



International Civil Aviation Organization

**The Third Meeting of the Asia/Pacific ICAO Flight Plan and ATS Messages
Implementation Task Force (FPL&AM/TF/3)**

Bangkok, Thailand, 23 – 24 August 2010

Agenda Item 4: Aspects of implementation in Asia/Pacific region

**Clarification of the Difference between AFTN Message Routing and the Data
handled by Automated ATM Systems**

(Presented by Japan)

SUMMARY

This paper presents the difference between AFTN message switching and data processing by the automated ATM system by illustrating the example of the situation where Present and New flight plan are intermingled.

1. Introduction

- 1.1. In order to achieve successful transition to New flight plan format by 15 November 2012, we need to start detailed considerations from many aspects. Nowadays, Flight plan is deeply depending to automated ATM systems in many states, but the original FPL message that is submitted by airspace users is relayed through AFTN (Aeronautical Fixed Telecommunication Network) network.
- 1.2. In these regard, it is important to clarify that flow of AFTN messages and process of the data that is handled by automated ATM systems like FDP (Flight Data Processing) or AIDC (ATS inter-facility Data Communication) is different. If we start consideration without doing this, there would be the risk that we would confuse them and could not consider properly.
- 1.3. Moreover, it would be difficult for the states having various types of configuration of ATM systems to discuss detailed matter based on equal images. In this working paper, we would like to propose the use of simple diagrams in order to solve these issues as much as we can. Using these diagrams, we could have same images during our discussions or considerations of transition issues from now on.

2. Routing of AFTN messages and the flight route of the aircraft

- 2.1. International flights fly through many FIRs. ATC flight plan that was submitted by airspace users should be relayed to all ATC facilities that exist in these FIRs by AFTN network. Aircraft flies FIR to FIR. However it should be noticed that ATS messages like FPL, CHG or DEP relayed through AFTN network would not always be routed like this. Sometimes AFTN messages relayed through AFTN communication center in the FIR where the flight does not fly through.

3. Different configuration of automated ATM systems and AFTN switch

3.1. Some states would have implemented AFTN switch and FDP separately, and others would have implemented integrated automated ATM system that includes AFTN switch, and FDP function, sometimes AIDC function as well.

4. Basic notion of flights, automated ATM systems and AFTN routing

4.1. Figure-1 illustrates the situation mentioned in 2. And 3.1. The flight departs from the airport in FIR-1 and flies through FIR-2, 3 and 4. FPL submitted from airspace user is relayed through AFTN network to each ATC concerning facilities. States in FIR-1, 2, 4, 5 have AFTN switch and automated ATM systems separately, and other states in FIR-3,6 have integrated one.

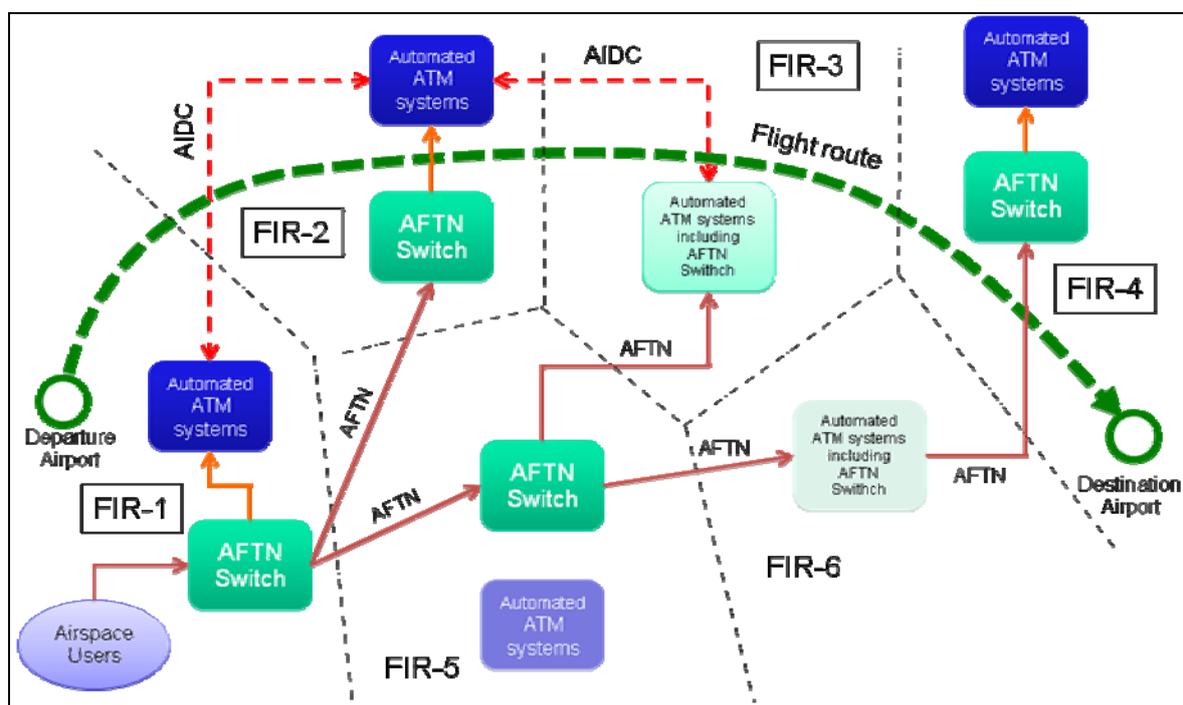


Figure-1: Diagram of the AFTN message flow and process of ATM systems and AIDC

5. Sample usage of notional diagram (NEW and PRESENT intermingled situation during transition period)

5.1. Figure-2 illustrates the situation that airspace user submits NEW to the FIR that accepts NEW and PRESENT to the FIR that does not accept NEW. (It is not practical if airspace user do so.) It is an example of the situation that FIR-1 and 3 accept NEW and FIR-2 and 4 do not.

5.2. In FIR-1 and 2, they converts the NEW to PRESENT and use it by FDP and AIDC. FIR-2 has PRESENT but these would not be any trouble because FIR-1 and 3 have PRESENT converted from NEW.

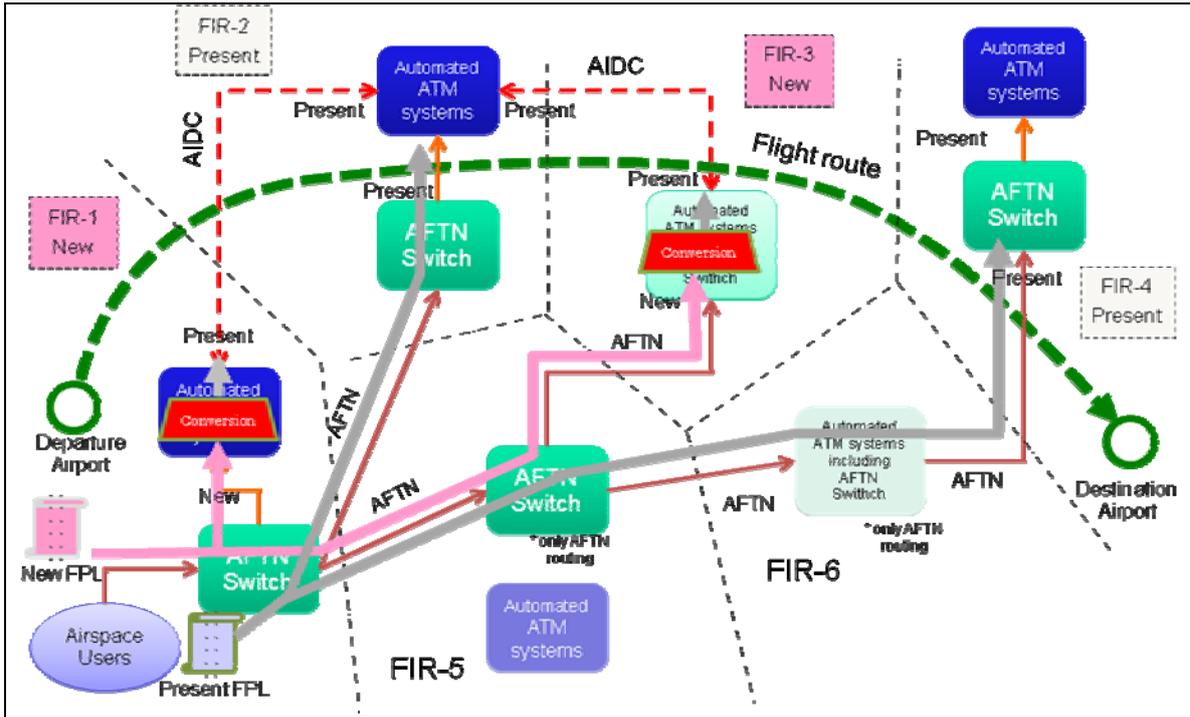


Figure-2: Diagram of NEW and PRESENT intermingled situation during transition period

5.3. Figure-3 is layered explanation of Figure-2. It separates AIDC, FDP and AFTN.

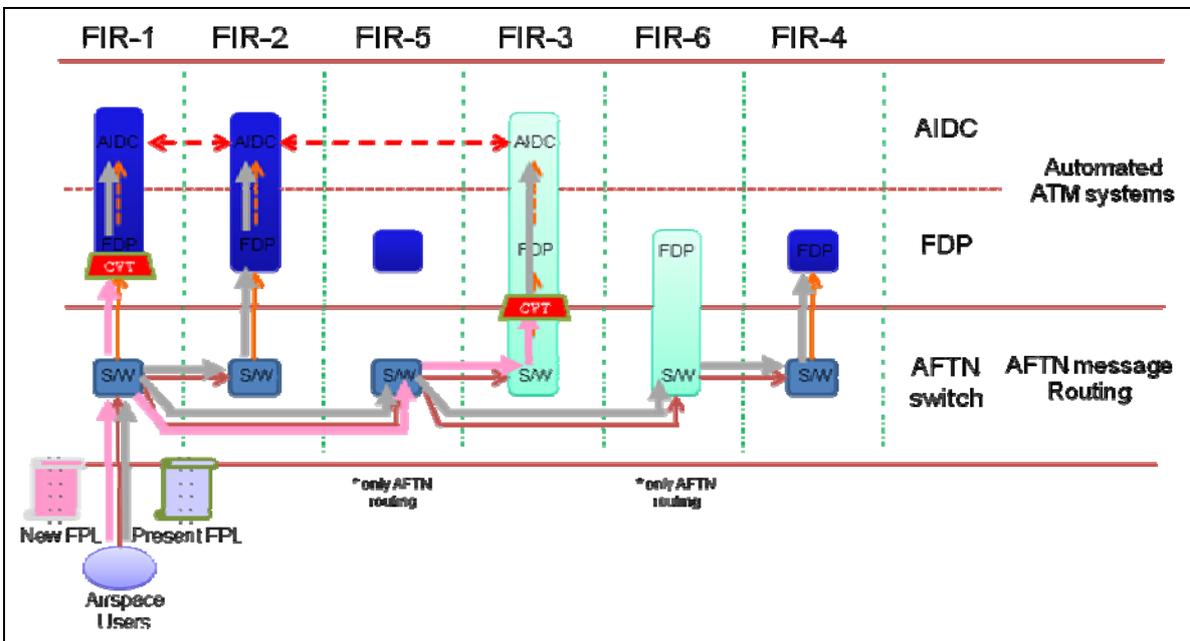


Figure-3: Diagram of NEW and PRESENT intermingled situation during transition period (Layered image)

6. Recommendation

- 6.1. It is recommended that we should take advantage of these kinds of diagrams for further consideration of FPL&AM transition 2012.

7. Action by the meeting

- 7.1. The meeting is invited to take notes of these basic notions described above, and adopt the recommendation in order for further discussion of transition issues from now on.

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