ARINC 702B APIM

SAI – Frankfurt, Germany

June 16, 2015

Imagination at work.

Agenda

History

Proposal

Open Discussion

History

GE presented two APIMs at SAI meeting in Brussels in Q3 2014

- APIM #1 proposed:
  - ✓ Updates for new RNP requirements in DO-236C
  - ✓ Updates for new datalink requirements in DO-350
  - ✓ Updates to align the intent bus and EPP frame
  - ✓ Update to standardize FLS/IAN approach interface
  - ✓ Update for FAS data block interface to a GNSS/MMR receiver
  - ✓ Update the FMF functional description for TOS safety checks
  - ✓ Update the FMF interface for ASAS
  - ✓ Extend the FMF interface and datalink function to surface guidance

- APIM #2 proposed:
  - ✓ Update references to MCDU, EFIS, and CCD for recent avionics advancements
  - ✓ Update to standardize FMF-CDS interface to support map center step
  - ✓ Updates to provide HMI standards/recommendations on a variety of topics related to emerging display technologies

History

Airbus provided feedback at SAI meeting in Coral Gables in Q1 2015

- APIM #1:
  - ✓ Updates for new RNP requirements in DO-236C
  - ✓ Updates for new datalink requirements in DO-350
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  - ✓ Update for FAS data block interface to a GNSS/MMR receiver
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- APIM #2:
  - ✓ Update references to MCDU, EFIS, and CCD for recent avionics advancements
  - ✓ Update to standardize FMF-CDS interface to support map center step
  - ✓ Updates to provide HMI standards/recommendations on a variety of topics related to emerging display technologies

History

Other recommendations by Airbus in Coral Gables included:

- The two APIMs represent a (too) large amount of an activity
- A subset of the two APIMs should be merged into a single APIM
- The initial APIM or step on ARINC702B should focus on:
  - ARINC702A functions/interfaces available but not standardized
  - Subset of DO-236C functions/requirements
  - New mature functions: FLS/IAN and I4D

Group discussion also seemed to indicate a preference that ARINC702B be a new document rather than an updated ARINC702A

Proposal

New, combined APIM proposes:

- ✓ Updates for new RNP requirements in DO-236C
  - Magnetic Variation Model Recommendations
  - Lateral offset recommendations (30 degree intercept, FRT and RF offsets)
  - Lateral path transition containment refinement (bank angle limits)
  - Fixed Radius Turn Refinements
  - Temperature Compensation
  - AT and AT OR ABOVE speed constraints
  - Vertical Path Construction Rules
  - ETA windows and TOA control
  - Crew selection of preplanned RNP values for RNP AR approach
- ✓ Updates for new datalink requirements in DO-350
- ✓ Updates to align the intent bus and EPP frame
- ✓ Update to standardize FLS/IAN approach interface
- ✓ Update for FAS data block interface to a GNSS/MMR receiver
- ✓ Update references to MCDU, EFIS, and CCD for recent avionics advancements in graphical user interface (A661)
- ✓ Update to standardize FMF-CDS interface to support map center step
- \+ Updates to address form/factor aspects of the document

Proposal

In summary, the proposal presented is to update ARINC702 to:

- Acknowledge the emergence of various technologies such as A661 and A653
- Align with and point to the RTCA/EUROCAE standards
- Align with evolutions since last major update (e.g. datalink, surface map)
- Standardize interfaces for FLS/IAN, FAS data block, and backup navigation

Proposal largely follows the suggestions made by Airbus though some items marked as TBD were kept.

Proposal may still represent (too) large an effort. To be discussed.

Proposal could be an ARINC702A-5 or an ARINC702B. To be discussed.

Open Discussion