APAC FF-ICE/3 Meeting and Workshop

16 – 18 December 2025

FF-ICE/3 Order of Business

Date / Time	16 December 2025	17 December 2025	18 December 2025
0900 – 1130	0900 – 0930 • Opening / Administrative Announcement / Introduction of Participants 0930 – 1015 • Group Photo / Coffee Break 1015 – 1130 • Overview of the Workshop Objectives • TOR and Progress of Ad-Hoc Group • Timeline for Finalisation of the Plan • Plans after Adoption of the Plan • Sharing of FF-ICE/R1 Lab Demo	• Review of Implementation Plan, Section 6 **Coffee break, as appropriate*	• Review of Implementation Plan, Section 6 (con't) **Coffee break, as appropriate*
1130 – 1230	*Lunch*		
1230 – 1600	• Overview of Synchronous and Asynchronous REQ/REP Message Exchange Pattern in Support of FF-ICE/R1 Implementation – WP/01 & IP/01, ROK – PPT/01, Japan • Review of Implementation Plan, Section 1 – 5 **Coffee break, as appropriate*	• Review of Implementation Plan, Section 6 (con't) **Coffee break, as appropriate*	• ANSP sharing on FF-ICE implementation plans and timeline (All) – PPT/02, China • Wrap Up **Coffee break, as appropriate*

FF-ICE/3 Objectives

- Review draft Regional FF-ICE/R1 Implementation Plan
  - Use comment tracking template to provide feedback
- Review FF-ICE related APAC Common SWIM Information Services
  - Message Exchange Pattern
- Agree on next steps

Progress of Ad-hoc Group Terms of Reference

APAC FF-ICE Ad-hoc Group

Background

- ATM Sub-Group of APANPIRG established the FF-ICE Ad-hoc Group in Oct 2023 (ref Decision ATM/SG/11-4) with the following objectives
  - Address regional challenges in transitioning from FPL2012 to FF-ICE
  - Advance regional readiness for FF-ICE adoption

Activities

- 1st Workshop with Tabletop Exercise completed on 18-21 June 2024
- 2nd Workshop completed on 18-20 March 2025, with discussion focused on regional implementation plan
  - Deep-dived into key implementation topics
  - Discussed implementation timeline
- Aug 2025: Decision ATM/SG/13-15 - Adoption of FF-ICE Ad-hoc Group Terms of Reference
- 2025 – 2032:
  - Development and adoption of regional implementation plan;
  - Formation of regional implementation task force;
  - Preparing and executing technical tests
  - Operational trials
  - 3 FF-ICE/R1 services operational available

Terms Of Reference

Asia/Pacific Flight and Flow Information for a Collaborative Environment Ad-hoc Group

Objectives

a) Develop the APAC Regional FF-ICE/R1 Operational Requirements, and related operational processes and procedures; and
b) Develop the APAC Regional FF-ICE/R1 Implementation Strategy, including timeframes and roadmap.

Tasks

a) Study successful FF-ICE/R1 development in other regions and States, draw useful lessons, and enhance the understanding of FF-ICE/R1 through sharing use case scenarios and business cases;
b) Provide guidance for the regional FF-ICE/R1 implementation, taking into consideration of mixed-mode environment before the regional sunset date of Flight Plan 2012;
c) Coordinate and collaborate with other related APANPIRG contributory bodies, such as APAC Air Traffic Flow Management Steering Group (ATFM/SG) and APAC System Wide Information Management Task Force (SWIM TF);
d) Review the development of Flight Information Exchange Model (FIXM) revisions and if needed, propose FIXM extension amendments for regional adoption;
e) Provide progress update to the Air Traffic Management Sub-Group (ATM/SG) and the Communications, Navigation and Surveillance Sub-Group (CNS SG) of the Asia/Pacific Air Navigation Planning and Implementation Regional Group (APANPIRG);
f) Provide recommendation for the inclusion of additional Aviation System Block Upgrade (ASBU) elements in the Asia/Pacific Seamless ANS Plan, as they mature;
g) Submit inputs and recommendations to the ICAO ATM Requirements and Performance Panel (ATMRPP), when deemed necessary; and
h) Undertake any other tasks related to FF-ICE/R1 implementation that may arise in the future.

Terms Of Reference

Asia/Pacific Flight and Flow Information for a Collaborative Environment Ad-hoc Group

Memberships

- Singapore and Thailand are the Rapporteurs and Secretariat of the APAC FF-ICE Ad-Hoc Group.
- The APAC FF-ICE Ad-Hoc Group should consist of experts from:
  a) Civil Aviation Authorities (CAA);
  b) Air Navigation Service Providers (ANSP), including personnel involved in processing flight plans, performing Air Traffic Flow Management (ATFM) operations, and implementation of SWIM and FF-ICE;
  c) Airspace Users (AU), including personnel involved in flight planning and flight dispatch; and
  d) Relevant international and regional organizations

Reporting

- The APAC FF-ICE Ad-Hoc Group will report its progress, findings, and recommendations to the ATM/SG and CNS SG of APANPIRG. Regular updates will also be provided to the ATFM & A-CDM/SG and SWIM/TF.

Timeline for finalisation of implementation plan

Timeline for finalisation of implementation plan

- Now till Q1 2026: review and feedback of draft implementation plan.
- 4th workshop (tentatively 24-26 March): Discussion and resolution of outstanding topics; finalisation of implementation plan draft
- Q2 2026 For review
  - ATFM & A-CDM SG/16 – 6-10 April
  - SWIM TF/11 – 25-29 May
- Q3 2026 For approval
  - CNS SG/30 – 6-10 July
  - ATM SG/14 - Aug
- Q4 2026 Delivery of draft implementation plan for endorsement at APANPIRG/37
  - Publication on ICAO APAC eDocument Webpage

Plans after adoption of implementation plan

After Adoption of implementation plan

- The Ad-hoc Group could be dissolved and replaced with an APAC FFICE/R1 Implementation Task Force, to support FF-ICE/R1 implementation efforts in the region.

- States and airlines should begin technical preparations—whether through vendor partnerships or in-house development—for regional technical trials targeted for 2030

- The Task Force will be the forum for addressing any implementation issues or concerns that emerge

APAC TBO Pathfinder
FF-ICE/R1 Lab Demonstration

22 – 24 July 2025

Hanoi, Viet Nam

APAC TBO
PATHFINDER

Objectives

APAC TBO PATHFINDER

- Awareness of participant's FF-ICE/R1 and SWIM readiness
- Learn and gain knowledge to identify feasible implementation approach for FF-ICE/R1 services
- Working FF-ICE/R1 services prototype
- Understand SWIM usage to enable FF-ICE/R1
- Learn and gain knowledge and experience on SWIM access and connectivity
- Lead in and contribute to FF-ICE/R1 development and implementation in Asia/Pacific Region

Participation Level

Participation Level	Participant
Level 1: Participant with no FF-ICE/R1 services prototype	Airservices Australia, Airways New Zealand, CAAC/ATMB, CAAM, CAAP, ROK/MOLIT, CANSO, IATA
Level 2: Participant with FF-ICE/R1 services prototype *Provide at least two FF-ICE/R1 mandatory services, i.e. filing service and flight data request service, using own prototype **Able to connect to SWIM	AEROTHAI, AirNav Indonesia, CAAS, FAA, HKCAD, JCAB, VATM

Operational Scenarios

APAC TBO
PATHFINDER

- Guam to Bangkok, via Ho Chi Minh
- Tokyo to Bangkok, via Hong Kong
- Bali to Bangkok, via Singapore
- Auckland to Singapore, via Jakarta

Demo Video

APAC TBO
PATHFINDER

https://youtu.be/0QfYvNyA8WQ

Key Lessons Learnt

APAC TBO PATHFINDER

Strategic

- Early engagement and broader participation of regional stakeholders are essential to
  - Understand benefits and necessary changes
  - Identify common system requirements
  - Harmonize regional FF-ICE procedures

Key Lessons Learnt

APAC TBO PATHFINDER

SWIM

- Foundational SWIM capabilities should be established not only for FF-ICE operations but also to support the sharing of constraint/restriction information among stakeholders
- To enhance system integration and consistency, a globally or regionally standardized common set of message headers is required
- An established message format based on standardized information exchange model (e.g. AIXM) is essential for the effective exchange of constraint/restriction information
- Early involvement of network experts is essential to support system integration

Key Lessons Learnt

FF-ICE

- Mixed-mode FF-ICE operation is feasible; however, the operational approach needs further detail
- When available, FF-ICE templates should be used
- The required response/action in the event of a message validation error should be clearly defined
- Detailed constraint/restriction information should be provided when a planning status is non-concur and a filing status is not acceptable
- There is a discrepancy on the GUFI specified in Doc 9965 Vol. II and the FIXM schema [already shared with ATMRPP; further analysis being taken]
- To enable automation of data validation, inclusion of a flight plan version should be mandatory in flight data responses [already shared with ATMRPP; further analysis being taken]

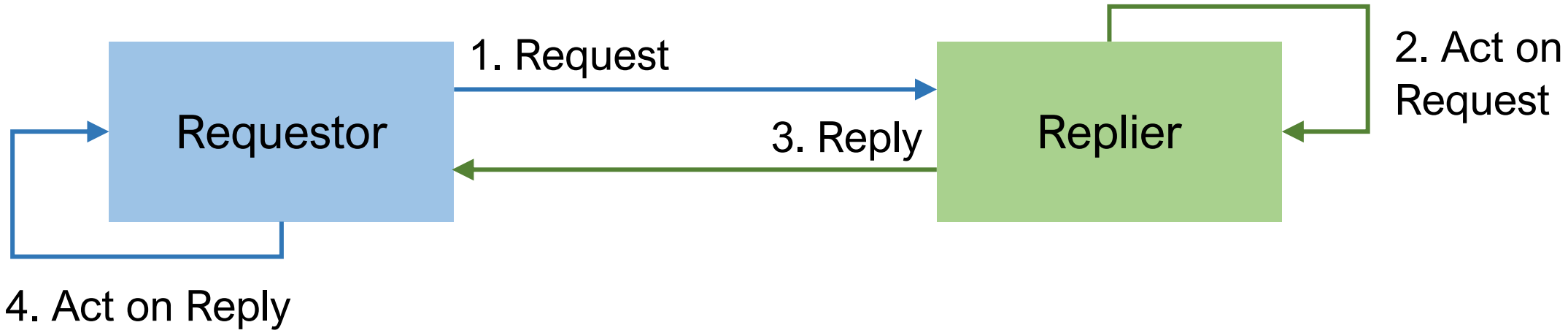
Synchronous/Asynchronous REQ/REP MEP in support of FF-ICE/R1

APAC 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 sService in iInitial APAC Common SWIM IS~~ (1) / (2) / (3)
APAC Common SWIM Flight Information Services					
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 ~~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 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 Pub/Sub	2

Request/Reply Message Exchange Pattern

- Fundamental interaction model with paired message exchange



- 2 types
  - Synchronous REQ/REP
  - Asynchronous REQ/REP

Request/Reply Message Exchange Pattern

Doc 10203 Manual on SWIM Implementation

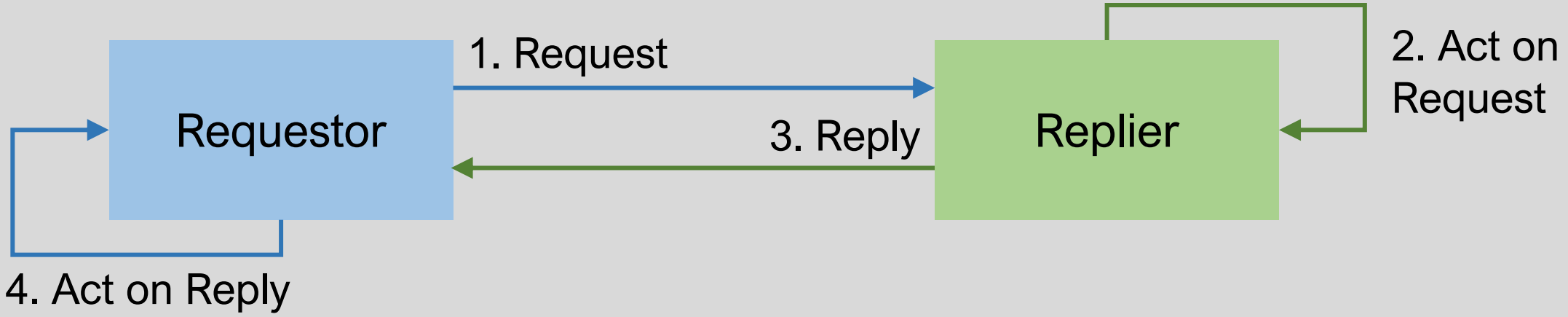
5.3.3.4.2.1 Several types of MEPs are expected to be supported within a SWIM environment, including synchronous request/reply, asynchronous request/reply, one-way ("fire-and-forget") and publish/subscribe. The MEP used in any given exchange is directed by the information service provider to meet information service objectives. These MEPs include:

a) **synchronous request/reply:** The consumer initiates a request to an information service; the service processes the request and generate a reply to the consumer. The consumer waits for the information service to provide a response. During this waiting period, the consumer cannot send or receive any other requests or responses. This pattern is specifically applicable to information services that can quickly execute and respond to consumer request;

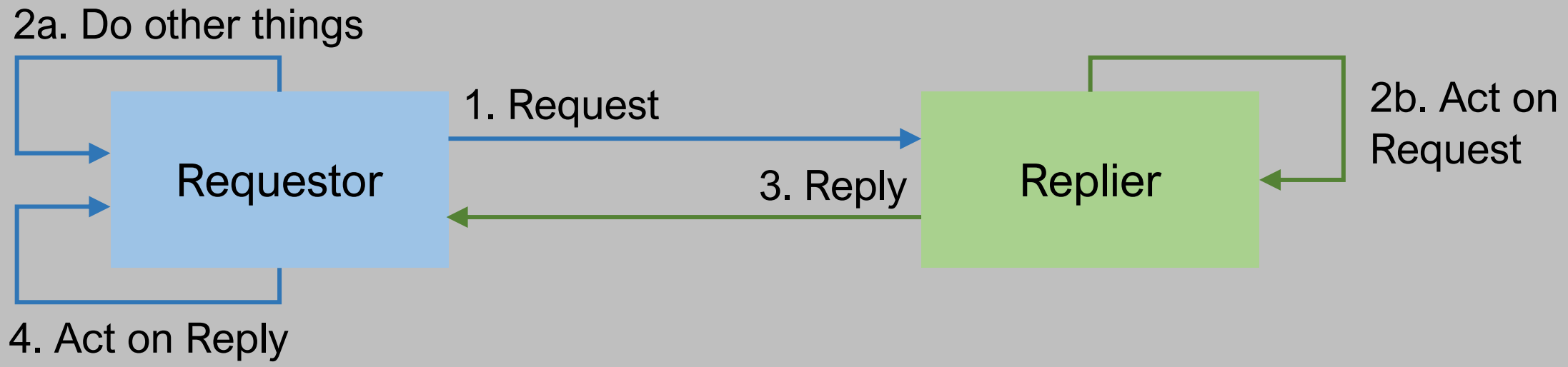
b) **asynchronous request/reply:** The consumer initiates a request to an information service; the service processes the request and generates a reply to the consumer. However, the consumer is not restricted from performing other operations while waiting for the information service's response. This MEP requires that the consumer be able to receive messages at any time and correlate them with prior requests;

Request/Reply Message Exchange Pattern

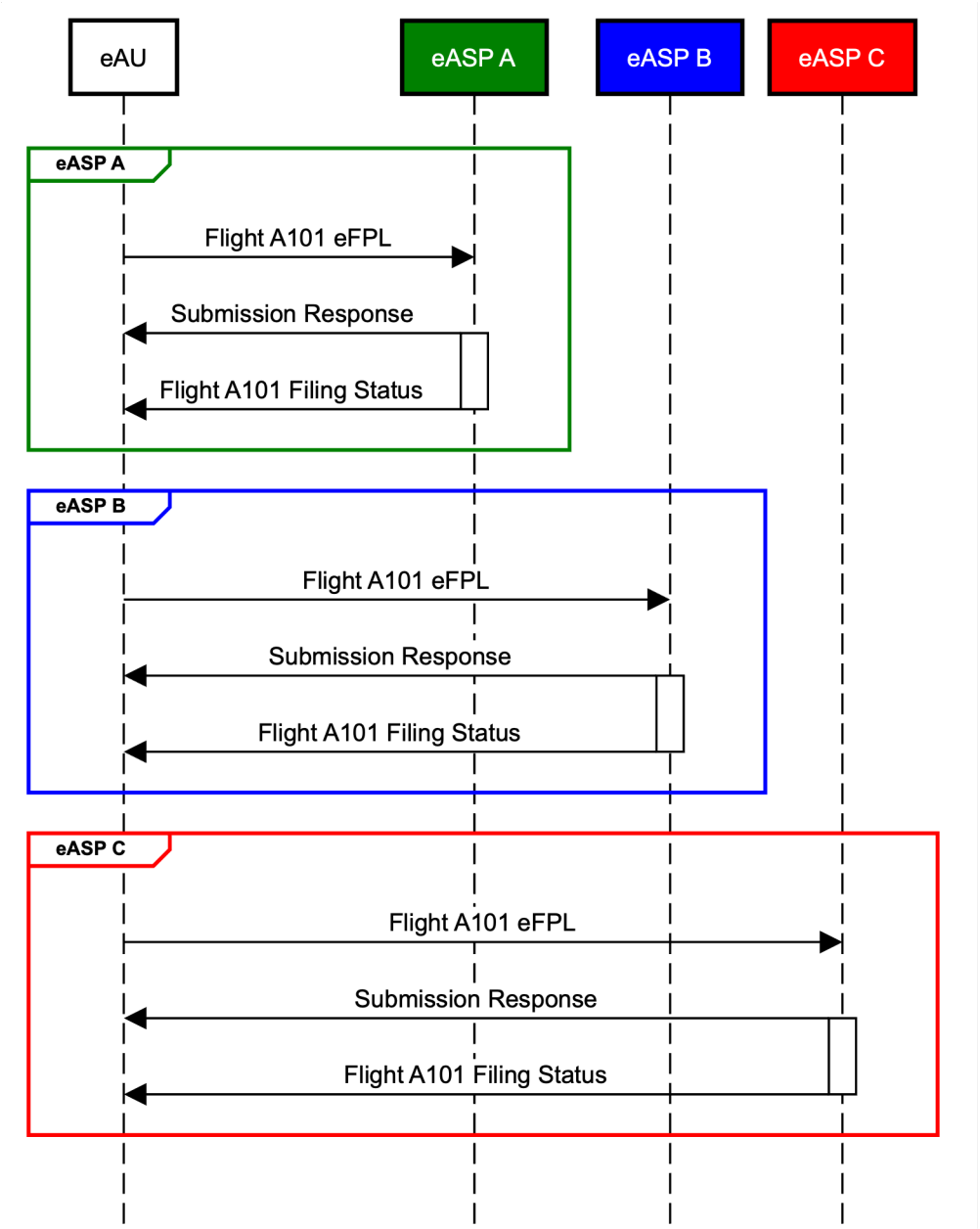
Synchronous REQ/REP



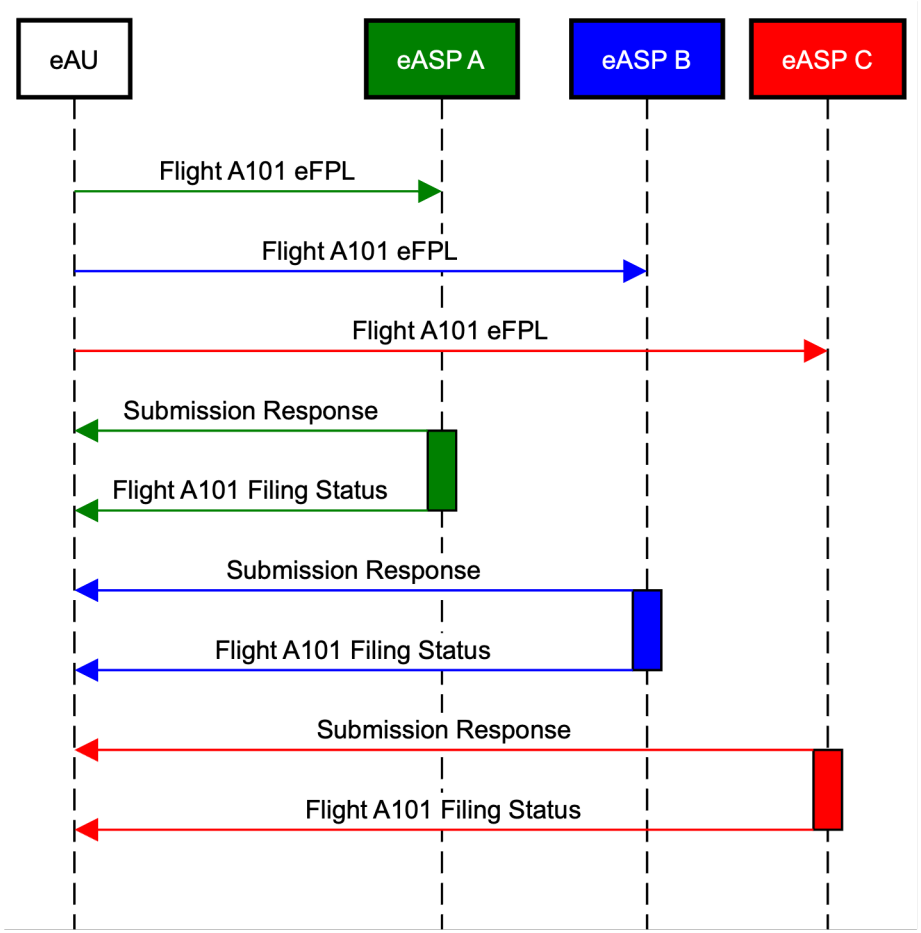
Asynchronous REQ/REP



Synchronous R/R



Asynchronous R/R



Business Rules

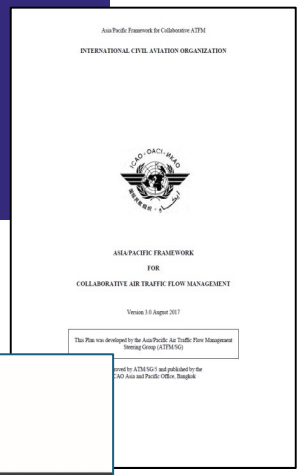
APAC FF-ICE Regional Implementation Plan Review

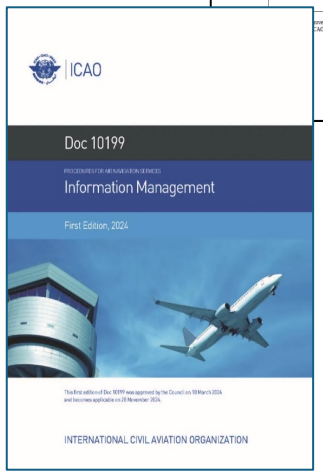
16 December 2025

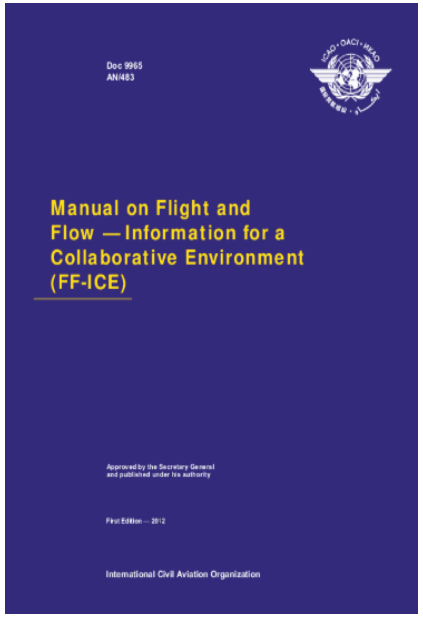
Sections

- Section 1: Scope of APAC Regional Implementation Plan
- Section 2: Executive Summary
- Section 3: Definitions
- Section 4: Introduction
- Section 5: Background

Section 1: Scope of APAC Regional Implementation Plan







Expand on:

- Regional Requirements
- Additional implementation clarification
- Regional specific examples
- Regional implementation timeline/collaboration

APAC Regional FF-ICE Implementation Plan

Section 1: Scope of APAC Regional FF-ICE Implementation Plan

- 1.1 Alignment with Global Framework
- 1.2 Asia/Pacific Regional Context and Guidance
- 1.3 Mandatory and Optional FF-ICE Services

Scope of APAC Regional FF-ICE Implementation Plan Overview (1)

- Developed to complement and align with the global ICAO FF-ICE framework
- Bridges global guidance to regional implementation for Asia/Pacific States
- Built upon established ICAO concepts for:
  - System Wide Information Management (SWIM)
  - Air Traffic Flow Management (ATFM)
  - Aviation information security
- Does not duplicate ICAO global manuals (e.g., FF-ICE and SWIM guidance)
- Focuses on regional coordination, harmonization, and practical deployment

Scope of APAC Regional FF-ICE Implementation Plan Overview (2)

- Asia/Pacific Regional Context & Guidance
  - FF-ICE implementation is aligned with the Asia/Pacific Seamless ANS Plan
  - Trajectory-Based Operations (TBO) and FF-ICE are key future ATM modernization drivers
  - Regional implementation guided by:
    - APAC SWIM Technical Infrastructure Profiles
    - APAC Common SWIM Information Services
  - Complementary regional frameworks support FF-ICE success:
    - Collaborative AIM Plan (AIS → AIM digital transition)
    - Collaborative ATFM Regional Framework

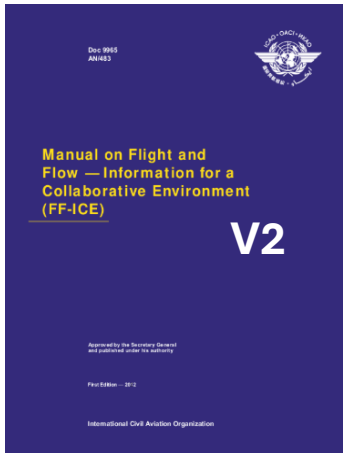
- Mandatory vs. Optional FF-ICE Services in APAC
  - Mandatory Services (per Doc 4444): Filing, Flight Data Request, Notification Service
    - Notification mandatory to supports FPL2012, DEP, and ARR message sunset
  - Optional (Recommended) Services: Planning, Trial, Publication
  - Supports phased transition from legacy FPL2012 to full FF-ICE operations

Section 2: Executive Summary

- **To be updated once all the sections are finalized**
- **Enhancement Reference Table**

Doc9965 Vol II – Section Number	Doc9965 Vol II – Section Name	APAC Regional FF-ICE/R1 Implementation Plan Extension to 9965 Vol II
3.5	FLIGHT PLAN EVALUATION & RE-EVALUATION	(6.3.4.2 Specific Validation Requirements for Filed Flight Plan) Requires specific checks (e.g., format, completeness, and association) that must be performed as part of the evaluation process (6.10.3 Re-evaluation Process) Requires eASPs to provide status updates if there are changes identified by re-evaluation
3.6	eASP RESPONSE PROCESSES	
3.6.8	Submission Response	(6.3.4 Filing Service - Submission Response) Requires immediate response (ACK, REJ, MAN) to indicate if the message was retained/rejected/handled manually (6.4.3 Submission Response Message) Provides recommended template responses for REJ messages (6.8.2 Message Delivery Assurance Submission Response) Provides recommended timeout for submission response messages

Section 3: Definitions



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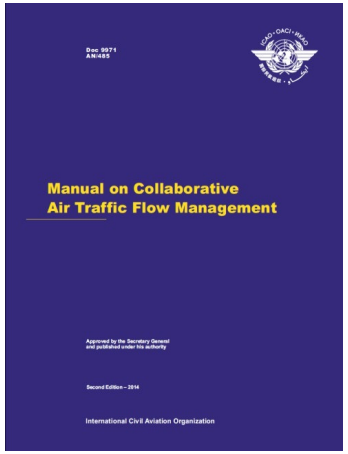

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Section 2: Definitions

Definitions: Overview

Inherited from Doc 9971	Inherited from Doc 9965
Minutes in Trail (MINIT) / Miles in Trail (MIT)	4D trajectory Agreed 4D trajectory Aircraft trajectory ATM community ATM trajectory constraint Coordinated airport Desired 4D trajectory Flight and Flow - Information for a Collaborative Environment (FF-ICE) Gate-to-gate Globally unique flight identifier (GUFI) Negotiating 4D trajectory Regional extensions Regional requirement Restriction Flight Constraint

Section 4: Introduction

- Introduction to FF-ICE
  - FF-ICE is a global ICAO initiative to modernize flight planning and trajectory management
  - Replaces limitations of the 2012 ICAO Flight Plan with a collaborative, trajectory-based operations (TBO) environment
  - Enables sharing and optimization of 4D trajectories across all phases of flight
  - Improves predictability, efficiency, capacity, and safety through standardized flight and flow data exchange
  - Directly supports the Global ATM Operational Concept (Doc 9854)

- ICAO FF-ICE Framework & Releases
  - Defined in the Doc 9965 Manual on FF-ICE
    - Volume I – FF-ICE Concept (collaborative ATM foundation)
    - Volume II – Implementation Guidance (pre-departure focus)
  - FF-ICE/R1 (Pre-departure) introduces six core services:
    - Planning, Filing, Trial, Flight Data Request, Notification, Publication
  - Enables:
    - Collaborative flight filing
    - Trial trajectory analysis
    - Flight updates and cancellations
    - Standard SWIM-based message exchange
  - FF-ICE/R2 (Post-departure) will extend FF-ICE to in-flight trajectory updates and collaborative adjustments

Section 5: Background

- 5.1 SWIM as an Enabler for FF-ICE
- 5.2 FIXM and Regional Extensions
- 5.3 Mixed-Mode Operations During Transition

SWIM as the Enabler for FF-ICE

- System Wide Information Management (SWIM) provides the technical infrastructure, standards, and governance for FF-ICE
- FF-ICE replaces point-to-point messaging with SWIM-based information services
- Flight planning processes are delivered as discoverable, secure services
- Enables real-time exchange of flight and flow data using common formats and protocols
- Implementation guidance provided in PANS-IM and the SWIM Implementation Manual
- States retain technology flexibility as long as they support standard FF-ICE services

Flight Information Exchange Model (FIXM)

- FF-ICE defines what flight information needs to be exchanged, and FIXM defines how that information is structured for digital exchange in a System Wide Information Management (SWIM) environment.
- FIXM is the globally standardized data exchange model that provides the rich flight and flow information required by the FF-ICE concept instead of the teletype-format FPL (FPL2012)
- It's an XML-based data model (developed using Unified Modeling Language) that defines all the data elements about a flight
  - FIXM Core: This contains the basic, globally harmonized data structures for flight information that are applicable to all users. This includes the elements needed to support ICAO's FF-ICE concepts, such as trajectory data and the Globally Unique Flight Identifier (GUFI)

Asia/Pacific Regional Extensions

- Asia/Pacific has developed official FIXM regional extensions for:
  - Cross-border ATFM
  - Airport Collaborative Decision Making (A-CDM)
  - Regional traffic synchronization
- Adds key collaborative fields such as:
  - Target Take-Off Time (TTOT)
  - Target Time Over (TTO)
- Ensures global interoperability while supporting regional operational needs

Mixed-Mode Operations During Transition

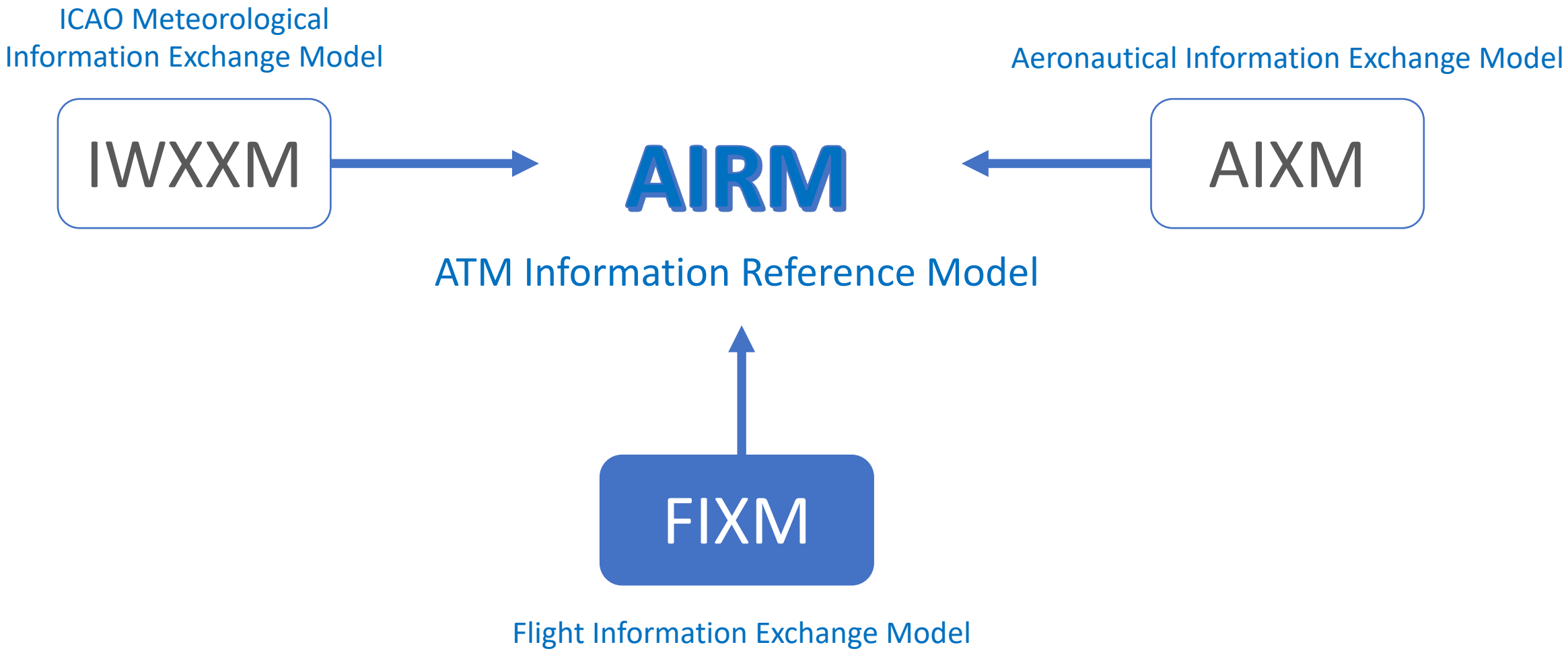
- Extended transition period expected across the Asia/Pacific region
- Legacy 2012 Flight Plan (FPL 2012) and FF-ICE/R1 services will operate in parallel
- Readiness will vary by State and Air Navigation Service Provider (ANSP)
- Requires:
  - Translation mechanisms
  - Operational coordination
  - Validation between legacy and FF-ICE environments
- Ensures continuity of operations while migrating to FF-ICE

Section 6
APAC Regional Implementation Plan

6.1.1 Information Exchange Standards

- FF-ICE operations are performed through FF-ICE services
- Each FF-ICE service is accompanied with a set of FF-ICE messages to exchange flight information with stakeholders
- ATM Information Reference Model (AIRM) is a standardized dictionary for ATM information and shall be used as a reference for digital information exchange to ensure interoperability

6.1.1 Information Exchange Standards



6.1.1.3 FIXM Components

FIXM Core	Globally harmonised flight **data structure**
FIXM Applications	Built upon FIXM Core to provide context-specific **message** e.g. FF-ICE messages, FF-ICE message templates
FIXM Extensions	Provide additional data structure to support local, national, regional requirements

6.1.1.4 – 6.1.1.5 APAC FF-ICE Operations

Mandatory

Use FF-ICE message templates in Doc 9965 Volume II – Manual on FF-ICE Implementation Guidance to ensure interoperability, ease of development and improved validation

Recommend

Use APAC FIXM Extension for cross-border operations such as ATFM information exchange, ATFM/A-CDM integration

6.1.2 Globally Unique Flight Identifier (GUFI)

- A new way to identify a flight instead of relying on uncertain combination of fields such as aircraft identification, departure aerodrome, destination aerodrome and EOBT

- GUFI is composed of the followings:
  - > Universally Unique Identifier – UUID version 4 (RFC 9562)
  - > Namespace Identifier – The originator of the GUFI
  - > Creation Timestamp – Timestamp in UTC

- Sole use of UUID as a GUFI is not recommended

6.1.2 Globally Unique Flight Identifier (GUFI)

- If a flight plan is cancelled and a new flight plan is submitted, a new GUFI shall be assigned

- A new filed flight plan message can be provided with the same GUFI but with an incremented flight plan version and as a consequence it will be treated as a complete replacement of the existing data

- Current flight association practices are recommended to be applied in parallel with the use of GUFI to provide more robust data correlation and support operations in a mixed-mode environment

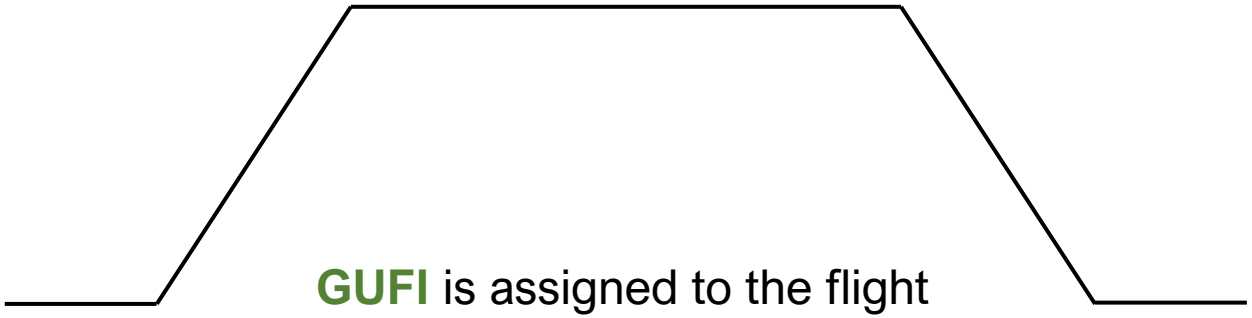
6.1.2.6 GUFI Allocation

- GUFI is allocated to a flight. A flight is considered from the submission of Preliminary Flight Plan (PFP) or Filed Flight Plan (eFPL) until the aircraft is in-block at the destination aerodrome
- Different GUFI is needed for each leg of multi-leg operations
- Key consideration to determine ‘a flight’ is when the aircraft is airborne and subsequently in-block at an aerodrome (destination aerodrome, diversion aerodrome or even its departure aerodrome)
- Ground return or aborted take-off may retain its flight plan and GUFI if the intention is to continue the same flight

“A Flight”

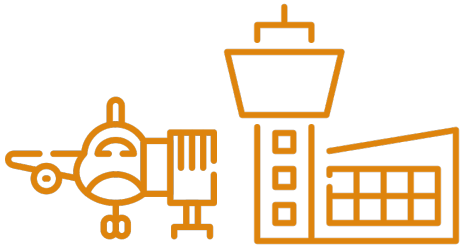
Aircraft becomes **airborne**

Submission of
Preliminary Flight Plan (PFP)
or
Filed Flight Plan (eFPL)

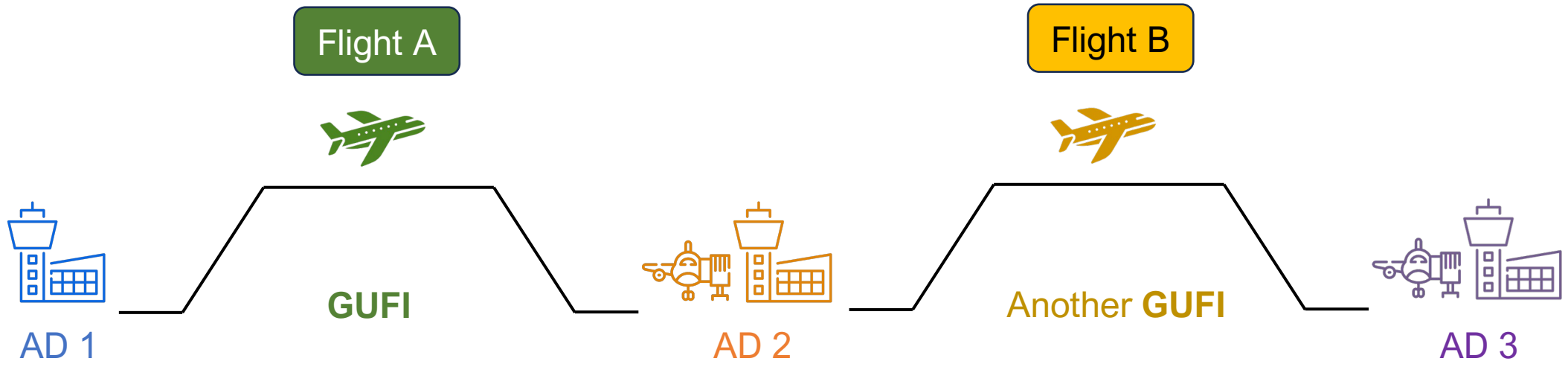


GUFI is assigned to the flight

In-Block at an aerodrome
- Destination aerodrome
- Diversion aerodrome
- Departure aerodrome



GUFI & Flight



6.1.2.7 GUFI Procedure

- Operator (or its representative) is responsible for GUFI allocation for each flight plan
- Operator needs to ensure that no GUFI is reused for other flight
- eASP is required to verify the received PFP or eFPL against the flight plan differentiation checks
- An eFPL should carry the same GUFI as its corresponding PFP, if submitted, but with an incremented version number

6.1.3 Mixed-Mode Operations

Regional Implementation Considerations

- Use of common version of FIXM (including regional Extension) is crucial for cross-border interoperability for FF-ICE services implementation
- In APAC, **FIXM version 4.3** and **FIXM version 4.3 Extension** shall be used for cross-border ATFM operations, A-CDM, ATFM/A-CDM integration, and traffic synchronization
  (Conclusion APANPIRG/35/4 and Conclusion APANPIRG/36/12)

6.1.3 Mixed-Mode Operations

Regional Implementation Considerations

- Procedure of the change process for the cross-border FIXM operating version was agreed in *Conclusion ATM/SG/13-5* and shall be followed
- FIXM version used for FF-ICE services implementation and cross-border ATFM information exchange should be aligned

6.1.3 Mixed-Mode Operations

eASP Responsibility

An eASP may provide a translation service to convert eFPL into FPL2012 to support the varying capabilities of AUs and ASPs within the APAC region during mixed-mode operations

6.1.3 Mixed-Mode Operations

eAU Responsibility

An eAU or its designated unit shall submit eFPL to all relevant eASPs and FPL2012 to ASPs

- Any changes after submitting eFPL, eAU shall submit a Flight Plan Update to all relevant eASPs, and a CHG or DLA message to ASPs
- If delay more than 30min, eAU shall submit a Flight Plan Update to all relevant eASPs and a CHG or DLA message to ASPs
- For cancellation, the eAU shall submit a Flight Cancellation to all relevant eASPs and a CNL message to ASPs

6.1.3.4 Translation

- During the transition to FF-ICE/R1 operations, ASP may need to consider implementing the legacy-to-FF-ICE translation function to support its internal automation to accommodate different implementation timelines
- Translation service is considered an interim solution as the FF-ICE operations are a paradigm shift in flight information exchange, not only a change of flight plan format
- Potential data loss may occur during translation between eFPL and FPL2012, as eFPL contains significantly more information than the legacy FPL2012

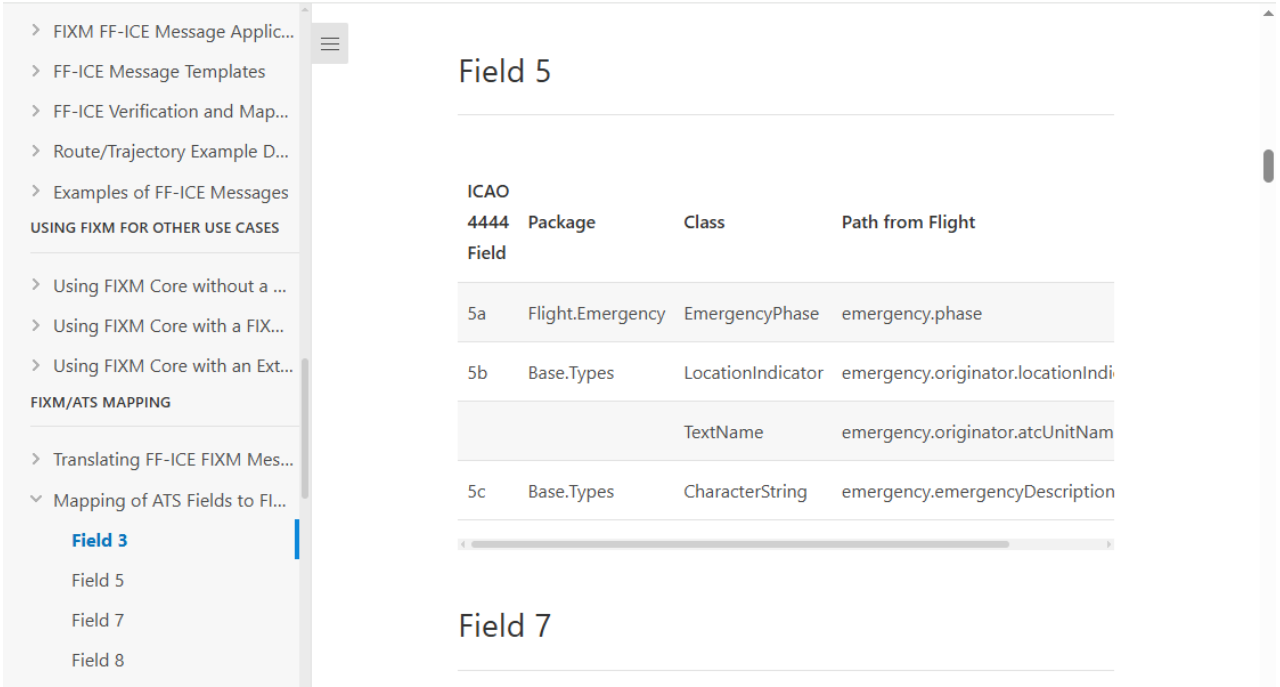
6.1.3.6 Cyber Security

- eASPs and eAUs shall ensure that their FF-ICE systems are protected against any cyber-attacks and that all exchanged information is authentic
- Cybersecurity recommendations provided in *Aviation Common Certificate Policy (ICAO Doc 10169)* and *Manual on Aviation Information Security (ICAO Doc 10204)* should be utilized
- TLS self-signed certificate should be implemented at minimum while the regionally agreed Public Key Infrastructure (PKI) framework has yet to be considered

Appendix A & B

Appendix A – FIXM Mapping to ATS

- Translation of FF-ICE FIXM to ATS Messages is available on the FIXM website at https://docs.fixm.aero/#/ats-message-to-fixm-mapping/translating-ffice-fixm-messages-to-ats-messages



Appendix B – Mapping Of FIXM Core 4.3.0 Data Attributes to Support Cross-Border ATFM Information Exchange

Data Attribute	FIXM version 4.3 Core
EOBT	FlightType.departure.estimatedOffBlockTime = (EOBT)
ETO	FlightType.routeTrajectoryGroup.desired.element.point4D.time = (ETO) FlightType.routeTrajectoryGroup.desired.element.elementStartPoint = (point at which ETO is specified)
ELDT	FlightType.routeTrajectoryGroup.desired.element.point4D.time = (ELDT) FlightType.routeTrajectoryGroup.desired.element.point4D.pointProperty.propertyType = WHEELS_ON FlightType.routeTrajectoryGroup.desired.element.elementStartPoint.aerodromReferencePoint.locationIndicator = FlightType.arrival.destinationAerodrome.locationIndicator
CTOT	FlightType.routeTrajectoryGroup.negotiating.element.constraint.time.timeSpecification.timeValue = (CTOT) FlightType.routeTrajectoryGroup.negotiating.element.point4D.pointProperty.propertyType = WHEELS_OFF FlightType.routeTrajectoryGroup.negotiating.element.elementStartPoint.aerodromReferencePoint.locationIndicator = FlightType.departure.aerodrome.locationIndicator
CTO	FlightType.routeTrajectoryGroup.negotiating.element.constraint.time.timeSpecification.timeValue = (CTO) FlightType.routeTrajectoryGroup.negotiating.element.constraint.level = (Altitude, Flight Level or Range) FlightType.routeTrajectoryGroup.negotiating.element.elementStartPoint = (point at which CTO is specified)
CLDT	FlightType.routeTrajectoryGroup.negotiating.element.constraint.time.timeSpecification.timeValue = (CLDT) FlightType.routeTrajectoryGroup.negotiating.element.point4D.pointProperty.propertyType = WHEELS_ON FlightType.routeTrajectoryGroup.negotiating.element.elementStartPoint.aerodromReferencePoint.locationIndicator = FlightType.arrival.destinationAerodrome.locationIndicator

FF-ICE R1 Services:
Common Validation Process

Submission Response Message (6.2.1)

- Submission Response Messages (SR) are responses provided by the message recipient for every message submitted to them to acknowledge that they have **received** and whether they are **able** or otherwise **unable to process** the messages.

- **Used for five FF-ICE/R1 Services:**
  - Filing Service
  - Flight Data Request Service
  - Notification Service
  - Planning Service
  - Trial Service

- **A Submission Response shall be "ACK", "REJ" or "MAN", where:**
  - **ACK**: indicates the message **will be processed** by the eASP
  - **REJ**: indicates the message **cannot be processed** and **no data will be retained** by the eASP
  - **MAN**: indicates that **manual intervention is required** before processing can be completed

Validation and Submission Response REJ (6.2.2 – 6.2.3)

- Upon receipt of any messages, message recipients **shall** perform checks as mentioned in table below.
- When validation fails, the message recipient **shall** provide a Submission Response of **"REJ"** and include an **explanation** in the explanation note field.
- Harmonisation of explanation notes **is not required**
- eASPs **should** ensure that explanations are precise enough for eAUs to rectify their original message if necessary.

Checks (mandatory)	**Description of Check**	**Explanation Note Format for SR REJ (recommended)**
Syntax and Semantic Check	Checks that data is in the correct format (e.g., dates, times, coordinates) and that the content makes logical sense	Wrong data format in field <X>
FIXM Schema Compliance, including Mandatory Fields	Ensures message structure follows FIXM version 4.3 standard, including that all mandatory fields are present	If non-compliance: Field <X> not compliant to FIXM version 4.3 If mandatory field missing: Mandatory field <X> missing
Other validation checks specific to individual FF-ICE/R1 services	Will be explained in greater detail in subsequent sections under each of the relevant FF-ICE/R1 services	Service-specific explanation notes provided in respective sections

Manual Processing Requirements (6.2.4)

Manual Processing Overview

- FF-ICE processes are expected to be predominately automated
- Manual processing may be required for specific operational needs
- eASPs **should:**
  - Clearly document their manual processing procedures and criteria
  - Make them available to AUs

Manual Processing Procedure

- When manual processing is required:
  - eASPs **shall** send a "MAN" Submission Response to the message originator
- No action is required from message originator on receipt of a "MAN" Submission Response
  - **Should** not submit any other messages relating to that flight until "ACK" or "REJ" Submission Response is received

Manual Processing Requirements (6.2.4)

Once manual processing is completed:

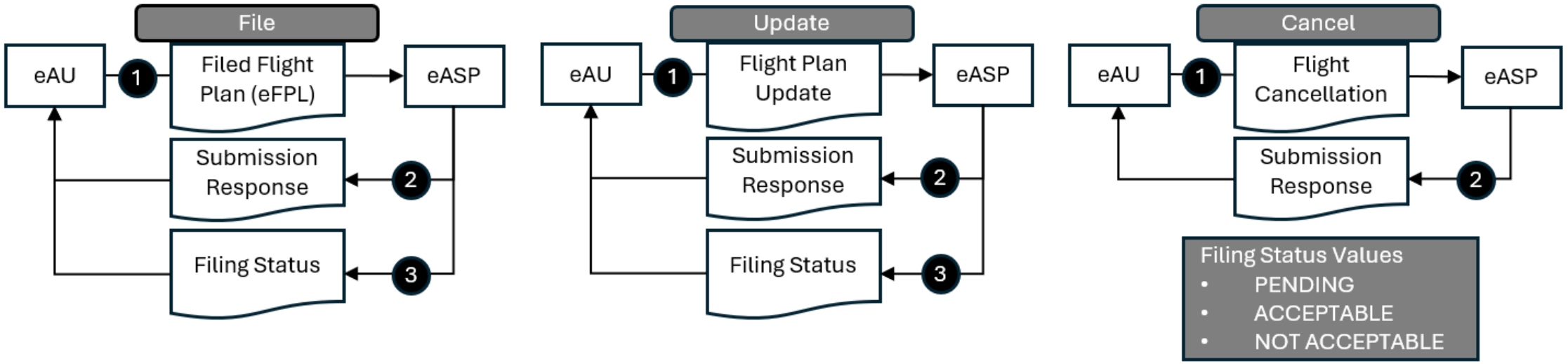
- If the issue is resolved: "ACK" Submission Response **shall** be sent
- If the issue remains unresolved (e.g. data cannot be corrected): "REJ" Submission Response **shall** be sent
- The eASP **shall** also provide a clear explanation of any manual changes made in the original message within the SR message (Under Explanation field)

Manual Processing Scenarios

Scenario	Description
Special Handling Flights (e.g. MEDEVAC, SAR) as identified in the Special Handling field, as defined in PANS-ATM Doc 4444	Should normally not be rejected, even if they are non-compliant with standard restrictions. If these flight plans fail automatic validation checks, manual processing is recommended to ensure prompt facilitation and appropriate consideration of their special status
Known System Issues	Cases where ATM system errors or configuration data errors which require manual intervention
Other Exceptional Cases	These cases will be identified and documented by the eASP

Filing Service

Filing Service Introduction (6.3.1)



Overview

- **Mandatory** FF-ICE/R1 service
- Operators use Filing Service to submit eFPLs and send updates necessary to receive air traffic services
- 3 primary processes: Filing, Updating, Cancelling

Five FF-ICE Messages Under Filing Service

1. Filed Flight Plan Message
2. Flight Plan Update Message
3. Flight Cancellation Message
4. Submission Response Message
5. Filing Status Message

Flight Plan Filing Cut-off Times (6.3.3)

Earliest Submission Timings

- In accordance with PANS-ATM (Doc 4444) Section 4.4.2.1.1
- Filed Flight Plans shall not be submitted more than **120 hours** before the Estimated Off-Block Time (EOBT) of a flight
- This requirement applies specifically to Filed Flight Plans and does not extend to Preliminary Flight Plans

Latest Submission Timings

- In accordance with PANS-ATM (Doc 4444) Section 11.3.2
- Basic flight plan data necessary for flow control procedures shall be furnished at least **60 minutes** in advance of the flight
- Filed Flight Plans shall therefore be submitted at least **60 minutes** before EOBT

Regional ATFM

- The requirements specified in the *Asia Pacific Regional Framework for Collaborative Air Traffic Flow Management* should be followed, i.e. Filed Flight Plan are to be submitted no less than **three (3) hours** prior to the EOBT, except where operational or technical constraints necessitate otherwise.

Versioning (6.3.4)

Versioning Requirements

- It is the sole responsibility of the eAUs to increase the versioning of the flight plans
- eASPs **shall** refer to the version numbers provided by eAUs and not change the flight plan versions

eAUs shall increment the flight plan version by 1 for the following scenarios:

a) A flight plan update is made to the Preliminary Flight Plan (PFP)
b) A PFP has been previously submitted, and the eAU is filing the flight plan (eFPL) for the same flight
c) An update is made to the Filed Flight Plan (eFPL)

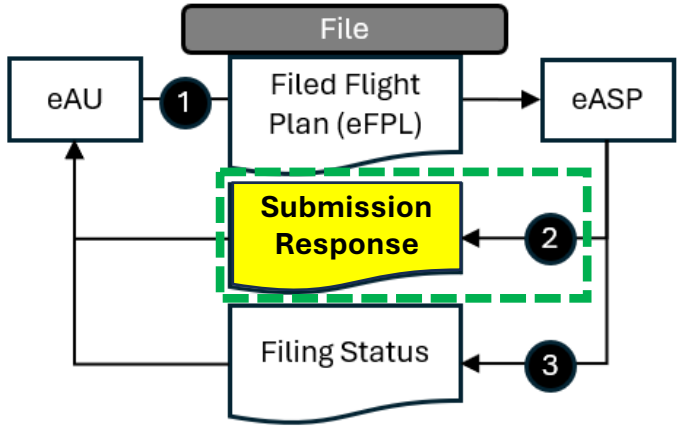
Important Notes

- For eASPs that do not provide Planning Service, it should be noted that the version number for the first submission of the Filed Flight Plan may not be 1

	Example Scenario Step	**eASP A (Filing & Planning)**	**eASP B (Filing Only)**
1	• Operator submits PFP and updates PFP twice. Last PFP version is v3. • eASP B does not receive any PFP	PFP **v1 → v2 → v3**	No PFP
2	• Operator files eFPL as v4 • eASP B first receives eFPL v4	eFPL **v4**	eFPL **v4**

- If there is concern of inconsistent version number between eAU and eASP, **Flight Data Request Service** can be used to obtain the Filed Flight Plan which includes the version number

Submission Response for Filing Service (6.3.5)



General Validation Requirements

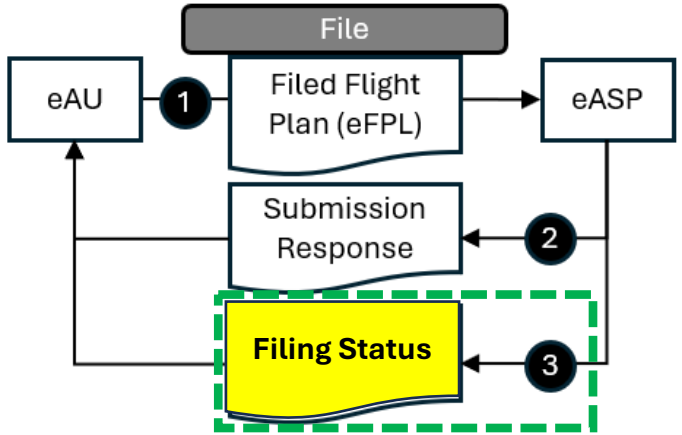
- The general validation requirements also apply (see 6.2.2)

Specific Validation Requirements for Filed Flight Plan

- In addition to the general checks listed, other checks **should** be conducted for Plan Updates (FPU). These include, but are not limited to:

Additional Checks	**Description of Check**	**Explanation Note Format for SR REJ (Recommended)**
Submission Timeframe	Validates that EOBT falls within allowable submission window	EOBT is outside allowable submission timeframe
Versioning	Checks for version conflicts with existing flight plan data	A later version <Y> exists in the system
Flight Association	Verifies flight identification consistency using GUFI and other key fields	Same flight with different GUFI found Different flight with same GUFI found
Trajectory Syntactic Checks, Semantic Checks	eASPs may implement additional checks to ensure route/trajectories contain valid routes, fix names, coordinates, etc.	Trajectory Info Error Invalid Route Structure Invalid Fix/waypoint

Filing Status Message (6.3.6)



Filing Status Overview

- **Filing Status** = **Evaluation** (operational acceptability of flight plan against restrictions and constraints)
- Filing Status message is provided by eASPs to eAUs following submission of Filed Flight Plans and Flight Plan Updates that receive "ACK" Submission Response

Evaluation Criteria

- eASPs **should** evaluate flight plans against various operational restrictions and constraints including but not limited to:
  a) Aerodrome, airspace and route availability
  b) ATFM measures
  c) Environmental conditions (SIGMETs, WAFs, TAFs, volcanic ash areas)
  d) Aircraft operations requirements (required navigation performance specifications, required equipage, etc.)

Filing Status Message (6.3.6)

- While eASPs retain the option to determine the specific criteria for each Filing status based on their operational environment, the **interpretation and expected actions from the eAUs** for each Filing Status **shall** be established as described below.

FF-ICE Filing Status Interpretation and Expected eAU Action

Filing Status	Interpretation	Expected eAU Action
ACCEPTABLE	• The flight plan complies with operational requirements. • Any constraints identified can be accommodated without flight plan modifications.	• **No immediate action or update required.** • Note any provided constraints for awareness. • Prepare for possible tactical clearances reflecting identified constraints.
NOT ACCEPTABLE	• The flight plan does not comply with operational requirements and requires modification.	• **Submit Flight Plan Update to address non-compliance**. • If close to EOBT, the operator may be unable to update their flight plan in time using FF-ICE/R1 processes. • In these cases, the operator may update their flight plan as needed through tactical coordination with ATC. Note: eAU can expect refusal to start-up clearance if non-compliance requires flight plan modification (e.g., aerodrome closure).
PENDING	• Flight plan evaluation has not yet been performed. • More details explained later	• **Await subsequent filing status update.** • Monitor Expected Evaluation Time if provided.

Filing Status Message (6.3.6)

- Filing Status is intended to indicate the acceptability of a proposed route or trajectory within airspace where Air Traffic Services (ATS) are provided. It cannot be interpreted as the issuance of Air Traffic Control (ATC) clearance.
- Filing Status reflects route/trajectory acceptability only and does not prevent ATC tactical coordination during operations.

💡 **Elaboration**

What Filing Status IS:

- An assessment of whether eAU's proposed route/trajectory is operationally acceptable within the airspace
- Feedback on compliance with published restrictions and ATM configuration
- Advance notice of potential constraints that may affect eAU's flight

What Filing Status IS NOT:

- An ATC clearance - eAUs still need to receive actual clearance from ATC before departure
- A guarantee of the exact clearance eAU will receive - ATC may still make tactical changes during operations

Feedback Methods for Restrictions/Constraints (6.3.6.3)

- When a Filing Status is PENDING or NOT ACCEPTABLE, **an explanation shall** be included within the Filing Status response to eAU.
- **eASPs retain flexibility** in determining their Filing Status feedback methods and content, except for regional harmonization scenarios
- **eASPs should include references to published restriction identifiers where available**
- When providing restrictions and/or constraints to eAUs within the Filing Status, eASPs shall make use of one or more of the following methods:

Method	Description	Usage
Filing Status Explanation	Text-based explanation in the Filing Status message	• Mandatory when status is PENDING or NOT ACCEPTABLE • Explain why flight plan is not operationally acceptable or alert potential constraints that could impact the flight
General Flight Constraint	Constraints that apply to the entire flight rather than specific trajectory points	• Optional. • When constraints affect the whole flight
Route/Trajectory Point Constraints	Specific constraints at route or trajectory points within an Agreed or Negotiating Route/Trajectory	• R/T provision is optional • When providing specific speed, level, and/or time requirements at particular points

Scenarios for Regional Harmonisation (6.3.6.4)

Purpose:

- Certain ATFM scenarios require pre-determined Filing Status responses to ensure **regional interoperability and consistent handling of operational conditions**.
- The following ATFM scenarios were identified to benefit from pre-established Filing Status responses:

ATFM Scenario	Description
A) Calculated Time Over (CTO) / Calculated Landing Time (CLDT)	Time constraint imposed by arrival eASPs due to demand capacity imbalance **Note:** Calculated Take-Off Time (CTOT) at departure aerodrome SHALL NOT be imposed as constraint by arrival eASP. eASPs shall provide feedback only on constraints within their own airspace.
B) Ground Stop (GSt)	Restriction of arrivals imposed by the arrival eASPs for a period when capacity has been severely reduced
C) Flow Restrictions	Certain flight levels unavailable on specific routes
D) Fix Balancing	Alternative points required when demand exceeds capacity at specific departure/arrival fixes
E) Re-routing	Alternative routing required when specific routes/airspace are unavailable or constrained

Scenarios for Regional Harmonisation

Scenario A – CTO/CLDT (Calculated Time Over/ Calculated Landing Time)

What is CTO/CLDT?

- Time constraint on fixes or arrival aerodrome imposed by **arrival eASPs** due to demand-capacity imbalance at destination

Current GDP Implementation:

- Uses CTOT (Calculated Take-Off Time) imposed at departure aerodrome

With Future FF-ICE Implementation:

- Arrival eASP to impose a time constraint of CTO or CLDT to flights
- Under FF-ICE principles, eASPs provide feedback **only on constraints within airspace where it provides ATS.**
  - **CTOT (Calculated Take-Off Time) at departure aerodrome shall not be imposed** by arrival eASP, as per FF-ICE principles
  - Where constraints need to be applied outside their airspace, **special arrangements between ASPs shall** be established

Scenarios for Regional Harmonisation

Scenario A – CTO/CLDT (Calculated Time Over/ Calculated Landing Time)

Harmonised Filing Status Response (Mandatory fields)

Filing Status Message Field	Content
Filing Status	Shall Be: **NOT ACCEPTABLE**
Filing Status Explanation	Suggested Format: REGUL <AAAACCCCCDDMMMVV>
Negotiating Route/Trajectory	Recommended elements: • ElementStartPoint to indicate constrained point • Constraint.Time to indicate time constraint

Note:
REGCAUSE and REGUL message formats follow Asia/Pacific Region AFTN/AMHS-based Interface Control Document (ICD) for ATFM.

Additional information within Negotiating Route/Trajectory (Optional fields):

Additional Fields in negotiating R/T	Content
Constraint.Level / Constraint.Speed	Level/speed constraint values
Constraint.Description	REGCAUSE <XX XX>
Constraint.RestrictionReference	REGUL <AAAACCCCCDDMMMVV>

Scenarios for Regional Harmonisation

Scenario A – CTO/CLDT (Calculated Time Over/ Calculated Landing Time)

Compliance Checking Process:

- Upon receiving a NOT ACCEPTABLE Filing Status, eAUs shall submit a Flight Plan Update to comply with assigned restrictions/constraints. Section 6.3.6.4.8
- eASPs shall evaluate the Flight Plan Update to check for compliance against the restrictions/constraints
- **Checking Point:** ETO/ELDT against assigned CTO/CLDT Section 6.3.6.4.9.2

Compliance Check Result	Filing Status Response	eAU Action Required
Within compliance window	ACCEPTABLE	No further action needed
Outside of compliance window	**Flight plan subjected to re-evaluation**	

Note: Compliance window parameters as established through regional ATFM procedures shall be applied. If available, SWIM information services should be used to provide more details of applicable restrictions .

Scenarios for Regional Harmonisation

Scenario B – Ground Stop (GSt)

Section 6.3.6.4.4

What is Ground Stop?

- The **arrival eASP** may need to restrict arrivals for a period when capacity has been severely reduced.

Harmonised Filing Status Response (Mandatory fields):

Filing Status Message Field	Content
Filing Status	Shall Be: **NOT ACCEPTABLE**
Filing Status Explanation	Suggested Format: GSt imposed on flights arriving into <aerodrome> from <YYYY-MM-DDTHH:mm:ssZ> to <YYYY-MM-DDTHH:mm:ssZ>.
	If available: See NOTAM <XXX> / ADP <XXX> for details.

Note: a Negotiating R/T is not required for GSt restrictions

Scenarios for Regional Harmonisation

Scenario B – Ground Stop (GSt)

Compliance Checking Process:

- Upon receiving a NOT ACCEPTABLE Filing Status, eAUs shall submit a Flight Plan Update to comply with assigned restrictions/constraints.
- eASPs shall evaluate the Flight Plan Update to check for compliance against the restrictions/constraints
- **Checking Point:** Updated estimated landing time (ELDT) against Ground Stop period Section 6.3.6.4.9.3

Compliance Check Result	Filing Status Response	eAU Action Required
Landing time outside Ground Stop period	ACCEPTABLE	No further action needed
Landing time within Ground Stop period	NOT ACCEPTABLE + explanation with Ground Stop details	eAU submits new FPU with landing time outside restricted period

Note: If available, SWIM information services should be used to provide more details of applicable restrictions

Scenarios for Regional Harmonisation

Scenario C - Flow Restrictions – *to be updated to "Flight Level Restriction"*

What are Flow Restrictions? Section 6.3.6.4.5

- Flight levels that are unavailable on certain routes might be imposed.
- Applied by any **relevant eASPs** along the affected route
- Usually due to military activity, weather, or airspace constraints

Harmonised Filing Status Response (Mandatory fields):

Filing Status Message Field	Content
Filing Status	Shall Be: **NOT ACCEPTABLE**
Filing Status Explanation	Suggested Format: <FL or altitude, FL or altitude> on route <XXXX> not available.
	If available: See NOTAM <XXX> for details.

Note: a Negotiating R/T is not required for flow restrictions

Scenarios for Regional Harmonisation

Scenario C - Flow Restrictions

Compliance Checking Process:

- Upon receiving a NOT ACCEPTABLE Filing Status, eAUs shall submit a Flight Plan Update to comply with assigned restrictions/constraints.
- eASPs shall evaluate the Flight Plan Update to check for compliance against the restrictions/constraints
- **Checking Point:** Flight levels of specific trajectory points against unavailable flight levels Section 6.3.6.4.9.4

Compliance Check Result	Filing Status Response	eAU Action Required
Not using unavailable flight levels	ACCEPTABLE	No further action needed
Using unavailable flight levels	NOT ACCEPTABLE + explanation with restricted flight levels	eAU submits new FPU avoiding restricted flight levels

Note: If available, SWIM information services should be used to provide more details of applicable restrictions

Scenarios for Regional Harmonisation

Scenario D - Fix Balancing

Section 6.3.6.4.6

What is Fix Balancing?

- eASPs may require flights to use alternative points to distribute demand across different departure/arrival fixes.
- Applied by any **relevant eASPs** responsible for the affected fixes

Harmonised Filing Status Response (Mandatory fields):

Filing Status Message Field	Content
Filing Status	Shall Be: **NOT ACCEPTABLE**
Filing Status Explanation	Suggested Format: Trajectory Point <XXXXX> not available.
	If available: See NOTAM <XXX> for details.

Note: a Negotiating R/T is not required for fix balancing

Scenarios for Regional Harmonisation

Scenario D - Fix Balancing

Compliance Checking Process:

- Upon receiving a NOT ACCEPTABLE Filing Status, eAUs shall submit a Flight Plan Update to comply with assigned restrictions/constraints.
- eASPs shall evaluate the Flight Plan Update to check for compliance against the restrictions/constraints
- **Checking Point:** Flight trajectory against restricted points Section 6.3.6.4.9.5

Compliance Check Result	Filing Status Response	eAU Action Required
Not using unavailable trajectory points	ACCEPTABLE	No further action needed
Using unavailable trajectory points	NOT ACCEPTABLE + explanation with unavailable trajectory points	eAU submits new FPU using alternative trajectory points

Note: If available, SWIM information services should be used to provide more details of applicable restrictions

Scenarios for Regional Harmonisation

Scenario E – Re-routing

Section 6.3.6.4.7

What is Re-routing?

- eASPs may require flights to use alternative routing if specific routes/airspace are unavailable or constrained.
- Applied by any **relevant eASPs** along the affected routes

Harmonised Filing Status Response (Mandatory fields):

Filing Status Message Field	Content
Filing Status	Shall Be: **NOT ACCEPTABLE**
Filing Status Explanation	Suggested Format: Route <XXXXX> not available.
	If available: See NOTAM <XXX> for details.

Note: a Negotiating R/T is not required for re-routing

Scenarios for Regional Harmonisation

Scenario E – Re-routing

Compliance Checking Process:

- Upon receiving a NOT ACCEPTABLE Filing Status, eAUs shall submit a Flight Plan Update to comply with assigned restrictions/constraints
- eASPs shall evaluate the Flight Plan Update to check for compliance against the restrictions/constraints
- **Checking Point:** Flight trajectory against restricted routes Section 6.3.6.4.9.6

Compliance Check Result	Filing Status Response	eAU Action Required
Not using unavailable routes	ACCEPTABLE	No further action needed
Using unavailable routes	NOT ACCEPTABLE + explanation with unavailable routes	eAU submits new FPU using alternative routes

Note: If available, SWIM information services should be used to provide more details of applicable restrictions

Scenarios for Regional Harmonisation

SUMMARY

Appendix C Table 10

Mandatory fields
ABC Mandatory Harmonised Response
ABC Recommended Harmonised Response
Not Applicable

Scenario	Filing Status Value	Planning Status Value	Explanation through FF-ICE Message (Mandatory if NOT ACCEPTABLE)	Type of Trajectory	FIXM Elements to use	Type of Constraint (Level, Speed, Time)	Constraint. Description (Optional)	Constraint. Restriction Reference (Optional)
a) CTO/CLDT imposed by arrival eASPs	NOT ACCEPTABLE	NON CONCUR	REGUL <AAAACCCCCDDMMMVV>	Negotiating (mandatory)	ElementStartPoint for location Constraint.Time for time Constraint.Level/ Constraint.Speed if applicable	Time (Level, Speed if applicable)	REGCAUSE <XX XX>	REGUL <AAAACCCCCDDMMMVV>
b) Ground Stop imposed by Arrival eASPs	NOT ACCEPTABLE	NON CONCUR	GSt imposed on flights arriving into <WSSS> from <YYYY-MM-DDTHH:mm:ssZ> to <YYYY-MM-DDTHH:mm:ssZ>. Note: If available, See NOTAM <XXX> / ADP <XXX> for details.	NULL	-	-	-	-

Scenarios for Regional Harmonisation

SUMMARY

Appendix C Table 10

Mandatory fields
ABC Mandatory Harmonised Response
ABC Recommended Harmonised Response
Not Applicable

Scenario	Filing Status Value	Planning Status Value	Explanation through FF-ICE Message (Mandatory if NOT ACCEPTABLE)	Type of Trajectory	FIXM Elements to use	Type of Constraint (Level, Speed, Time)	Constraint. Description (Optional)	Constraint. Restriction Reference (Optional)
c) Flow Restrictions	NOT ACCEPTABLE	NON CONCUR	<FL or altitude, FL or altitude> on route <XXXX> not available. Note: If available, *See NOTAM <XXX> for details.*	NULL	-	-	-	-
d) Fix Balancing	NOT ACCEPTABLE	NON CONCUR	Fix <XXXXX> not available. Note: If available, *See NOTAM <XXX> for details.*	NULL	-	-	-	-
e) Re-routing	NOT ACCEPTABLE	NON CONCUR	Route <XXXXX> not available. Note: If available, *See NOTAM <XXX> for details.*	NULL	-	-	-	-

Scenarios for Regional Harmonisation

SUMMARY

eASP Compliance Checking

- eASPs shall evaluate the Flight Plan Update to check for compliance:

Scenario	Checking Point	Filing Status Response	eAU Action if non-compliant
a) CTO/CLDT imposed by arrival eASPs	ETO / ELDT against CTO /CLDT	• **Within compliance window:** ACCEPTABLE • **Outside of window:** Subject to flight plan re-evaluation	eAU submits new FPU to meet CTO/CLDT
b) Ground Stop (GSt) imposed by Arrival eASPs	ELDT against restricted period	ACCEPTABLE if outside constrained period	eAU submits new FPU with landing time outside restricted period
c) Flow Restrictions	Flight Level on Point against restricted flight levels	ACCEPTABLE if compliant with restrictions	eAU submits new FPU avoiding restricted flight levels
d) Fix Balancing	Flight Trajectory against restricted points	ACCEPTABLE if compliant with restrictions	eAU submits new FPU using alternative trajectory points
e) Re-routing	Flight Trajectory against restricted routes	ACCEPTABLE if compliant with restrictions	eAU submits new FPU using alternative routes

Scenarios for Regional Harmonisation

Restriction Cancellation

Section 6.3.6.4.9.7 - 6.3.6.4.9.8

When restrictions are cancelled,

Last Filing Status	eASP Action	New Filing Status	Explanation Required	Mandatory/ Optional to provide the new Filing Status
NOT ACCEPTABLE	Shall provide updated Filing Status	**ACCEPTABLE**	Yes - restriction no longer applicable	**Mandatory**
ACCEPTABLE	May provide updated Filing Status	**ACCEPTABLE**	Yes - restriction no longer applicable	**Optional**

Usage of PENDING Status (6.3.6.5)

When to use PENDING

- PENDING may be used when eASP's system requires **more time than the time-out period** (explained in later sections) to provide a definitive Filing Status

Requirements

- **Explanation shall be included** when providing PENDING status
- **Expected Evaluation Time should be included** to indicate when flight plan is likely to be fully processed

Scenarios for PENDING status

- When the flight plan has been received well in advance of the eASP's processing horizon
- When eASPs do not conduct re-evaluation process and hence prefers to provide the filing status nearer to the EOBT
    - *This practice is not RECOMMENDED - other eASPs have returned filing status and there is no clarity for eAUs to determine whether flight plans are accepted by all relevant eASPs*

Note:

- **Doc 9965 recommends** that the first non-Pending Filing Status should be performed **no later than 3 hours before EOBT**, provided the submission was made in the correct timeframe.

Flight Plan Update Message (6.3.7)

Overview

Flight Plan Updates (FPU) are submitted by eAUs to inform on changes to the eFPL. These updates are subjected to similar validation and evaluation checks as the eFPLs.

Flight Plan Update Cut-off Times

Recommended eAU submission timeframe:

- **From:** Time that eAU receives the Filing Status of a submitted eFPL
- **Until:** Route clearance delivery or the flight's AOBT, whichever occurs first

FPU received after route clearance

- eASPs shall ensure that any FPU received after route clearance delivery results in appropriate clearance revision by ATC to maintain consistency between flight plan and delivered clearance

Flight Plan Update Message (6.3.7)

Flight Plan Update Threshold

eAU Threshold	Minimum Requirement	Recommendation
Change in eFPL data	Submit FPU due to **changes equivalent to FPL2012 data update** (CHG message per Doc 4444 Section 11.4.2.2.4)	Submit FPU **each time there is a change in eFPL data**, subject to their system capabilities
EOBT Updates	Submit FPU if EOBT is **delayed by more than 30 minutes** (DLA message per Doc 4444 Section 11.4.2.2.3.1)	Submit FPU **each time there is a change in EOBT**, subject to system capabilities

Benefits of Frequent Updates

- **Operational predictability:** Most recent data ensures all stakeholders have accurate and updated flight plan information
- **ATM functions enhancement:** Even minor route changes can affect trajectory predictions

Flight Cancellation (6.3.8)

Specific Validation Requirements for Flight Cancellation

In addition to the general validation checks, eASPs **should** perform the following additional checks, including but not limited to:

Additional Checks	Description	Explanation Note for SR REJ
Flight association	Verify the flight exists and GUFI matches correctly	Same flight with different GUFI found Different flight with same GUFI found
Rights to cancel	Authenticate that the message originator has the authority to cancel the flight	Flight does not exist
Flight Plan State	Verify that the flight has not yet departed	Flight has already departed

eASP Response Requirements

- **"ACK" response:** Terminates operational use of GUFI and all flight plan processing
- **"REJ" response:** Provide explanation when cancellation unsuccessful

Notes:

- When users lack authorization to access a flight, the system responds with "flight does not exist" rather than "no authorization" to prevent confirming the flight's existence to unauthorized parties.
- A cancelled flight cannot be reinstated. If the operator later decides to operate the flight, a new filed flight plan with a new GUFI shall be submitted.

Filing Requirements for Cross-FIR and Local Agreements (6.3.9)

- Individual eASPs may consider establishing cross-FIR agreements and local agreements with eAUs to facilitate seamless filing processes and the coordination of flight plan submissions across different airspace jurisdictions.

- Any local or cross-FIR agreements should **not contradict** the guidance in Doc 9965 or this plan

- **Doc 9965 and this plan should supersede** any supplementary agreements

Flight Data Request Service

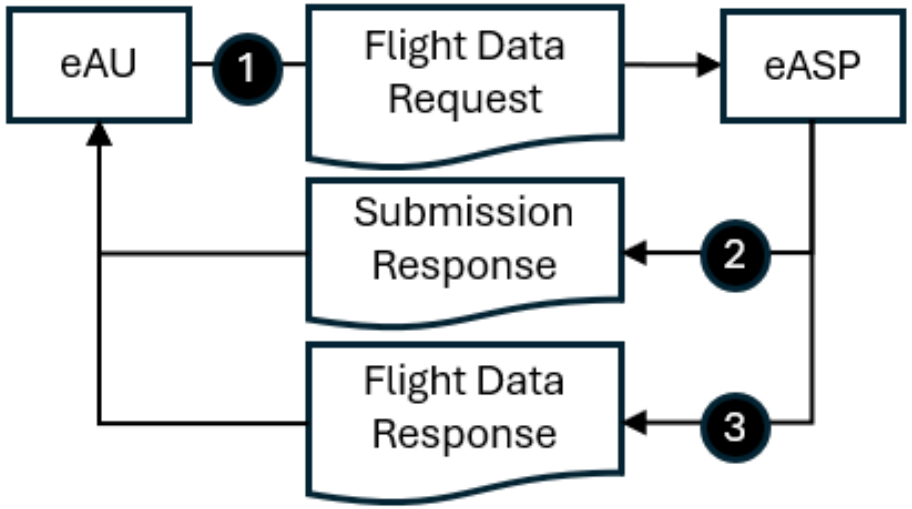
Flight Data Request Service (6.4)

Overview

- **Mandatory service**
- Allows authorized parties to obtain information about a flight

Three FF-ICE messages under Flight Data Request Service:

1. Flight Data Request Message
2. Submission Response Message
3. Flight Data Response Message



Flight Data Request Service (6.4)

Flight Data Request (FDRQ) Message

- **Information available for request** should include the minimum set of data types as listed in Doc 9965:
  1. Flight plans
  2. Supplementary data
  3. Flight status
  - ➢ Additional information which the eASPs may choose to make available (e.g. PFP, PS)
- **Request codes (as predefined in FIXM 4.3) should be specified** in the Requested Flight Data Item field
- **eAUs may also enable eASPs** to request relevant information concerning a flight

FDRQ Query Limits

- FDRQ is designed for **querying information about individual flights**, not for bulk data retrieval
- eASPs and eAUs **should publish request rate limit** (number of requests within a specific period)
- Systems **should automatically reject requests** that exceed the defined limits

Flight Data Request Service (6.4)

Flight Data Access Control

- Ensure that only authorised parties can receive the requested data, safeguarding the confidentiality and integrity of sensitive information

Recommended Safeguards

User Type	Permitted to Query	Restrictions
eAUs (Aircraft Operators)	Their own flights only	Cannot query other operators' flights
Relevant eASPs	Flights that go through their airspace where they provide ATS	Must be within their area of responsibility
Adjacent eASPs	Flights that go adjacent to their airspace	Relevant eFPLs for their planning purpose
Airport Operators	Flights that depart/arrive at their airport OR list their airport as alternate	Only access to departures and arrivals pertinent to their operations

Security Requirements:

- **Authentication:** All access requires proper authentication mechanisms
- **Logging:** All data access must be logged and auditable

Flight Data Request Service (6.4)

Specific Validation Requirements for Flight Data Request

In addition to the general validation checks, eASPs **should** perform the following additional checks. These include, but are not limited to:

Checks	Description	Explanation Note for SR REJ
Flight association	Identify and associate the correct flight using GUFI and other identifying information	Same flight with different GUFI found Different flight with same GUFI found
Multiple flights matched	Validate that request identifies single flight	Multiple flights with the requested information: a) Aircraft ID, dep, dest, EOBT, GUFI1 b) Aircraft ID, dep, dest, EOBT, GUFI2
Requested flight not found	Verify flight exists in system	Flight does not exist
No authorized access to the identified flight	Validate authorization to access the identified flight	Flight does not exist
Requested flight data items not supported by the eASP	Check if eASP supports requested data types	Request not supported

Flight Data Request Service (6.4)

Applicability Period

Request Type	Applicability Period
Flight data request for **Filed Flight Plan**	• From eFPL submission • Until flight completion (landed at destination or diversion aerodrome) or cancellation
Additional request type for **PFP data (optional)**	• From PFP submission • Until eFPL submission or PFP time-out/cancellation

R/T to be included in Flight Data Response Message

Request Type	R/T Recommendation	Source
Flight Plan Request	Include **Desired** Route/Trajectory	Last filed Route/Trajectory by eAU
Flight Status Request	Include **latest** Route Trajectory (Agreed R/T or Negotiating R/T)	Latest Filing Status of the flight

Notification Service

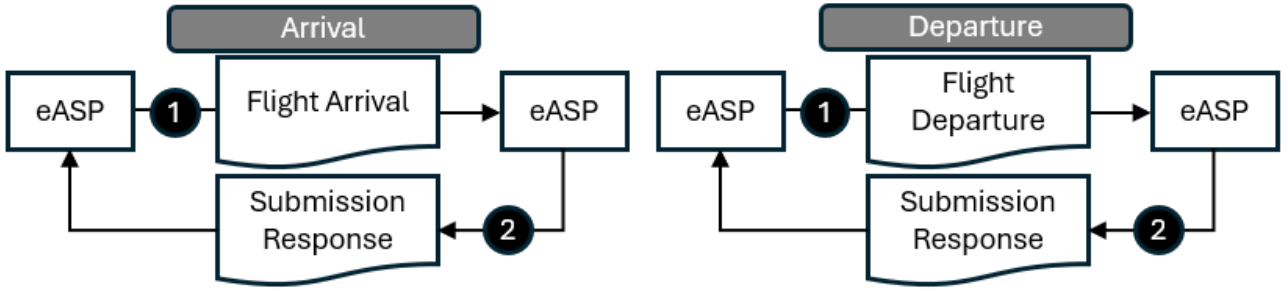
Notification Service (6.5)

Overview

- **Mandatory. To support FPL2012 sunset and associated ATS messages.**
  - *Not mandated by Doc 4444 PANS-ATM*
- Enables eASPs to notify relevant eASPs of significant flight events such as departure and arrival

Three FF-ICE messages available:

1. Flight Departure Message
2. Flight Arrival Message
3. Submission Response Message



Notification Service (6.5)

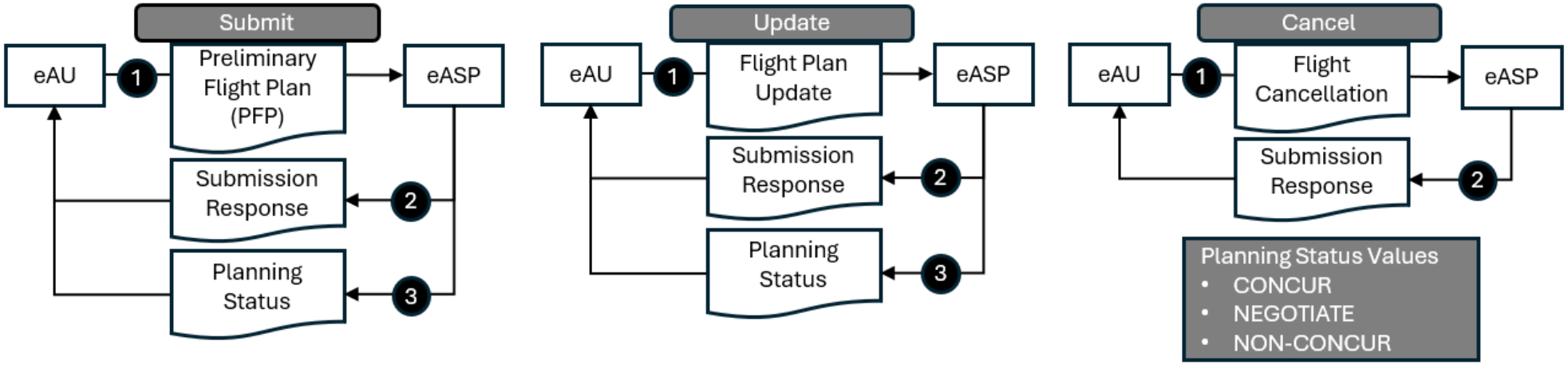
Specific Validation Requirements for Flight Arrival / Flight Departure

In addition to the general validation checks, eASPs **should** perform the following additional checks. These include, but are not limited to:

Checks	Description	Explanation Note for SR REJ
Flight association	Identify and associate the correct flight using GUFI and other identifying information	Same flight with different GUFI found Different flight with same GUFI found
Timestamp check	Ensure that the arrival/departure time is not in the future and that the arrival time does not precede departure time	Arrival/Departure time is in the future Arrival time is before departure time
Permission to send notification	Ensure that the originators of the Flight Departure/ Flight Arrival message are from the appropriate aerodromes	No rights to send Arrival/Departure message

Planning Service

Planning Service (6.6)



Overview

- **Optional service**
- Enables collaborative decision-making between eAUs and eASPs by sharing informal flight plans well ahead of time
- Allowing improved demand prediction and optimal trajectory planning before the formal filing of flight plans

Five FF-ICE messages under Planning Service:

1. Preliminary Flight Plan (PFP) Message
2. Flight Plan Update Message
3. Flight Cancellation Message
4. Submission Response Message
5. Planning Status Message

Planning Service (6.6)

General Requirements

- eASPs providing Planning Services **shall** publish the availability of the service in their AIP.

PFP Cut-off Times

- **From:** Time dependent on eASPs' capability and the type of advance planning
- **Until:** Time that the eFPL is due
  - Submission time of eFPL: determined by each eASP and shall comply with latest submission timing as defined in Doc 4444 and any regional agreements
- The cut-off times **should** be published by eASPs in the AIPs
- Once an eFPL has been submitted, PFP can no longer be submitted for the same flight

Versioning

- It is the responsibility of the eAUs to increase the versioning of the PFPs
- Every new version or flight plan update made to the PFP will increment the version by 1

Planning Service (6.6)

Additional check not in Filing Service

Specific Validation Requirements for Preliminary Flight Plan

- In addition to the general validation checks, other checks **should** be conducted for Preliminary Flight Plans (FFP) and Flight Plan Updates (FPU) include but are not limited to:

Additional Checks	**Description of Check**	**Explanation Note Format for SR REJ (Recommended)**
Submission Timeframe	Validates that EOBT falls within allowable submission window	EOBT is outside allowable submission timeframe
Existence of eFPL	Checks if eFPL for same flight has been submitted	eFPL for the same flight has already been submitted
Versioning	Checks for version conflicts with existing flight plan data	A later version <Y> exists in the system
Flight Association	Verifies flight identification consistency using GUFI and other key fields	Same flight with different GUFI found Different flight with same GUFI found
Trajectory Syntactic Checks, Semantic Checks	eASPs may implement additional checks to ensure route/trajectories contain valid routes, fix names, coordinates, etc.	Trajectory Info Error Invalid Route Structure Invalid Fix/waypoint

Planning Service (6.6)

Planning Status Message

- Reflects the likelihood that the flight plan will be operationally acceptable if submitted as a Filed Flight Plan
- Provides feedback to identify restrictions and constraints applicable to flights

Evaluation Requirements

- eASPs retain flexibility in determining specific criteria based on operational environment
- When providing restrictions / constraints to eAUs within the Planning Status, eASPs should make use of methods similar to those detailed under the Filing Status
- Shall follow established regionally harmonised requirements for scenarios A-E

Planning Status and Filing Status Equivalent

- PFPs undergo similar evaluation criteria to eFPLs

Planning Status	Filing Status Equivalent	Explanation for Planning Status
CONCUR	**ACCEPTABLE**	Flight plan is acceptable without changes and would be operationally approved
NEGOTIATE	**ACCEPTABLE** (with Negotiating R/T feedback)	Flight plan is acceptable but eASP has identified constraints or potential modifications that operator should consider
NON-CONCUR	**NOT ACCEPTABLE**	Flight plan does not comply with operational requirements and needs operator action before it can be accepted

Scenarios for Regional Harmonisation

SUMMARY

Mandatory fields
ABC Mandatory Harmonised Response
ABC Recommended Harmonised Response
Not Applicable

Scenario	Filing Status Value	Planning Status Value	Explanation through FF-ICE Message (Mandatory if NOT ACCEPTABLE)	Type of Trajectory	FIXM Elements to use	Type of Constraint (Level, Speed, Time)	Constraint. Description (Optional)	Constraint. Restriction Reference (Optional)
a) CTO/CLDT imposed by arrival eASPs	NOT ACCEPTABLE	NON CONCUR	REGUL <AAAACCCCCDDMMMVV>	Negotiating (mandatory)	ElementStartPoint for location Constraint.Time for time Constraint.Level/ Constraint.Speed if applicable	Time (Level, Speed if applicable)	REGCAUSE <XX XX>	REGUL <AAAACCCCCDDMMMVV>
b) Ground Stop imposed by Arrival eASPs	NOT ACCEPTABLE	NON CONCUR	GSt imposed on flights arriving into <WSSS> from <YYYY-MM-DDTHH:mm:ssZ> to <YYYY-MM-DDTHH:mm:ssZ>. Note: If available, See NOTAM <XXX> / ADP <XXX> for details.	NULL	-	-	-	-

Scenarios for Regional Harmonisation

SUMMARY

Mandatory fields
ABC Mandatory Harmonised Response
ABC Recommended Harmonised Response
Not Applicable

Scenario	Filing Status Value	Planning Status Value	Explanation through FF-ICE Message (Mandatory if NOT ACCEPTABLE)	Type of Trajectory	FIXM Elements to use	Type of Constraint (Level, Speed, Time)	Constraint. Description (Optional)	Constraint. Restriction Reference (Optional)
c) Flow Restrictions	NOT ACCEPTABLE	NON CONCUR	<FL or altitude, FL or altitude> on route <XXXX> not available. Note: If available, *See NOTAM <XXX> for details.*	NULL	-	-	-	-
d) Fix Balancing	NOT ACCEPTABLE	NON CONCUR	Fix <XXXXX> not available. Note: If available, *See NOTAM <XXX> for details.*	NULL	-	-	-	-
e) Re-routing	NOT ACCEPTABLE	NON CONCUR	Route <XXXXX> not available. Note: If available, *See NOTAM <XXX> for details.*	NULL	-	-	-	-

Planning Service (6.6)

Flight Plan Update (FPU) Timing & Thresholds:

- **Cut-off Times**: FPU allowed from PFP submission until eFPL is due
- **Update Threshold**: eAUs advised to submit FPU for each PFP data change
- **Frequency**: Updates can be as frequent as system capabilities allow without impacting non-FF-ICE stakeholders

Specific Validation Requirements for Flight Cancellation

In addition to the general validation checks, eASPs should perform the following additional checks:

Additional Checks	Description	Explanation Note for SR REJ
Flight association	Identify and associate the correct flight using GUFI and other identifying information	Same flight with different GUFI found Different flight with same GUFI found
Rights to cancel	Authenticate that the message originator has the authority to cancel the flight	Flight does not exist

Trial Service

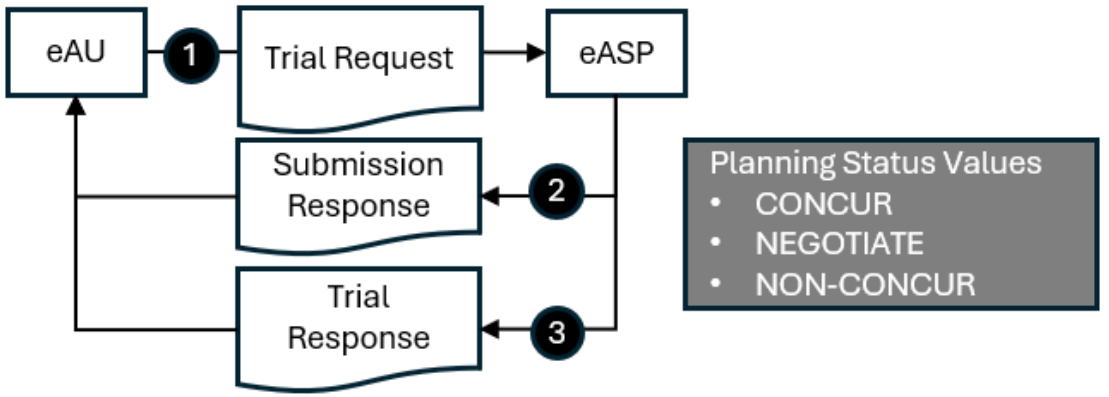
Trial Service (6.7)

Overview

- **Optional service**
- Allows operators to evaluate "what-if" scenarios for both preliminary and Filed Flight Plans without affecting the actual flight plan data

Three FF-ICE messages under Trial Service:

1. Trial Request Message
2. Submission Response Message
3. Trial Response Message



Trial Service (6.7)

Trial Request Message

- Multiple trial requests can be submitted to same eASPs without presence of PFPs/eFPLs
- Validation checks result in Submission Response
- Evaluation checks result in a Planning Status
- Shall be treated by the eASP as a separate, standalone transaction which has no impact on existing data

Trial Request Frequency Limits

- eASPs may set limits on maximum frequency of requests allowable within a specified period to prevent system abuse or overload
- These limitations **should** be published in the eASP's AIP

Trial Request Submission Timeframe

- Trial Requests can optionally relate to an existing flight by including a GUFI reference.
- If eAU chooses to reference an existing flight (PFP or eFPL):
  - Trial Request allowed **up to route clearance delivery**, providing sufficient time for eAUs to submit FPU following a positive trial response.
- If eAU does not reference any existing flight:
  - **No timeframe restrictions** apply for submission

Trial Service (6.7)

Specific Validation Requirements for Trial Request

- In addition to the general validation checks, other checks **should** be conducted for Trial Requests. These include, but are not limited to:

Additional Checks	**Description of Check**	**Explanation Note Format (Recommended)**
Submission Timeframe	Verifies that Trial Request is submitted within allowable time window ***if there is a flight reference***	Outside the allowable submission timeframe
Request Frequency	Limits the number of Trial Requests submitted within a specific time period	Frequency of Trial Requests has been exceeded
Trajectory Syntactic Checks, Semantic Checks	eASPs may implement additional checks to ensure route/trajectories contain valid routes, fix names, coordinates, etc.	Trajectory Info Error Invalid Route Structure Invalid Fix/waypoint

Trial Service (6.7)

Trial Response Message

- Reflects the likelihood that the flight plan will be operationally acceptable if submitted as a PFP or eFPL
- Evaluation similar to those conducted for PFPs

Feedback for Restrictions/Constraints

- eASPs **are not expected** to provide flight-specific constraints
  - Trial requests are “what-if” scenarios that do not represent actual flight operations.
  - The response should indicate general restriction applicability without reserving operational resources or assigning specific constraint values
- eASPs **should** retain flexibility in determining their Trial Response feedback methods and content

Why eASPs are not recommended to assign specific times/constraints in trial responses

- **Multiple Requests** : Operators can submit multiple trial requests tagged to the same flight with different scenarios (e.g., testing different routes, departure times)
  - eASPs are unable to determine the operator's intent, making specific constraint assignment challenging

Regionally Harmonised Scenarios Feedback

- For established regional requirements for scenarios A-E,
  - Trial Response **shall** contain a Planning Status of **NON-CONCUR**
  - **No flight specific constraints or Route/Trajectories** will be expected in the response
  - No operational resources should be reserved or committed

Scenarios for Regional Harmonisation (Trial)

SUMMARY

Mandatory fields
ABC Mandatory Harmonised Response
ABC Recommended Harmonised Response
Not Applicable

Scenario	Filing Status Value	Planning Status Value	Explanation through FF-ICE Message (Mandatory if NOT ACCEPTABLE)	Type of Trajectory	FIXM Elements to use	Type of Constraint (Level, Speed, Time)	Constraint. Description (Optional)	Constraint. Restriction Reference (Optional)
a) CTO/CLDT imposed by arrival eASPs	NOT ACCEPTABLE	**NON CONCUR**	REGUL <AAAACCCCCDDMMMVV>	No Negotiating R/T	-	-	-	-
b) Ground Stop imposed by Arrival eASPs	NOT ACCEPTABLE	**NON CONCUR**	GSt imposed on flights arriving into <WSSS> from <YYYY-MM-DDTHH:mm:ssZ> to <YYYY-MM-DDTHH:mm:ssZ>. Note: If available, See NOTAM <XXX> / ADP <XXX> for details.	NULL	-	-	-	-

- Flight-specific constraints and resource reservation are not required
- Only general constraints will be provided as feedback

Scenarios for Regional Harmonisation (Trial)

SUMMARY

Mandatory fields
ABC Mandatory Harmonised Response
ABC Recommended Harmonised Response
Not Applicable

Scenario	Filing Status Value	Planning Status Value	Explanation through FF-ICE Message (Mandatory if NOT ACCEPTABLE)	Type of Trajectory	FIXM Elements to use	Type of Constraint	Constraint. Description (Optional)	Constraint. Restriction Reference (Optional)
c) Flow Restrictions	NOT ACCEPTABLE	NON CONCUR	<FL or altitude, FL or altitude> on route <XXXX> not available. Note: If available, *See NOTAM <XXX> for details.*	NULL	-	-	-	-
d) Fix Balancing	NOT ACCEPTABLE	NON CONCUR	Fix <XXXXX> not available. Note: If available, *See NOTAM <XXX> for details.*	NULL	-	-	-	-
e) Re-routing	NOT ACCEPTABLE	NON CONCUR	Route <XXXXX> not available. Note: If available, *See NOTAM <XXX> for details.*	NULL				

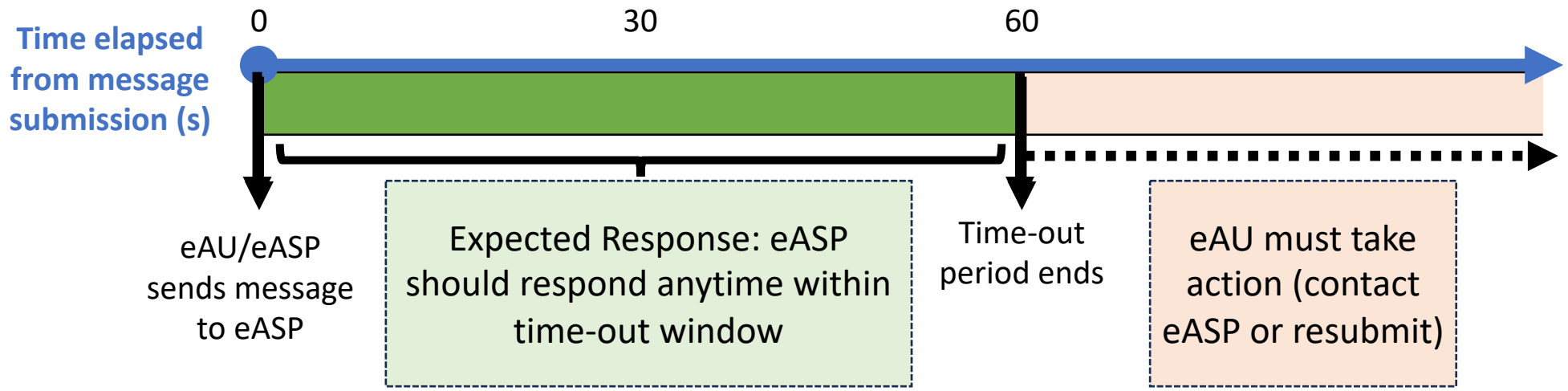
- Flight-specific constraints and resource reservation are not required
- Only general constraints will be provided as feedback

Time Outs

Message Delivery Assurance (6.8)

What are Time-outs?

- Predefined waiting periods during which a system expects to receive a response from another system or user
- If no response arrives within this time window, the system marks the request as failed or expired
- Deliberately set longer than the typical response time to account for various delays, such as system latency and network delays
- Alerts users to potential problems when communications take longer than expected
- **States should publish time-out periods in their AIPs**



Message Delivery Assurance (6.8)

FF-ICE Message Time-outs

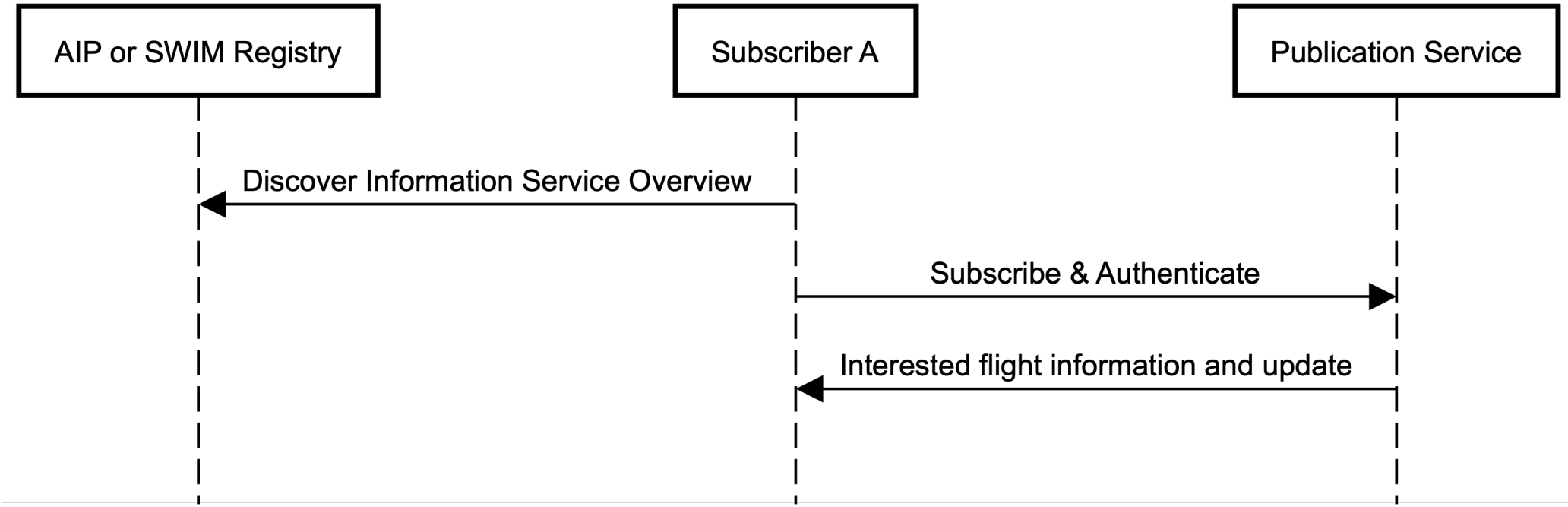
Message Type	Time-out Period (Recommended)	Trigger Point	Expected eAU Action if No Response
Submission Response	1 minute	After sending original message	Resubmit original message
Filing Status	1 minute	After receiving Submission Response "ACK"	Contact eASP
Planning Status	1 minute	After receiving Submission Response "ACK“	Contact eASP
Trial Response	1 minute	After receiving Submission Response "ACK"	Contact eASP
Flight Data Response	1 minute	After receiving Submission Response "ACK"	Contact eASP

Notes:

- Status/Response messages **not expected** if Submission Response is "REJ" or "MAN"

6.9 Publication Service

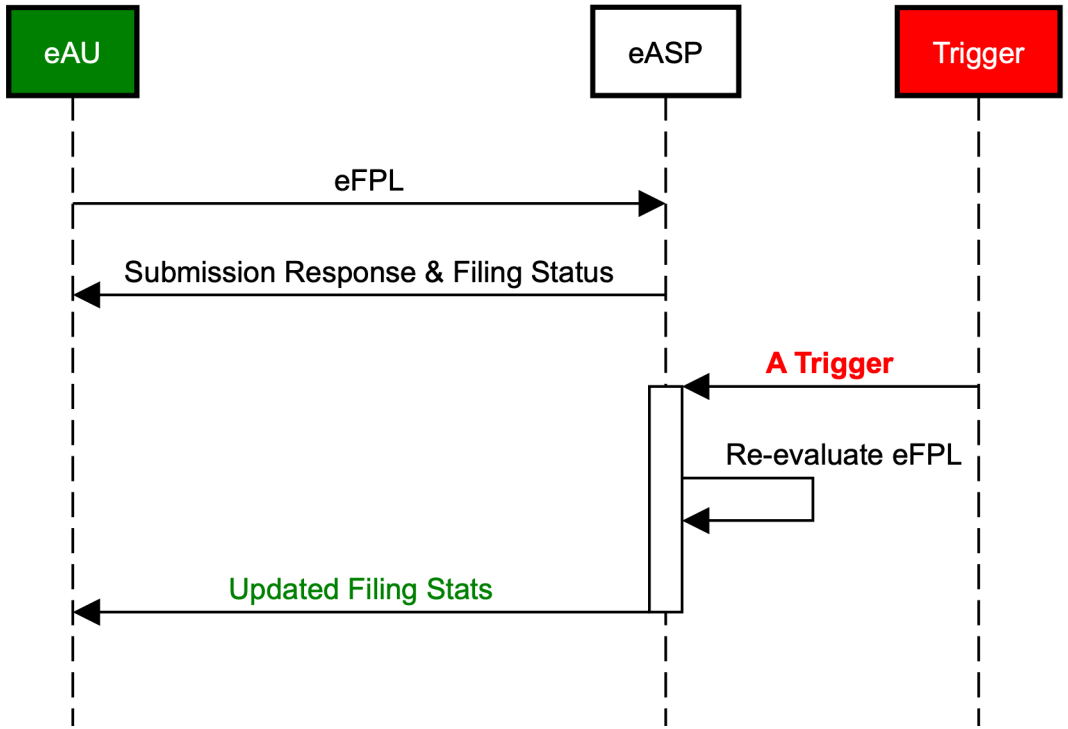
- The Publication Service is an optional FF-ICE/R1 service used to provide flight information to authorized stakeholders. It is an event-based service that disseminates information whenever defined criteria are met.



MEP: Pub/Sub with Push mechanism
Exchange Model: Recommended FIXM

6.10 Re-evaluation Process

- Re-evaluation is a recommended process that an eASP may perform to determine whether a flight plan still complies with published restrictions or ATM constraints that may have been applied or modified since its last evaluation. If implemented, reference should be made to Doc 9965 Vol. II Manual on FF-ICE Implementation Guidance.



6.10 Re-evaluation Process

- Trigger
  - > Event Trigger: An event affecting ATM configuration such as:
    - ⊣ Airspace or airport conditions
    - ⊣ Routing availability
    - ⊣ ATC constraints
    - ⊣ Demand-capacity imbalance situations
    - ⊣ Meteorological constraints
  - > Time Trigger: A predefined interval that initiates the re-evaluation process, e.g. every 30 minutes
    - ⊣ Note: the specific interval is to be determined by each eASP

6.10 Re-evaluation Process

- The re-evaluation process may continue until the aircraft has pushed back or departed (subject to availability of flight event time). This may vary depending on ATM conditions. Cut-off times for specific ATM conditions are subject to national and/or regional agreement.
- The downstream eASPs should have no expectation of Flight Plan Update from eAU after clearance delivery at the departure aerodrome.
- If, following a re-evaluation, the Filing Status (or Planning Status) changes, the eASP shall provide the eAU with the updated status and an explanation of the change.

Implementation Timeline
Implementation Monitoring
Plan Update Cycle

APAC Implementation Timeline (6.11)

Recommended Timeline

2030: Commencement of technical tests and trials involving eAUs and cross-border eASP interactions.

2031: Begin operational tests to identify and resolve any issues.

2032: Full operationalization of three FF-ICE/R1 services (Filing, Flight Data Request and Notification Services).

2034: Global FPL2012 Sunset

Implementation Monitoring (6.12)

Monitoring Objectives:

- Measure and report regional implementation progress
- Identify implementation challenges
- Recommend priority FF-ICE elements for APAC Seamless ANS monitoring and reporting scheme

Annual Reporting Requirements:

Who

FF-ICE POC of APAC States/ Administrations

How

Coordinate with State's/Administration's Seamless ANS reporting POC using the FF-ICE Monitoring and Reporting Form (Appendix D)

To

ICAO APAC Regional Office

When

28 FEB

Annually

Review Body

- FF-ICE/R1 Implementation Task Force
- ATM Sub-Group

Implementation Monitoring (6.12)

Regional FF-ICE Monitoring and Reporting Form (Appendix D)

Scoring System

- **0%** = Not implemented or no progress
- **50%** = Partial implementation with gaps, manual intervention required, or development in progress
- **100%** = Full implementation in compliance with regional requirements

Reporting Form Element	Reporting Metrices	Expected Outcome/Guidance to States
General		
Implementation of FIXM-based Information Exchange	0% - State has not implemented FIXM-based information exchange 50% - State has implemented FIXM-based capability but uses older version 100% - State has implemented FIXM-based capability with **regionally agreed** FIXM version	State should implement FIXM-based FF-ICE information exchange using regionally agreed FIXM version for all FF-ICE messages
Implementation of Local FF-ICE Procedures, in accordance with Doc 9965 and Doc 4444 PANS-ATM	0% - State has not developed any local FF-ICE procedures 50% - State is in process of developing and implementing local FF-ICE procedures 100% - State has fully established and published FF-ICE procedures based on Doc 9965 that are adhered to by stakeholders	State should establish and publish procedures covering FF-ICE operations, communication, and stakeholder responsibilities

Implementation Monitoring (6.12)

Regional FF-ICE Monitoring and Reporting Form (Appendix D)

Reporting Form Element	Reporting Metrices	Expected Outcome/Guidance to States
Filing Service		
Implementation of Filing Service	0% - No Filing Service implementation 50% - Partial implementation with gaps (e.g., incomplete message set support, incomplete validation/evaluation capability, manual intervention required) 100% - Full automated implementation with complete message set, validation and evaluation capability in compliance with this document	Filing Service is mandatory for eASPs. Full implementation should include: - Complete message set support - Automated validation and evaluation - Published validation and evaluation criteria in AIP
Implementation of Filing Re-evaluation Process	0% - No re-evaluation process 50% - Partial re-evaluation (e.g. limited status change handling, re-evaluation only for selected restrictions, and/or procedures not fully established) 100% - Full re-evaluation with established procedures	State should establish and publish clear procedures for the re-evaluation process and handling of status changes
Implementation of local procedures for Filing Service mixed mode operations to support both FF-ICE and FPL2012 message handling (FPL, CHG, DLA), in accordance with Doc 9965, Doc 4444 and regional plan	0% - No mixed mode procedures 100% - Full procedures established for handling both FF-ICE and FPL2012 formats with appropriate message dissemination	State should establish and publish clear procedures so that eAUs understand what messages to submit, how to submit them, and what to expect to receive based on their technical capabilities (FF-ICE or FPL2012)

Implementation Monitoring (6.12)

Regional FF-ICE Monitoring and Reporting Form (Appendix D)

Reporting Form Element	Reporting Metrices	Expected Outcome/Guidance to States
Flight Data Request Service		
Implementation of Flight Data Request Service	0% - No implementation 50% - Partial implementation with gaps (e.g., limited request types support, manual intervention required) 100% - Full automated implementation in compliance with this document	Mandatory service for eASPs. Full implementation should include automated support for all required request types (Flight Plan, Supplementary Plan and Flight Status).
Implementation of local procedures for Flight Data Request Service mixed mode operations to support both FF-ICE and FPL2012 message handling (RQP, RQS), in accordance with Doc 9965, Doc 4444 and regional plan	0% - No mixed mode procedures 100% - Full procedures established for handling both FF-ICE and FPL2012 formats with appropriate message dissemination	State should establish and publish clear procedures so that eAUs/eASPs understand what messages to submit, how to submit them, and what to expect to receive based on their technical capabilities (FF-ICE or FPL2012)
Notification Service		
Implementation of Notification Service	0% - No implementation 50% - Partial implementation with gaps (e.g., limited event types, manual intervention required) 100% - Full automated implementation in compliance with this document	Mandatory service for notifying stakeholders of significant flight events (in support of sunsetting FPL2012 DEP and ARR messages). Full implementation should include automated support for departure and arrival notifications
Implementation of local procedures for Notification Service mixed mode operations to support both FF-ICE and FPL2012 message handling (DEP, ARR), in accordance with Doc 9965, Doc 4444 and regional plan	0% - No mixed mode procedures 100% - Full procedures established for handling both FF-ICE and FPL2012 formats with appropriate message dissemination	State should establish and publish clear procedures so that parties understand the notifications they should expect to receive based on their technical capabilities (FF-ICE or FPL2012)

Implementation Monitoring (6.12)

Regional FF-ICE Monitoring and Reporting Form (Appendix D)

Reporting Form Element	Reporting Metrices	Expected Outcome/Guidance to States
Planning Service		
Implementation of Planning Service	0% - No Planning Service implementation 50% - Partial implementation with gaps (e.g., incomplete message set support, incomplete validation/evaluation capability, manual intervention required) 100% - Full automated implementation in compliance with this document	Planning Service is recommended for ASPs whose airspace is complex and/or regularly constrained. Full implementation should include: - Complete message set support - Automated validation and evaluation - Published validation and evaluation criteria in AIP
Implementation of Planning Re-evaluation Process	0% - No re-evaluation process 50% - Partial re-evaluation (limited status change handling, re-evaluation only for selected restrictions, and/or procedures not fully established) 100% - Full re-evaluation with established procedures	State should establish and publish clear procedures for the re-evaluation process and handling of status changes

Implementation Monitoring (6.12)

Regional FF-ICE Monitoring and Reporting Form (Appendix D)

Reporting Form Element	Reporting Metrices	Expected Outcome/Guidance to States
Trial Service		
Implementation of Trial Service	0% - No Trial Service implementation 100% - Full automated implementation in compliance with this document	Optional service allowing "what-if" evaluation of flight plan alternatives. Full implementation should include automated processing of Trial Requests and responses.
Publication Service		
Implementation of Publication Service	0% - No implementation 100% - Subscription options published and available through SWIM with clear procedures for information subscription	Optional service for disseminating flight information. State should publish available subscription options and clear procedures for stakeholders to subscribe through SWIM.

Plan Update Cycle and Process (6.13)

Periodic Updates to Maintain Alignment with

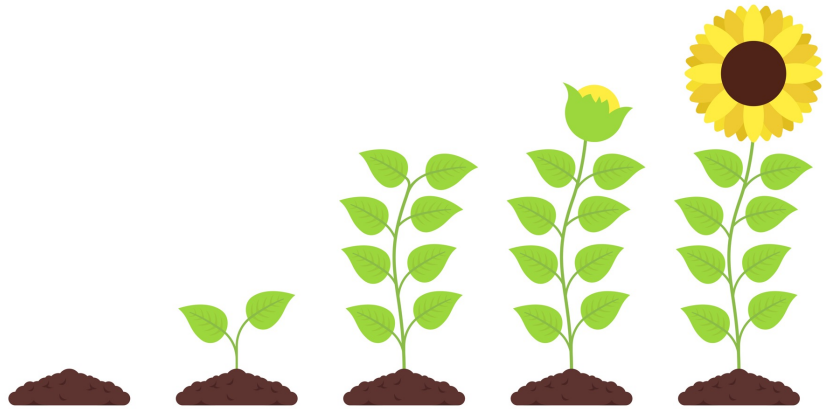
a) Updates to ICAO Doc 9965 Vol. II (FF-ICE Implementation Guidance)
b) Global Air Navigation Plan (GANP) changes, including ASBU framework restructuring
c) Asia/Pacific Seamless ANS Plan updates

Update Schedule

Regular Review	Every 3 years following APAC Seamless ANS Plan review
Ad-hoc Updates	As recommended by FF-ICE/R1 Implementation Task Force and agreed by APANPIRG through ATM/SG
Who	FF-ICE Regional Implementation Plan Drafting Group Nominated SMEs from APAC States and International Organizations

6.14 Post-Implementation Process

- To ensure continuous improvement of FF-ICE operations, both in operational procedures and technical capabilities, close and routine coordination among stakeholders should be conducted on an annual basis. This coordination should focus on sharing and reviewing the collective performance of FF-ICE operations, as well as implementing improvements within the region. The FF-ICE/R1 Implementation Task Force will serve as a platform for these activities.



6.14 Post-Implementation Process

- Recommended indicators
  - > eFPL submission time
  - > Number of REJ Submission Response messages, along with their explanations
  - > Number of MAN Submission Response messages, along with their explanations
  - > Number of NOT ACCEPTABLE Filing Status messages, along with their explanations
  - > Number of negotiations before achieving ACCEPTABLE Filing Status, including time elapsed from the first submission of eFPL to the ACCEPTABLE Filing Status
  - > Number of flights departing with NOT ACCEPTABLE Filing Status
  - > Number of Flight Data Request transactions and type of information requested

Thank you