

**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. | <del>Airspace availability,</del> Availability or activation/deactivation or temporarily change of airspace, restricted area, danger area, search and rescue regions | AIXM                                      | Pub/Sub or Req Reply     | 2                                                                              |

| <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 of Recommended Service in Initial APAC Common SWIM-IS (1) / (2) / (3)</b> |
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| 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, and other airspace not limited to restricted area, prohibited area, danger area, search and rescue regions<br>(Remarks – Other data published in the AIP may be included) | 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 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                                                                                     |
| <b>APAC Common SWIM Flight Information Services</b>      |                                                                                                                                                              |                                                                                                                                                                                                                                                                   |                                                  |                                 |                                                                                       |
| GUFIS service                                            | GUFIS (Globally Unique Flight Identifier) generation and provision                                                                                           | GUFIS                                                                                                                                                                                                                                                             | FIXM                                             | Req/Reply                       | 1                                                                                     |
| ATFM/A-CDM integrated service                            | Allows exchanges of flight plans and A-CDM milestone parameters among different stakeholders (such as arrival/departure ATFM units, airlines and             | CLDT, TOBT, CTOT, CTO, TTOT, TSAT, etc.                                                                                                                                                                                                                           | FIXM                                             | Pub/Sub Req/Reply               | 4                                                                                     |

| 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) |
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|                                                   | airport operators) to connect A-CDM process to ATFM operations.                                                                                                                           |                                                                              |                                           |                          |                                                                                |
| 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<br>Pub/Sub     | 1                                                                              |
| FF-ICE data-publication service                   | Provides harmonised sharing of flight plan information in a global standard supporting common situation awareness.                                                                        | Flight plan 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                                      | Pub/Sub<br>Req/Reply     | 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<br>Pub/Sub     | 2                                                                              |
| Flight-Specific ATFM Measure Service              | Supports <i>notification</i> of information related to “flight-specific” ATFM measures, i.e. measures whose                                                                               | CTOT, CTO, CLDT, and fields currently included in <a href="#">APAC</a>       | FIXM                                      | Pub/Sub<br>Req/Reply     | 1                                                                              |

| 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) |
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|                                                      | 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).<br><br>Recipients of this information should take actions to comply with the ATFM measure contained herein. | <a href="#">AFTN/AMHS-Based ICD for ATFM<sup>1</sup></a>                                                                                                                                                       |                                           |                          |                                                                                |
| 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<br><br>A-CDM departure planning information: TOBT, TTOT, TSAT                                                                                                                   | FIXM                                      | Pub/Sub Req/Reply        | 1                                                                              |
| APAC Common SWIM Meteorological Information Services |                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                |                                           |                          |                                                                                |
| FOR AERODROME                                        |                                                                                                                                                                                                                                                                                                                                                                       |                                                                                                                                                                                                                |                                           |                          |                                                                                |
| METAR/SPECI information service                      | Provides of IWXXM-formatted METAR/SPECI product specified in ICAO Annex 3.                                                                                                                                                                                                                                                                                            | Provision of the existing Annex 3 product via an information service in Annex 3. Information service will be enabled through Amendment 81 to Annex 3 as recommended practice with applicability from Nov 2024. | IWXXM                                     | Pub/Sub Req/Reply        | 1                                                                              |
| TAF information service                              | Provides of IWXXM-formatted TAF product specified in ICAO Annex 3.                                                                                                                                                                                                                                                                                                    |                                                                                                                                                                                                                | IWXXM                                     | Pub/Sub Req/Reply        | 1                                                                              |

<sup>1</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.

| <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 of Recommended Service in Initial APAC Common SWIM-IS (1) / (2) / (3)</b> |
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| <b>Aerodrome Meteorological Observation Information Service</b> | 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 8483) in Nov 2030 <sup>2</sup> 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*                                                                                    |
| <b>Aerodrome Meteorological Forecast Information Service</b>    | 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*                                                                                    |
| <b>FOR ENROUTE</b>                                              |                                                                                                                                                                                                               |                                                                                                                                                                                                                                                   |                                                  |                                 |                                                                                       |
| <b>SIGMET information service</b>                               | Provides of IWXXM-formatted SIGMET product specified in ICAO Annex 3.                                                                                                                                         | SIGMETs for thunderstorm, tropical cyclone, turbulence, icing, mountain wave, duststorm, sandstorm, volcanic ash and radioactive cloud                                                                                                            | IWXXM                                            | Pub/Sub Req/Reply               | 1                                                                                     |
| <b>AIRMET information service</b>                               | Provides of 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               | 1 <sup>2</sup>                                                                        |
| <b>Tropical Cyclone Advisory information service</b>            | Provides of IWXXM-formatted Tropical Cyclone Advisory product specified in ICAO Annex 3.<br><br>(Designated provider: States with Tropical Cyclone Advisory Centre)                                           |                                                                                                                                                                                                                                                   | IWXXM                                            | Pub/Sub Req/Reply               | 1                                                                                     |
| <b>Volcanic Ash Advisory information service</b>                | Provides of IWXXM-formatted Volcanic Ash Advisory product specified in ICAO Annex 3.                                                                                                                          |                                                                                                                                                                                                                                                   | IWXXM                                            | Pub/Sub Req/Reply               | 1                                                                                     |

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

| 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) |
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|                                                                         | (Designated provider: States with Volcanic Ash Advisory Centre)                                                                                                                                                                                                                                                            |                                                                                                                                                                                                                                                                                           |                                           |                          |                                                                                |
| Space Weather Advisory information service                              | Provides of IWXXM-formatted Space Weather Advisory product specified in ICAO Annex 3.<br><br>(Designated provider: States with Space Weather Advisory Centre)                                                                                                                                                              |                                                                                                                                                                                                                                                                                           | IWXXM                                     | Pub/Sub Req/Reply        | 1                                                                              |
| Volcano Observatory Notice for Aviation (VONA) information service      | Provides of IWXXM-formatted VONA specified in ICAO Annex 3. Provision of VONA will become the is a recommended practice in Annex 3 (Amd 82) in 2025.<br><br>(Designated provider: States with a designated State Volcano Observatory)                                                                                      |                                                                                                                                                                                                                                                                                           | IWXXM                                     | Pub/Sub Req/Reply        | 2                                                                              |
| Quantitative volcanic ash (QVA) 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.<br><br>(Designated provider: States with VAAC Volcanic Ash Advisory Centre (VAAC)) | QVA grids grid point gridded forecasts including probabilities, and IWXXM QVA objects. To be introduced as A recommended practice for significant ash clouds in Annex 3 (Amd 82) in Nov 2025 tentatively 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 or Req/Reply     | 1 <sup>#</sup>                                                                 |
| WAFC (World Area Forecast Centres) gridded grid point forecast service  | Provides global gridded weather forecasts.<br><br>(Designated provider: WAFCs (UK and US))                                                                                                                                                                                                                                 | Global gridded forecasts of CB, icing, turbulence, upper winds, upper-air temperatures and humidity, flight level and                                                                                                                                                                     | Gridded data in GRIB2                     | Pub/Sub or Req/Reply     | 1                                                                              |

<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 of Recommended Service in Initial APAC Common SWIM-IS (1) / (2) / (3) |
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|                                                                |                                                                                                                                                               | temperature of tropopause, and direction, speed and flight level of maximum wind                                                                                                                                                                                                                                                     |                                                |                          |                                                                                |
| WAFc significant weather (SIGWX) forecast service              | Provides global WAFc SIGWX data sets with coverage expressed in polygons.<br><br>(Designated provider: WAFcs (UK and US))                                     | Significant weather forecast such as tropical cyclone, severe squall lines, turbulence, icing, etc.                                                                                                                                                                                                                                  | IWXXM                                          | Pub/Sub or Req/Reply     | 1                                                                              |
| 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                                                                              |
| APAC Common SWIM Surveillance Information Services             |                                                                                                                                                               |                                                                                                                                                                                                                                                                                                                                      |                                                |                          |                                                                                |
| Surveillance data only sharing service                         | Provides surveillance data of aircraft.<br><del>Provides three dimensional position, time and identification of aircraft and other data as appropriate.</del> | <del>Position</del> latitude, longitude, altitude, flight level, ground speed (optional), track angle, magnetic heading (optional), call sign, Mode S address, target identification, target address, mode 3/A code (optional), date, time of message reception for position, data quality, quality indicators, Mode S-DAP, SAC, SIC | ASTERIX Cat 21 (payload in JSON or RAW format) | Pub/Sub                  | 21                                                                             |
| 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,                                                                                                                                                                                                                              | ASTERIX Cat 21+FPL (payload in JSON or         | 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 of Recommended Service in Initial APAC Common SWIM-IS (1) / (2) / (3) |
|---------------------------------------------------|----------------------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|-------------------------------------------|--------------------------|--------------------------------------------------------------------------------|
|                                                   |                                  | aircraft type (optional),<br>wake turbulence category (optional)<br>latitude, longitude, flight level,<br>ground speed (optional),<br>magnetic heading (optional),<br>target identification,<br>target address,<br>mode 3/A code (optional),<br>date, time of message reception for position,<br>quality indicators,<br>SAC, SIC | RAW format)                               |                          |                                                                                |