

ARINC IA Project Initiation/Modification (APIM)

1. Name of Proposed Project

APIM #: 07-013

Project Paper 763A: Mark 2 Aircraft Network Components

Software specification only

yes no

2. Suggested Subcommittee Assignment (who acts)

2.1 Identify AEEC group

ANFS Subcommittee

2.2. Support for the activity - TBC

Organizations: Boeing, FedEx, Lufthansa, NAT-Seattle, Rockwell Collins, VT Miltope [others TBI]

2.3. Commitment for resources (directly from participant) - TBC

Organizations: Boeing, FedEx, Lufthansa, VT Miltope [others TBI]

2.4. Recommended Coordination with other groups

The following activities are relevant to this topic:

- Onboard Network – Project Paper 821
- Aircraft/Ground IP Communication – ARINC 822
- Network Infrastructure and Security (NIS) – ARINC 664 and 811
- Air-Ground Messaging - Project Paper 830
- Cabin Systems Wireless - Project Paper 824
- EFB Interface - ARINC 828
- Ku-Band Satellite Communication - Project Paper 791

3. Project Scope

The focus of ARINC Project Paper 763A is to update form and fit of the NSS equipment in accordance with NSS development activities in industry, in particular B-777 and Airbus family. Commonly available network components, such as routers, switches, access points and other wireless technologies will be considered in the NSS definition, all with a common form and fit. Common connector, pins, signal assignments and index keying will be addressed to enable a standardized aircraft tray definition. The allocation of network protocol, service requirements, assumptions (from ARINC 664) for equipment, and identification of all interface signals will be addressed, as will common unit requirements to enable central BITE reporting, data load and network management services. The ARINC 763A NSS should be defined in a way that supports the services defined by ARINC 821.

3.1 Description

3.2. Planned usage of the envisioned specification

- Change Network Server Unit (NSU) description to requirements for a common family of products - Describe family features like Quadrax and fiber once, not under each product. Fiber should describe option to replace Quadrax with Fiber in same insert
- Remove fixed network configuration drawings and replace with standard tray wiring definitions.
- Revise Cabin Wireless LAN Unit (CWLU) section for new (common) form factor.
- Add general descriptions of other network components.
- Revise Server Interface Unit (SIU) description from form and fit to function only.

4. Benefits envisioned

4.1. Basic benefits

Projects benefiting from this effort would be future production aircraft and major retrofit programs that could utilize common equipment for the creation, modification and expansion of aircraft networks using a common trays and wiring.

Operational enhancements (reduction in DOC?) yes no

Form, Fit, Function, (FFF) standard (HW and/or SW):

a. ARINC 600 form (only HW) yes no

b. Interchangeable fit (plug, mount, SW loading interface, etc) yes no

c. Interchangeable function yes no

If not fully interchangeable, please explain:

Interface and protocol standard (for aircraft defined in 3 scope) yes no

Please specify: Aircraft installation interface using ARINC 664 and other protocols for data delivery

Product offerable from more than one supplier (competitive environment) yes no

Please identify: Aircraft manufacturers, EFB application developers

4.2 Specific project benefits

The standard seeks convergence in form and fit for aircraft network components for NSS, wireless communication and other network-based functions. The idea is to support the widest possibilities of airplanes, both forward fit and retrofit using common components. This project would enable benefits to be realized at lower costs to the airlines and with less risk to the suppliers.

4.3 Project Benefit for Airlines

This standard will provide several benefits to Airlines:

- Leverage commercial standards
- Common NSS and aircraft network hardware definitions

- Interoperability with Gatelink, EFB, cabin service equipment, etc

4.4 Project Benefit for Airframe Manufacturers

This standard will provide several benefits to Airframe manufacturers:

- The Airframe Manufacturers can define a common tray configuration for all aircraft network implementations, including single data delivery interface on the aircraft for all onboard applications to use.
- Flexibility to add new network functions by adding to existing platforms or plugging in appropriate network components.
- Enable Airframe Manufacturers to offer new business models to the airlines/operators.

4.5 Project Benefit for Avionics Equipment Suppliers

This standard will provide several benefits to Avionics Suppliers:

Allows for an open market place for manufacturers to supply interoperable equipment

5. Documents to be Produced and Date of Expected Result

ARINC Project Paper 763A, Mark 2 Aircraft Network Components

6. Meetings/Expected Document Completion

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

This activity to be completed within the approved work program and meeting schedule for ANFS, reproduced below for reference:

Activity	Mtgs	Mtg-Days 2008	Mtg-Days 2009	Mtg-Days 2010
Prepare PP763A	3	9		

7. Comments

Any other information deemed useful for managing this work.

For AEEC staff use only:

Date Received:

AEEC staff:

Potential impact:

(Safety, Regulatory, New aircraft/system, Other)

Resolution:

Date of Resolution:

(Withdrawn, Authorized, Deferred, More detail needed, Rejected)

Assigned to Subcommittee: