



SWIM

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Expert (Director Level)

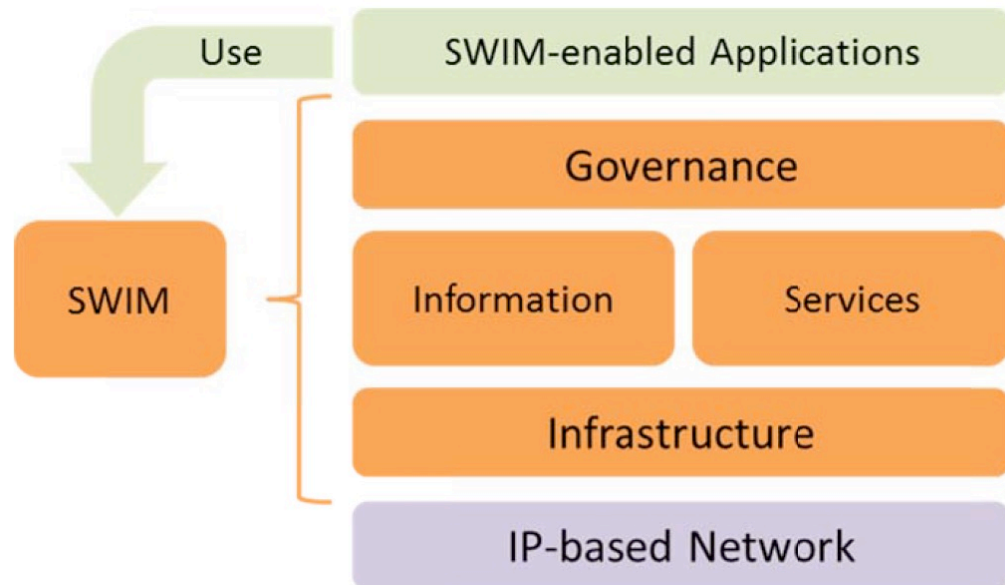
Corporate Strategy and Sustainability Office, AEROTHAI

Member of ICAO Information Management Panel and ICAO APAC SWIM Task Force Co-Char

ICAO APSAR Workshop - 5 May 2026



System-Wide Information Management



- Intranet for aviation
 - Information sharing platform among members of aviation community
- Components
 - Information
 - Information services
 - Technical infrastructure
 - (supported by) Governance
- Enable **the management and discoverability of ATM-related information** and its **exchange** between **qualified parties** via **interoperable services**



SWIM Stakeholders

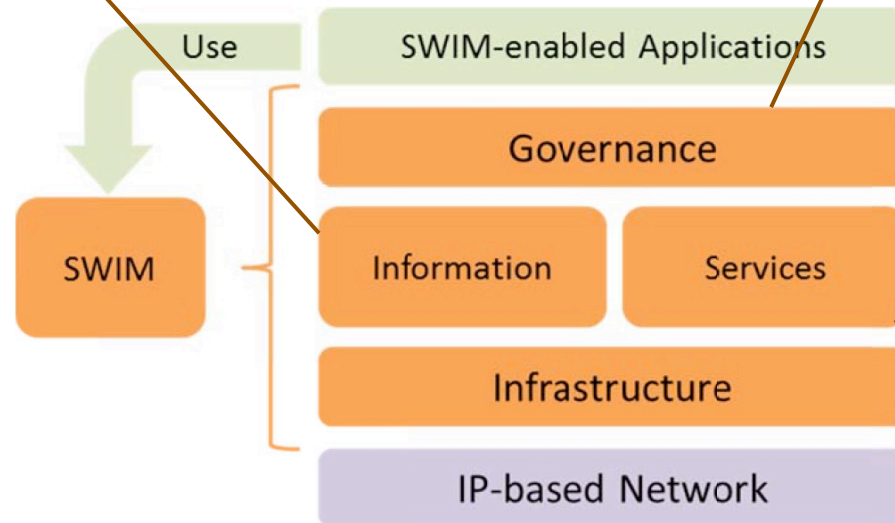


Originator

Produce data and information

Regulator

Oversee the entire process



Service Provider

Integrate, transform, and disseminate the information

Service Consumer

Use the information service





Information Service Consumer

Registry

Governance

Infrastructure



Data/Info Originator

Information

Information Service

Information Service Provider

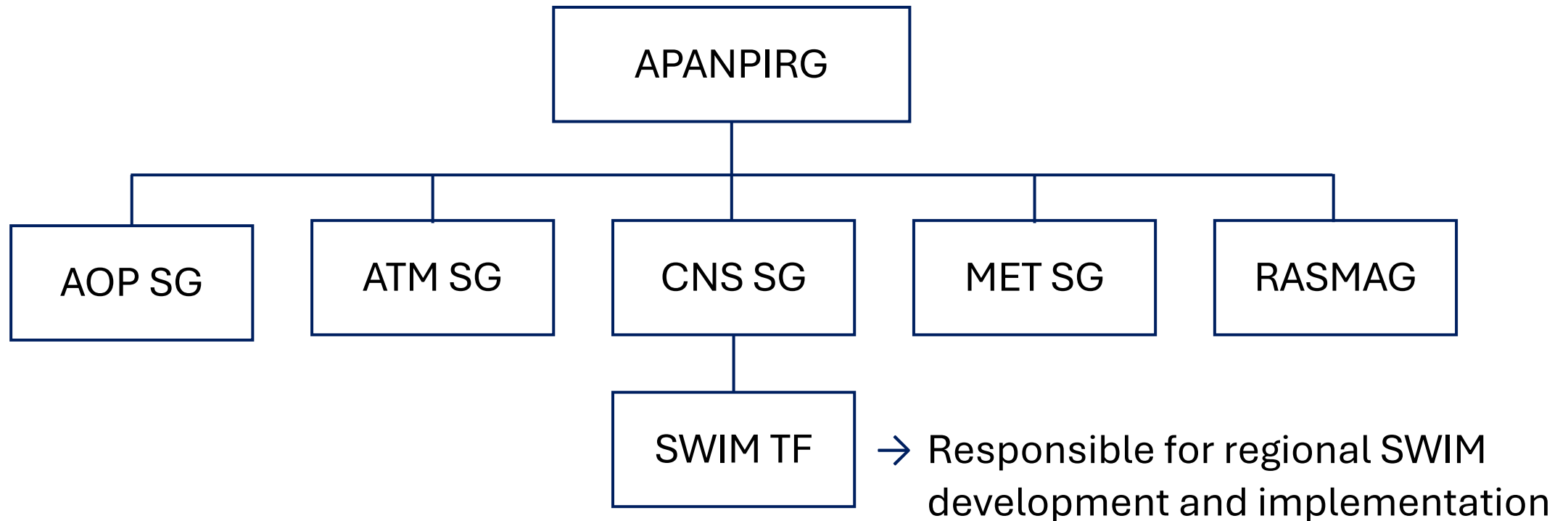
Global/Regional SWIM



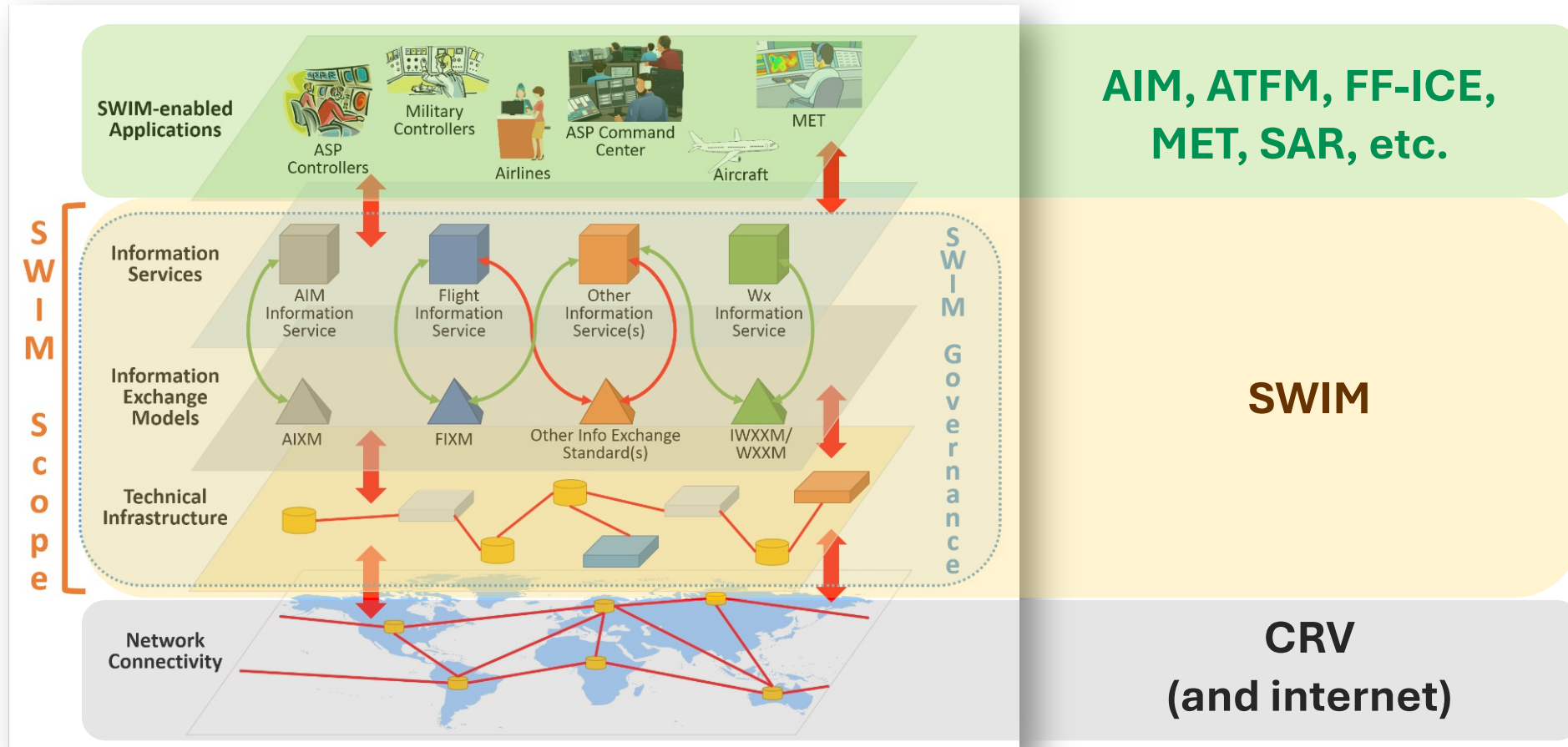
- Technical options
 - On-premise, cloud-based, etc.
- Business models
 - Build, buy, build and buy
- Scalable and flexible, while remaining harmonized



ICAO Asia/Pacific SWIM Task Force



SWIM in Asia/Pacific Context



The Road to APAC SWIM – At a Glance



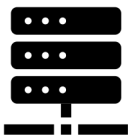
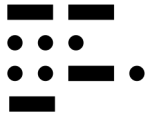
APAC SWIM target implementation completion: **2030**

APAC SWIM Technical Infrastructure Profiles, v1.0



Interoperable SWIM registry model
SWIM discovery service

FIXM v4.3 as a standard format for APAC from Q3/2026
Cross-border ATFM and FF-ICE/R1



APAC common SWIM information services



Asia/Pacific SWIM Implementation Timeline



Conclusion APANPIRG/33/9 (CNS SG/26/06 (SWIM TF/06/02, SWIM TF/06/04)): The Asia-Pacific SWIM Implementation Timeframe and inclusion of the Asia/Pacific SWIM Implementation in the Asia/Pacific Seamless ANS Plan	
What: 1. To set the timeframe for the implementation of SWIM in the Asia-Pacific region to be between 2024 and 2030, with 2030 being the target timeline for implementation completion. 2. To include SWIM implementation in the next edition of the Asia/Pacific Seamless ANS Plan.	Expected impact: <input type="checkbox"/> Political / Global <input type="checkbox"/> Inter-regional <input checked="" type="checkbox"/> Economic <input type="checkbox"/> Environmental <input checked="" type="checkbox"/> Ops/Technical
Why: This is to set the concrete target implementation of the Asia-Pacific regional SWIM to assist States in harmonizing their implementation plans in order to achieve the seamless information exchange across the region in time for future operations, e.g. FF-ICE. Additionally, to ensure that SWIM, a key building block to achieve the vision outlined in ICAO Doc 9854 Global ATM Operational Concept (GATMOC), is captured in the Asia/Pacific Seamless ANS Plan, providing an overall framework for Asia/Pacific States to plan their implementations to meet the future performance requirements.	Follow-up: <input checked="" type="checkbox"/> Required from States

When:

Who:
TF

- 2024 – 2030: Implementation timeframe
- 2030: Target implementation **completion**

Asia/Pacific Seamless ANS Plan, v4.0
 PASL Phase IV, expected implementation by
 27 November 2025

- SWIM-B2/1 Information Service Provision
- SWIM-B2/2 Information Service Consumption



ASIA/PACIFIC SEAMLESS ANS PLAN

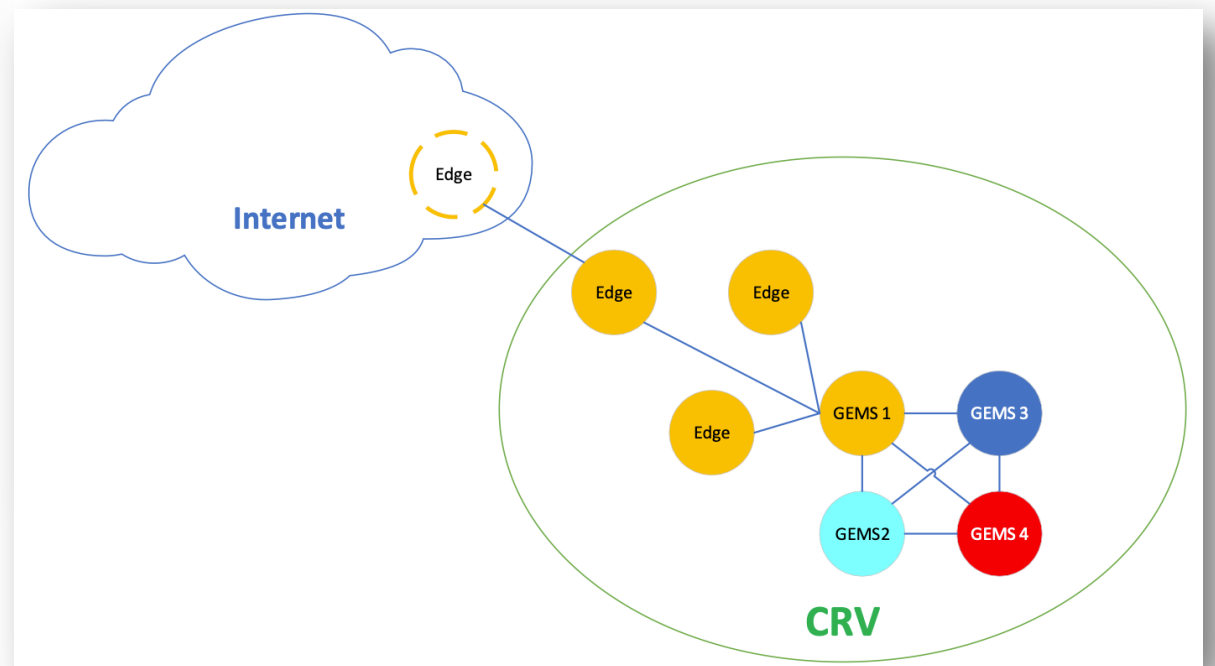
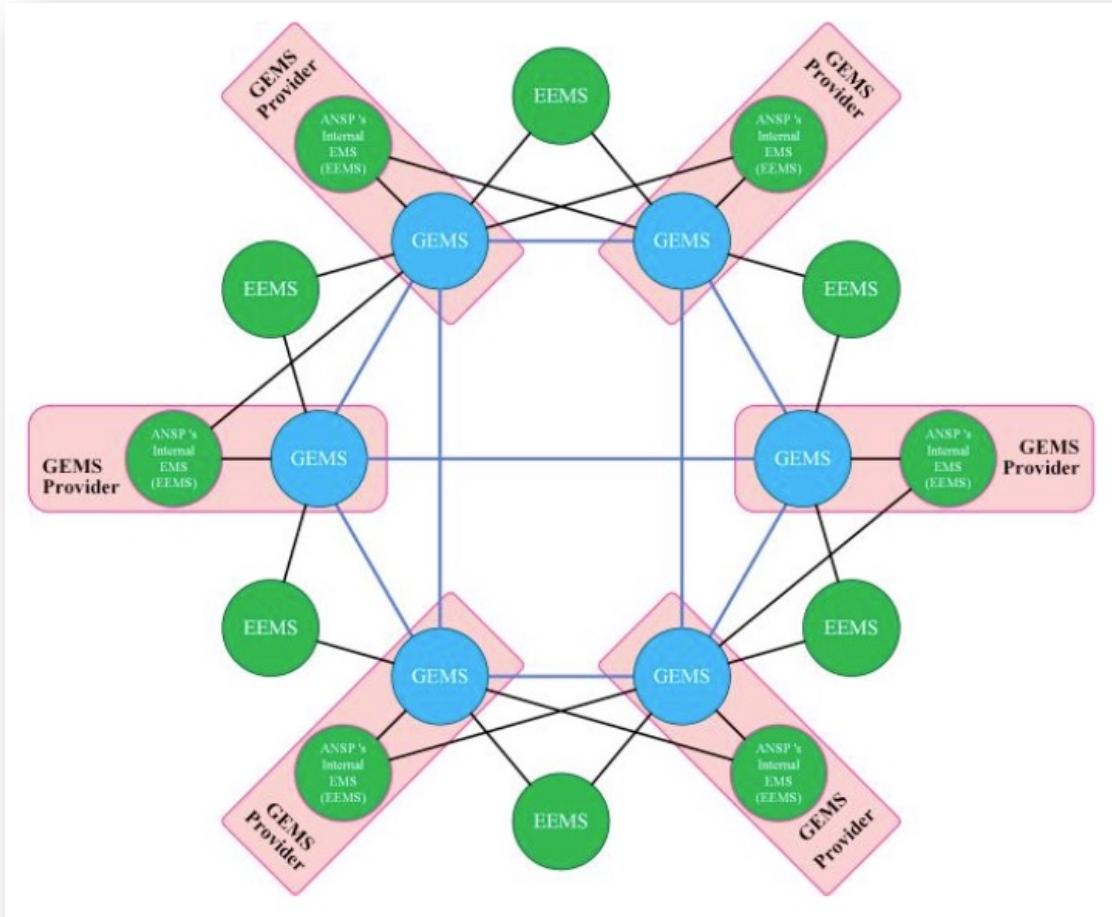
Version 4.0, November 2024

This Plan was originally developed by the Asia/Pacific Seamless ATM Planning Group (APSAPG) and amended when appropriate by APANPIRG.

Approved by APANPIRG/35 and published by the ICAO Asia and Pacific Office, Bangkok



Asia/Pacific Regional SWIM TI Architecture





Asia/Pacific SWIM Registry Model

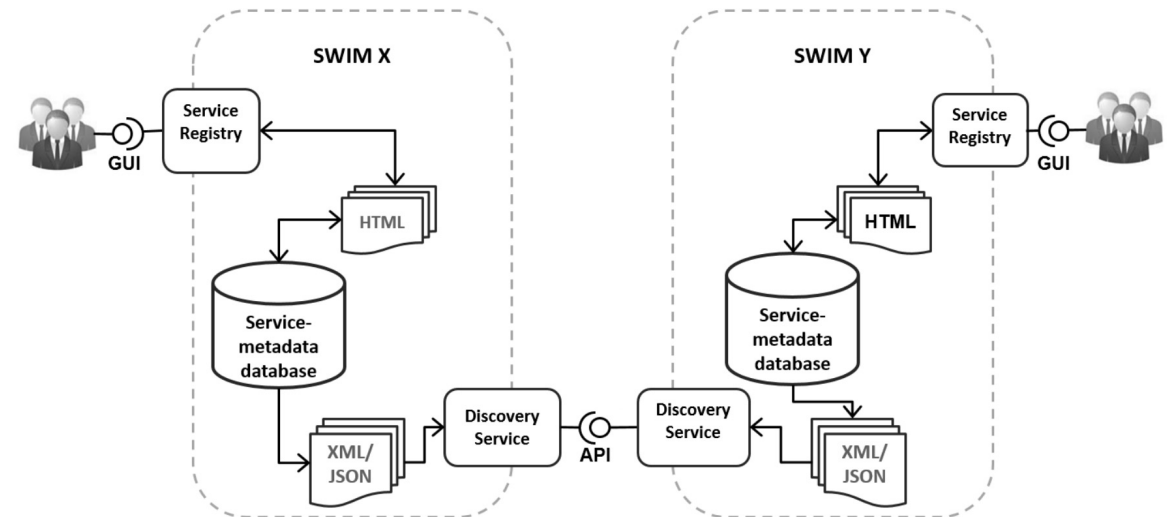
Conclusion CNS SG/23/5 (SWIMTF/3/3)

- Interoperable registry model
 - Independent registries that exchange registration data with each other

Decision CNS SG/28/03 (SWIM TF/08/02)

- Candidate baseline **SWIM discovery service** standard for Asia/Pacific

Mechanism for exchanging service description information between independently managed SWIM



Asia/Pacific FIXM Extension



Conclusion APANPIRG/30/12

- Asia/Pacific FIXM version 4.1 Extension
→ ATFM, A-CDM, ATFM/A-CDM integration

Conclusion APANPIRG/34/9

- Asia/Pacific FIXM version 4.2 Extension
→ ATFM, A-CDM, ATFM/A-CDM integration, A-CDM/FF-ICE R1 integration, traffic synchronization

Conclusion APANPIRG/36/12

- Asia/Pacific FIXM version 4.3 Extension
→ ATFM, A-CDM, ATFM/A-CDM integration, A-CDM/FF-ICE R1 integration, traffic synchronization

Conclusion APANPIRG/35/4: Agree on the adoption of FIXM Ver. 4.3.0 in Asia/Pacific Region as the standard format	
What: That, from Q3 2026 FIXM ver. 4.3.0 would be adopted to support information exchange for: <ul style="list-style-type: none"> 1) FF-ICE/R1 services implementation; 2) Cross-border ATFM operations 	Expected impact: <ul style="list-style-type: none"> <input type="checkbox"/> Political / Global <input checked="" type="checkbox"/> Inter-regional <input type="checkbox"/> Economic <input type="checkbox"/> Environmental <input checked="" type="checkbox"/> Ops/Technical
Why: To support the FF-ICE/R1 requirements to establish a common FIXM version for cross-border information exchange in the Asia/Pacific Region	Follow-up: <input checked="" type="checkbox"/> Required from States
When: 27-Nov-24	Status: Adopted by PIRG
Who: <input checked="" type="checkbox"/> Sub groups <input checked="" type="checkbox"/> APAC States <input checked="" type="checkbox"/> ICAO APAC RO <input type="checkbox"/> ICAO HQ <input type="checkbox"/> Other:	



Asia/Pacific Common SWIM Information Services



Decision APANPIRG/36/11

- 3 priority levels
 - (1) Recommended for region-wide implementation for region-wide benefits
 - (2) Recommended for implementation as much as practicable
 - (3) Additional information services without common regional requirements and not included as a part of common regional information services

- 4 categories
 - SWIM Aeronautical Information Services
 - SWIM Flight Information Services
 - SWIM Meteorological Information Services
 - SWIM Surveillance Information Services



Adopted by APANPIRG/36

Business Functionality of APAC Common SWIM Information Services
(Updated by MET SG/28, FF-ICE/2, MET/IE WG/23, SURICG/10, AAITF/19, ATFM SG/15, ATM SG/13, and CNS SG/29)

First Version (May 2025)

(Editorial note – changes arising from MET SG/28, FF-ICE/2, MET/IE WG/23, SURICG/10, AAITF/19 and ATFM SG/15 are indicated with ~~strikethrough~~ and highlighted text.)

Purpose – This list of APAC Common SWIM Information Services, including associated priorities, provides States/Administrations with guidance on anticipated services to support their planning and implementation of SWIM.

Notes – Priority of Recommended Services in Initial APAC Common SWIM Information Service (IS) ((1)/(2)/(3)):

- Priority (1): Recommended for region-wide implementation for region-wide benefits
- Priority (2): Recommended for implementation as much as practicable
- Priority (3): Additional information services without common regional requirements and not included as a part of common regional information services

Business functionality of the information service	Brief description of the service	Type of information to be exchanged	Information exchange model / Message type	Message exchange pattern	Priority of Recommended Service in Initial APAC Common SWIM-IS (1) / (2) / (3)
APAC Common SWIM Aeronautical Information Services					
Airspace management service	Exchanges of airspace status information between ASM Support System and Air Traffic Control (ATC) System. The sharing of airspace availability and airspace structure in real-time will contribute to a more efficient execution of the flight as information impacting the trajectory will be exchanged.	Airspace availability; Availability or activation/deactivation or temporarily change of airspace, restricted area, danger area, search and rescue regions	AIXM	Pub/Sub or Req Reply	2

APX. A - 1

Asia/Pacific Common SWIM Information Services



Business functionality of the information service	Brief description of the service	Type of information to be exchanged	Information exchange model / Message type	Message exchange pattern	Priority of Recommended Service in Initial APAC Common SWIM IS (1) / (2) / (3)
Search and rescue service	Allows Rescue Coordination Centres (RCCs) to exchange information with neighbouring RCCs and ATS units for coordination during SAR operations.	Search and rescue regions, Registered aircraft operator details and contacts, ICAO Autonomous Distress Tracking (ADT) data, Location of Aircraft in Distress Repository (LADR) data, ICAO OPS CTRL database contact information, SAR Unit (SRU) location and capability data	TBD	Pub/Sub	3

- Online survey, November – December 2023
59 responses from 18 States/Administrations, 2 airlines, and the CRV provider
- Existing standardized information exchange models
 - Aeronautical Information Exchange Model (AIXM)
 - Flight Information Exchange Model (FIXM)
 - ICAO Meteorological Information Exchange Model (IWXXM)



More Information



- Global
 - Doc 10199 Procedures for Air Navigation Services – Information Management (PANS-IM)
 - Doc 10039 Manual on the SWIM Concept
 - Doc 10203 Manual on SWIM Implementation
 - Doc 10204 Manual on Information Security



More Information



- Regional

- APAC SWIM Technical Infrastructure Profiles, version 1.0

- <https://www.icao.int/sites/default/files/APAC/Documents/edocs/CNS/APX-A-APAC-SWIM-TI-Profiles-Draft-reviewed-by-meeting.pdf>

- SWIM Discover Service

- Latest information: <https://discovery.swim.aero/>

- GitHub: <https://github.com/faa-swim/swim-discovery-service>

- APAC FIXM Extension

- Version 4.3

- https://www.icao.int/sites/default/files/APAC/Documents/edocs/CNS/FIXM-v4.3-Extension_Final.pdf

- Previous versions (Version 4.1 and Version 4.2)

- <https://www.icao.int/APAC/Pages/eDocs.aspx> (under SWIM section of CNS page)



More Information



- Regional

→ APAC Common SWIM Information Services

<https://www.icao.int/sites/default/files/APAC/Documents/edocs/CNS/APAC-Common-SWIM-Information-Services.pdf>





Thank You

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