



ICAO

*International Civil Aviation Organization*

**THE FIFTH MEETING OF THE SURVEILLANCE  
STUDY GROUP (SURSG/5)**

*(Bangkok, Thailand, 23-24 March 2026)*

**Agenda Item 2:** Review of outcomes of relevant meetings

**REVIEW AND UPDATE OF APAC COMMON SWIM INFORMATION SERVICES  
(SURVEILLANCE)**

(Presented by Secretariat for SWIM TF)

**SUMMARY**

This paper presents the updates on the work of the ICAO APAC SWIM Task Force (SWIM TF) on Information Services to finalize APAC Common SWIM Information Services for addressing the operational needs in APAC and requests inputs from SURSG to modify APAC Common SWIM Surveillance Information Services.

**1. INTRODUCTION**

1.1 The 2022 APAC SWIM survey recommended developing a list of the common set of SWIM information services for the APAC Region. SWIM TF Task Team on Information Services, in coordination with relevant subject matter experts, identified the types of information to be exchanged via APAC SWIM and proposed the necessary business functionality to be supported by APAC Common SWIM Information Services for addressing the operational needs in the APAC Region.

1.2 This paper shares the latest status of work and requests input from SURSG to modify the list further.

**2. DISCUSSION**

2.1 A draft list of the business functionality of the following APAC Common SWIM Information Services was developed and introduced in SWIM TF/8 in November 2023 for review and comments:

- APAC Common SWIM Flight Information Services
- APAC Common SWIM Aeronautical Information Services
- APAC Common SWIM Meteorological Information Services
- APAC Common SWIM Surveillance Information Services

2.2 The following are the potential operational benefits if the aeronautical, flight, MET and surveillance information could be exchanged in a common digital format via APAC Common SWIM Information Services:

- Publish the changes in the status of flights, demands, constraints from airspace or MET and other real-time updates to relevant stakeholders more efficiently
- Facilitate stakeholders to retrieve relevant, tailored information automatically
- Allow operational users to have increased lead time to react in the pre-departure phase (pre-tactical) and airborne phase (tactical)
- Increase users' situation awareness for better decision-making processes
- Enhance overall operational efficiency and reduce the impact on the ANSP, airspace users, passengers and other aviation stakeholders

2.3 To further refine the draft list of the initial set of APAC Common SWIM Information Services, an online voting was set up and promulgated to APAC States through a State Letter to collect more comprehensive inputs and comments from related subject matter experts within APAC States during November to December 2023, particularly on:

- (i) the naming of the services,
- (ii) the message exchange patterns;
- (iii) whether the service should be considered as mandatory or optional in APAC SWIM; and
- (iv) other proposed common SWIM information services to be included in the list.

2.4 There were 59 responses from 18 States/Administrations, 2 airlines and the CRV provider received through the online survey. The survey results and comments received are summarized in [SWIM TF/9 – WP/16](#).

2.5 Based on the survey responses from States, the proposed initial set of APAC Common SWIM Information Services was updated and presented to SWIM TF/9 for further review and discussion. The information services were considered a “higher priority” based on their ability to provide more significant initial operational benefits to the APAC Region. These services generally involve the exchange of information, which is relatively more dynamic. The initial functionality of these information services with higher priority will focus on solving existing inefficiencies while maintaining interoperability with existing systems and services.

2.6 SWIM TF/9 suggested classifying the priority of listed information services into three levels instead of two levels. It was agreed that an initial set of APAC Common SWIM Information Services will be identified in three priorities, i.e., priority 1, priority 2, and priority 3. The definition of the three-level priority was discussed and added in the initial set of APAC Common SWIM Information Services document:

- (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 part of common regional information services

2.7 The list of recommended services in the initial APAC Common SWIM Information Services was further reviewed and modified by SWIM TF/9. It was agreed that the SWIM TF Task Lead from Hong Kong China, together with relevant subject matter experts of SWIM TF, would present this updated version to the next meeting of AAITF, ATFM SG, FF-ICE Ad-hoc group, MET/IE WG, SURSG, MET SG, AOP SG, and ATM SG. All comments received from all proposed groups will be presented to SWIM TF/10.

2.8 It was agreed in SWIM TF/9 that the information exchange model and its suitable version for each APAC Common SWIM Information service will be discussed and finalized by the subject-matter-expert contributory bodies, i.e., AAITF for AIXM, ATFM SG, and FF-ICE Ad-hoc Group for FIXM, and MET/IE WG for IWXXM.

2.9 SWIM TF/9 noted that the search and rescue service defined under APAC Common SWIM Aeronautical Information Services and its priority need further discussion in the relevant SAR groups with APAC. SWIM TF Secretariat will coordinate with the Secretariat of the ICAO Asia/Pacific Search and Rescue Working Group (APSAR/WG) for this discussion.

2.10 For the suggestion to incorporate the initial set of APAC Common SWIM Information Services into the initial version of the APAC SWIM Implementation Guidance Document, it was decided to add such information to the IGD after the details of this initial APAC Common SWIM Information Service list are mature.

2.11 The information about the SWIM TF/9 request to coordinate with different groups was shared by the ICAO Secretary of SWIM TF with Secretaries of AAITF, APSAR/WG, ATFM SG, FF-ICE Ad-hoc Group and MET/IE WG in 2024 after the SWIM TF/9 meeting to initiate discussion in relevant groups.

2.12 In addition, the [Proposed Business Functionality of APAC Common SWIM Information Services WP/23](#) and the [Proposed Amendment to Business Functionality of APAC Common SWIM Information Services \(WP/24\)](#) were presented by SWIM TF Task Leads and ICAO Secretariat in the Nineteenth Meeting of the ICAO Aeronautical Information Services – Aeronautical Information Management Implementation Task Force (AAITF/19) to get feedback from AAITF on APAC Common SWIM Aeronautical Information Services.

2.13 Realising a need for further discussion, the meeting agreed to form an Ad Hoc group by **Decision AAITF/19-3: Establish APAC Common SWIM Aeronautical Information Services Ad hoc Group** to discuss both technical and operational aspects of this subject, rather than reaching a consensus at AAITF/19. It was expected that the ad hoc group would provide a revised list at the SWIM TF/10 Meeting.

2.14 The information was also presented to the ICAO APAC Twenty-Eighth Meeting of the Meteorology Sub-Group (**MET SG/28**) by [WP/20](#). MET SG/28 provided its comments and **updated the catalog for APAC Common SWIM Meteorological Information Services**.

2.15 During the Second Asia/Pacific FF-ICE Ad hoc Group Meeting from 18-20 March 2025, the ad-hoc [group reviewed the list](#) and **updated it for APAC Common SWIM Flight Information Services**.

2.16 SURICG/10 was invited to review the proposed initial set of APAC Common SWIM Surveillance Information Services → **Surveillance data sharing service** and provide inputs and comments for:

- Business functionality of the service
- Brief description of the service
- Type of information to be exchanged
- Information exchange model, including the suitable version (e.g. suitable version of AIXM), or message type
- Message exchange pattern
- Priority as recommended service in the initial APAC Common SWIM Information Services

2.17 The SURICG/10 Meeting reviewed the proposed initial set of APAC Common SWIM Surveillance Information Services → **Surveillance data sharing services**. With assistance from Hong Kong China, the list was modified and further consulted with SURSG/4 delegates by email. After incorporating all inputs, the *final list of APAC Common SWIM Surveillance Information Services* was prepared by the SURICG/10 meeting.

2.18 The SURICG/10 Meeting suggested that **SURSG will review the list and provide further updates, if any**, to publish in the next version of APAC Common SWIM Surveillance Information Services.

2.19 The revised list from SURICG/10 was considered by SWIM TF/10 to finalize the list of APAC Common SWIM Information Services.

2.20 MET/IE WG/23 held from 25-28 March 2025 identified that subsequent updates to the list of APAC Common SWIM Meteorological Information Services would be required to reflect outcomes from the recent METP/6 meeting and suggested that the information service priorities be revisited. MET/IE WG/23 agreed that the proposed updates be prepared for further review and consideration by the SWIM TF, including consistent use of the term “information service”.

2.21 ATFM SG/15 held from 29 April to 2 May 2025 reviewed the portion of APAC Common SWIM Flight Information Services, specifically the “ATFM/A-CDM integrated service” and “Traffic flow status service”. The ATFM SG/15 meeting advised that the terminology used in the list be further verified against the draft PfA of future PANS-ATM (Doc 4444). The ATFM SG/15 meeting agreed to provide a revised list to the SWIM TF/10 meeting. The updates to APAC Common SWIM Flight Information Services related to ATFM and A-CDM, developed by the ATFM SG, were presented as part of WP/32.

2.22 The SWIM TF/10 Meeting recalled the information shared at SWIM TF/9 that IMP is working on an Information Service Definition (ISD) template for subject-matter-expert Panels, e.g., ATMRPP, METP, to develop domain-specific ISDs. It was suggested that the progress of these works in the IMP, ATMRPP, and METP be monitored to align regional descriptions with the global guidance. While considering the need to develop an APAC version of ISDs for some of the APAC Common SWIM Information Services, the Task 6 team will assess whether the necessary ISDs are covered by the templates/guidance developed at the global-level Panels and indicate this information in a new column of the table for APAC Common SWIM Information Services.

2.23 It was added that the first version of the list of APAC Common SWIM Information Services will be incorporated into the APAC SWIM Implementation Guidance Document being developed. The SWIM TF/10 Meeting reviewed the proposed initial set of APAC Common SWIM Information Services, as reviewed and updated by MET SG/28, FF-ICE/2, MET/IE WG/23, and SURICG/10. It was added that the APAC Common SWIM Aeronautical Information Services Ad-hoc Group also reviewed and provided updates to the APAC Common SWIM Aeronautical Information Services as presented by SWIM TF/10 - WP/12.

2.24 The publication of services with incomplete fields was discussed at length. Various suggestions were considered, including creating a separate table for such services, excluding them from the first version of the list, or including all services with a footnote explaining the presence of “TBD” or “?”. After detailed deliberation, it was agreed that the first version of the APAC Common SWIM Information Services list will include only those services for which complete information is provided. Services containing “TBD” or “?” fields will be excluded from the first publication. However, these services will be retained as the working draft for further refinement and reviewed in the future SWIM TF meetings, following coordination with relevant expert groups. As a result, the following services were removed:

APAC Common SWIM Aeronautical Information Services		
1.	ATIS distribution service	Provides continuous and automated broadcast of recorded aeronautical information in airport and terminal areas.
2.	Search and rescue service	Allows Rescue Coordination Centres (RCCs) to exchange information with neighbouring RCCs and ATS units for coordination during SAR operations.
APAC Common SWIM Flight Information Services		
3.	ADP Distribution Service	Supports publication and distribution of ATFM Daily Plan (ADP), based on information included in the <a href="#">APAC ADP Exchange Procedure</a> <sup>1</sup> . The published ADP is designed to inform for stakeholders on upcoming demand/capacity constraints and possible ATFM measures.
4.	Flow-Specific ATFM Measure Service	Supports <i>notification</i> of information related to “flow-specific” ATFM measures, i.e. measures whose control mechanisms apply to a “group of flights” on a particular traffic flow. An example is the Minutes-in-Trail (MINIT) requirement applied on an eastbound traffic using A1 from VT*, VV* to RK*.  Recipients of this information should take actions to comply with the ATFM measure contained herein. <sup>2</sup>
APAC Common SWIM Meteorological Information Services		
5.	Special Air Report (ARS) service	Provides reports of special observations made by aircraft when they encounter special weather phenomena, such as moderate/severe turbulence or icing. (Note: Currently there is no plan to implement this information service at MET Panel)
6.	MET derived from Mode S DAPs service	Provides upper air winds and temperatures derived from Mode S Downlinked Aircraft Parameters (DAPs) (e.g. true airspeed, ground speed, magnetic heading, true track angle) and facilitates exchange of derived winds and temperatures among MET service providers.

*List of APAC Common SWIM Information Services removed from the first adopted version*

2.25. It was noted that the information exchange model identified for one of the APAC Common SWIM Surveillance Information Services is **ASTERIX Cat 21+FPL** (payload in JSON or RAW format). It was highlighted in the Meeting that the RAW format of FPL does not exist. The ICAO Secretariat was requested to share this observation with SURSG for further review and clarification.

2.26. The SWIM TF/10 Meeting discussed the proposal presented in WP/10 and noted that the APAC Common SWIM Information Services includes multiple service types, which may not require these additional *Tier 1 or Tier 2 Data Services* and *Update Rate* columns. Therefore, it was not recommended to modify the overall structure of the APAC Common SWIM Information Services table solely to accommodate the needs of specific service types. However, it was noted that, as SURSG is currently drafting guidance material for surveillance data sharing in the SWIM environment, reference to this material, particularly regarding the tier of data services, could be included as part of the brief description of the service. Regarding update rate, the Meeting discussed that it would depend on both operational requirements and SWIM TI performance, and could be appropriately included as part of the information service overview.

<sup>1</sup> The ADP template included herein is not updated. The new ADP template had been agreed by the AMNAC group and included into the [AMNAC COP v6.1](#), Appendix D, and was proposed to the ATFM/SG/15 (Apr-May 2025). The meeting agreed that the Secretariat will update the ADP Exchange Procedure to include the new template, which has already been supplied by AMNAC core team post-meeting.

<sup>2</sup> Common operating procedures for this group of ATFM measures (e.g., MINIT, MIT, MDI, Re-Route, Level Capping) have not been developed for the APAC region yet, and should be developed before finalizing the information service to support the operations.

2.27. Regarding the suggestion in SWIM TF/10 - WP/19 to include a reference for each information service as part of the Task 6 activities, the Meeting discussed the value and potential benefits of the proposal. It was also considered whether such a reference should be added in a separate column or integrated into an existing one. **After detailed deliberation, the SWIM TF/10 Meeting agreed to the proposal and requested that Task 6 leads include reference(s) for each information service in the brief description column, where such information is available.**

2.28. **SWIM TF Task Leads meeting on 17 November 2025** discussed observation of SWIM TF/10 on the information exchange model identified for one of the APAC Common SWIM Surveillance Information Services. SURSG chair informed that the payload will not have FPL information if it is in RAW format. Instead, FPL information will be stored in the message header while ASTERIX CAT 21 will be stored as payload in RAW format. It was added that, as discussed in SWIM TF/10, the tables under “APAC Common SWIM Surveillance Information Services” **will later be updated with mappings to reference documents for each service category to better understand service details.** It was added that the information currently inputted in the table was sufficient to serve as a high-level description.

2.29. Due to the need for clear guidance to States/Administrations on the proposed first version of Common SWIM Information Services, and the Common SWIM Information Services will involve various domains, such as ATM, CNS and MET, etc., under the APANPIRG, the following Decision, as endorsed by CNS SG/29, was adopted by the APANPIRG/36.

<b>Decision APANPIRG/36/11</b> ( <i>Decision CNS SG/29/06 (SWIM TF/10/02)</i> )- Adoption of APAC Common SWIM Information Services, v1.0	
What: The first version of <a href="#">APAC Common SWIM Information Services</a> , be adopted for immediate use by APAC States/Administrations. The set of APAC Common SWIM Information Services, and the associated performance of SWIM Technical Infrastructure underpinning these services, is not specified to support the provision of aircraft separation.	Expected impact: <input type="checkbox"/> Political / Global <input type="checkbox"/> Inter-regional <input type="checkbox"/> Economic <input type="checkbox"/> Environmental <input checked="" type="checkbox"/> Ops/Technical
Why: To assist APAC States/Administrations in planning and implementing their SWIM information services.	Follow-up: <input type="checkbox"/> Required from States
When: 26-Nov-25	Status: Adopted by PIRG
Who: <input checked="" type="checkbox"/> Sub groups <input type="checkbox"/> APAC States <input type="checkbox"/> ICAO APAC RO <input type="checkbox"/> ICAO HQ <input type="checkbox"/> Other: MET SG, ATM SG, AOP SG	

*Proposed addition of information service reference for APAC Common SWIM Information Services – Australia (WP/19 of SWIM TF/10)*

2.30. Australia proposed the addition of a reference as an attribute for each information service provided in the list of APAC Common SWIM Information Services. In particular, it was suggested that, where available, a reference for each information service be included to establish a clearer link to the definition of its functionality. It was shared that this addition would also provide clearer insight into whether the service is intended to align with a global or regional concept.

2.25 It was noted that, while the global standard would refer to an Information Service Definition (ISD), the maturity of services may vary. In such a case, the most relevant document can be referenced. Additionally, a reference source for each information service would also support the future development of the associated ISDs. The discussion on this proposal was recorded under SWIM TF/10 - WP/11.

2.26 As per action item 10-8 of SWIM TF/10, it was suggested that other APANPIRG contributory bodies regularly review the APAC Common SWIM Information Services document and notify the SWIM TF of any new, or changes to existing, business requirements for APAC Common SWIM information services. These suggestions were agreed to be communicated as part of the guidance document to be developed.

2.27 The guidance document sharing details on the way to update APAC Common SWIM Information services has been prepared and presented to this meeting by WP/03.

**3. ACTION BY THE MEETING**

- 3.1 The meeting is invited to:
- a) note the information contained in this paper;

- b) review the initial set of APAC Common SWIM Surveillance Information Services in **APPENDIX A** and provide inputs and comments; and
- c) discuss any relevant matters as appropriate.

-----

**Business Functionality of APAC Common SWIM Information Services**  
(Updated by **XXXX**)

**Draft Second Version (xx 2026)**

*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 (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.	Availability or activation/deactivation or temporarily change of airspace, restricted area, danger area, search and rescue regions	AIXM	Pub/Sub or Req Reply	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, nav aids, procedures, and other airspace not limited to restricted area, prohibited area, danger area, search and rescue regions	AIXM	Pub/Sub or Req Reply	2

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 (1) / (2) / (3)
		(Remarks – Other data published in the AIP may be included)			
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, nav aids, instrument landing systems, Aerodrome location, communication facilities (frequencies)	AIXM	Pub/Sub or Req Reply	2
Runway Condition Report service	Provides runway surface conditions and contaminants (least to most slippery) that are directly correlated to aircraft take-off and landing performance.	Global Reporting Format (GRF) for runway surface conditions	AIXM	Pub/Sub or Req/Reply	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 or Req Reply	2
ATIS distribution service	Provides continuous and automated broadcast of recorded aeronautical information in airport and terminal areas.	Current weather conditions, runway in use, available approaches, and other data relevant to arriving and departing aircraft, specific ATC procedures, and any airport construction activity that could affect taxi planning	TBD	Pub/Sub	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

<b>Business functionality of the information service</b>	<b>Brief description of the service</b>	<b>Type of information to be exchanged</b>	<b>Information exchange model / Message type</b>	<b>Message exchange pattern</b>	<b>Priority (1) / (2) / (3)</b>
APAC Common SWIM Flight Information Services					
GUFI service	GUFI (Globally Unique Flight Identifier) generation and provision	GUFI	FIXM	Req/Reply	1
FF-ICE filing service	Provides a means to submit, update or cancel flight plans through a SWIM-based interface using FIXM.	Flight plan for registration, update or cancellation	FIXM	Req/Reply Pub/Sub	1
FF-ICE publication service	Provides harmonised sharing of flight plan information in a global standard supporting common situation awareness.	Flight information for publication	FIXM	Pub/Sub	2
FF-ICE trial service	Allows operators to test the effect of a potential change in a flight plan prior to committing to the change.	Proposed changes in a flight plan	FIXM	Req/Reply	2
FF-ICE flight data request service	Allows an operator to request the current status of a flight plan, or an ANSP can request an operator to submit the latest version of their flight plan.	Current status of a flight plan, a copy of flight plan or supplementary plan	FIXM	Req/Reply	1
FF-ICE notification service	Provides notification of a change in flight state, such as Departure (DEP) and Arrival (ARR) Air Traffic Service (ATS) messages.	ARR, DEP messages	FIXM	Req/Reply Pub/Sub	1
FF-ICE planning service	Allows operators to submit preliminary flight plans for early Air Traffic Flow Management (ATFM) planning and to obtain feedback regarding restrictions/constraints affecting the flight.	Preliminary flight plan for early ATFM planning	FIXM	Req/Reply Pub/Sub	2

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 (1) / (2) / (3)
ADP Distribution Service	Supports publication and distribution of ATFM Daily Plan (ADP), based on information included in the APAC ADP Exchange Procedure <sup>1</sup> . The published ADP is designed to inform for stakeholders on upcoming demand/capacity constraints and possible ATFM measures.	Refer to ADP template	FLXM <sup>2?</sup>	Pub/Sub	1
Flight-Specific ATFM Measure Service	Supports notification of information related to “flight-specific” ATFM measures, i.e. measures whose control mechanisms apply to a single flight. An example is the Ground Delay Program (GDP), whose control mechanism is a Calculated Take-Off Time (CTOT), or an ATFM measure for airborne flight, whose control mechanism is a Calculated Time Over (CTO).  Recipients of this information should take actions to comply with the ATFM measure contained herein.	CTOT, CTO, CLDT, and fields currently included in <a href="#">APAC AFTN/AMHS-Based ICD for ATFM</a> <sup>3</sup>	FIXM	Req/Reply Pub/Sub	1
Flow-Specific ATFM Measure Service	Supports notification of information related to “flow-specific” ATFM measures, i.e. measures whose control mechanisms apply to a “group of flights” on a particular traffic flow. An example is the Minutes-in-Trail (MINIT) requirement applied on an eastbound traffic using A1 from VT*, VV* to RK*.	Spacing parameters for MINIT, MIT; Departure intervals for MDI; Alternate routes for Re-Routing; Flight level allocation for Level Capping	TBD	Pub/Sub	2 or 3

<sup>1</sup> The ADP template included herein is not updated. The new ADP template had been agreed by the AMNAC group and included into the [AMNAC COP v6.1](#), Appendix D, and was proposed to the ATFM/SG/15 (Apr-May 2025). The meeting agreed that the Secretariat will update the ADP Exchange Procedure to include the new template, which has already been supplied by AMNAC core team post-meeting.

<sup>2</sup> FLXM: Flow Information Exchange Model

<sup>3</sup> Based on the conclusion from ATFM/SG/15, an amendment to this ICD will be proposed in which a more structured use of REGUL and REGCAUSE fields will be introduced. This proposal is expected to be tabled at the upcoming CNS/SG meeting.

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 (1) / (2) / (3)
	Recipients of this information should take actions to comply with the ATFM measure contained herein. <sup>4</sup>				
ATFM/A-CDM Integration Service	Supports exchanges of flight-specific ATFM measure information and A-CDM milestone parameters among stakeholders, including arrival/departure ATFM units, airspace users, and airport operators, to integrate A-CDM process with ATFM operations.	ATFM measure information: CTOT  A-CDM departure planning information: TOBT, TTOT, TSAT	FIXM	Req/Reply Pub/Sub	1
APAC Common SWIM Meteorological Information Services					
FOR AERODROME					
METAR/SPECI service	Provides of IWXXM-formatted METAR/SPECI product specified in ICAO Annex 3.	Provision of the existing Annex 3 product via an information service	IWXXM	Pub/Sub Req/Reply	1
TAF service	Provides of IWXXM-formatted TAF product specified in ICAO Annex 3.		IWXXM	Pub/Sub Req/Reply	1
Aerodrome Meteorological Observation Information Service	Provides continuous observations of weather parameters at an aerodrome. Advanced meteorological SWIM (MET-SWIM) service being developed by MET Panel.	To be introduced as recommended practice in Annex 3 (Amd 84) in Nov 2030 tentatively (Note: Level of standardisation needs to be considered, as different aerodrome information services may be required for different use cases.)	IWXXM	Pub/Sub or Req/Reply	2*
Aerodrome Meteorological Forecast Information Service	Provides information of the expected meteorological conditions, including probability, at an airport during a specified period. Advanced meteorological SWIM (MET-SWIM) service being developed by MET Panel.		IWXXM	Pub/Sub or Req/Reply	2*
FOR ENROUTE					
SIGMET service	Provides IWXXM-formatted SIGMET product specified in ICAO Annex 3.	SIGMETs for thunderstorm, tropical cyclone, turbulence, icing, mountain wave, duststorm,	IWXXM	Pub/Sub Req/Reply	1

<sup>4</sup> Common operating procedure for this group of ATFM measures (e.g., MINIT, MIT, MDI, Re-Route, Level Capping) has not been developed for the APAC region yet, and should be developed before finalizing the information service to support the operations.

\* Will become Priority (1) when it is introduced as recommended practice in Annex 3 tentatively in Nov 2030

<b>Business functionality of the information service</b>	<b>Brief description of the service</b>	<b>Type of information to be exchanged</b>	<b>Information exchange model / Message type</b>	<b>Message exchange pattern</b>	<b>Priority (1) / (2) / (3)</b>
		sandstorm, volcanic ash and radioactive cloud			
AIRMET service	Provides IWXXM-formatted AIRMET product specified in ICAO Annex 3.	Provision of the existing Annex 3 product via an information service	IWXXM	Pub/Sub Req/Reply	2
Tropical Cyclone Advisory service	Provides IWXXM-formatted Tropical Cyclone Advisory product specified in ICAO Annex 3.  (Designated provider: States with Tropical Cyclone Advisory Centre)		IWXXM	Pub/Sub Req/Reply	1
Volcanic Ash Advisory service	Provides IWXXM-formatted Volcanic Ash Advisory product specified in ICAO Annex 3.  (Designated provider: States with Volcanic Ash Advisory Centre)		IWXXM	Pub/Sub Req/Reply	1
Space Weather Advisory service	Provides IWXXM-formatted Space Weather Advisory product specified in ICAO Annex 3.  (Designated provider: States with Space Weather Advisory Centre)		IWXXM	Pub/Sub Req/Reply	1
Volcano Observatory Notice for Aviation (VONA) service	Provides of IWXXM-formatted VONA specified in ICAO Annex 3. Provision of VONA is a recommended practice in Annex 3 (Amd 82).  (Designated provider: States with a designated State Volcano Observatory)		IWXXM	Pub/Sub Req/Reply	2
Quantitative volcanic ash concentration information (QVA) service	Provides detailed information of significant volcanic ash in the atmosphere, including probabilities of ash concentration thresholds over space and time. Advanced meteorological SWIM (MET-SWIM) service being developed by MET Panel.  (Designated provider: States with Volcanic Ash Advisory Centre (VAAC))		QVA gridded forecasts including probabilities, and IWXXM QVA objects. A recommended practice for significant ash clouds in Annex 3 (Amd 82) for VAACs in a position to do so from Nov 2025, and for all VAACs from Nov 2026.	Gridded data (e.g. NetCDF), IWXXM	Pub/Sub Req/Reply

<sup>#</sup> Will become Priority (1) from Nov 2026

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 (1) / (2) / (3)
WAFc (World Area Forecast Centres) gridded forecast service	Provides global gridded weather forecasts. (Designated provider: WAFcs (UK and US))	Global gridded forecasts of CB, icing, turbulence, upper winds, upper-air temperatures and humidity, flight level and temperature of tropopause, and direction, speed and flight level of maximum wind	Gridded data in GRIB2	Pub/Sub Req/Reply	1
WAFc significant weather (SIGWX) forecast service	Provides global WAFc SIGWX data sets with coverage expressed in polygons. (Designated provider: WAFcs (UK and US))	Significant weather forecast such as tropical cyclone, turbulence, icing, etc.	IWXXM	Pub/Sub or Req/Reply	1
Special Air Report (ARS) service	Provides reports of special observations made by aircraft when they encounter special weather phenomena, such as moderate/severe turbulence or icing. (Note: Currently there is no plan to implement this information service at MET Panel)	Special aircraft observations of weather phenomena as specified in Annex 3, including turbulence, icing, mountain wave, thunderstorms, duststorm, sandstorm, volcanic cloud, volcanic activity / eruption	TBD	Pub/Sub or Req/Reply	2
MET derived from Mode S DAPs service	Provides upper air winds and temperatures derived from Mode S Downlinked Aircraft Parameters (DAPs) (e.g. true airspeed, ground speed, magnetic heading, true track angle) and facilitates exchange of derived winds and temperatures among MET service providers.	Upper air winds and temperatures derived from Mode S DAPS	TBD	Pub/Sub or Req/Reply	3
Satellite image service	Provides satellite observational information.	Satellite derived MET information (e.g. significant convection)	Gridded format (e.g. NetCDF) and image format	Req/Reply	2
Weather radar image service	Provides two- or three-dimensional radar observational information.	Weather radar reflectivity to visualise the intensity of convection	Gridded format (e.g. NetCDF) and image format	Req/Reply	2

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 (1) / (2) / (3)
APAC Common SWIM Surveillance Information Services					
Surveillance data only sharing service	Provides surveillance data of aircraft.	latitude, longitude, flight level, ground speed (optional), magnetic heading (optional), target identification, target address, mode 3/A code (optional), date, time of message reception for position, quality indicators, SAC, SIC	ASTERIX Cat 21 (payload in JSON or RAW format)	Pub/Sub	1
Surveillance data with flight plan information sharing service	Provides surveillance data of aircraft with flight plan information.	globally unique flight identifier, aircraft identification, departure aerodrome, destination aerodrome, aircraft type (optional), wake turbulence category (optional) latitude, longitude, flight level, ground speed (optional), magnetic heading (optional), target identification, target address, mode 3/A code (optional), date, time of message reception for position, quality indicators, SAC, SIC	ASTERIX Cat 21+FPL (payload in JSON or RAW format)	Pub/Sub	2