

ARINC Project Initiation/Modification (APIM)

- 1.0 Name of Proposed Project** **APIM 11-005D**
- Navigation Data Base (NDB) / ARINC 424**
This APIM proposes the development of Supplement 24 to ARINC Specification 424: Navigation System Database, defining both ASCII and XML data types.
ARINC Specification 424 is a dynamic document that requires continual update to coincide with every evolving global airspace.
- 1.1 Name of Originator and /or 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, Collins, Honeywell, Universal, GE Aviation, Garmin, NGA, MITRE
Others: TBD
- 2.3 Commitment for Drafting and Meeting Participation (as verified)**
Airlines: FedEx
Airframe Manufacturers:
Suppliers: Honeywell, Jeppesen, LIDO, NavBlue, AeroNavData, NGA
Others: TBD
- 2.4 Recommended Coordination with other Groups**
SAI Subcommittee
- 3.0 Project Scope (why and when standard is needed)**
- 3.1 Description**
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 24 to ARINC Specification 424 to support new navigation procedures. This document will continue the development of the XML data in addition to the legacy ASCII format.

3.2 Planned usage of the ARINC Standard

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

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? _____(month/year)_____

What is driving this date? _____(state reason)_____

Are 18 months (min) available for standardization work? yes no
 If NO please specify solution: _____

Are Patent(s) involved? yes no
 If YES please describe, identify patent holder: _____

3.3 Issues to be Worked

(Describe the major issues to be addressed.)

3.4 Security Scope

Is Cyber Security Impacted (if YES, check box(es) below) yes no
 Aircraft Control Domain yes no
 Airline Information Services Domain yes no
 PAX Information and Entertainment Systems yes no
 Other: _____ yes no

Include provisions to ensure XSD files are protected from mishandling.

4.0 Benefits

4.1 Basic Benefits

Operation 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

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 Flight Management System (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 **PBN** procedures. In addition to FMS, other avionics systems on the aircraft use ARINC 424 data.

4.2.1 Benefits for Airlines

See paragraph 4.2

4.2.2 Benefits for Airframe Manufacturers

See paragraph 4.2

4.2.3 Benefits for Avionics Equipment Suppliers

See paragraph 4.2

5.0 Documents to be Produced and Date of Expected Result

Supplement **24** to ARINC Specification 424.

5.1 Meetings an 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 24 to ARINC 424	6	18	May 2022	May 2025

The NDB Subcommittee will meet every 9 to 12 months and hold online meetings as the need arises.

6.0 Comments

(none)

6.1 Expiration Date for the APIM

May 2025

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