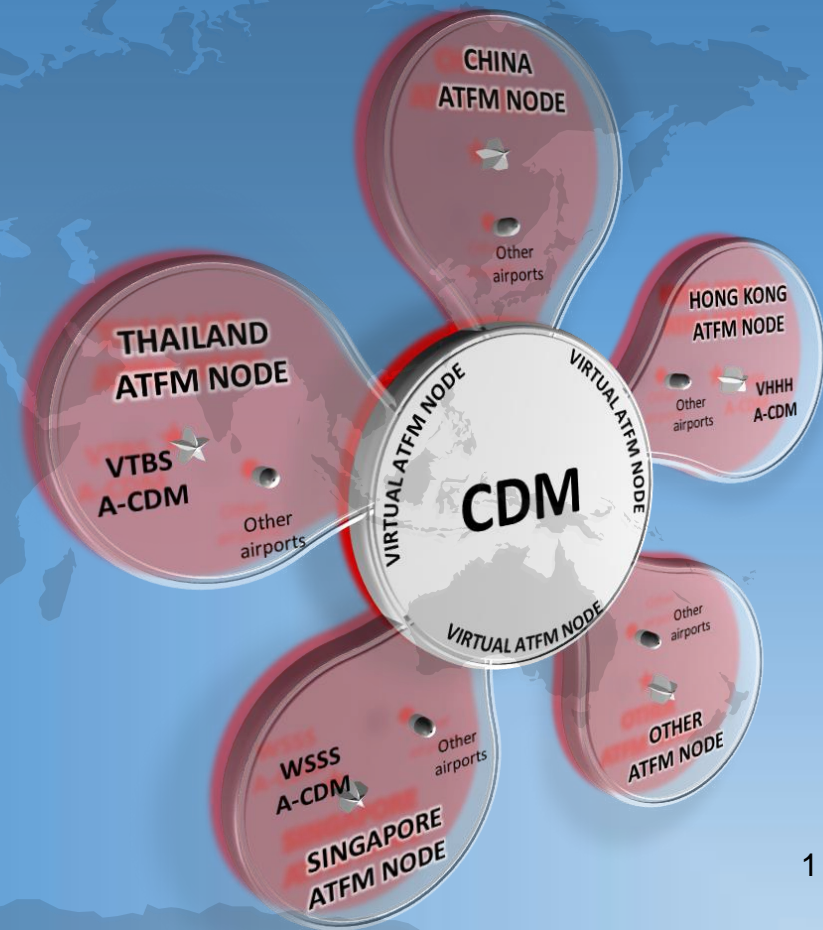


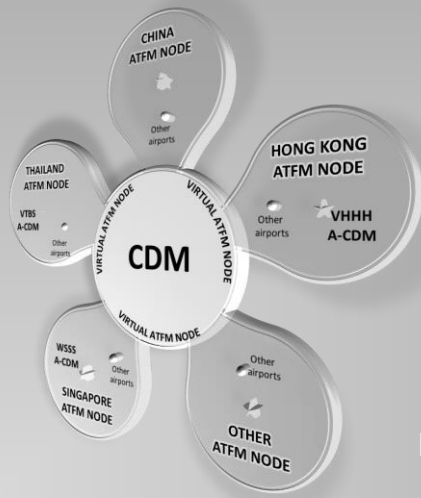
# Distributed Multi-Nodal Air Traffic Flow Management Core Team Meeting, Singapore

26-28 Nov 2018

Sands Expo and Convention Centre –  
10 Bayfront Avenue Singapore 018956



# Updates by core members



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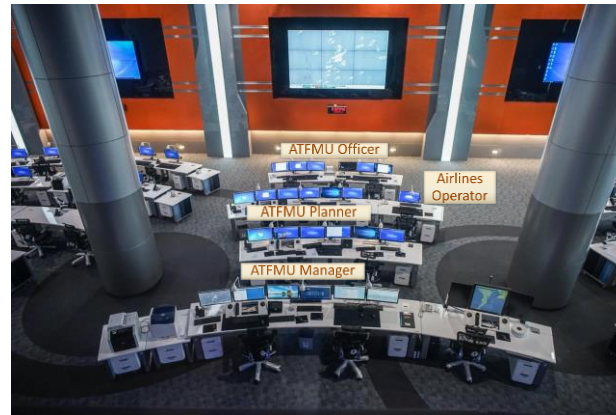
# AEROTHAI – ATM Network Management Centre

Opening Ceremony : 9 Nov 2018

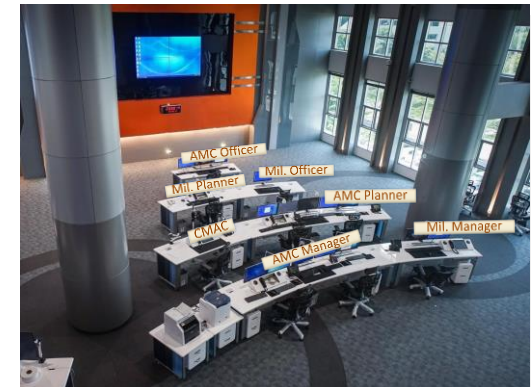


ATFMU

NOTAM/ FDMC/ COM&OPMET/ FDO/FIC



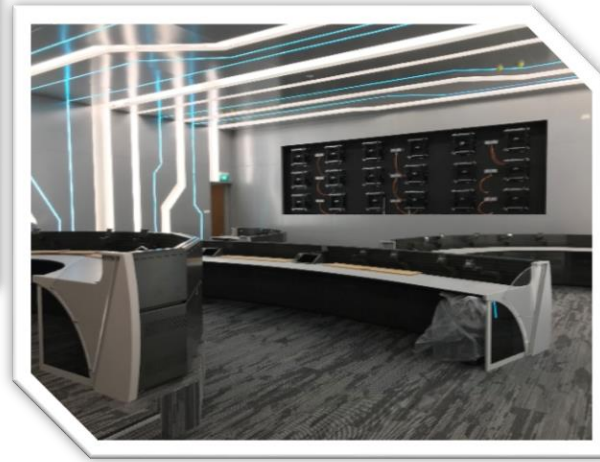
AMC



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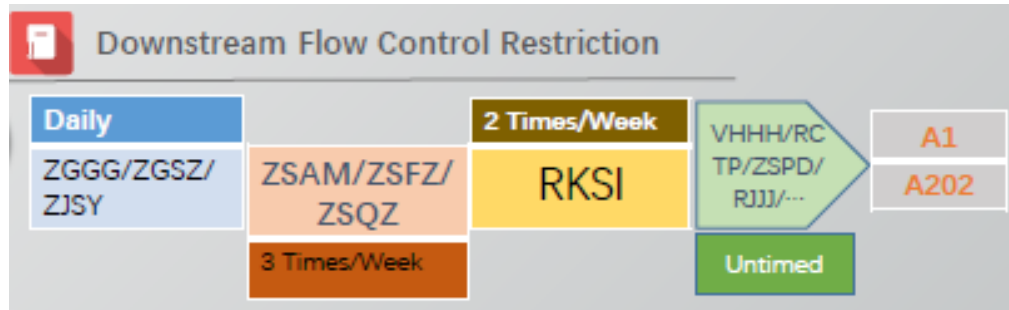
# CAAS – ATFM Ops Room and Support system



- Work in progress – expected completion Dec'18
- In the last phase of ATFM system (Harmony) testing – expected commissioning Dec'18

# CAAC ATMB, SANYA – ATFM Initiatives

- Collaborative Mile/Minutes in trail conversion (CMCP)



- Airspace Flow Program

**Airspace Demand Capacity Unbalancing**

Airspace Restriction Reason	Unbalancing Happen Frequency
Weather	32%
Traffic Flow	39%
Others	29%

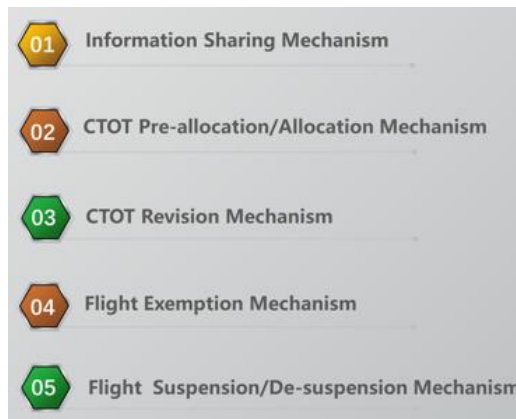
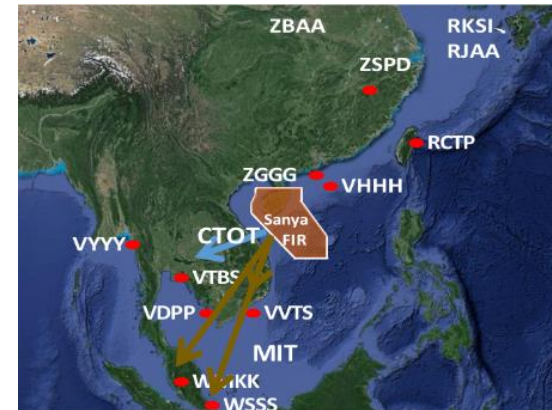
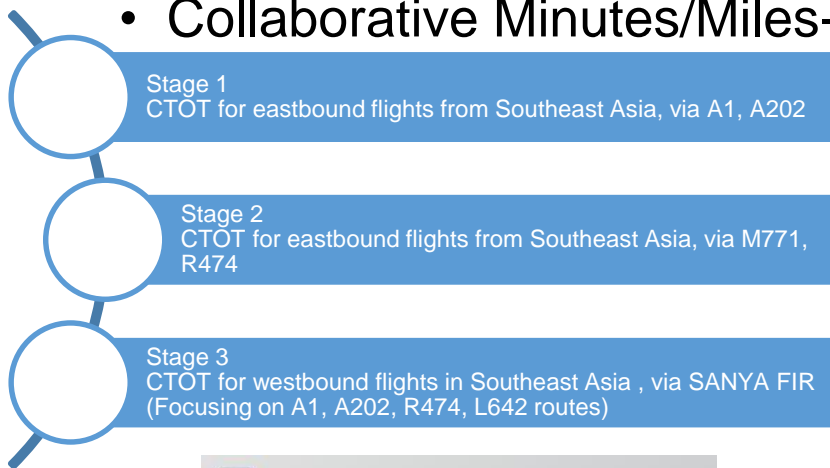


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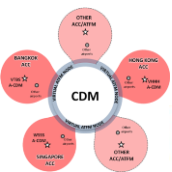
# CAAC ATMB, SANYA – CMCP :Flow restriction type conversion

- Plans for converting MIT/MINIT restriction into CTOT
- Collaborative Minutes/Miles-in-trial conversion program



CTOT published

航班号	航飞	航	日期	CTOT	COMI	COMI	CTOT	ETOT	ALOT	ELOT	ALOT	航班状态	航班日期	航班时间	航班时间
UAE382	CMCB	VHHH	2018-08-23	0715			0730	0818	1456			正常	1503	1529	
GAR60	WBI	VHHH	2018-08-23	1150			1125	1146	1509			正常	1449	1515	
HDA634	WAKP	VHHH	2018-08-23	1305			1320	1301	1548			正常	1433	1457	
HK3553	VNCR	VHHH	2018-08-21	1340			1355	1347	1445			延误	1401	1436	14
UAE380	CMCB	VHHH	2018-08-23	1405			1420	1427	2108			正常	2026	2050	
CPA776	WBI	VHHH	2018-08-23	1520			1535		1919			正常	1838	1904	
CPA784	WAZO	VHHH	2018-08-23	1605			1620		2011			正常	1931	1956	
VIC876	VVTS	VHHH	2018-08-23	1635			1650		1821			正常	1741	1806	17
HANG98	VVTS	VHHH	2018-08-23	1810			1825		1957			正常	1936	1942	19
HDA361	WAZO	VHHH	2018-08-21	1850			1905		2259			正常	2221	2244	
HK3319	VNCR	VHHH	2018-08-23	1920			1935		2025			正常	1935	2000	20
HK3707	VGSA	VHHH	2018-08-23	1925	2144		2168	1940	2110			正常	2030	2055	

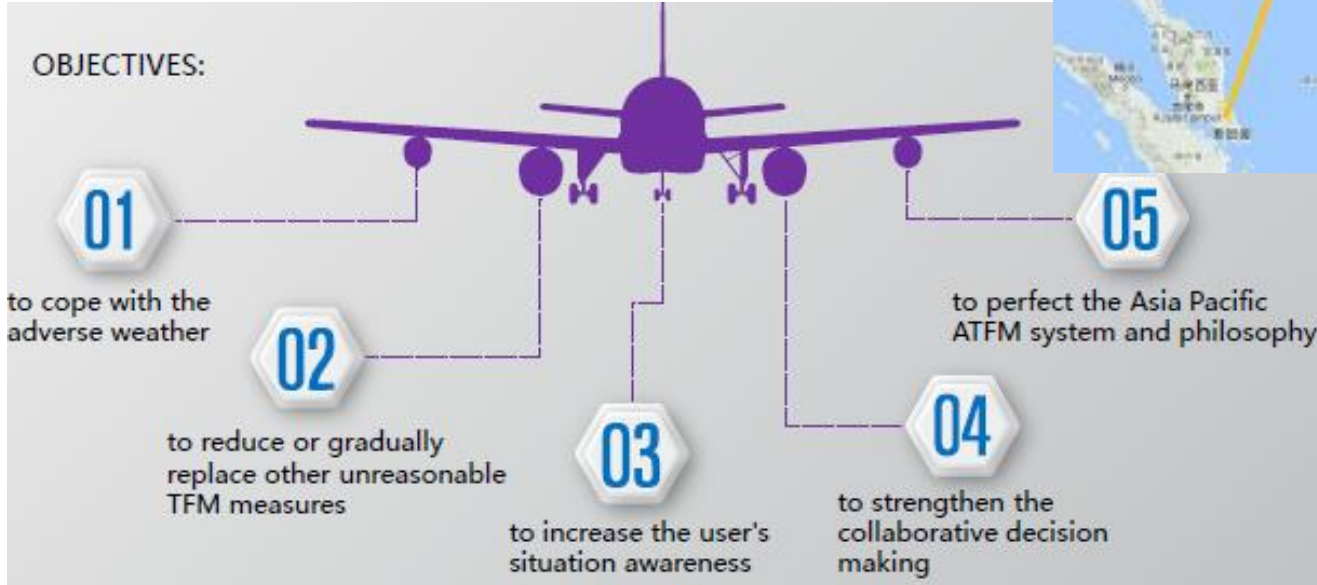


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# CAAC ATMB, SANYA – AFP

- Utilising CDM and 4D Trajectory Prediction to deliver a flow solution

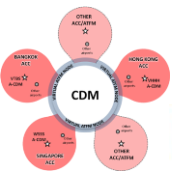


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# HKCAD – Update of ATFM initiatives

- Hong Kong ATMFU will be performing flow control measures for Macao China.
  - Trials have been conducted and feedbacks are positive
  - Technical discussion to begin early 2019.
- Conducted Local industry briefing on Multi-Nodal Concept, A-CDM
- Integration of HKIA A-CDM with ATMS
  - Provision of TOBT/TTOT to Planners for earlier departure release planning in ATMS
  - Display of CTOT in the A-CDM web portal for operators, ground handling agents, etc.
  - Accurate TSAT display in the parking stand docking system

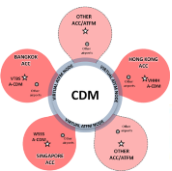


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# HKCAD -Further Enhance ATFM Collaboration with Guangzhou ATFMU

- Integrating Guangzhou BEKOL bound traffic departure release to HKIA A-CDM system
  - CTOTs automatically received and displayed in Tower electronic flight strip and A-CDM web portal
- Handling of Guangzhou and Shenzhen departures that overfly HK FIR
  - Guangzhou Baiyun Airport & Shenzhen Bao'an Airport – e.g. Hub for FedEx / UPS
    - During evening and overnight traffic demand surge
  - Use of CTOT to replace 'Check for start' or MINIT/MIT

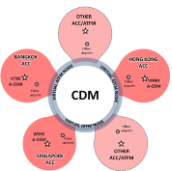


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# HKCAD - Further Enhance ATFM Collaboration with Sanya ATFMU

- Targeting 'Large Scale Weather Deviation' where the capacity is reduced by 50%
- Use of CTOT to replace MINIT
- Discussion ongoing for the reduction of separation across FIR boundary – A1(W), L642, M771/M772



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# HKCAD - Trials: CTOT Verification with Vietnam ATFM

- Vietnam is a Level 2 Node and plans to upgrade to Level 3 Node
- Previously conducted ATFM trials with Thailand and Singapore
- Agreement for conducting the trial is being finalized

**THE PLAN**

**DISTRIBUTED MULTI-NODAL ATFM OPERATIONAL TRIAL AT LEVEL 2 BETWEEN VIETNAM AND HONG KONG**

**I. Purpose**

- To test CTOT delivery and compliance procedures in the real operation applied for the flights departing from Vietnam airports to **Hong Kong** when **Hong Kong** has constraints.

**II. Scope and application objects**

Implement the dissemination and publication procedure, and compliance procedure for CTOT issued by Hong Kong ATFMU applied for flights of **Vietnam Airlines, Vietjet Air, Jetstar Pacific, and Cathay Pacific, Cathay Dragon, Hong Kong Airlines, Air Macau (International flights)** departing from **Noi Bai Airport (VVNB), Da Nang (VVDN) and TSN Airport (VVTS)** to **Hong Kong International Airport (VHHH), Macau International Airport (VMMC)** from Monday to Thursday of the trial week.

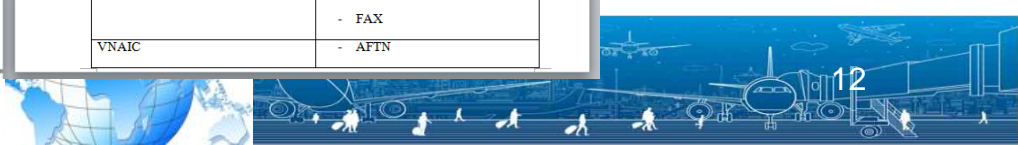
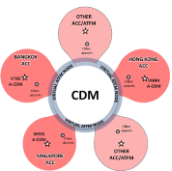
- Air Traffic Equipment and facilities are used for this Trial Plan of VATM, ACV and airlines (HVN, VJC, PIC, and CPA, HDA, CRK, AMU).

**III. Stakeholders**

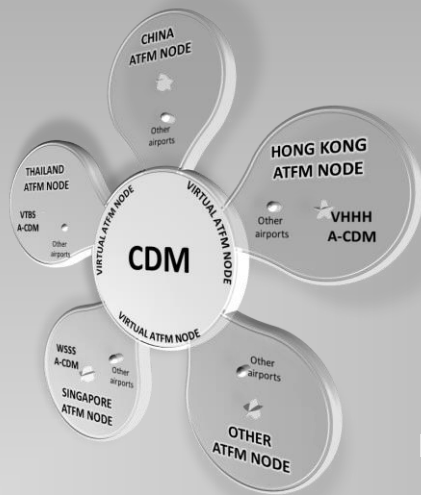
Units	Staff
ATFMC	ATFM Group
Noi Bai Center	Flight Planning
TSN Center	
OCC (VNA, VJC, PIC)	Watch Supervisor, Depatcher, Pilot
Representative ( <b>Vietnam Airlines, Vietjet Air, Jetstar Pacific, Cathay Pacific, Cathay Dragon, Hong Kong Airlines, Air Macau</b> )	Airlines REPs
NORAT	ATC Shift- <b>Noi Bai</b> TWR
SORAT	ATC Shift- <b>TSN</b> TWR
VNAIC	Shift - <b>Noi Bai</b> ARO Shift- <b>TSN</b> ARO
Hong Kong ATFMU	Hong Kong ATFMU

**IV. The Trial equipment**

Unit	Equipment
ATFMC	- AFTN - Telephone - Fax - Email - Web portal - Computer with Internet
<b>Hong Kong ATFMU</b>	- <b>Telephone</b> - <b>Email</b> - <b>AFTN</b> - <b>Computer with Internet</b>
OCCs (VNA, VJC, PIC) <b>Airline Representatives (CPA, HDA, CRK, AMU)</b>	- AFTN - Telephone - Computer with internet for web portal access - Email - Fax
NORAT SORAT	- AFTN - Telephone - Computer with internet - Email - FAX
VNAIC	- AFTN

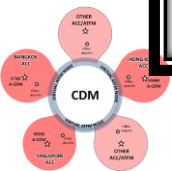
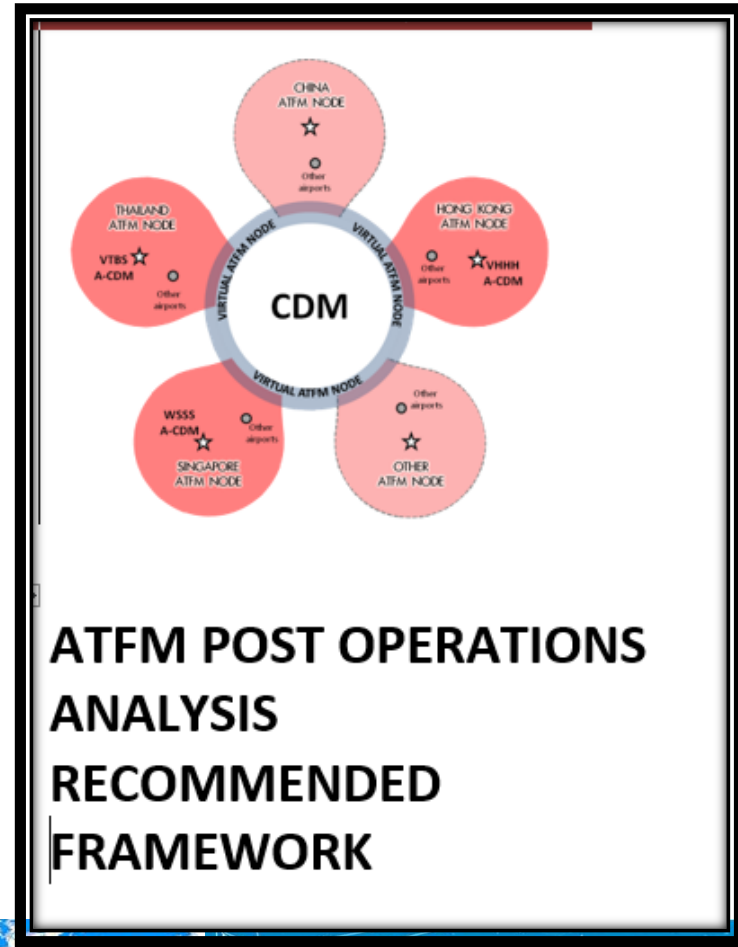
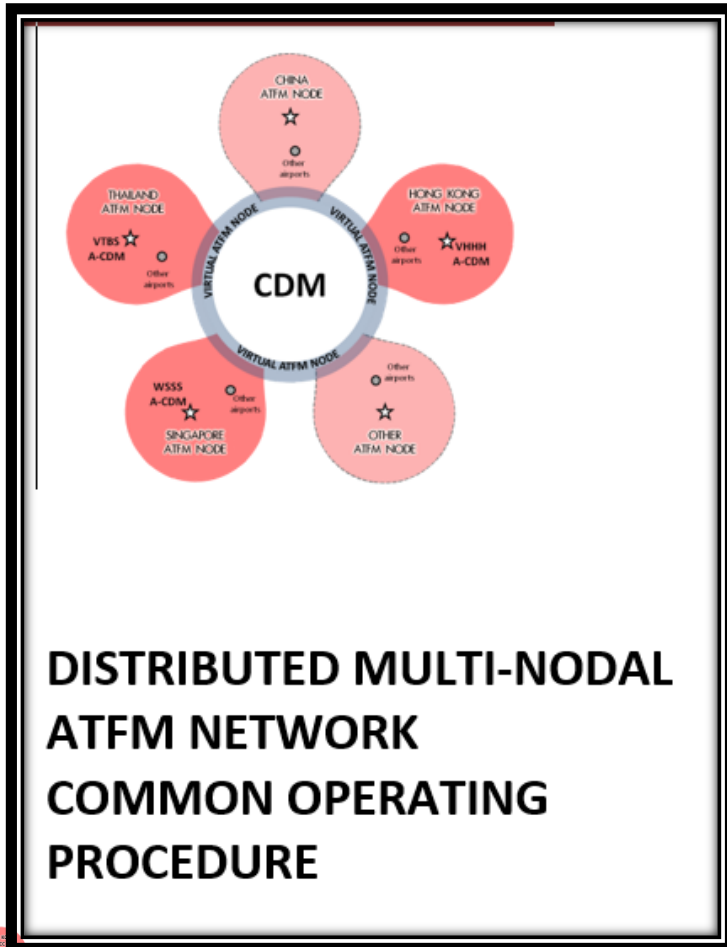


# Review of Multi-Nodal ATFM Common Operating and Post Operation Analysis Framework

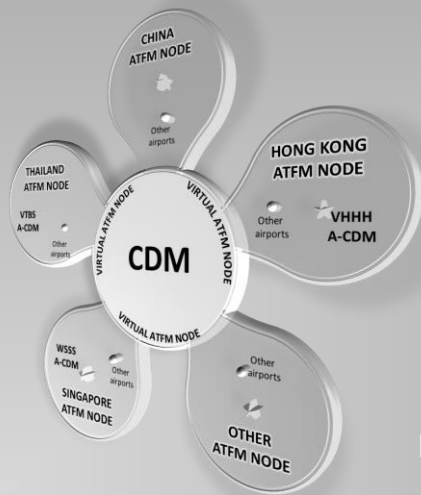


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# COP and Post Ops Framework

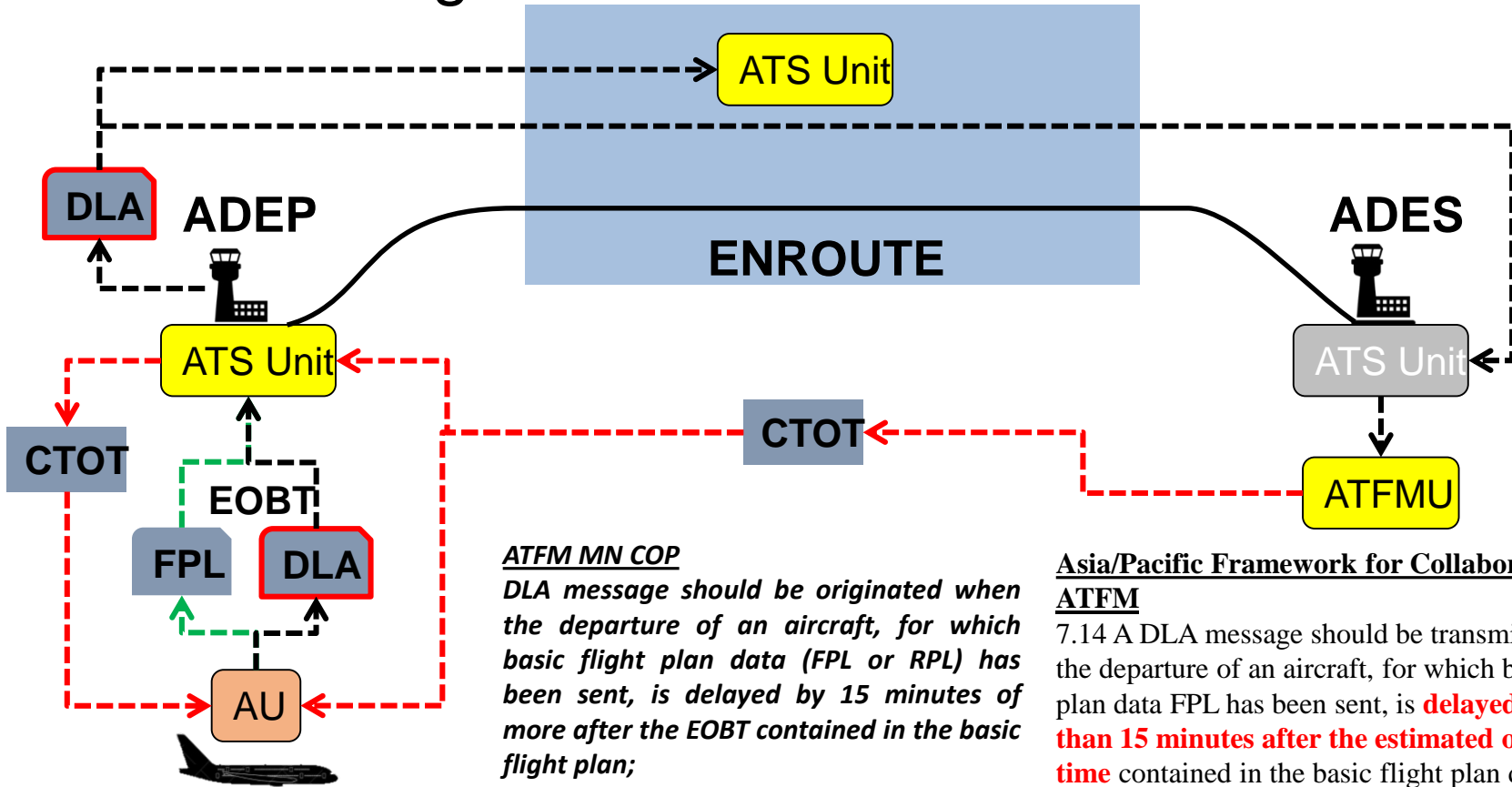


# PfA to the Regional Framework For Collaborative ATFM



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# DLA Message



## ATFM MN COP

*DLA message should be originated when the departure of an aircraft, for which basic flight plan data (FPL or RPL) has been sent, is delayed by 15 minutes of more after the EOBT contained in the basic flight plan;*

## Asia/Pacific Framework for Collaborative ATFM

7.14 A DLA message should be transmitted when the departure of an aircraft, for which basic flight plan data FPL has been sent, is **delayed by more than 15 minutes after the estimated off-block time** contained in the basic flight plan data.

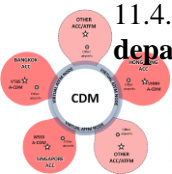
7.15 **Where the delay is the result of a GDP, the DLA message should be sent by the ATFMU** responsible for the destination airport, addressed to the ATS unit serving the departure aerodrome for subsequent transmission in accordance with the provisions of ICAO Doc 4444 *PANS-ATM*.

## PANS-ATM 4444

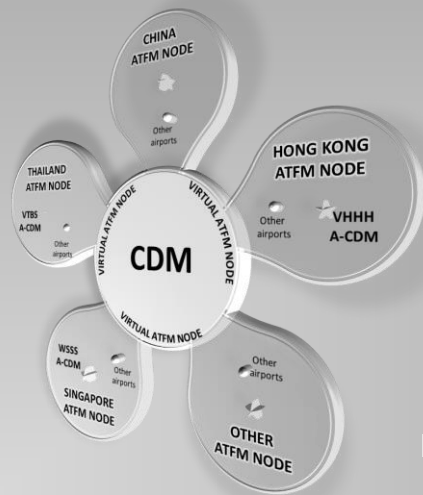
### 11.4.2.2.3 DELAY (DLA) MESSAGES

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.

11.4.2.2.3.2 The DLA message shall be transmitted by the **ATS unit serving the departure aerodrome** to all recipients of basic flight plan data.



# PfA for ICAO Doc 7030



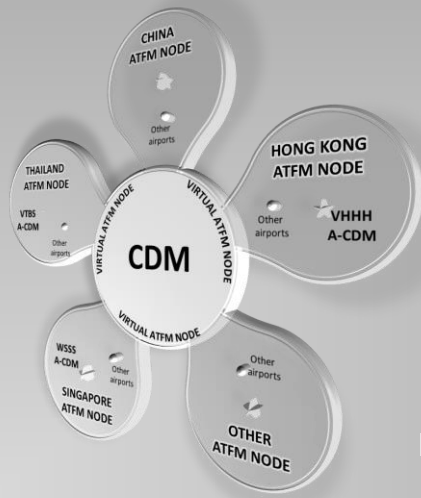
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# Approach to submitting the PfA

- Doc 7030 serves a form of operating agreement between States in the region
- Amendments to incorporate the ATFM related requirements for constrained/congested aerodromes
- Amendments would be applicable for States that implements ATFM
  - Similar to implementation of RNAV routes and ADS-B
- Approach to submitting the PfA
  - to circulate draft PfA by 17<sup>th</sup> MN meeting in HongKong (Feb'19)
  - Circulate and seek endorsement at ATFM/SG/9 (tentative APR'19)
  - Seek endorsement at ATM/SG/7 (tentative Aug'19)
  - Endorsement at APANPIRG/30 (tentative Sep'19)



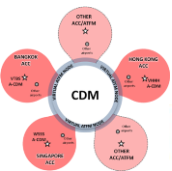
# Technical Subgroup (TSG)



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# TSG Update

- Harmonisation of ADP pdf filename and email subject to facilitate automation
- Updated Interface Control Document (ICD) version 0.2 to use SWIM EMS Flight Information Service for CTOT Distribution, CTOT Revision, CTOT Cancellation messages
- Updated Asia/Pacific FIXM extension to include A-CDM and CTO trajectory/data

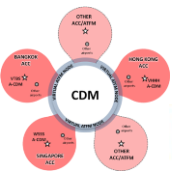


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# Next Step

- ICD will be further updated to include reference to SWIM service (ie Flight information service), technical specifications such as authentication and fallback protocol and data flow diagrams
- SWIM in ASEAN Demonstration in June 2019



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# Thank you

