



TWELFTH AIR NAVIGATION CONFERENCE

Montréal, 19 to 30 November 2012

Agenda Item 5: Efficient flight paths – through trajectory-based operations

5.2: Improved traffic synchronization through 4D trajectory-based operations(TBO)

OPERATIONAL TRIAL OF SCAS

(Presented by Japan)

SUMMARY

This paper presents the information of the outlines of SCAS we have been conducting as the operational trial since August, 2011.

Action: The Conference is invited to note the information provided.

1. INTRODUCTION

1.1 SCAS stands for Specifying CFDT for Arrival Spacing Program. This is one of the ATFM techniques in which ATC issues CFDT to the in-flight aircraft.

1.2 CFDT represents Calculated Fix Departure Time. When an aircraft is assigned CFDT by ATC, it has to depart the specified fix on the route of flight at this specified time to mitigate expected traffic congestion.

1.3 The operational trial of SCAS has commenced since 25 Aug, 2011. Aircraft subject to this trial are those bound for Tokyo international airport (RJTT).

2. DISCUSSION

2.1 When ATM Center expects that the traffic volume will exceed the capacity of an airport or a sector of ACC within the next one hour or so, EDCT, which stands for Expected Departure Clearance Time, will be assigned to aircraft concerned through ACC. This is known as a ground delay program. (See Figure 1).

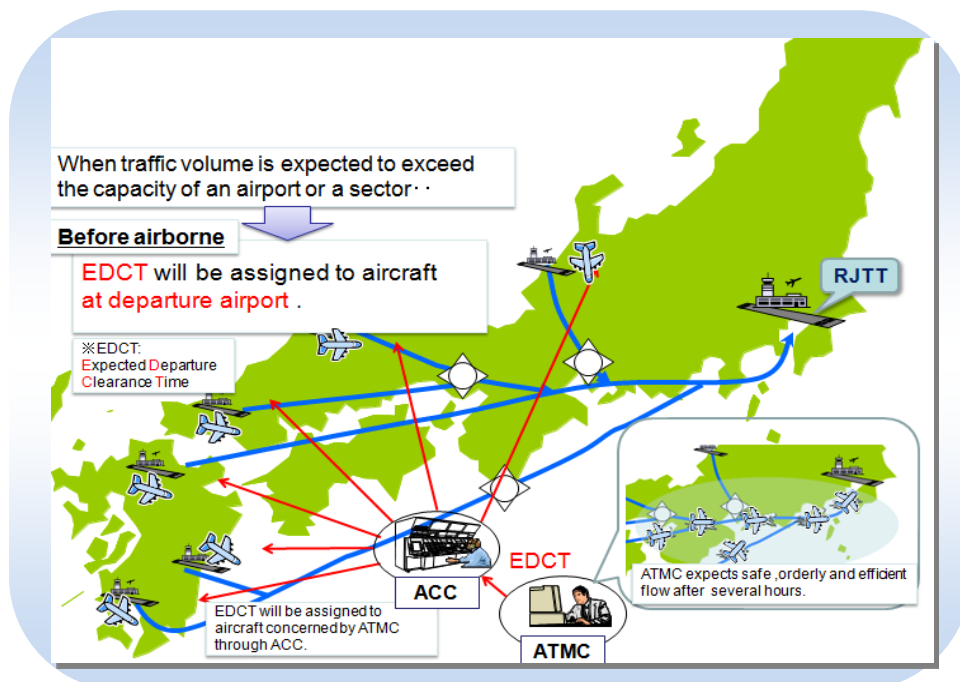


Figure 1

2.2 However, unexpected airborne delay often makes congestion, particularly around Tokyo metropolitan airspace. Under this circumstance, Air Traffic Controllers must deal with such congestion by a lot more radar vectors, speed adjustments, etc. This is why ATFM for in-flight aircraft is necessary:

2.3 When ATM Center starts SCAS, CFDT is calculated and will be assigned to both domestic and international in-flight aircraft.

2.4 SCAS will improve traffic congestion within approach control area by implementing in-flight time adjustment.(See Figure 2).

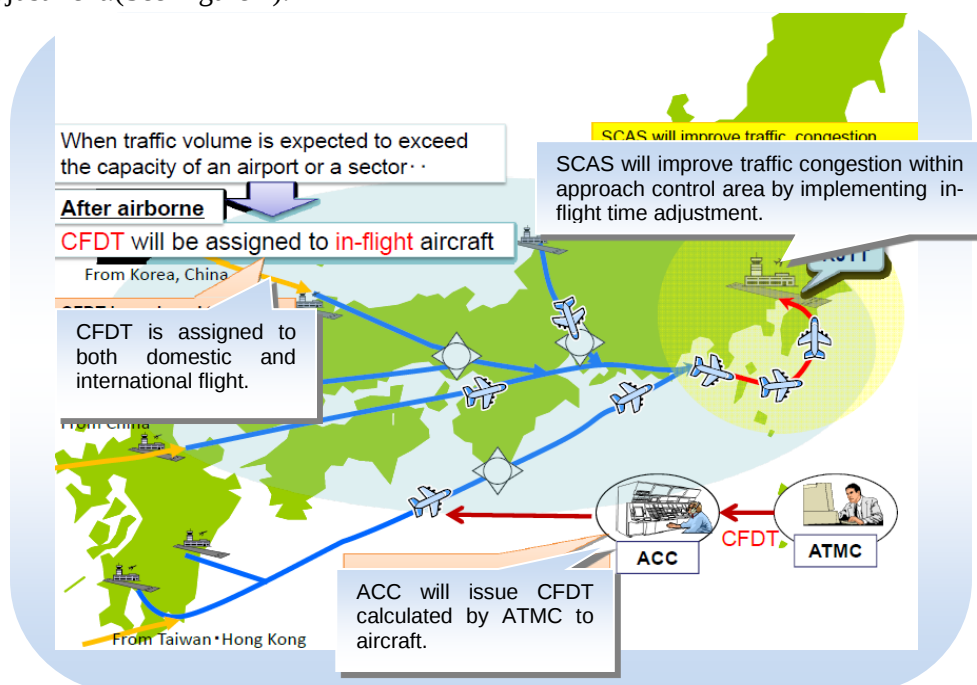


Figure 2

2.5 Effects of introducing SCAS are as follows:

- Fuel consumption will be reduced by avoiding excessive radar vectors, especially in lower altitudes.
- Congestion of air traffic can be improved by adjusting crossing time of the specified fix, which leads to the reduction of ATC work load.
- Equality and effectiveness of ATFM can be enhanced by covering aircraft from foreign airports under CFDT, which are not covered by EDCT.

2.6 We are now analyzing data and trying to improve CFDT to be more precise in order to realize safer, more efficient and economical traffic flow.

3. CONCLUSION

3.1 JCAB will continue evaluation and take remedial actions through the trial operation in order to be matured enough for the next step toward 4D trajectory operation for the realization of more efficient and economical ATFM.

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