26 April 2024, for adoption as a common version for flight information exchange to support ATFM operations in APAC. The update on ATFM SG/14's consideration will be presented to the SWIM TF/9 to consider modifying the APAC FIXM version 4.2 Extension to FIXM version 4.3, if needed.
 - Task 5: Regional SWIM Governance Framework
- Mark Kaplan requested, through e-mail, the SWIM TF task leads to review the SDS Implementation Specification version 2.0 and provide feedback by 7 April 2024.
 - Task 6: Information Services
- The Meeting noted the update from Task 6, as shown in the following presentation.


SWIM_TF_Task6_infor
mation_service_2024
- Task 7: SWIM Demonstration
- The Meeting was informed that main focus of this task group is currently the conduct of joint SWIM-over-CRV demonstration and surveillance data sharing in SWIM technical trial to be held in May 2024.

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○ Task 8: SWIM Services and Application Validation

- Xiaodong shared that SWIM services and applications, especially the FF-ICE/R1 services, will be validated at the upcoming SWIM-over-CRV demonstration. The update will be provided to the SWIM TF/9.

○ Task 9: Monitoring of Panels' Work

- ICAO Council approved the first edition of Doc 10199 PANS-IM with an applicability date of 28 November 2024.
- In addition to Doc 10039 Manual on SWIM Concept, Manual on SWIM Implementation and Manual on Information Security are assigned the document number Doc 10203 and Doc 10204, respectively, with planned publication date of their first edition in Q3/2024.
- The next IMP meeting is IMP-WG/12 which will be held from 15-19 April 2024 at IATA HQ in Montreal, Canada.

○ Task 10: Regional Coordination and SWIM Related Information Sharing

- IATA's support as task lead is challenging due to resource constraints. SWIM TF Task Leads was requested to nominate another lead to support this task.

○ Task 11: SWIM Implementation Education and Promotion

- The following draft brochure was shared with the Meeting.



APAC SWIM
Brochure Rough Draft

- The Meeting shared that the current content of the brochure is good and additional information about the upcoming demos can be added to provide possible implementation examples and highlight the SWIM benefits. The ICAO Secretariat will share the draft brochure with task leads for comments and feedback. **ACTION ITEM 3-5**

Agenda Item 7: SWIM TF/9 Preparation

○ SWIM Seminar

- Theme “Building Asia/Pacific Regional SWIM: The Journey to Version One”
- The Meeting was reminded that presentation topics should be ready by the last week of April 2024 to be in time for preparation for Order of Business. Dr. Amornrat will coordinate with prospective speakers for the presentation topics and slide content.

○ SWIM TF/9

- The ICAO Secretariat informed that, if possible, all papers should be submitted before the last week of April 2024.
- List of papers expected:
 - SIPG update, including its future plan (milestones and timelines)
 - Update on APAC SWIM TI profile

SWIM TF/9
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Agenda Item 8: Next Meeting date and any other business

- SWIM seminar and the SWIM TF/9 Meeting – 13-17 May 2024
- Joint event and SURSG/4 – 28-31 May 2024
- SWIM TF TLs and CRV OG Ad-hoc Experts Joint Meeting – Doodle sent for 10-14 June 2024
- ICAO Asia/Pacific FF-ICE Ad-hoc Group and Workshop with Tabletop Exercise (TTX) – 18-21 June 2024
- SWIM Working Session – Q4/2024.
- The Meeting agreed to have the next task lead meeting during the week of 12 August 2024. ICAO Secretariat will share a Doodle poll for 12-16 August 2024 to finalize the final date with contributors and task leads. **ACTION ITEM 3-6**

MOM of Joint Meeting of CRV OG Ad-hoc Expert and SWIM TF Task Leads
23 June 2023, Video Tele-Conference (VTC)

Minutes of the Meeting of Joint CRV OG Experts and SWIM TF TLs Meeting: 23 June 2023 08:00 AM-10:00 AM BKK Time

Meeting Date: 06/23/2022 08:00 AM

Location: Microsoft Teams Meeting

Attendance:

Ms. Amornrat Jirattigalachote	amornrat.ji@aerorhai.co.th
Mr. Augustine Lau	augustine_lau@caas.gov.sg
Ms. Cropf, Kristin M (FAA)	kristin.m.cropf@faa.gov
Mr. DongKie Park(KAC)	pdkie@airport.co.kr
Mr. Hoang Tran	Hoang.Tran@faa.gov
Mr. Henry Chan	hhlchan@cad.gov.hk
Mr. Hickford, Vaughan	vaughan.hickford@airways.co.nz
Mr. Joe Knecht (FAA)	Joe.Knecht@faa.gov
Mr. Kelepi Dainaki	KelepiD@fijiairports.com.fj
Mr. LU Xiaodong	luxd@mpat.go.jp
Mr. Marco Kok	mhkok@hko.gov.hk
Mr. Nigel CTR Simmons (FAA)	Nigel.CTR.Simmons@faa.gov
Mr. Thomas Green	thomas.green@lstechllc.com
Mr. Wen Zhu	wzhu@nira-inc.com
Ms. Soniya Nibhani	snibhani@icao.int
Ms. Wenhan Zhong	wzhong@icao.int

Notes:

Dr. Amornrat Jirattigalachote, SWIM TF Co-Chair, moderated the meeting.

Agenda Item 1: Welcome & Opening Remarks

1. Mr. Vaughan Hickford, CRV OG Co-Chair (Asia), Mr. Kelepi Dainaki, CRV OG Co-Chair (Pacific), Dr. Amornrat Jirattigalachote, SWIM TF Co-Chair, and Ms. Kristin Cropf, SWIM TF Co-Chair, welcomed all delegates and shared opening remarks.
2. The presentation used to moderate the meeting is attached herewith for detailed information:



SWIM TF and CRV
OG Coordination Mee

SWIM TF/9
Appendix D to WP/08

MOM of Joint Meeting of CRV OG Ad-hoc Expert and SWIM TF Task Leads
23 June 2023, Video Tele-Conference (VTC)

Agenda Item 2 CRV OG and SWIM TF Working Together

- **SWIM over CRV Demonstration (the Demo)**
- **SWIM Implementation Pioneer Ad-Hoc Group**

1. The meeting noted the agreement made at the SWIM TF/7 to combine the SWIM over CRV Demonstration (the demo) with the Surveillance Data Sharing over SWIM Trial (the trial) where the demo, to be held tentatively in Nov-Dec 2023 for two days, will be marked as a starting point of the combined event and will be followed by the trial to be conducted under the collaboration between SWIM TF and S3TIG for a few months after the demo.
2. CRV OG Co-Chair (Asia) shared concern over the non-involvement of CRV OG in the trial/demo, and the meeting discussed the following queries on the demo/trial presented by CRV OG Co-Chair.
 - a. Bandwidth and CoS proposed for the Package D connections.
 - b. Network drawings for the trial.
 - c. System drawing for the trial.
 - d. Test Plan for the trial.
 - e. Access to the PCCWG portal for the 5 Package D circuits to observe the network performance.
 - f. Access to the test report.
3. SWIM TF Co-Chair shared that most of the queries are related to the trial and that should be responded in coordination with S3TIG.
4. In response to a query about system diagram for the trial, it was agreed that only a high-level diagram of SWIM system architecture is required. Similarly, for network architecture, only a high-level diagram of CRV connection between trial participants is sufficient for further CRV performance analysis.
5. The meeting noted that the objective of not only the trial but also the SWIM Implementation Pioneer Ad-Hoc Group includes assessing the performance of CRV in supporting the exchange of SWIM traffic.
6. The meeting noted that the decision of using Package D for the demo/trial was made solely by PCCWG, potentially due to the lowest cost, and also because States did not want to use their operational CRV connections for the demo/trial.
7. The meeting noted that, although PCCWG provides five package D free of charge for the demo/trial participants, States choosing to connect via Internet will need to bear their own cost. The information will be shared to S3TIG by ICAO Secretariat. **ACTION ITEM 3-1**

Agenda Item 3: Regional SWIM Establishment

- **SWIM principally over CRV**
- **PCCW Console Connect Aviation Platform**

8. The meeting noted the establishment of SWIM Implementation Pioneer Ad-Hoc Group to develop an initial version of regional SWIM. The objective of the Ad-Hoc Group is also to test the feasibility of establishing SWIM and its operation over CRV using pseudo-CRV.
9. The current focus of the Ad-Hoc Group is to establish the SWIM technical infrastructure and implement some commonly-agreed SWIM information services, e.g. Flight Information Service, MET Information Service. The Ad-Hoc Group also agrees to include the implementation of SWIM registry in its scope. However, the capability to support both AMHS and SWIM traffic is under consideration.

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MOM of Joint Meeting of CRV OG Ad-hoc Expert and SWIM TF Task Leads
23 June 2023, Video Tele-Conference (VTC)

10. The meeting noted that the Ad-Hoc Group and the joint demo/trial event meetings are scheduled to be held back-to-back monthly.
11. The meeting discussed the security concern shared by SWIM TF on connecting the PCCWG Console Connect Platform (CCP) accessible via the Internet and other commercial networks with the CRV network shared.
12. CRV OG Co-Chair (Asia) informed there is no direct connection between CRV and PCCWG CCP. Additionally, a desktop exercise and potential penetration test will be done for CRV security assessment by CRV OG in future, in which this scenario can be added. **ACTION ITEM 3-2**
13. CRV OG Co-Chair (Asia) suggested that requirements from a SWIM perspective, e.g. the accessibility to SWIM traffic exchanged over CRV for non-CRV users, can be added for further consideration by CRV OG.
14. The meeting discussed the cost model, if a third-party SWIM service provider vendor joins CRV and provides SWIM services over this network, and the difference in CRV usage terms between such third-party SWIM service provider and CRV service provider to provide SWIM services over CRV by themselves. The meeting suggested that SWIM TF may consider adopting CRV approach, i.e. selecting SWIM service providers for a region and establishing a regional contract, in future. It was also recommended that the vendor(s) chosen should meet all requirements set by CRV OG for accessing the network. SWIM TF Co-Chair suggested more detailed deliberation for this proposal is needed. **ACTION ITEM 3-3**

Agenda Item 4: CRV Governance

15. CRV OG Co-chairs (Asia) shared updates about CRV governance and the way forward.

Agenda Item 5: Next Meeting Date and Any Other Business

1. The meeting agreed to have the next meeting after key meetings of CRV OG ad-hoc groups in the week of 3-6 October 2023. ICAO Secretariat will share a doodle for finalizing the dates. **ACTION ITEM 3-4**

MOM of Joint Meeting of CRV OG Ad-hoc Expert and SWIM TF Task Leads
5 October 2023, Video Tele-Conference (VTC)

Minutes of the Meeting of Joint CRV OG Experts and SWIM TF TLs Meeting: 5 October 2023 08:00 AM-10:00 AM BKK Time

Meeting Date: 10/05/2023 08:00 AM

Location: Microsoft Teams Meeting

Attendance:

1.	Ms Amornrat Jirattigalachote	amornrat.ji@aerothai.co.th
2.	Mr Ajay Kumar	ajaykumarcom@aai.aero
3.	Mr Augustine Lau	augustine_lau@caas.gov.sg
4.	Ms Brenda Buwu	Brenda.Buwu@AirservicesAustralia.com
5.	Ms Cropf, Kristin M (FAA)	kristin.m.cropf@faa.gov
6.	Mr David LEOW	David_LEOW@caassg.onmicrosoft.com
7.	Mr Didier Yvetot	didier.yvetot@aviation-civile.gouv.fr
8.	Mr Hoang Tran	Hoang.Tran@faa.gov
9.	Mr Hickford, Vaughan	vaughan.hickford@airways.co.nz
10.	Mr Kelepi Dainaki	KelepiD@fijiairports.com.fj
11.	Mr LU Xiaodong	luxd@mpat.go.jp
12.	Mr Shwan Han, KAC	Joe.Knecht@faa.gov
13.	Mr Thomas Green	thomas.green@lstechllc.com
14.	Mr Nigel CTR Simmons (FAA)	Nigel.CTR.Simmons@faa.gov
15.	Mr Will Turner, FAA	Will.CTR.Turner@faa.gov
16.	Ms Wen ZHU	wzhu@nira-inc.com
17.	Ms Soniya Nibhani	snibhani@icao.int

Notes:

Dr Amornrat Jirattigalachote, SWIM TF Co-Chair, moderated the meeting.

Agenda Item 1: Welcome & Opening Remarks

1. Mr Vaughan Hickford, CRV OG Co-Chair (Asia), Mr Kelepi Dainaki, CRV OG Co-Chair (Pacific), Dr Amornrat Jirattigalachote, SWIM TF Co-Chair, and Ms Kristin Cropf, SWIM TF Co-Chair, welcomed all delegates and shared opening remarks.
2. The presentation used to moderate the meeting is attached herewith for detailed information:



SWIM and CRV Joint
Meeting_5 October 2023

SWIM TF/9
Appendix E to WP/08

MOM of Joint Meeting of CRV OG Ad-hoc Expert and SWIM TF Task Leads
5 October 2023, Video Tele-Conference (VTC)

Agenda Item 2 CRV OG and SWIM TF Working Together

- **SWIM over CRV Demonstration (the Demo)**
- **SWIM Implementation Pioneer Ad-Hoc Group**

1. Action item initiated by Fiji during the 4th S3TIG Joint-Event Meeting on 25 September 2023 was discussed. CRV OG Co-Chair (Pacific) elaborated that this action item was raised due to the lack of clear understanding on how pseudo CRV would be set up. The action item was closed after clarifications shared by the SWIM TF Co-Chair to the CRV OG Co-Chair (Pacific).
2. Updates on progress made by the SWIM Implementation Pioneer Ad-hoc group was shared by Mr. David Leow, lead of the group. Particularly, the meeting was informed that pseudo CRV to be used for the initial regional SWIM implementation of the group as well as the joint SWIM-over-CRV demo and S3TIG trial is being established. The conduct of the joint event was planned for the first quarter of 2024. The meeting was also updated that the EMS-to-EMS message exchange approach is being discussed and targeted to be finalized by SWIM TF/8.

Agenda Item 3: Regional SWIM Establishment

- **SWIM principally over CRV**
- **PCCW Console Connect Aviation Platform**

3. The meeting noted the establishment of the SWIM Implementation Pioneer Ad-hoc Group to develop the initial (first) version of Asia/Pacific regional SWIM. The meeting was also informed that the current focuses of this group are to establish the regional SWIM technical infrastructure and to test the feasibility of using CRV to support the regional SWIM operation.
4. CRV OG Co-Chair (Asia) informed the status of a desktop exercise and potential penetration test planned for CRV security assessment by CRV OG in the future, which was **ACTION ITEM 3-2** of the last CRV OG/SWIM TF joint meeting. In particular, the quotes for this exercise have been requested from the third-party vendors.
5. The meeting noted that the upcoming SWIM TF/8 meeting will focus on the development of the regional SWIM implementation guidance materials and the work of the SWIM Implementation Pioneer Ad-hoc Group only. Other topics will be addressed at the SWIM TF/9 meeting scheduled to be held in May 2024.

Agenda Item 4: CRV Governance

6. CRV OG Co-Chair (Asia) shared updates about CRV governance and the way forward. The meeting noted that the requirement for regional SWIM operation over CRV is an important input to lay down the appropriate approach to govern CRV in the future.

Agenda Item 5: Next Meeting Date and Any Other Business

1. The next meeting is planned for any day in the week of 4-8 March 2024. ICAO Secretariat will share a doodle for finalizing the dates. **ACTION ITEM 4-1**

SWIM TF/9
Appendix F to WP/08

MOM of Joint Meeting of CRV OG Ad-hoc Expert and SWIM TF Task Leads
7 March 2024, Video Tele-Conference (VTC)

Minutes of the Meeting of Joint CRV OG Experts and SWIM TF TLs Meeting: 7 March 2024 08:00 AM-10:00 AM BKK Time

Meeting Date: 03/07/2024 08:00 AM

Location: Microsoft Teams Meeting

Attendance:

Ms. Amornrat Jirattigalachote	amornrat.ji@aerorhai.co.th
Mr Ajay Kumar	ajaykumarcom@aai.aero
Mr. Augustine Lau	augustine_lau@caas.gov.sg
Ms. Brenda Buwu	Brenda.Buwu@AirservicesAustralia.com
Ms. Cropf, Kristin M (FAA)	kristin.m.cropf@faa.gov
Mr. David Leow	David_LEOW@caas.gov.sg
Ms. Gao Honglei	gaohonglei@atmb.net.cn
Mr. Gene	gwhkwok@cad.gov.hk
Mr. Hoang Tran	Hoang.Tran@faa.gov
岩澤 康志	iwasawa-y28j@mlit.go.jp
Mr. Joe Knecht (FAA)	Joe.Knecht@faa.gov
Mr. Kelepi Dainaki	KelepiD@fijiairports.com.fj
Mr. LU Xiaodong	luxd@mpat.go.jp
Mr. Marco Kok	mhkok@hko.gov.hk
Mr. Nigel CTR Simmons (FAA)	Nigel.CTR.Simmons@faa.gov
Mr. Shayne Campbell	Shayne.A.Campbell@faa.gov
Mr. Thomas Green	thomas.green@lstechllc.com
Mr. Wen Zhu	wzhu@nira-inc.com
Mr. Will Turner	Will.CTR.Turner@faa.gov
Ms. Soniya Nibhani	snibhani@icao.int
Ms. Wenhao Zhong	wzhong@icao.int

Notes:

Dr. Amornrat Jirattigalachote, SWIM TF Co-Chair, moderated the meeting.

Agenda Item 1: Welcome & Opening Remarks

1. Mr. Kelepi Dainaki, CRV OG Co-Chair (Pacific) and Dr. Amornrat Jirattigalachote, SWIM TF Co-Chair, welcomed all delegates and shared opening remarks.
2. The presentation used to moderate the meeting is attached herewith for detailed information:

SWIM TF/9
Appendix F to WP/08

MOM of Joint Meeting of CRV OG Ad-hoc Expert and SWIM TF Task Leads
7 March 2024, Video Tele-Conference (VTC)



Draft SWIM and CRV
Joint Meeting_7 March

Agenda Item 2: CRV OG and SWIM TF Working Together

- **CRV OG/12 key outcomes for SWIM TF**
 - **Workshop on “CRV requirements for SWIM Services”**
 - **SWIM over CRV Demonstration**
1. ICAO Secretariat shared key outcomes of the CRV OG12 Meeting. The meeting noted that CRV OG is tracking bandwidth utilization for all Member States and indicated that 2 Mbps seems to be sufficient to transmit IWXXM data.
 2. The requirements for SWIM vendors to provide SWIM services over CRV, the process of testing SWIM services on CRV, adding new services to CRV, and the process of joining CRV by third parties are in progress at CRV OG.
 3. PCCWG has provided an estimate of higher bandwidth cost. Therefore, action items 8-7 of SWIM TF/8 for CRV OG can be considered completed. It will be proposed to the SWIM TF/9 meeting.
ACTION ITEM 5-1
 4. In the new tender document/RFI for CRV, the price for higher bandwidth will be added by CRV OG to get an estimate for other communication service providers. **ACTION ITEM 5-2**
 5. **CRV data requirements for the SWIM workshop** will be organized from **17-19 September 2024** in **Guam, USA**. All states/administrations will be invited to the workshop, and a maximum of 2 participants from each state/administration will be asked.
 6. A joint trial and demonstration event is planned for **28-29 May 2024** in Hong Kong, China.
 7. Dr Amo shared updates about the preparation for the joint event.

Agenda Item 3: Regional SWIM Establishment

- **SWIM Implementation Pioneer Working Group**
 - **Third-Party SWIM TI Service Provision over CRV, e.g., PCCW Console Connect Aviation Platform**
 - ✓ **CRV Security assessment**
 - SIPG is tasked with creating an initial/prototype APAC SWIM architecture on pseudo CRV for the joint demonstration hosted by Hong Kong China. Two-tiered architecture is being used which has a central core of interconnected EMS. EMS Gateways will be interconnected with each other and these gateways will be connected to edge EMS. Today, we have IP connectivity among all four gateway EMS, but the Gateway EMS, Hong Kong cannot perform message exchange with other gateways. The gateway EMS consists of Hong Kong, China, China, Singapore and Thailand. ROK and China, as well as Malaysia and Singapore, are connected for messages exchange. Connection and message exchange between Japan with Hong Kong China, and India with Thailand are in progress. In addition, the edge-to-edge test among Malaysia to Singapore, China to Korea, and vice versa are in process.
8. For security concerns shared by SWIM TF on connecting the PCCWG Console Connect Platform (CCP) with the CRV network, there was a plan for a desktop exercise and potential penetration test for CRV security assessment. CRV OG12 considered quotations for security assessment and

SWIM TF/9
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MOM of Joint Meeting of CRV OG Ad-hoc Expert and SWIM TF Task Leads
7 March 2024, Video Tele-Conference (VTC)

discussed the process for the work order. However, as ICAO TCB cannot release the money to a third party, this task is canceled for the future. In the case of a new tender document for CRV, penetration testing will be added to the tender document.

Agenda Item 4: CRV Governance

9. No updates

Agenda Item 5: Next Meeting Date and Any Other Business

1. The meeting agreed to have the next meeting after the Joint event (28-29 May 2024) in the week of **10-14 June 2024**. ICAO Secretariat will share a doodle for finalizing the dates. **ACTION ITEM 5-3**