AEEC SAI Timely Recovery of Flight Data (TRFD) Teleconference #13

Date: 5 June 2019

Please send any corrections or additions to Greg Moran.

Agenda:

- Continue review of consolidated requirements and architecture study.

Discussion:

Organization

TRFD deliverables and schedule are as discussed in APIM 17-005 section 5.1. Our goal to generate a draft report addressing phases 1 & 2 in time for discussion at the Hawaii meeting, ahead of the APIM schedule.

Activity	Start Date	Completion Date
Phase 1: document the end-to-end system requirements	June, 2018	December, 2018
i. Define TRFD requirement source documents (ICAO SARP, industry standard, regulation) COMPLETE 13 June 2018		
ii. Define TRFD functional block diagram COMPLETE 13 June 2018		
iii. Capture requirements and recommendations from source documents COMPLETE 15 January 2019		
iv. Identify any additional requirements and recommendations COMPLETE 18 December 2018		
v. Allocate requirements and recommendation to functional blocks COMPLETE 15 January 2019		
vi. Develop section 2 of the report IN WORK February 2019		
Phase 2: develop candidate architectures and select architecture(s)	January, 2019	December, 2019
i. Develop candidate architectures for ADFR and TFD COMPLETE 24 August 2018		
ii. Develop section 3 of the report IN WORK ECD December 2019		
Phase 3: develop detailed equipment interface, and aircraft installation requirements, as well as ground system requirements	January, 2020	September, 2020
Re-evaluate schedule early 2020.		

Distribute requirements & architecture study report straw-man draft after this meeting.

Complete of phase 1 December, 2018 and phase 2 December, 2019 supports AEEC general session approval for requirements & architecture report (phase 1 and 2) March, 2020. Phase 3 completion September, 2020 may need to be adjusted based on characteristic and/or specifications recommended in requirements and architectures report. TRFD team preference to extend due date as TRFD is a new type certification mandate rather than the ADT forward-fit mandate, and ADT phase 3 took longer than 9 months.

SharePoint

- Meeting and teleconference minutes at *681 Input\7.) Meetings and Teleconferences*
- References at *681 Input\2.) References*
- Requirements at *681 Input\3.) Requirements*
- Report drafts and revision process at *681 Input\8.) TRFD Requirements and Architectures Report*

Technical

Completed review of section 2. The following outstanding items impact section 2:

- Editorial updates
- ICAO annex 13 & Doc9756 discussion
- ED-112A discussion
- for section 2.3.10 and 2.4.2.3 with regard to new EASA NPA for TSOs and LAD
- ADT had section 2.5 Integrated Requirements for Architecture Study Architecture studies; is this required for TRFD?

The team is encouraged to re-read section 3 in preparation for detailed review of ADFR and TFD architectures in our face-to-face meeting.

Up-coming schedule:

Meeting #8 Toulouse 17-19 June, 2019

Actions:

Open -

ID	Action	Assigned	ECD
180918-C	Update section 3 for TFD architecture (draft 4 available for review at GAT SharePoint 681 Input / 6.) Architecture for Continuous Data Transmission)	Miro	Ongoing
180918-D	Provide feedback for ADFR & TFD architectures to Blake & Miro, respectively	All	Ongoing
181218-A	Review ED-112A requirements and recommendations for technology and functional block assignment, or further discussion to be added to requirements section 2 (e.g. mandatory parameter list).	Greg Smith	15 May 2019
190226-C	Move document references not included in requirements table to appendix	~~Greg Moran~~ -> John Fisher	TBD
190404-C	Update TFD architecture study based on feedback provided to date.	Miro and John	TBD
190605-A	Review sections 2.3.10 and 2.4.2.3 (add EASA NPA and revise discussion as needed)	Blake	17 June 2019

Closed –

ID	Action	Assigned	Closed
180411-A	Compile requirements source documents	Hannes / Greg Moran	17 May 2018

180411-B	Compile requirements from source documents into spreadsheet.
	    "shall" = minimum requirements
	    "should" = recommendations
		Greg Moran	17 May 2018

180411-C	Draft TRFD functional block diagram	Greg Smith	18 May 2018
180522-A	Circulate EASA document (HKCAD and CAAS regulatory material)	Hannes / Greg Moran	31 May 2018
180522-B	Update TRFD functional block diagram	Greg Smith / Miro	13 June 2018
180522-C	Update requirements table for ADFR	Blake	6 June 2018
180522-D	Provided requirements table numbering scheme	Greg Moran	31 May 2018
180613-A	Add EASA location of an aircraft in distress to requirements map.	Greg Moran	13 June 2018
180710-B	Review Distress Events MASPS ED-237 and add applicable requirements & recommendations to TRFD table.	John	31 July 2018
180710-C	Identify location of EASA AIR OPS regulations.	Greg	10 July 2018
180710-E	Develop document for TFD candidate architecture	Miro	31 July 2018
180710-F	Review TFRD requirements/recommendations table to a) confirm functional block allocation and b) identify any missing requirements/recommendations	All	31 July 2018
180710-D	Develop document for ADFR candidate architecture	Blake	~~31 July 2018~~ 6 Aug 2018
180613-B	Add combination recorder and FDR & DLR duration requirements (only CVR duration was added) in TRFD Minimum Requirements.	Blake	31 July 2018
180710-A	Review ELT MOPS ED-62B and add applicable requirements & recommendations to TRFD table.	Tom/Blake	31 July 2018
180731-A	Provide descriptive text for functional block diagram for inclusion into requirements section 2.	Greg Smith	21 Aug 2018
181026-A	Follow up with expected changes to ICAO Annex 13 for data protection and access issues.	Greg Smith	4 Dec 2018
181026-B	Should lithium battery references as listed in ADT also be listed for TRFD?	Blake	4 Dec 2018
181026-C	Review requirements/recommendations table to determine any changes or any which are missing.	All	18 Dec 2018
180731-B	Review ICAO Annex 13 and possibly also Doc9756 for applicable requirements/recommendations & create verbiage for how this is interpreted in section 2	Hannes	15 Jan 2019
181218-B	Review ED-62B requirements and recommendation for functional block assignment	Blake	15 Jan 2019
180918-A	Update section 2 from ADT requirements & architecture study for TRFD.		19 Feb 2019
	• Update Figure 5 for TRFD.	John	
	• Update Figures 4 & 11 and text after Figure 7 for TRFD; add subsections regarding HKCAD, CAAS and NPA 2018-03 (section 2.3.7)	Greg Moran	
	• Update Figure 11 for TRFD	Miro	

	• Confirm deletion of EU regulation section copied from ADT report	Blake	
	• Add subsection regarding ED-112A (similar to ED-237, section 2.3.9)	Greg Smith	
	• Add subsections for ED-62B (section 2.3.10), EASA CPOs and NPA TBD (section 2.3.7).	Blake	
180918-B	Update section 3 for ADFR architecture	Blake, Claude, Bill	19 Feb 2019
190206-A	Finalize requirements / recommendations table – remove items marked for deletion, etc.	Robin	12 Feb 2019
190206-B	Provide section 2.4.2 input for TRFD key terms: applicable requirements document(s), requirement(s) quote(s) if necessary and identification of items needing further analysis/discussion in later sections. Refer to ADT ARINC 680 draft for example(s).		4 Apr 2019
	Distress	~~Greg Smith~~ -> Greg Moran	
	~~Flight data, Timely~~	~~Greg Moran~~	
	Location of the point of end of flight	Blake	
	Recovery, Timely recovery of flight data	~~Hannes~~ -> Greg Moran	
190226-A	Update Figure 2 & related discussion to be TRFD specific	John Fisher	2 Apr 2019
190226-B	Add TRFD description in Table 1	John Fisher	2 Apr 2019
190226-D	Add ADFR & TFD architecture study to section 3 of straw-man draft.	~~Greg Moran~~ -> John Fisher	2 Apr 2019
190404-A	Reformat key term discussion to table format rather than quoting directly from requirements source document.	Greg Moran	23 April 2019
190404-B	Add ICAO Annex 13 5.14 to requirements map MS Excel file and associated table.	Greg Moran	23 April 2019
190404-D	Provide ARINC report document template	Peter Grau	TBD

Attachment 1

ARINC 681 Report Revision Process

John Fisher, Technical Editor

- Trust but verify – I make changes and mistakes, I am not the best guy for the job but the best one we have, please help me by pointing out typos, mistakes etc. and please be patient.

- Configuration control – if you fail to provide comments to a version and we start a new version, you will need to incorporate your comments into the newer version.

- If you comment after the due date I'll try to incorporate it, but you may have to wait until the next version to provide comments.

"Bad" comments will be noted, for example:

Text	Comment	Response
"The FDR must data when turned on"	Need to improve language.	Noted, no change.

"Good" comments will be addressed, for example:

Text	Comment	Response
"The FDR must data when turned on."	The FDR must **record** data when turned on.	Agreed, text changed.
"The FDR must data when turned on."	Add 'record' after the word mus.t	Agreed, text changed.

- If you submit a comment, please verify it was incorporated into the document, (if it is not done in front of you on the spot at a meeting etc.). I try not to make errors of omission but may do anyway. Please perform quality control on my work!