

## ARINC Project Initiation/Modification (APIM)

- 1.0 Name of Proposed Project** **APIM 11-005C**  
Navigation Data Base (NDB) / ARINC 424  
**This APIM updated by NDB Subcommittee on February 8, 2018. It proposes the development of Supplement 23 to ARINC Specification 424: Navigation System Database defining both ASCII and XML.**
- 1.1 Name of Originator & Organization**  
NDB Subcommittee
- 2.0 Subcommittee Assignment and Project Support**
- 2.1 Suggested AEEC Group and Chairman**  
NDB Subcommittee  
Choung Phung, FedEx
- 2.2 Support for the activity (as verified)**  
Airlines: Delta, FedEx, Lufthansa, United,  
Airframe Manufacturers: Airbus, Boeing  
Suppliers: Jeppesen, LIDO, **NavBlue**, **AeroNavData**, Rockwell Collins,  
Honeywell, Universal, GE Aviation, Garmin, NGA, MITRE  
Others: TBD
- 2.3 Commitment for Drafting and Meeting Participation (as verified)**  
Airlines:  
Airframe Manufacturers:  
Suppliers: Honeywell, Jeppesen, LIDO, **Navblue**, **AeroNavData**, NGA  
Others: TBD
- 2.4 Recommended Coordination with other groups**  
SAI Subcommittee, AMDB Subcommittee
- 3.0 Project Scope**  
The project will identify, evaluate, and document the recommended standards for the preparation of airborne navigation system reference data for use in the air transport industry. This data is intended for merging with existing airborne navigation computer operational software to produce a navigation data base for use onboard the aircraft. This scope recommends **Supplement 23** to ARINC Specification 424 to support new navigation procedures.
- 3.1 Description**  
**The NDB Subcommittee will continue to update ARINC 424 to support recommended standards for airborne navigation systems. The group will continue the maturation of the XML schema and supporting the ASCII format.**
- 3.2 Planned usage of the envisioned specification**  
Use the following symbol to check yes or no below. ☒

New aircraft developments planned to use this specification      yes  no

    Airbus:                      (aircraft & date)

    Boeing:                     (aircraft & date)

    Other:                      (manufacturer, aircraft & date)

Modification/retrofit requirement                                      yes  no

    Specify:                     (aircraft & date)

Needed for airframe manufacturer or airline project                      yes  no

    Specify:                     (aircraft & date)

Mandate/regulatory requirement    yes  no

    Program and date:      (program & date)

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

    Specify                      (e.g., ARINC 429)

When is the ARINC standard required?

    The NDB Standard is a dynamic document and will need to be continually updated to maintain interoperability between new and older ATS procedures and FMS cockpit implementations.

What is driving this date? \_\_\_\_\_ (state reason) \_\_\_\_\_

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

    If NO please specify solution:    The Subcommittee will need to meet once a year to continue work on the developing standard.

Are Patent(s) involved?    yes

    If YES please describe, identify patent holder: \_\_\_\_\_

### 3.3      **Issues to be worked**

    See item 3.1

### 4.0      **Benefits**

#### 4.1      **Basic benefits**

Operational enhancements    yes  no

For equipment standards:

a. Is this a hardware characteristic?    yes  no

b. Is this a software characteristic?    yes  no

c. Interchangeable interface definition?    yes  no

d. Interchangeable function definition?    yes  no

    If not fully interchangeable, please explain: \_\_\_\_\_

Is this a software interface and protocol standard?                                      yes  no

    Specify: \_\_\_\_\_

Product offered by more than one supplier    yes  no

    Identify:                      (company name)

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

#### 4.2.1    **Benefits for Airlines**

There is universal support among airlines, manufacturers, and regulatory

authorities for the preparation of regular updates to ARINC Specification 424. One of the key benefits of this project is the continued interoperability between new and older ATS procedures and FMS procedures. Significant additional benefits are expected from the reduced separation standards and the increased availability of user-preferred routing that will result from the development of RNP RNAV procedures.

**Other avionics systems on the aircraft, in addition to FMS, use ARINC 424.**

**4.2.2 Benefits for Airframe Manufacturers**

See item 4.2.1

**4.2.3 Benefits for Avionics Equipment Suppliers**

See item 4.2.1

**5.0 Documents to be Produced and Date of Expected Result**

**ARINC Specification 424 is a dynamic document that requires frequent update. The most current version of the document is ARINC 424-22.**

**5.1 Meetings and Expected Document Completion**

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

<b>Activity</b>	<b>Mtgs</b>	<b>Mtg-Days (Total)</b>	<b>Expected Start Date</b>	<b>Expected Completion Date</b>
<b>Supplement 23 to ARINC 424</b>	<b>6</b>	<b>18</b>	<b>Oct 2018</b>	<b>Date 2021</b>

**6.0 Comments**

**The NDB Subcommittee meets roughly every 10 to 12 months.**

**6.1 Expiration Date for this APIM**

**April 2021**