Flight Plan Submission & Dissemination

Definitions

- **FPL**: Filed flight plan exchanged using via aeronautical fixed services (AFS)
- **eFPL**: Filed flight plan exchanged using FF-ICE services
- **eASP**: An ATM Service Provider that is capable of providing the mandatory FF-ICE services
- **aASP**: An ATM Service Provider that is not capable of providing the mandatory FF-ICE services
- **Relevant ASP**: Unit(s) designated by the appropriate ATS authority to which the flight plan for a particular flight needs to be provided and includes ATM Service Provider along the route
- **eAU**: An Airspace User that is capable of using the mandatory FF-ICE services
- **aAU**: An Airspace User that is not capable of using the mandatory FF-ICE services

ICAO Doc 9965 (2012)

Contents

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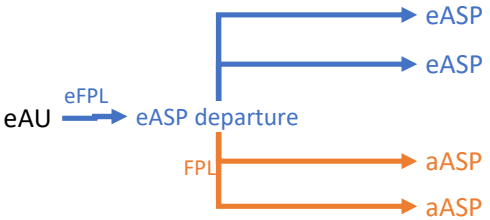
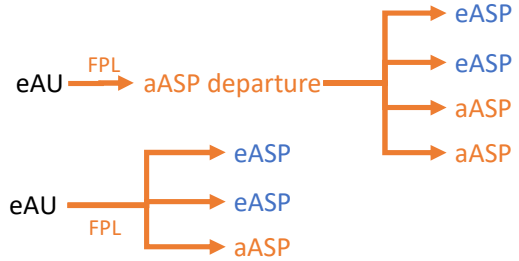
Six Modalities Provided in Implementation Guidance

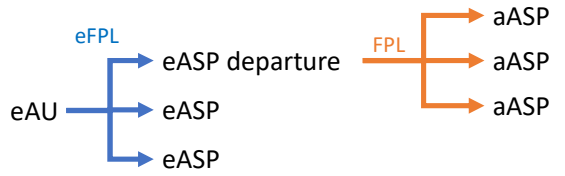
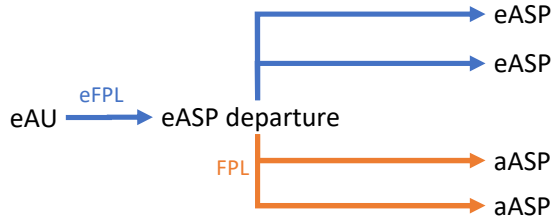
Modalities (Dep eASP)	Diagram
1. Direct submission • Operator submits to all ASPs in correct format	
2. Translation and Delivery • Operator submits eFPL to departure eASP and relevant eASPs • Dep eASP translates and delivers to aASPs	
3. Translation and Forwarding • Operator submits eFPL to Departure eASP • Departure eASP forwards to all relevant ASPs	

Modalities (Dep aASP)	Diagram
4. No Delegation to operator • Operator submits eFPL to eASPs • Operator submits FPL to Departure aASP for distribution to aASPs	
5. With Delegation to operator • Similar to Scenario 1 • Operator submits and distributes to all ASPs in correct format	
6. Traditional Distribution • Operator unable to ensure correct and consistent distribution to all ASPs • Operator submits FPL to all ASPs	

We will focus on modalities 1,2 and 3 where departure aerodrome is Dep eASP

Submission & Dissemination of eFPL & FPL

Assume departure ASP is FF-ICE capable (eASP)

Possible Modalities	eFPL Handling	FPL Handling	Diagram
1. Direct Submission	Operator submits to departure eASP and all relevant eASPs Note: eASP will not disseminate eFPL on behalf of eAU	Operator submits to all relevant aASPs	
2. Translation & Delivery	Operator submits to departure eASP and all relevant eASPs Note: eASP will not disseminate eFPL on behalf of eAU	Departure eASP translates eFPL to FPL and sends to all relevant aASPs	
3. Translation & Forwarding	• Operator submits to departure eASP only. • Departure eASP forwards to all relevant eASPs	Departure eASP translates eFPL to FPL and sends to all relevant aASPs	

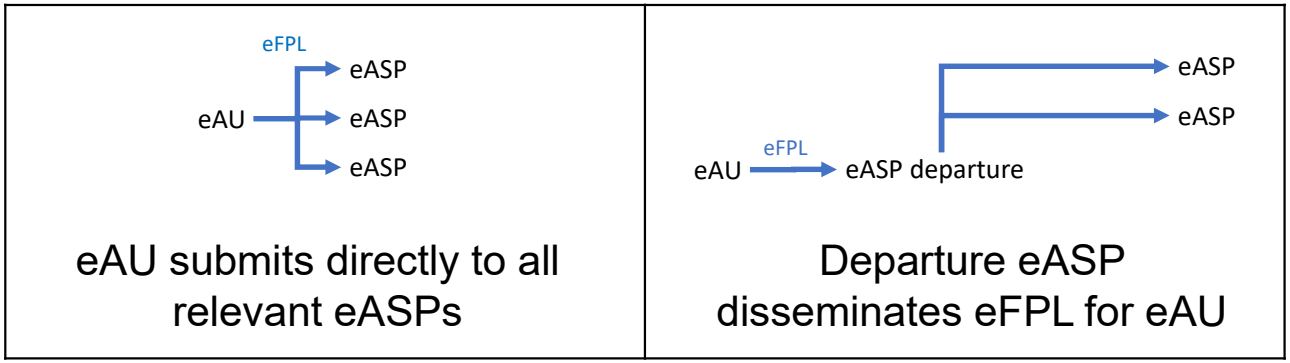
Recap of discussions during APAC FF-ICE Ad-hoc Group TTX in Jun 2024

- Majority of participants indicated their preference for eAUs to **submit eFPL directly to all relevant eASP**

Discussion

Should eAUs submit directly to all relevant eASPs?

- Expected Responsibilities of departure eASP
- System requirements for departure eASPs
- Ability to utilize FF-ICE services when departure ASP's SWIM services are not available
- Direct negotiations with relevant eASP will better serve FF-ICE/R2 needs



PANS-ATM

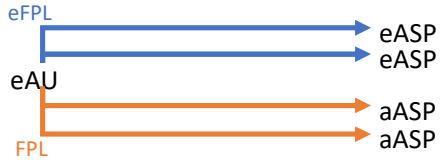
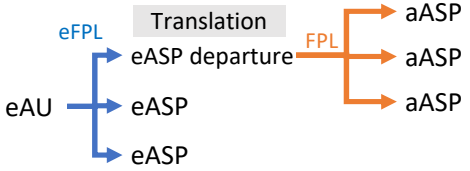
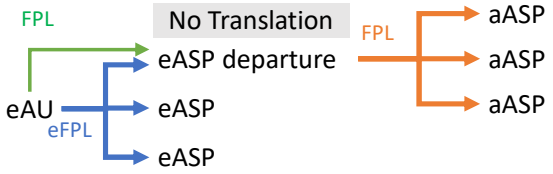
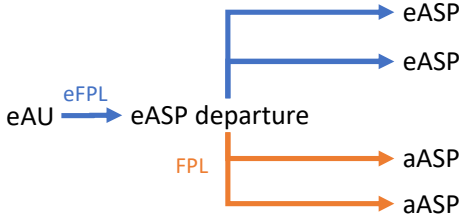
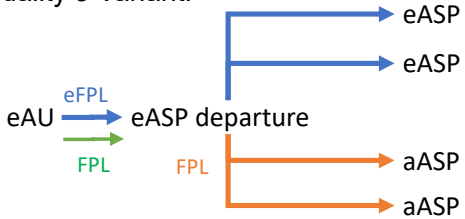
17.5.1 FF-ICE services shall make use of information services.

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

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

Discussion

Availability of translation service

Possible Modalities	Diagram	Translation by eASP required?	Diagram for Variant
1. Direct Submission		No.	
2. Translation & Delivery		Yes. If departure eASP does not provide translation capability, eAU would need to supply departure eASP with the equivalent FPL2012	Modality 2 Variant: 
3. Translation & Forwarding		Yes. If departure eASP does not provide translation capability, eAU would need to supply departure eASP with the equivalent FPL2012	Modality 3 Variant: 

Cut Off Timings for eFPL Submission

Cut off timings for FPL2012 and eFPL submission

In Doc 4444, it states:

- 4.4.2.1.1 Flight plans, except preliminary flight plans, shall not be submitted more than 120 hours before the estimated off-block time of a flight
- 11.3.2 Basic flight plan data necessary for flow control procedures shall be furnished at least 60 minutes in advance of the flight.

Considerations for cut off timings for eFPL:

Earliest Submission Timings

- Follow Doc 4444 (not more than 120 hours before the EOBT)

Latest Submission Timings

- Latest submission timing should provide sufficient time for eASPs to process flight plan according to local/regional rules/requirements
  - *For example, in AMNAC COP v6.0:*
  - *4.16 To ensure that ATFM can balance demand and capacity effectively, up-to-date flight information is required to anticipate the traffic demand.*
  - *4.18(a) Except where necessary for operational or technical reasons, FPL should be submitted* ***not less than 3 hours before EOBT***

Flight Plan Update (FPU) Threshold

CHG/DLA Threshold

In Doc 4444, it states:

Submission of a flight plan prior to departure

- 4.4.2.1.3 In the event of a **delay of 30 minutes** in excess of the estimated off-block time for a controlled flight or a delay of one hour for an uncontrolled flight for which a flight plan has been submitted, the flight plan should be amended or a new flight plan submitted and the old flight plan cancelled, whichever is applicable

Delay (DLA) Messages

- 11.4.2.2.3.1 A DLA message shall be transmitted when the departure of an aircraft, for which basic flight plan data (FPL or RPL) has been sent, is **delayed by more than 30 minutes** after the estimated off-block time contained in the basic flight plan data.

Modification (CHG) Messages

- 11.4.2.2.4 A CHG message shall be transmitted **when any change is to be made to basic flight plan data** contained in previously transmitted FPL or RPL data. The CHG message shall be sent to those recipients of basic flight plan data which are affected by the change. Relevant revised basic flight plan data shall be provided to such affected entities not previously having received this.

FPU Threshold

In **FF-ICE Implementation Guidance**, it states:

Flight Plan Update: Content

- 6.4.3.8 An eASP may publish threshold modification values that should trigger the transmission of an update. For example, to what extent should a route/trajectory change, before an updated trajectory should be sent. As a minimum, the criteria used in determining the need to update a FPL should also be applied to the eFPL

eASPs need to decide on **threshold modification values** for the following:

1. General eFPL changes (route changes, aircraft changes)
2. EOBT changes

CHG/DLA and FPU Threshold

1. General eFPL Changes

CHG/DLA (FPL2012)

- AUs should submit CHG when any change is to be made to basic flight plan data contained in previously transmitted FPL or RPL data

Considerations for FPU (eFPL):

Minimum

- eAUs should submit FPU due changes equivalent to FPL2012 data update

Additional

- Updating for any change ensures eASPs always have the most accurate information.
- Even minor changes to route can affect trajectory predictions.
- Consider getting eAUs to submit FPU each time there is a change in eFPL data, as supported by system capabilities.
- Note: eAUs should only send a corresponding CHG message if required for aASPs.

CHG/DLA and FPU Threshold

2. EOBT Changes

CHG/DLA (FPL2012)

- CHG/DLA or new FPL2012 if EOBT delayed >30 minutes

Considerations for FPU (eFPL):

Minimum

- eAUs should submit FPU if EOBT delayed >30 minutes

Additional

- Submit FPU each time there is a change in EOBT, as supported by system capabilities, to increase operational predictability for all relevant eASPs

Pros	Cons
• Updates to EOBT will increase operational predictability for all relevant eASPs	• Different update thresholds will lead to divergence in eFPL and FPL2012 EOBT values during mixed mode environment.

For Discussion

EOBT changes

- Is there a need for the same updates to be done for both FPL2012 and eFPL to ensure consistency in flight plan information for both eASPs and aASPs?

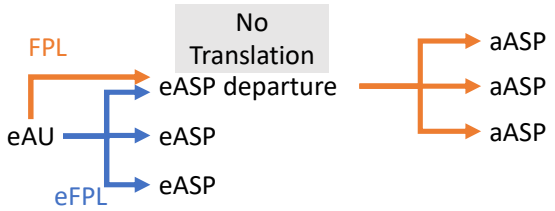
- Any foreseeable issues if eASPs receive FPL2012 and eFPL of the same flight but with different EOBT?
  - For example, there may be problems in using EOBT to match FPL2012 and eFPL flight information

Sharing by Singapore - eAU Registry

Registry for eAUs

Simplifying FF-ICE Implementation

Modality 2 variant



Challenge:

- eAUs submit both FPL2012 and eFPL
- When and whether FPL2012 and eFPL will be received by CAAS is unpredictable

Difficulties for Singapore:

- Complexity in reconciling FPL2012 and eFPL
  - Determining processing order of eFPL and FPL2012
  - Identifying whether differences between FPL2012 and eFPL are updates or errors
  - Managing cases where only one format is received from eAU

Solution: eAU Registry

- Airlines will be required to identify themselves as eAUs via their callsign (GA flights TBD)

For registered eAUs:

- Singapore will only process eFPL, and disseminate their FPL2012

For non-registered aAUs:

- Singapore will process and disseminate only FPL2012

Benefits:

- Eliminates need to reconcile FPL2012 and eFPL
- Simplifies flight plan processing in mixed mode environment
- Reduce need to query AUs about their intentions

AOB