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分布式多节点流量管理测试运行

DISTRIBUTED MULTI-NODAL ATFM OPERATIONAL TRIAL

1. 总则

1.1 序言

1.1.1 在中国民航局的推动下,亚太地区分布式多节点空中交通流量管理测试运行已于2015年6月29日启动。本AIC用以说明相关情况。

1.1.2 亚太地区认识到在本地区为解决容流平衡问题而开展流量管理工作的必要性。许多国家已经或计划实施国内的流量管理工作。

1.1.3 将各国的流量管理系统进行互联，并向航空公司、机场、空中交通管理单位提供结构化的协同信息共享十分迫切。考虑到本地区建立并实施集中流量管理系统并不可行，故制定“分布式多节点空中交通流量管理网络”概念来解决跨国界流量管理事宜。本概念已被列为“亚太地区运行概念”并为各成员国所接受。

1.1.4 为验证该运行概念并为最终确定跨国界空中交通流量管理，决定开展分布式多节点流量管理运行试验。

1. GENERAL

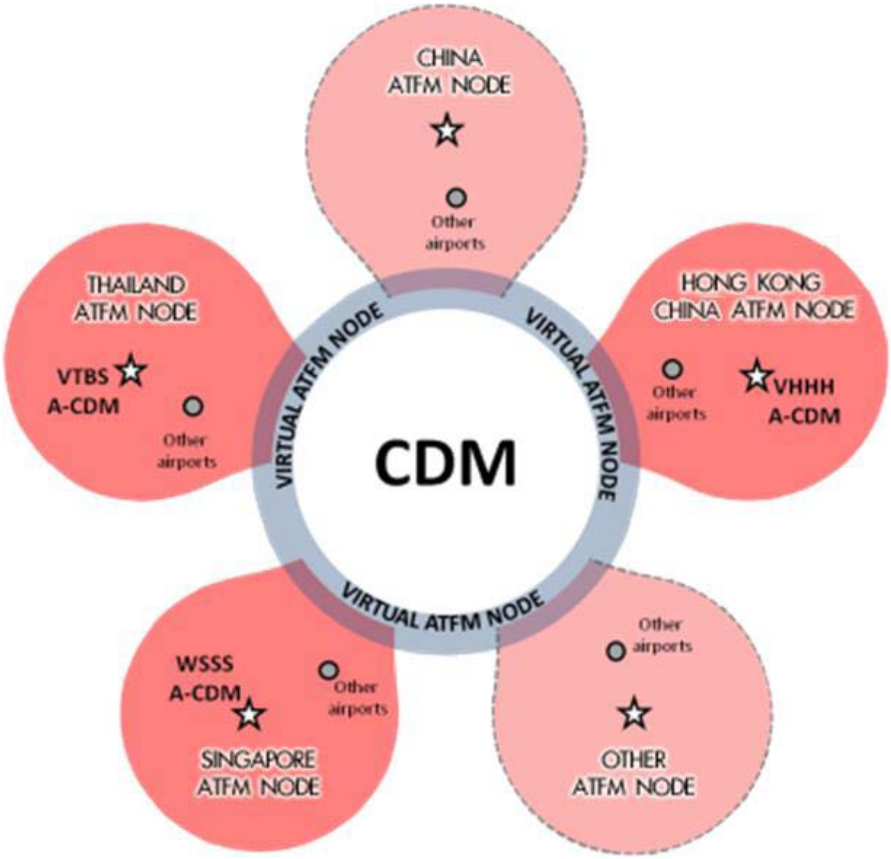
1.1 Introduction

1.1.1 The purpose of this Aeronautical Information Circular (AIC) is to advise the commencement of the Distributed Multi-Nodal Air Traffic Flow Management (ATFM) Operational Trial, which was promoted by CAAC and started on the 29 June 2015.

1.1.2 Asia Pacific Region has recognized the need for ATFM to work towards balancing Capacity and Demand in the Region and many States have implemented, or are planning to implement, Domestic ATFM.

1.1.3 There is now an urgent requirement to structure and link the various ATFM systems on a sub-regional basis and provide structured collaborative information sharing across borders to assist operational decision making processes for airlines, airports and ANSPs. Given that a Central ATFM Unit would not be possible in Asia Pacific Region, the Distributed Multi-Nodal ATFM Network concept was developed to provide a solution to Cross-Border ATFM for the region and was accepted by States and ICAO as the Regional Concept of Operations.

1.1.4 The Distributed Multi-Nodal ATFM Operational Trial is conducted to validate the concept for Cross-Border ATFM operations in the region. The ATFM Operational Trial will provide platform to validate relevant operational concepts in order to eventually establish Regional Cross-Border ATFM accommodating all flights.



1.2 适用范围

1.2.1 本 AIC 提供分布式多节点流量管理测试运行的总体信息。

1.3 中国下列机场将参加本次流量管理运行试验:
广州白云 ZGGG – GUANGZHOU / Baiyun
深圳宝安 ZGSZ - SHENZHEN / Baoan
海口美兰 ZJHK - HAIKOU / Meilan
三亚凤凰 ZJSY - SANYA / Phoenix

2. 概念

2.1 分布式多节点流量管理网络概念明确，各空中导航服务提供方领导一个独立，虚拟 ATFM/CDM 节点的运行，通过各节点之间的互联实现信息共享。通过一套各方均认可的规则对空中交通流进行管理。本概念基于计算起飞时间（CTOT）实现容量流量平衡。该计算起飞时间是针对起飞地机场的航班而言的，通过对目的地机场进场航班安排计算落

1.2 Scope

1.2.1 This AIC provides general information of Multi-Nodal ATFM Operational Trial.

1.3 The following airports will be involved in the ATFM Operational Trial:

ZGGG – GUANGZHOU / Baiyun
ZGSZ - SHENZHEN / Baoan
ZJHK - HAIKOU / Meilan
ZJSY - SANYA / Phoenix

2. CONCEPT

2.1 The Distributed Multi-Nodal ATFM Network concept involves each ANSP leading and operating an independent, virtual ATFM/CDM node supported by interconnected information sharing framework. Air traffic flow is then managed based on a common set of agreed principles among participating stakeholders. The basis for demand-capacity balancing in this concept is the Calculated Take-Off Time (CTOT) back-calculated from Calculated Landing Time (CLDT). Collaborative Decision

地时间（CLDT）反推而得。通过 CDM 程序，各空域用户以及机场当局与各空中导航服务提供方就流量管理措施进行有效协调，达到运行效率最大化的目的。

Making (CDM) process enables airspace users and airport operators to collaborate with ANSPs in the implementation of ATFM measures for maximum operational efficiency.

2.2 运行试验时间表

2.2 Operational Trial Timeline

2.2.1 本次运行试验于 2015 年 6 月 29 日启动。初期将对各种运行程序和操作流程进行验证。

2.2.1 The Operational Trial commenced on June 29, 2015 and initially consisting of various tests to validate processes and procedures:

第 1 期（2015 年 6 月-2016 年 6 月）针对机场受限的情况:

- 第 1 阶段: CTOT 信息传递（2015 年 6-9 月)
- 第 2 阶段: CTOT 执行(2015 年 10 月-2016 年 1 月）
- 第 3 阶段: CTOT 高级管理（2016 年 2-6 月）

第 2 期: 针对更高级的流量管理

Phase 1(June 2015 – June 2016): Distributed ATFM for Airport Arrival Constraints:

- Stage 1 – CTOT Communications (June – September 2015)
- Stage 2 – CTOT Adherence (October 2015 – January 2016)
- Stage 3 – Advanced CTOT Management (February – June 2016)

Phase 2: Advanced Distributed ATFM

2.2.2 第 1 阶段 CTOT 信息传递试验仅测试 CTOT 传递的过程，并不对航班运行产生实际影响，第 2 阶段开始将对航班运行产生实际影响。

2.2.2 Stage 1 CTOT Communications Operational Trial (June – September 2015) involve testing of CTOT communication framework without affecting live flights. After successful completion of Stage 1, the ATFM Operational Trial Stage 2 will start affecting actual flights.

2.3 对空域用户的要求

2.3 Airspace Users Requirements

2.3.1 为协助提高流量预测准确度，自 2015 年 7 月 13 日 0001UTC 起，建议在预计撤轮挡时间（EOBT）前 3 小时提交 FPL; 如预测到 EOBT 有 15 分钟以上的变化时，及时提交 CHG 或 DLA 信息。如航班取消，应及时提交 CNL 信息。

2.3.1 With effect from 13 July 2015 0001UTC , in support of this initiative it is recommended that all airspace users file FPLs at least 3 hours before EOBT to assist the ATFM Units receive accurate demand data. Further, submitting CHG/DLA messages when EOBT changes by more than 15 minutes would further enhance traffic demand prediction accuracy. Submitting CNL messages when the flight is to be cancelled.

2.3.2 如要求空域用户按照所分配的 CTOT 执行，将另行通知。

2.3.2 Airspace users will be required later during the trial to depart according to their CTOT.

2.4 更多信息

2.4 Further Information

2.4.1 任何运行方面的变更将及时通过 NOATM 进行公布。如需咨询，请联系:

2.4.1 Any operational changes required will be notified by NOTAM in due course. For any inquiry, please contact:

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