Establishing SWIM
A Key Enabler for FF-ICE

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ICAO Asia/Pacific SWIM Seminar 2025 – 19 May 2025

ICAO

AN-CONF/14

14th Air Navigation Conference

26 August to 6 September 2024 | Montréal, Canada

Recommendation 3.2/2 – Transition to flight and flow – information for a collaborative environment services and cessation of ICAO 2012 flight plan by **2034**

Still 9 years to go … Or just only 9 years left …

SWIM
FF-ICE

17.5 TECHNICAL AND INTEROPERABILITY REQUIREMENTS

17.5.1 FF-ICE services shall make use of information services.

Note 1. — In the context of system-wide information management, the information service addresses machine-to-machine interaction in a service-oriented architecture.

Note 2. — Procedures on information services are contained in the Procedures for Air Navigation Services - Information Management *(PANS-IM, Doc 10199).*

17.5.2 The providers and users of the FF-ICE services shall adopt an information exchange model that:

a) provides the structure and format of the required flight and flow data elements, including their properties, associations and data types, and data value constraints;

b) enables the construction and exchange of the standard FF-ICE messages in Table 17-1; and

c) provides a mechanism by which additional flight and flow data and/or FF-ICE messages can be used without affecting global interoperability.

Note. — Details on the structure and format of the flight and flow data elements and FF-ICE messages are contained in the Manual on Flight and Flow — Information for a Collaborative Environment (FF-ICE) *(Doc 9965).*

Doc 4444 PANS-ATM, applicable 28 November 2024

ICAO

Doc 10199

PROCEDURES FOR AIR NAVIGATION SERVICES

Information Management

First Edition, 2024

This first edition of Doc 10199 was approved by the Council on 18 March
and becomes applicable on 28 November 2024.

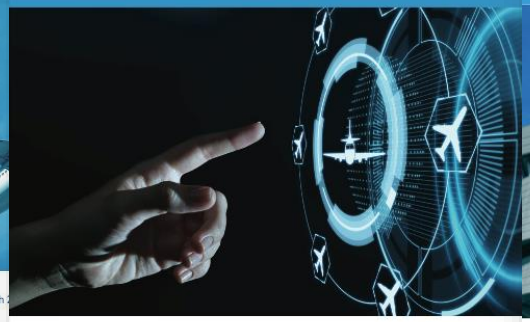
INTERNATIONAL CIVIL AVIATION ORGA

ICAO

Doc 10203

Manual on the System-wide Inforn
Management (SWIM) Implementat

First Edition, 2024



Approved by and published under the authority of the Secretary General

INTERNATIONAL CIVIL AVIATION ORGANIZAT

ICAO

Doc 4444

PROCEDURES FOR AIR NAVIGATION SERVICES

Air Traffic Manage

Sixteenth Edition, 2016

This edition supersedes, on 10 November 2016, all previous editions of Doc 4444.

INTERNATIONAL CIVIL AVIATION ORGANIZAT

Manual on Flight and Flow – Information for a Collaborative Environment (FF-ICE)

Manual on FF-ICE Implementation Guidance

INTERIM ADVANCE EDITION

Doc (9965)

AN/xxx

Manual on Flight and Flow – Information for a Collaborative Environment (FF-ICE)

Volume I – Concept

Volume II – Implementation Guidance

Disclaimer

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Asia/Pacific SWIM Implementation Timeline

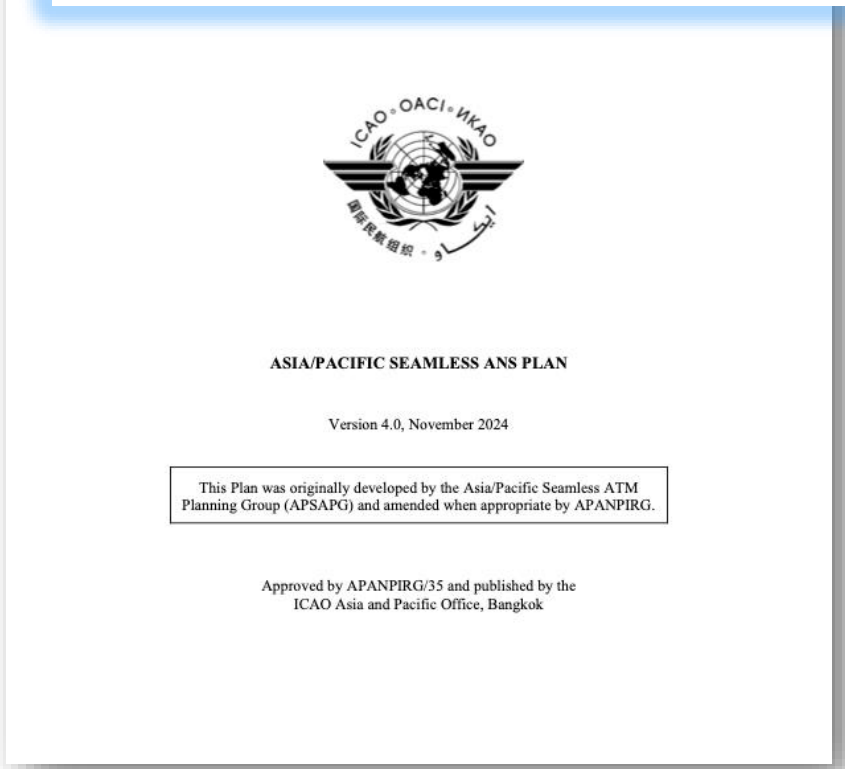
Conclusion APANPIRG/33/9 *(CNS SG/26/06 (SWIM TF/06/02, SWIM TF/06/04))*: **The Asia-Pacific SWIM Implementation Timeframe and inclusion of the Asia/Pacific SWIM Implementation in the Asia/Pacific Seamless ANS Plan**	
What: 1. To set the timeframe for the implementation of SWIM in the Asia-Pacific region 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: ☐ Political / Global ☐ Inter-regional ☒ Economic ☐ Environmental ☒ 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: ☒ 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

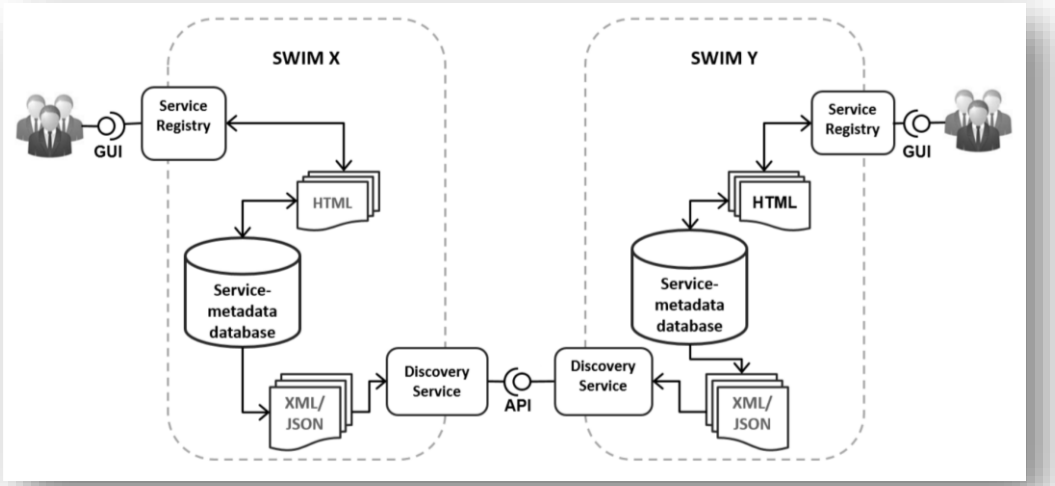
This Plan was originally developed by the Asia/Pacific Seamless ATM Planning Group (APSAPG) and amended when appropriate by APANPIRG.

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

CNS SG/28
Appendix A to the Report

APAC SWIM Technical Infrastructure Profiles - Version 1.0

May 2024

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SWIM TF/9
Appendix D to the Report

Proposed business functionality of APAC Common SWIM Information Services
(Updated by SWIM TF/9)

Notes. – Recommended services in initial APAC Common SWIM Information Service (IS) ((1)/(2)/(3)):
(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

Business functionality of the service	Brief description of the service	Type of information to be exchanged	Information exchange model / Message type	Message exchange pattern	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, restricted area, danger area, search and rescue regions	AIXM	Pub/Sub	2
Airspace feature service	Provides the characteristics of the three-dimensional airspace, described as horizontal projection with vertical limits, and their relevance to air traffic.	FIR/UIR boundaries, waypoints, enroute ATS routes, SIDs and STARs, navaids, procedures	AIXM	Pub/Sub or Req Reply	2
Aerodrome feature service	Provides current and/or planned airport layout features, such as aerodrome mapping data, runway, taxiway, passenger facilities.	Runways, movement areas, aerodrome services, navaids, instrument landing systems, Aerodrome location, communication facilities (frequencies)	AIXM	Pub/Sub	2
Digital NOTAM distribution service	Provides aeronautical information in accordance with the Digital NOTAM Specification, such as runway closure.	Digital NOTAM (e.g. Special activity airspace (SAA) NOTAMs, or other types of NOTAMs)	AIXM	Pub/Sub	2

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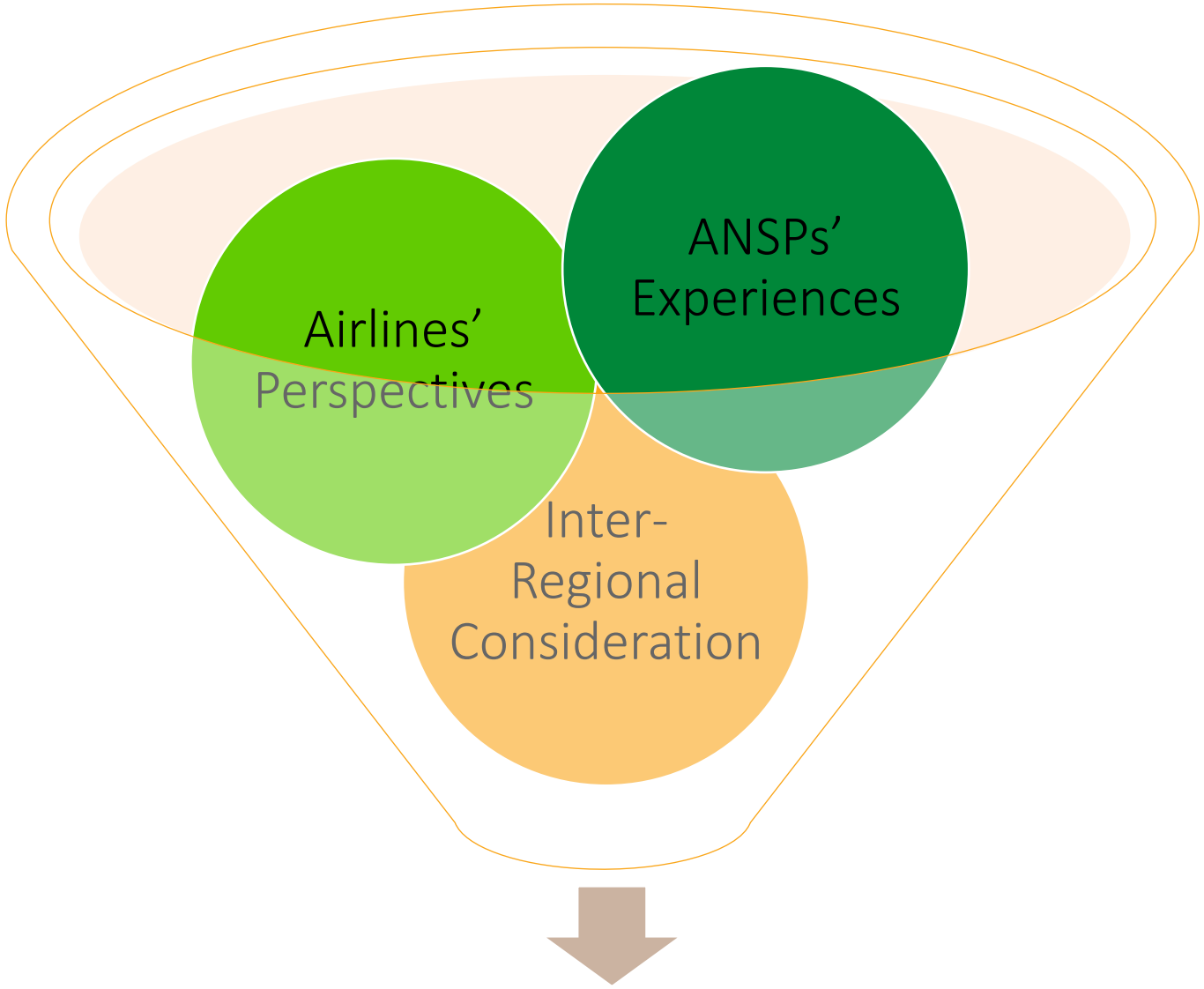

Minimum SWIM capabilities necessary for FF-ICE implementation

Thank You!

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