ARINC Project Initiation/Modification (APIM)

1.0 Name of Proposed Project

APIM 19-006

Prepare new ARINC Project Paper xxx: Intersystem Network Infrastructure

1.1 Name of Originator and/or Organization

Jim Haak, Panasonic Avionics

2.0 Subcommittee Assignment and Project Support

2.1 Suggested AEEC Group and Chairman

Network Infrastructure and Security (NIS) Subcommittee

2.2 Support for the activity (as verified)

Airlines: American, TAP Portugal, United Airlines

Airframe Manufacturers: Airbus, Boeing, Embraer (TBC)

Suppliers: CMC Electronics, Honeywell, Zodiac Aerospace, Thales, Collins

Aerospace, Panasonic Avionics

Others:

2.3 Commitment for Drafting and Meeting Participation (as verified)

Airlines: United Airlines

Airframe Manufacturers: Boeing and Airbus

Suppliers: CMC Electronics, Zodiac Aerospace, Thales, Collins Aerospace,

Panasonic Avionics

Others:

2.4 Recommended Coordination with other groups

Cabin Systems, Ku/Ka, SAI

3.0 Project Scope (why and when standard is needed)

3.1 Description

Prepare ARINC Project Paper xxx to provide guidelines for the integration of networked aircraft systems, such as IFE, connectivity, and others. VLANs have been widely adopted to segregate communications between systems. When one supplier integrates with another, the implementations often do not align, which adds complexity in system integration. This reduces the airlines' ability to select their suppliers.

An extensible intersystem network infrastructure to facilitate resource sharing between systems will be standardized. The standard is needed to improve compatibility of networks. This is expected to reduce airline costs and speed deliveries.

3.2 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 specific	eation yes \square no \boxtimes				
	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 \square no \boxtimes					
	Program and date: (program & date)					
	Is the activity defining/changing an infrastructure stand	lard? yes □ no ⊠				
	Specify (e.g., ARINC 429)					
	When is the ARINC standard required? October 2020 (or earlier)					
	What is driving this date? many existing integrations between different suppliers of IFE & IFC					
	Are 18 months (min) available for standardization work					
	If NO please specify solution:					
	Are Patent(s) involved?	yes □ no ⊠				
	If YES please describe, identify patent holder:					
3.3	Issues to be worked					
	 Preserve and support existing OEM implement supporting an optional path to extend the share infrastructure into those domains. 					
	 Identify VLAN support that could be added to the existing ARINC Standards; Ku/Ka, MAGIC, MIS 					
	Define APIs to interact with each known shareable resource					
4.0	Benefits					
4.1	Basic benefits					
	Operational enhancements	yes □ no ⊠				
	For equipment standards:					
	(a) Is this a hardware characteristic?	yes \square no \boxtimes				
	(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? Specify:	yes ⊠ no □				
	Product offered by more than one supplier	yes ⊠ no □				
	Identify:	,00 =				
	, .					

- Panasonic Avionics Corporation
- Thales InFlyt Experience
- Zodiac Inflight Innovations
- Gogo
- Collins Aerospace
- Honeywell
- Inmarsat
- CMC Electronics

4.2 Specific project benefits (Describe overall project benefits.)

4.2.1 Benefits for Airlines

- Ability to select different suppliers for IFE, IFC, and other systems without requiring custom integration work. Less lead time required.
- Reduces cost and weight as a single resource is shared among suppliers rather than each resource independently sourced and not shared.

4.2.2 Benefits for Airframe Manufacturers

Simplifies the integration of an ever-increasing quantity of BFE systems.

4.2.3 Benefits for Avionics Equipment Suppliers

• Less time customizing interfaces and more time to add capabilities.

5.0 Documents to be Produced and Date of Expected Result

New ARINC Project Paper xxx (October 2020)

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.

Activity	Mtgs	Mtg-Days (Total)	Expected Start Date	Expected Completion Date
ARINC Project Paper xxx	5	5 (1 day of 3 day meeting)	May 2019	Oct 2020

6.0 Comments

For more information, refer to related white paper attached to NIS SC meeting report January 2019.

6.1 Expiration Date for the APIM

April 2021

Completed forms should be submitted to the AEEC Executive Secretary.