

*New Project Proposals
Summary of APIMs*

*SAI Subcommittee input
to AEEC Mid-Term Session*

*AEEC Mid-Term Session
October 6, 2011
Lisbon, Portugal*

List of APIMs Discussed by SAI

(discussed June 29 and October 4, 2011)

NEW APIMs:

- 11-009 Electronic Flight Bag (EFB) Display Interface
 - Supplement 3 to ARINC Specification 828
- 11-010 Proposal to develop new dual-channel VHF Radio
 - New Project Paper 7XX
- 11-011 AOC Air Ground Data and Message Exchange Format
 - Supplement 2 to ARINC Specification 633
- 11-012 Aircraft Data Interface (for EFB, File Servers, etc.)
 - Supplement 2 to ARINC Specification 834
- 11-013 Proposal to develop AeroMACS Transceiver
 - New Project Paper 7XX

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UPDATES TO EXISTING APIMs

- 11-004A Data Link Ground System Standard and Interface Specification
 - Supplement 7 to ARINC Specification 620
- 10-002A Digital Certificate Guidelines
 - Project Paper 842 & Supplement 1 to same
- 10-005A Cabin Entertainment Systems (ARINC Specification 628)
 - Supplement 3 to Part 3 & Supplement 3 to Part 5
- 10-007A SwiftBroadband SB200 SatCom Airborne Terminal Definition
 - Supplement 5 to ARINC Characteristic 781
- 10-008A Software Data Loading Using CAN Interface
 - Supplement 1 to ARINC Specification 826, Part 1
 - Multi-part document proposed: Part 0, Part 1, Part 2
- 07- 008C Ku/Ka Band Satellite System
 - Supplement 1 to ARINC Characteristic 791 Part 1, Physical Installation

APIM 11-009 EFB Display Interface

- Scope: Prepare Supplement 3 to ARINC Specification 828: Electronic Flight Bag (EFB) Standard Interface
- Benefit: Display and processing technology is progressing at different rates. The present standard defines only the interface between the aircraft and an EFB LRU. This revision further defines the interface between the the EFB PU (processing unit) and DU (display unit). This will permit EFB components to be replaced at different times, from a wider range of suppliers and at lower cost. It will also allow remote placement of the PU in the electronics bay and permit the use of smaller and lighter cables and connectors.
- Timeline: Supplement 3 completion is projected by March, 2013
- AEEC Executive Committee consideration please

APIM 11-010 Dual Channel VHF Radio

- Scope: Prepare draft Project Paper 7XX: VHF Data Radio
- Benefit: This APIM proposes the definition of a dual-channel VHF radio capable of 8.33 kHz voice, 25 kHz voice, ACARS and VDL-2. Each radio is capable of replacing two existing ARINC 716/750 radios. Specific benefits include avionics weight and volume reduction, power consumption reduction, improved availability of the VHF system due to 4th VHF channel available on the aircraft.
- Timeline: April 2013
 - Note: parties with intellectual property claims must agree to comply with AEEC patent policy
- AEEC Executive Committee consideration please

APIM 11-011 AOC Data Expansion

- Scope: Prepare Supplement 2 to ARINC Specification 633: *AOC Air-Ground Data and Message Exchange Format*
- Benefit: The standard simplifies integration of Airline Operational Control (AOC) applications from different suppliers that are not controlled by the airlines
 - EFB applications (e.g., enroute charts and eFF) will benefit from a simplified data exchange
 - Enhances existing functions (e.g., ATC Flightplan to comply with ICAO 2012)
 - Integrates new functions (e.g., Terrain Clearance procedures, Pre-estimated Zero Fuel Weight (ZFW), Pre-estimated Additional Fuel, new schemas for Oceanic Tracks and Crew Lists)
- Timeline: Supplement 2 completion is expected by October 2012
- AEEC Executive Committee consideration please

APIM 11-012 Aircraft Data Interface

- Scope: Prepare Supplement 2 to ARINC Specification 834: *Aircraft Data Interface Function (ADIF)* (for EFB, File Servers, etc.)
- Benefit: ARINC 834 defines the interface for handling avionics data between system software and applications. Supplement 2 will update parameter definitions, define a single schema for avionics data request and response. It will enable limited avionics write access for aircraft using Avionics Data Broadcast Protocol (ADBP). This will enable additional EFB functionality, reduce integration costs, time and risks.
- Timeline: Mature Supplement 2 in September 2012
- AEEC Executive Committee consideration please

APIM 11-013 AeroMACS Transceiver

- Scope: Enable airport broadband data communication using IEEE 802.16 (WiMAX) protocols. Prepare aircraft transceiver standard capable of operating in the 5091 to 5150 MHz band, per the recommendations of RTCA SC-223 and EUROCAE WG-82.
- Benefit: Airlines will be able to rely on a high speed data rate connection located in protected (interference free) spectrum and will be able to optimize the airport surface communication between their aircraft and AOC centre. The timely availability of needed information on A/C status will allow faster turn around times at the gate.
 - AeroMACS is also considered one of the future radio components bringing SWIM to the aircraft (Aircraft Access to SWIM : AAtS).
- Timeline: Mature draft desired in July 2014
- AEEC Executive Committee consideration please

APIM 11-004A DataLink and MET

- Scope: Prepare Supplement 7 to ARINC 620: *Data Link Ground Systems Standard and Interface Specification*
 - Adds Metrological (MET) Data Parameters
 - Standardizes Broadcast/Multi-Aircraft call functionality
 - Allocates Media Independent Aircraft Messaging (MIAM) Labels and Standard Message Identifiers (SMI)
- Benefit:
 - Additional MET parameters enhance weather prediction and reporting, including Winds Data
 - Standard VDL broadcast will replace obsolete POA broadcast
 - Defining MIAM Labels and SMIs facilitates the exchange of large volume of ACARS data
- Revised timeline: Mature Supplement 7 expected April 2012
- AEEC Executive Committee consideration please

APIM 10-002A Digital Certificates

- Scope: Revised the plan for developing Project Paper 842, Digital Certificate Guidance to include Supplement 1 development.
 - Initial release provides immediate need for guidance on the overall digital certificate process (Sections 1-4)
 - Supplement 1 will provide detailed key management information
 - Public Key Certificate Life Cycle, Private Key Life Cycle, Certificate Revocation List (CRL) Life Cycle, Compromise Management
- Benefit: Information will provide guidance for IT security using digital certificates with detailed key management to follow
- Revised timeline:
 - 1) mature Project Paper 842 – April 2012
 - 2) mature Supplement 1 – April 2013
- AEEC Executive Committee consideration please

APIM 10-005A Cabin Systems

■ Scope:

- ARINC 628 Part 1 – provide further improvements to digital video camera unit, digital overhead monitors, high definition displays, etc.
- ARINC 628 Part 5 – address current operator maintenance problems, in particular when cable protection is required.
- ARINC 485, ARINC 809, and ARINC 628 Part 2 – standardize seat and seat peripherals addressing.

■ Benefit: Improve cabin equipment installation & maintenance

■ Revised timeline:

- ARINC 628 Part 1, Supp 6 - October 2012
- ARINC 628 Part 2, Supp 2 - April 2013
- ARINC 628 Part 5, Supp 3 - October 2012
- ARINC 809, Supp 3 - April 2013
- ARINC 485 Part 1, Supp - April 2013

■ AEEC Executive Committee consideration please

APIM 10-007A SatCom

- Scope: Expand the existing scope of Supplement 5 to ARINC 781 to include a single-channel SBB in a small footprint (2MCU) airborne terminal definition. This is in addition to the basic (6MCU) form factor.

Additionally, the updated APIM clarifies how the Ancillary Terrestrial Component (ATCt) interference environment (LightSquared issue) will be handled, referring to AEEC ExCom oversight.

- Benefit: Support Inmarsat SB200 development. The small footprint SDU provides a low-cost option for SBB services.
- Revised timeline:
 - Mature Supplement 5 to ARINC 781 - April 2012
 - Mature Supplement 5 to ARINC 761 - April 2012
 - Mature Supplement 14 to ARINC 741 - April 2012
- AEEC Executive Committee consideration please

APIM 10-008A SDL Using CAN

- Scope: Develop ARINC Specification 826 in multiple parts:
 - Initiate Project Paper 826, Part 0 to define general data loading theory, methods, and application layers
 - Continue work on Supplement 1 to ARINC Specification 826, Part 1 to define CAN data loading using peer-to-peer file transfer methods
 - Initiate Project Paper 826, Part 2 to define data loading using the upload/download transfer methods found in ARINC 825-1 CAN standard
- Benefit
 - Support emerging Data Loading techniques
- Revised timeline: October 2012 for 3 parts:
 - P0 - new Project Paper 826, Part 0
 - P1 - ARINC 826 Part 1, (Supplement 1 development)
 - P2 - new Project Paper 826, Part 2
- AEEC Executive Committee consideration please

APIM 07-008C Ku/Ka Band SatCom

- Scope: It is recommended that the scope of this activity be expanded to include Supplement 1 to ARINC Characteristic 791, Part 1. The purpose of this supplement is to incorporate clarifications and corrections that have been identified by industry while implementing the standard. Clarification and corrections will include cabling and connectors, Ethernet domain names, equipment form factor drawings, parameters for antenna control, and lightning protection.
- Benefit
 - Support current Ku/Ka Band SatCom Installations
- Revised timeline:
 - Supplement 1 to ARINC 791 Part 1, Physical Installation: October 2012
 - Project Paper 791 Part 2, Electrical Interfaces: October 2012
- AEEC Executive Committee consideration please

Backup: APIMs Approved (MEM 2011)

(April 20-21, 2011)

- 11-001 Mode S Transponder and Traffic Computer updates
 - Supp 4 to ARINC 718A & Supp 1 to ARINC 735B
- 11-002 NextGen/SESAR Avionics Architecture
 - SAI proposal to develop AEEC Project Paper 660B
- 11-003 Air/Ground Character-Oriented Protocol – update ARINC 618
- 11-004 Data Link Ground System Standard – update ARINC 620
- 11-005 Navigation Data Base (NDB) using UML model (new PP424A)
- 11-006 Cabin Wireless Access Point (CWAP) - update ARINC 628 Part 1
- 11-008 Central Maintenance Computer (CMC) Standard Electronic Configuration Reporting (PP8XX)
- 10-016A Software Data Loading Clarifications to ARINC 615-3 and 615-4
- 09-004A Fiber Optic Interfaces Standards – update ARINC 801-807
- 09-003A EFB Application Control Interface – update ARINC 840
- 09-009A EFB Users Forum (3-year project extension)