ARINC Project Initiation/Modification (APIM)

# Name of Proposed ProjectAPIM 19-005A

Supplement 5 to ARINC Specification 633, AOC Messaging

## Name of Originator and/or Organization

AEEC AOC Subcommittee (Lufthansa German Airlines, Delta Air Lines, KLM Royal Dutch Airlines, NavBlue, flightkeys, Lufthansa Systems

# Subcommittee Assignment and Project Support

## Suggested AEEC Group and Chairman

AOC Subcommittee

Dirk Zschunke – Lufthansa German Airlines

## Support for the activity (as verified)

Airlines: Delta Air Lines, Lufthansa German Airlines,
KLM Royal Dutch Airlines

Airframe Manufacturers: Airbus (through NavBlue), The Boeing Company (TBC)

Suppliers: Collins Aerospace, flightkeys, Lufthansa Systems, Jeppesen, NavBlue, Sabre

Others:

## Commitment for Drafting and Meeting Participation (as verified)

Airlines: Delta Air Lines, Lufthansa German Airlines, KLM Royal Dutch Airlines

Airframe Manufacturers: Airbus (through NavBlue)

Suppliers: flightkeys, Lufthansa Systems, Jeppesen, NavBlue, Sabre

Others:

## Recommended Coordination with other groups

None

# Project Scope (why and when standard is needed)

## Description

Supplement 5 will include items defining data structures listed in the ARINC 633-4 APIM but not completed due to time, lack of maturity and/or complexity.

Create or expand the following data structures in ARINC 633 AOC definition:

Operational Flight Plan Updates

* + WayPoint
	+ Add WayPoint information with ATC restrictions, limits, target values, etc. (in SESAR and FAA NextGen context
	+ ETOPS (Completed in Supplement 4)
	+ In Flight Update (Supplement 5)
	+ Electronic Signature (Completed in Supplement 4)
	+ Idle Factor (Completed in Supplement 4)
	+ Dispatch License (Completed in Supplement 4)

Crew List (Some items completed in Supplement 4, some will be addressed in Supplement 5)

* + Duty Data (Supplement 5)
		- To facilitate EFB chaining flights
	+ Pilot email (Completed in Supplement 4)
	+ Pilot Identifier (Completed in Supplement 4)
		- Used to Identify Pilot on EFB
	+ EFB Reference Pin Code (for Identification) (Completed in Supplement 4)

RAIM (Completed in Supplement 4)

* + Place in Flight Plan or Standalone RAIM

Fuel Header (Completed in Supplement 4)

* + Add Taxi InFuel
	+ Include a Minimum Fuel Element
	+ Add Optional Cargo Fuel Element (to Load)

PIREP (Completed in Supplement 4)

* + Add Aircraft Type element

ATIS (Completed in Supplement 4)

* + ATIS runway condition per ICAO

Request / Response (Supplement 5)

* + Expand Supplement 3 definition

Performance (Supplement 5)

* + RNP (Completed in Supplement 4)
	+ RCP
	+ RSP

Terrain Clearance (Completed in Supplement 4)

* + Elaborate route from critical point to escape airport

Special Loads / NOTOC (Supplement 5, in coordination with IATA)

Upper Air Data (Completed in Supplement 4)

* + Atmospheric conditions at different Flight Levels in the Flight Plan

Turbulence

* + TURB at different WayPoints
	+ Light, Moderate, Severe or Extreme

Guidance (Most likely Supplement 5)

* + Value of using Dictionary (complying with Waypoint functional elements

Take/Off Alternate (Completed in Supplement 4)

* + Add Guidance and Clarification (where its located)

Rerouting Flight Plan (Completed in Supplement 4)

* + Make eFlight Folder Manger

General Alternate Routes (Completed in Supplement 4)

* + Include diversion airport
		- beyond existing T/O or Final Alternate

NOTAM (Completed in Supplement 4)

Flight Lists Data (Supplement 5)

Unified Modeling for Diversion Scenarios (Supplement 5)

CO2 Emissions Reporting (Supplement 5)

## Planned usage of the envisioned specification

Note: New airplane programs must be confirmed by manufacturer prior to completing this section.

New aircraft developments planned to use this specification yes [ ]  no [x]

 Airbus: (aircraft & date)

 Boeing: (aircraft & date)

 Other: (manufacturer, aircraft & date)

Modification/retrofit requirement yes [ ]  no [x]

 Specify: (aircraft & date)

Needed for airframe manufacturer or airline project yes [ ]  no [x]

 Specify: (aircraft & date)

Mandate/regulatory requirement yes [ ]  no [x]

 Program and date: (program & date)

Is the activity defining/changing an infrastructure standard? yes [ ]  no [x]

 Specify (e.g., ARINC 429)

When is the ARINC standard required?

 May 2023

What is driving this date?

 Airlines are still operating Supplement 1 and 2.

Are 18 months (min) available for standardization work? yes [x]  no [ ]

Are Patent(s) involved? yes [ ]  no [x]

 None that are known

## Issues to be worked

* See Section 3.1
* Add more examples and best practices information in Supplement 5.
* Make the document more efficient – reduce links? (Completed in Supplement 4)

# Benefits

## Basic benefits

Operational enhancements yes [x]  no [ ]

For equipment standards:

* + - * 1. Is this a hardware characteristic? yes [ ]  no [x]
				2. Is this a software characteristic? yes [x]  no [ ]
				3. Interchangeable interface definition? yes [ ]  no [x]
				4. Interchangeable function definition? yes [ ]  no [x]

Is this a software interface and protocol standard? yes [x]  no [ ]

Product offered by more than one supplier yes [x]  no [ ]

Identify: Lufthansa Systems, NavBlue, Jeppesen, Sabre

## Specific project benefits (Describe overall project benefits.)

### Benefits for Airlines

AOC messaging Standard will satisfy airline customer need.

### Benefits for Airframe Manufacturers

This will enable a standard product to be developed applicable to many users. This reduces development cost.

### Benefits for Avionics Equipment Suppliers

# Documents to be Produced and Date of Expected Result

Identify Project Papers expected to be completed per the table in the following section.

## Meetings and Expected Document Completion

The following table identifies the number of meetings and proposed meeting days needed to produce the documents described above.

|  |  |  |  |  |
| --- | --- | --- | --- | --- |
| **Activity** | **Mtgs** | **Mtg-Days****(Total)** | **Expected Start Date** | **Expected Completion Date** |
| Supplement 4 toARINC 633 | 4 | 12 | May 2019 | Sept 2021 |
| Supplement 5 toARINC 633 | 4 | 12 | Oct 2021 | May 2023 |

# Comments

Monthly web conference or as needed.

## Expiration Date for the APIM

October 2023

***Completed forms should be submitted to the AEEC Executive Secretary & Program Director, Paul Prisaznuk (pjp@sae-itc.org).***