

ARINC IA Project Initiation/Modification (APIM)

- 1.0 Name of Proposed Project** **APIM 14-001**
- ARINC Project Paper 820: Cabin Architecture for Wireless Distribution System
- 2.0 Subcommittee Assignment and Project Support**
- 2.1 Identify AEEC Group**
Cabin Systems Subcommittee (CSS)
- 2.2 Support for the activity**
Airlines: Delta Air Lines
Airframe Manufacturers: Boeing
Suppliers: Panasonic Avionics, Thales, Lumexis, KID, Zodiac
Others:
- 2.3 Commitment for resources**
Airlines: Delta
Airframe Manufacturers: Boeing,
Suppliers: Panasonic Avionics, Thales, Lumexis, KID, Zodiac
Others:
- 2.4 Chairmen:**
Chairman: Dale Freeman, Delta
Co-Chairmen: Gerald Lui-Kwan, Boeing and Rolf Goedecke, Airbus
- 2.5 Recommended Coordination with other groups**
NIS (Network Security)
- 3.0 Project Scope**
The number of passengers carrying smart devices with connectivity (e.g., smart phones and tablets) is increasing exponentially. Wireless devices intended for flight crew and cabin crew use is also growing. There is currently no standardized architecture for wireless delivery systems. This standardization effort will develop cabin network architectures to define the provisions for this equipment. This will enable wireless delivery of media to passenger and crew PEDs and also support media loading for seat centric IFES.
- 3.1 Description**
This effort will standardize a wireless distribution system. This distribution system may be independent of any IFES or requirement that IFES be present.
- 3.2 Planned usage of the envisioned specification**
- | | |
|---|---|
| New aircraft developments planned to use this specification | yes <input checked="" type="checkbox"/> no <input type="checkbox"/> |
| Boeing: 777X | |
| Modification/retrofit requirement | yes <input checked="" type="checkbox"/> no <input type="checkbox"/> |
| Boeing: 737, 747, 767, 777, 787 | |
| Needed for airframe manufacturer or airline project | yes <input checked="" type="checkbox"/> no <input type="checkbox"/> |

Boeing: 787, 747-8
Mandate/regulatory requirement yes no
Program and date:
Is the activity defining/changing an infrastructure standard? yes no

When is the ARINC standard required? April 2017
What is driving this date? Support for 777X Development
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

- Definition of wireless distribution system architecture
- Definition of protocols to be supported by the wireless distribution system
- Definition of connector and interconnect wiring
- Definition of electrical power requirements
- Definition of cooling requirements

4.0 Benefits

The goal is to reduce cabin equipment design and installation costs and to reduce cabin system acquisition costs for airline customers.

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: IEEE 802.11n/ac/ad and IEEE 802.3 1000baseT
Product offered by more than one supplier yes no
Identify: *Panasonic Avionics, Thales Avionics, Lumexis, Zodiac*

4.2 Specific project benefits

Simplify and lower the cost of installation and interconnection of wireless media delivery systems for PEDs and seat centric IFES.

4.3 Benefits for Airlines

Standardization has the potential to lower acquisition cost of wireless media delivery systems for new and retrofit airplanes and provide a wireless backbone

for media loading of seat centric IFES. It will also lower maintenance and spares costs across the airlines multiple airplane models.

4.4 Benefits for Airframe Manufacturers

Simplify the design for installation of wireless media delivery systems, lowering the cost of installation and interconnection, which ultimately lowers the acquisition cost.

4.5 Benefits for Avionics Equipment Suppliers

Avionics suppliers are able to design standard equipment applicable to multiple airplane manufacturers and models decreasing their design effort and cost.

5.0 Documents to be Produced and Date of Expected Result

ARINC Project Paper 820 will be prepared to define for the wireless delivery to PEDs. It is expected that this document will be submitted to the AEEC Executive Committee for adoption consideration at the AEEC General Session in 2017.

6.0 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
Strawman material	4*	12*	6/2014	6/2015
Mature Project Paper for adoption consideration	5*	15*	8/2015	11/2016

***NOTE:** This effort will take place within the regularly scheduled CSS meeting schedule. In addition, web conferences will be arranged between CSS meetings to review draft material.

6.1 Expiration Date for this APIM

April 2017

7.0 Comments

None

Return Completed form to the AEEC Executive Secretary