AIDC Implementation In Indonesia

Presented by Indonesia

Support ASEAN ATM Master Plan – Deployment of the 5 prioritised initiatives - AIDC

18 – 20 September 2019 Kuala Lumpur, Malaysia

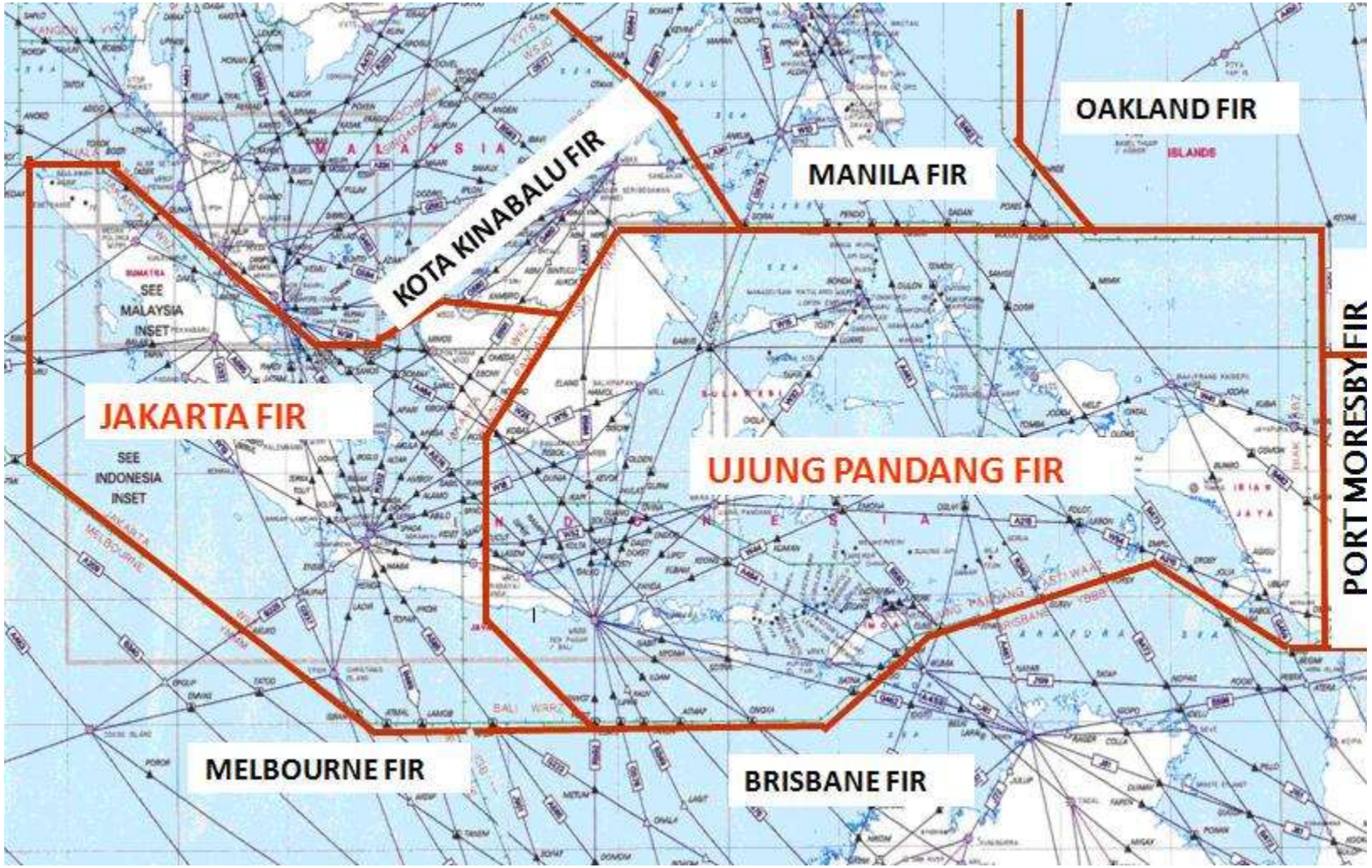
Content

- Introduction
- Implementation status
- AIDC Connection

Introduction

- AIDC implementation status in Ujung Pandang ACC with its adjacent ATS units
- Jakarta ACC has not been ready for AIDC implementation
- Ujung Pandang ACC has 6 adjacent ACC units, among others: Brisbane ACC, Jakarta ACC, Kota Kinabalu ATCC, Manila ACC, Oakland ARTCC and Moresby ACC

Introduction



Introduction

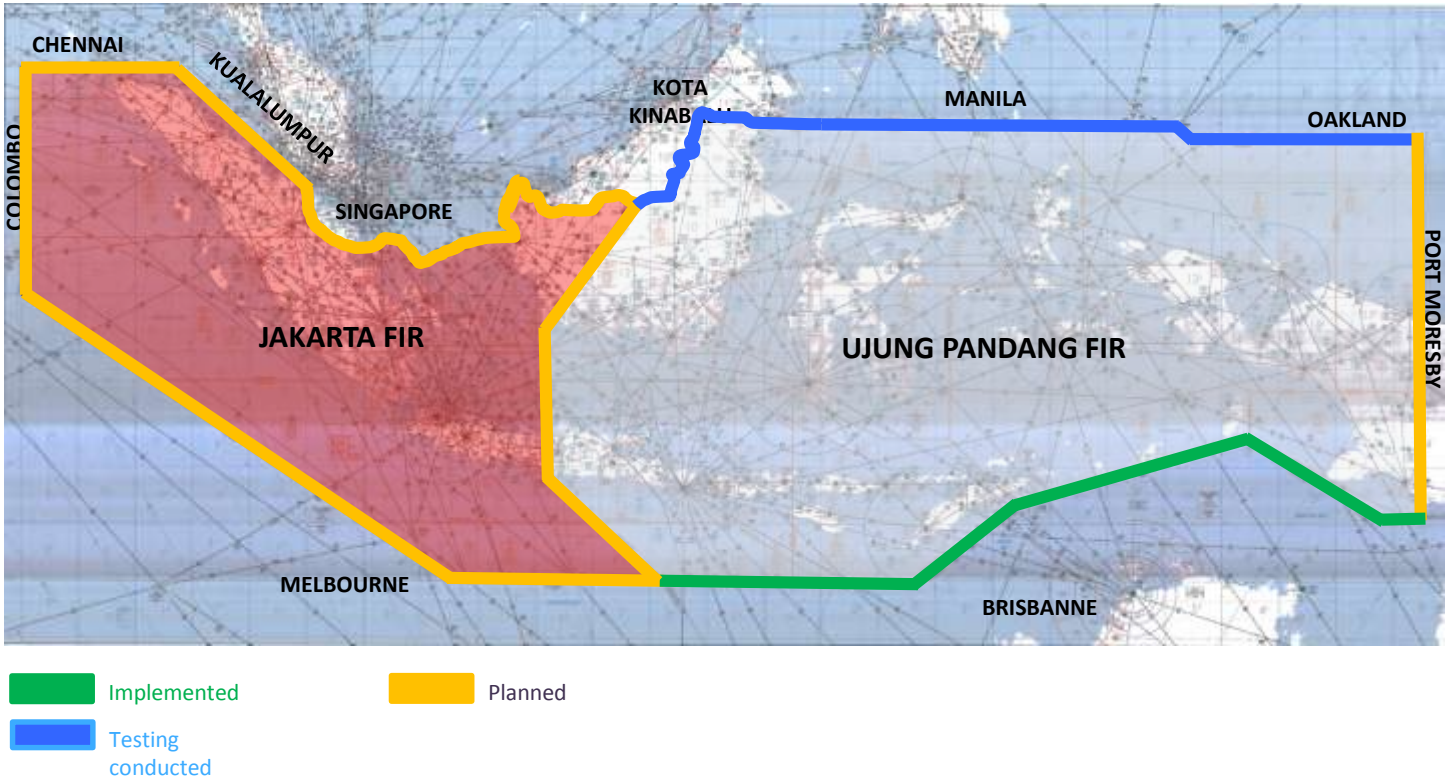
Indonesia AIDC Adjacent FIR

- **Jakarta FIR**
  1. Melbourne FIR
  2. Colombo FIR
  3. Chennai FIR
  4. Kuala Lumpur FIR
  5. Singapore FIR
  6. Kota Kinabalu FIR
  7. Ujung Pandang FIR

- **Ujung Pandang FIR**
  1. Kota Kinabalu FIR
  2. Manila FIR
  3. Oakland FIR
  4. Papua New Guinea FIR
  5. Brisbane FIR
  6. Jakarta FIR

Introduction

AIDC Status Map



Implementation Status

Ujung Pandang ACC with Brisbane ACC

- Since July 2017, Ujung Pandang ACC and Brisbane ACC agreed to implement AIDC voiceless coordination by exchanging ABI, EST – ACP and TOC – AOC.
- Communication link issue still occur occasionally, include the transit time of AIDC messages exceed the time tolerance (180 seconds).According to technical analysis, this issue strongly suspected is caused by the legacy (existing) AFTN line between Ujung Pandang and Brisbane that routed through Jakarta
- Since March 2018, the direct communication link between Ujung Pandang ACC and Brisbane ACC has been established.Severalconnection tests have been done,butunfortunately, the result generally was not satisfied due communication link stability issue. Investigations ongoing by both ATS unit. Indonesia plans to implement the Common aeRonautical VPN (CRV) in Q4-2019. Once the CRV implemented between Ujung Pandang ACC and Brisbane ACC, the communication link issues between 2 ACCis expected to be solved/closed

Implementation Status

Ujung Pandang ACC with Manila ACC

- Ujung Pandang ACC and ACC Manila have conducted several AIDC tests since 2015. Ujung Pandang ACC used Topsky-HE, while Manila used TopSky-C (the interim/old ATM system) and also used TopSky-HE (the new ATM system facility).
- Several issues occurred when Manila used TopSky-C (old system) as interim operational platform. The issues were found in TopSky-C are as follows:
  - ABI from Manila contained incomplete route of flight (no previous route before boundary coordination point). The first point in route field started at boundary coordination point (COP).
  - Abnormal continuously/multiple sending of ABI and EST messages from Manila, which is causing more workload in Flight Data Processing (FDP) of Ujung Pandang ATM System.
  - AOC message format from Ujung Pandang did not contain ODF3, so that the ATM System in Manila rejected it. This caused the TOC - AOC process became unsuccessful (FDR in Manila not terminated).
  - TopSky-C was not yet compatible with ICAO New FPL 2012 format, so all ABI messages from Manila was rejected by Ujung Pandang due incompatible format.
- When the AIDC testing was conducted using TopSky-HE as the new Manila ATM System, the result of the testing was generally good.
- In the last ATS Coordination Meeting between Indonesia and Philippines that was held in July 2019, Ujung Pandang ACC and Manila ACC agreed to conduct another AIDC test using TopSky-HE. Both ACCs has finished the final draft of AIDC LOA.

Implementation Status

Ujung Pandang ACC with Oakland ARTCC

- The AIDC testing between two ACC has been conducted in October and December 2018. Oakland ARTCC was represented by William J. Hughes Technical Center facility located in Atlantic City, New Jersey.
- The following AIDC messages were tested during test activities: ABI, EST, CDN, ACP, REJ, MAC, LAM and LRM. Testing consisted of dummy flight plans for both inbound and outbound from Ujung Pandang FIR (WAAF) to Oakland FIR (KZAK). The test scenario was to be created to exchange various AIDC messages such as:
  - ABI and EST message with combination of other information such as Block level, off-track deviation and Mach speed.
  - CDN message to negotiate combination of clearance such as Block level, off-track deviation, Mach speed and route amendment.
  - MAC message to cancel a coordination caused by route amendment or diversion of flight.

Implementation Status

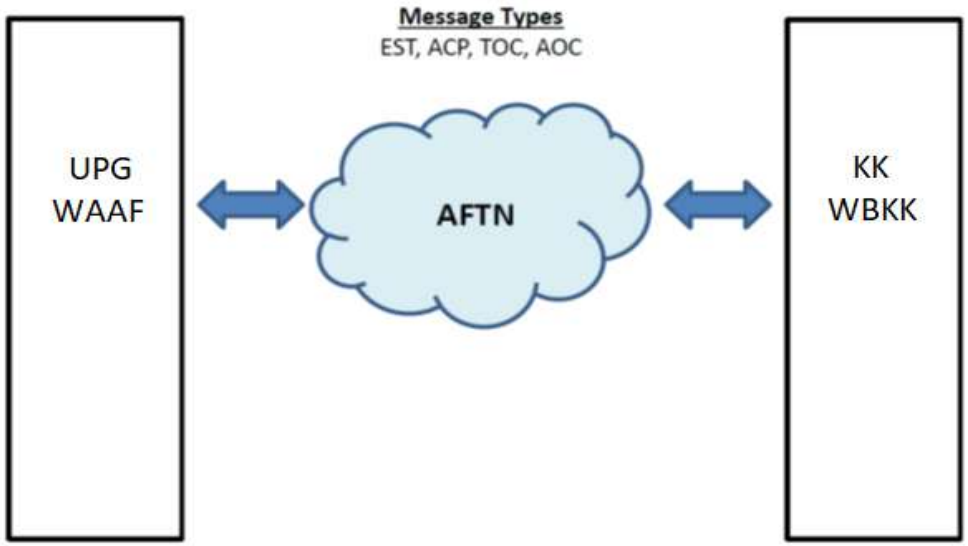
- The result of the testing was generally good, especially for exchanged of EST – ACP was successfully completed without any issues. However, when CDN messages were tested there are some issues:
  - A CDN message contained of Mach speed info from UPG was replied with LRM due to extraneous line-feed character in route field. Investigation has been carried out by UPG and found that CDN message out log was normal in route field format. It is currently unknown why Oakland received a CDN message with inappropriate format in route field.
  - REJ messages from Oakland as replied of UPG's CDN were not processed by UPG ATM system and forwarded on to Flight Data Officer (FDO) position even though Oakland received LAM from UPG. While ACP messages were processing normally.
  - In UPG ATM system, when ACP received as replied of CDN that negotiated flight level change or Block level clearance it would not automatically changed the CFL (Cleared Flight Level) data block in electronic strip. Controller should changes manually with approved CFL. Need to clarify to ATMS vendor whether it is normal or not.

- Both Ujung Pandang and Oakland will review data and collaborate prior to coordination for a new AIDC LOA. After an LOA is agreed and signed, an implementation date will be agreed upon and AIDC capabilities will be authorized between the two facilities.

Implementation Status

Ujung Pandang ACC with Kota Kinabalu ATCC

- Based on bilateral meeting between Indonesia and Malaysia on July 2019, both Ujung pandang and Kota Kinabalu agreed to conduct AIDC test over AFTN



Implementation Status

Phase implementation between Ujung Pandang ACC and Kota Kinabalu ACC are:

- Phase 1 Connectivity Test (August 2019)
- Phase 2 AIDC Messages Full (October 2019)
- Phase 3 AIDC Messages Test Selective (December 2019)
- Phase 4 Operational Trial (1st Q 2020)
- Phase 5 Full Operation (4th Q 2020)

Implementation Status

Ujung Pandang ACC with Moresby ACC

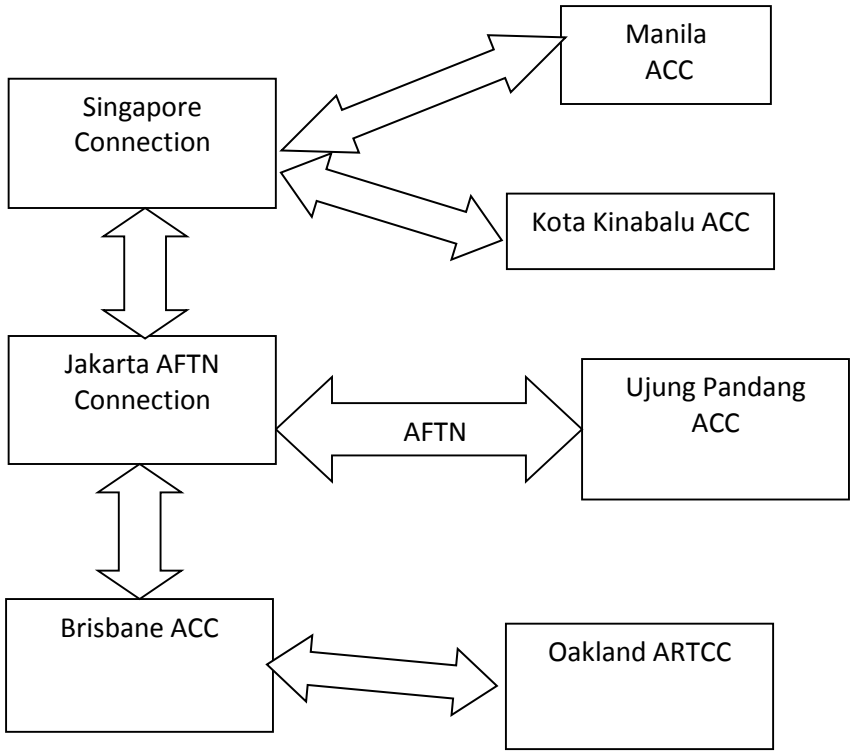
- The AIDC implementation will be commenced on ATS coordination meeting forum between Ujung Pandang and Moresby in May 2019.

Ujung Pandang ACC with Jakarta ACC

- ATM system with AIDC capability in Jakarta will be ready in Q3-2020.

AIDC Connection

- Here are the AIDC Ujung Pandang connection illustration (test and implementation)



AIDC Connection

AIDC Establishment Challenge

- ATM system readiness in Jakarta ACC.
  It's scheduled in 2021.
- Software application issues.
  AIDC format compatibility with other FIR
  - ODF issue
  - False AIDC address
- Communication link delay issue (occasionally).
  - Comm. Network
  - AMSC/Switching system
- Application Procedures issues.
  It's only occurred in the initial of implementation.

Thank You