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NO COUNTRY LEFT BEHIND



ATFM in APAC Region

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Nanjing, China / 24th November 2018





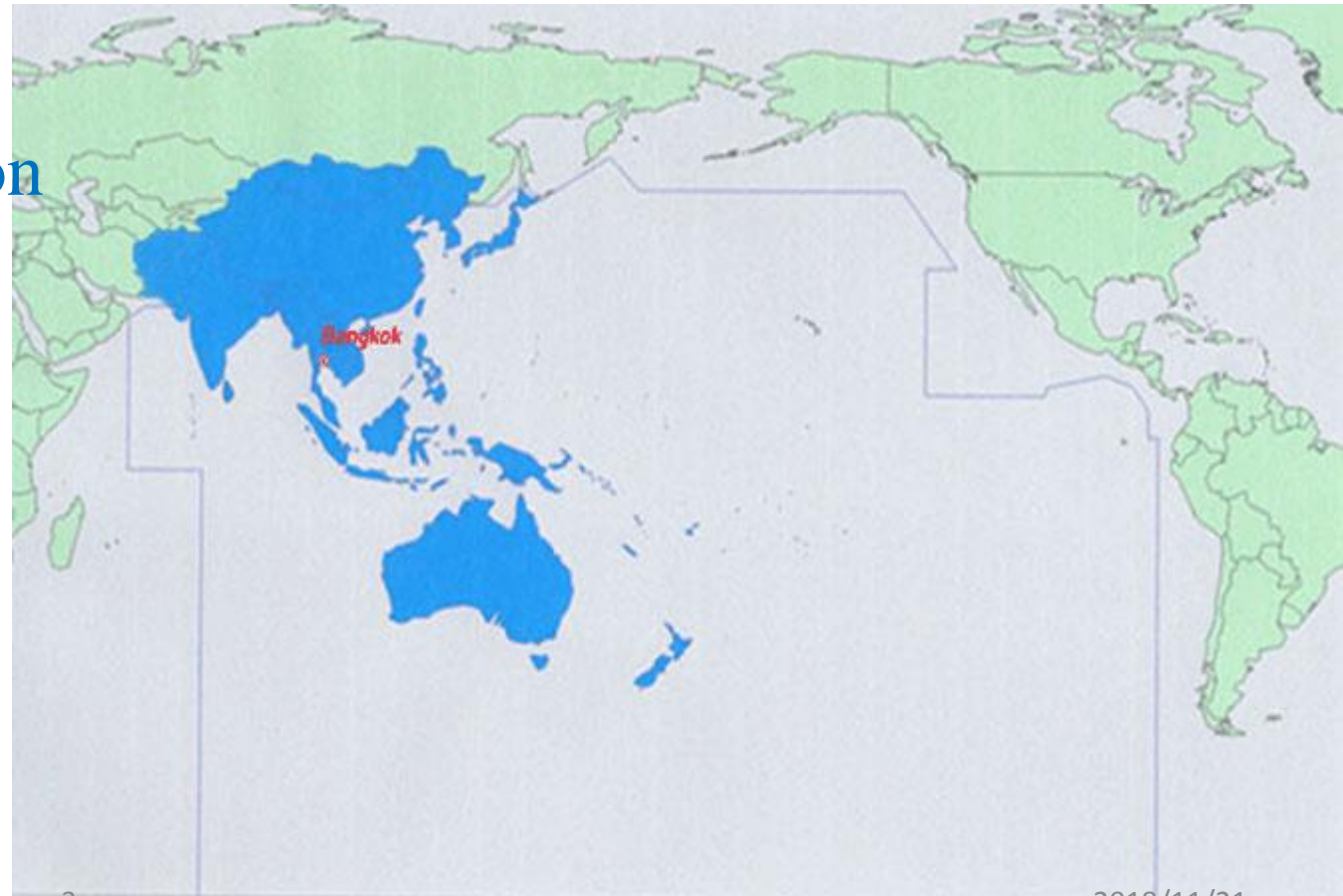
Topics

- ICAO APAC RSO
- APAC ATFM CONOPS
- APAC ATFM Activities
- Further Research and Development



ICAO APAC

- 39 Contracting States
- 2 Special Administration Region
- 49 FIRs





ICAO APAC Regional Sub Office

➤ History

➤ RSO was inaugurated in Beijing on 27th June 2013

➤ Objectives - Implementation

➤ Air Traffic Management and Collaborative Decision Making (**ATFM/CDM**)
including Airport Collaborative Decision Making (**A-CDM**)

➤ Airspace Management (**ASM**)

➤ Performance Based Navigation (**PBN**)

➤ Civil- Military ATM Coordination (**CMAC**)





Challenges

➤ Demand

- Largest Region: 33% of global traffic, 10.2% growth

➤ Capacity Constraints

- Airspace – small FIRs

- Airports

➤ Harmonization and Interoperability

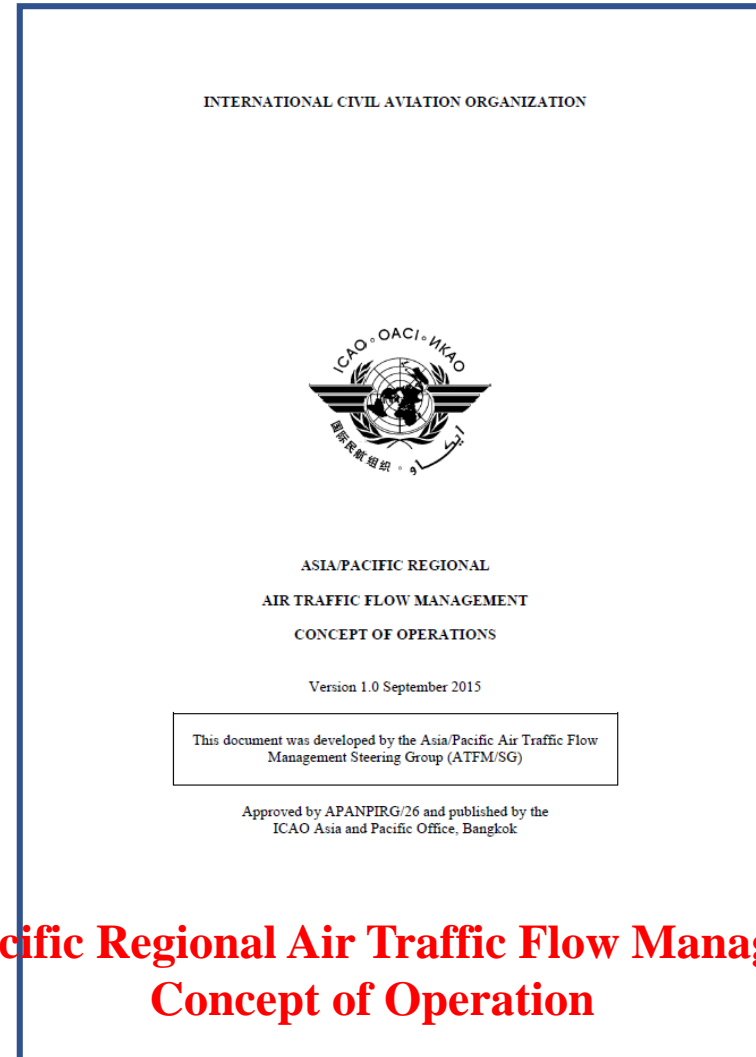
- Need for Cross-Border ATFM

- No Central, Physical Facility to Provide the Network Management Function



Asia/Pacific Framework for Collaborative ATFM





**Asia Pacific Regional Air Traffic Flow Management
Concept of Operation**



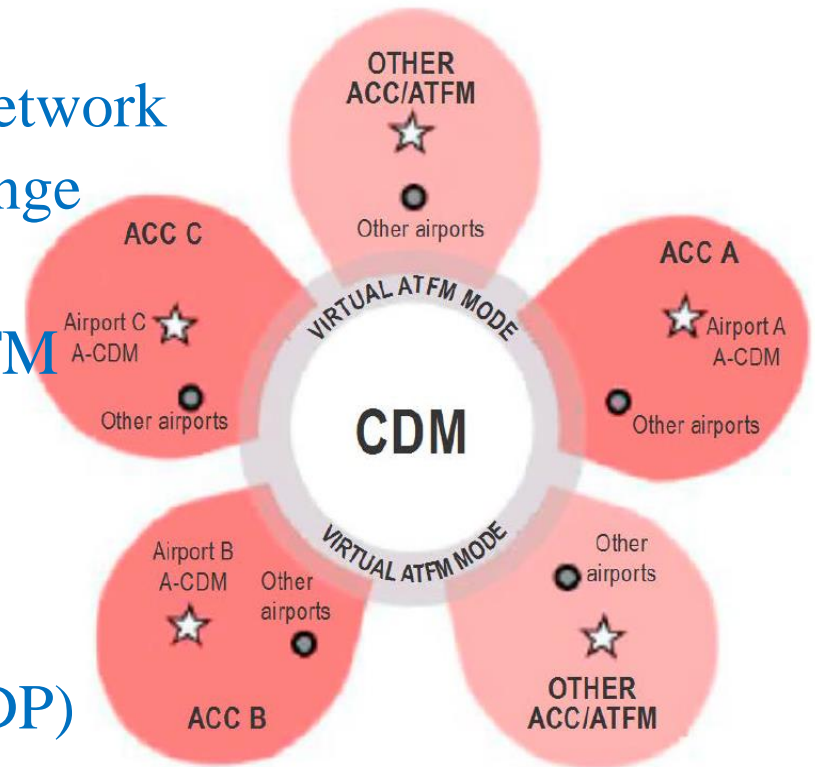
APAC ATFM Concept of Operation

➤ Key Concepts

- Distributed Multi-Nodal Cross-Border ATFM Network
- An Agreed Model for ATFM Information Exchange
- An Agreed Suite of ATFM Terminologies
- Meteorological Forecasting Information for ATFM
- Delay Absorption Intent
- Slot Swapping

➤ ATFM Measure

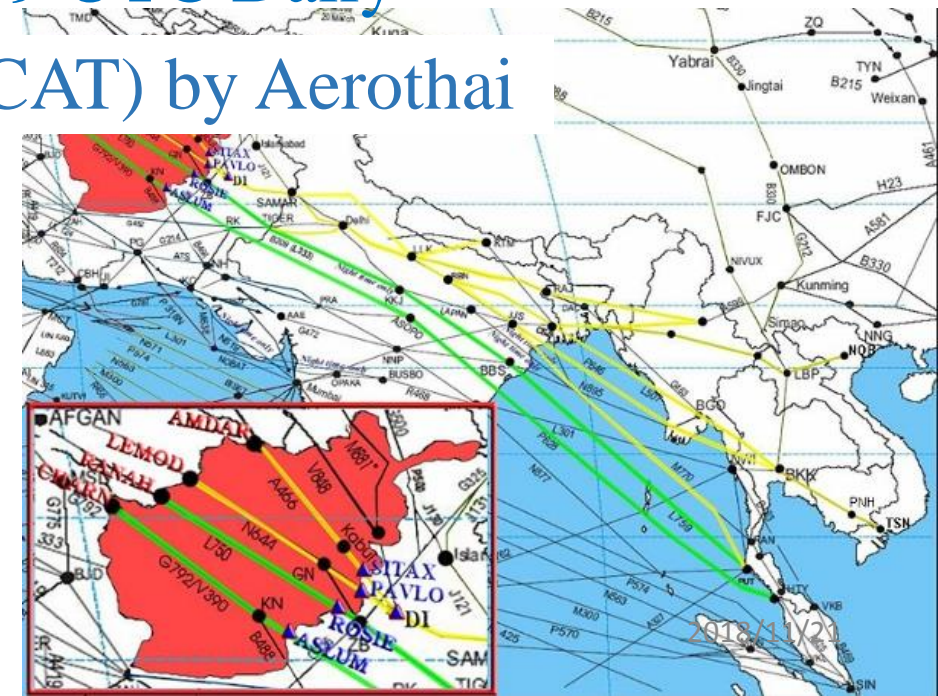
- Temporal Domain – Ground Delay Program (GDP)





Bay of Bengal Cooperative ATFM System

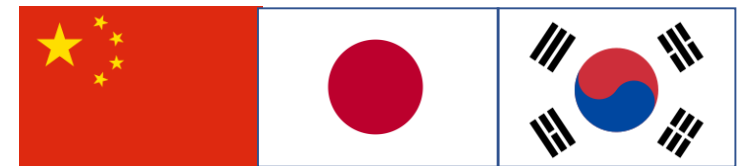
- Operational Implementation effective on 5th July 2007
- Traffic Metering for Westbound Traffic Southeast Asia → Europe across Bay of Bengal via Kabul FIR 2000-2359 UTC Daily
- Automated Web-based ATFM System (BOBCAT) by Aerothai
- 2007- 2018 Achievements
 - Fuel Saving: 137 million kg
 - Emissions: 560 million kg





Northeast Asia Regional ATFM Harmonization Group (NARAGH)

- China, Japan and Republic of Korea Signed a MoC for Cross-Border ATFM Project in 2015
- The Project developed the “Cross Regional ATFM Collaborative Platform” (CRACP)
 - has been installed in Shanghai, Fukuoka and Daegu
 - common situational awareness, pre-tactical coordination
 - ATFM Daily Plan (ADP) exchange
- Phased Approach
 - Phase I: function development/verification, connect via public internet
 - Phase II: connect via private communication circuits
 - Phase III: system-to-system connection, CRACP as a backup





APAC A-CDM

- APAC A-CDM Task Force (APA-CDM/TF) Established by Decision APANPIRG/27-2 in 2016
 - to assist States to overcome the challenges – lack of knowledge and coordination, financial constraints, unavailability of IT supporting systems at the airports, training needs and lack of qualified human resources;
- APAC Seamless ATM Plan
 - 51 busiest airports (100,000 movement/year) should operate A-CDM
- APA-CDM Implementation Plan Development
 - underway led by India



ATFM Harmonization

- ATFM/Information Requirement/Small Working Group (ATFM/IR/SWG) established by the Decision ATFM/SG/5-1
- 12 Data Attributes were developed, ICD development is ongoing;
- ATFM/IR/SWG/1 was held in August 2018
 - Identify the discrepancies in operational concept, operational procedures, data elements and the means of communications
 - discuss the technical solutions for the ATFM harmonization
 - develop the ATFM Harmonization Plan



Further Research and Development

- ATFM Interface Control Document
- FIXM Extension
- Interoperability of ATFM, AMAN/DMAN and A-CDM Systems
- Network Collaborative Decision Making (automated decision support tools and associated business rules)
- Harmonization of Multiple Flow Management Programs
- Collaborative Trajectory Options



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THANK YOU