



RTCA Paper No.187-21/SC214-123
EUR 228-21 / WG78-44

August 11, 2021
St Denis & Washington

EUROCAE WG-78 Plenary # 28 / RTCA SC-214 Plenary # 36 “Standards for Air Traffic Data Communication Services” - Minutes
--

Date	22-23 July 2021
Place	Virtual
Hosted by	RTCA

Meeting Summary:

The joint plenary of RTCA Special Committee 214 (SC-214) (#36) and EUROCAE Working Group 78 (WG-78) (#28) was held July 22-23, 2021. The meeting was conducted as a virtual meeting with the following attendees participating via WebEx.

Name	Company
Alex Spivakov	NavCanada
Alexander Engel	EUROCAE, WG-78 Technical Programme Manager
Aloke Roye	Honeywell
Ana Maria Beroiz	EUROCONTROL
Andrew Ives	INMARSAT
Anna Cagidemetro	EUROCONTROL
Antonio Harrison	ESA
Christophe Visée	EUROCONTROL
Cindy Freud	MITRE
Claire Robinson	Universal Avionics, SC-214 Chair
Danny Bharj	INMARSAT
David Isaac	EUROCONTROL
Dongsong Zeng	MITRE
Ed Hahn	ALPA
Edward san	FAA
Eric Sadon	DSNA/DTI
François Bardin	Argo Skies
Frederic Beltrando	Airbus
Gary Colledge	INMARSAT

Giulio Di Tillio	Airtel
Gonzalo Prieto	ESSP
Greg Saccone	Boeing
Isabelle Herail	EUROCONTROL
Jean Boucquey	EUROCONTROL
Jens Hennig	GAMA
Jérôme Condis	Airbus
Joachim Hochwarth	GE Aviation
Karan Hofmann	RTCA, SC-214 Program Director
Ken Jones	Blue Mountain Aero
Kim Cardosi	DOT
Luc Emberger	Airbus, WG-78 Chair
Madhu Niraula	Collins Aerospace
Mark Patterson	FAA
Marty Weismantel	L3 Harris
Mike Matyas	Boeing
Mohammed Althour	Civil Aviation Authority- Yemen
Moin Abulhosn	FAA
Nicolas Rossi	Thales
Noud de Lang	EUROCONTROL
Pascal Rohault	Thales
Pete Muraca	FAA
Randy Bone	MITRE
Rochelle Perera	Boeing, SC-214 Secretary
Shelley Bailey	NavCanada
Stephane Gouverneur	Dassault Aviation
Steve Giles	MITRE
Stewart West	Honeywell
Theresa Brewer	FAA
Thomas Heß	DFS
Thomas Mustach	FAA, SC-214 Government Authorized Representative
Tom Judd	Honeywell
Tracy Lennertz	DOT
Viktor Jagasits	EUROCONTROL
Willie Truong	Honeywell
Alex Spivakov	NavCanada

1. Welcome, Introductions and Administrative Remarks

The joint 36th Plenary of SC-214 / 28th Plenary of WG-78 was convened on July 22nd, 2021, at 10:00 am EDT by Chair Claire Robinson (Universal Avionics) and Luc Emberger (Airbus). RTCA anti-trust statement, as well as RTCA and EUROCAE proprietary policies, and membership policies were read by Karan Hofmann (RTCA) and Alex Engel (EUROCAE). Alex noted that EUROCAE does not open up these meetings to the public, but as RTCA does, there was no objection made. Additionally, EUROCAE includes a list of members in the deliverables. Participants must request to opt out if desired.

Welcoming remarks were made by Claire Robinson (Universal Avionics). Luc Emberger (Airbus) was introduced as the EUROCAE WG-78 Chair. Each person in attendance was invited to introduce themselves.

2. The RTCA SC-214 Plenary 36 / EUROCAE WG-78 Plenary 28 Agenda

Claire Robinson (Universal Avionics), RTCA SC-214 Chair, presented the Plenary Agenda as shown below.

- 1) 22nd July: Plenary Day 1
 - a) Introductions and administrative matters
 - i) Collaboration tool for SC-214/WG-78
 - b) Review of previous meeting notes for approval
 - c) Review of ToRs
 - i) Verification Test Proposal, Thomas Mustach, FAA
 - d) Validation of common RTCA and EUROCAE ToRs
- 2) 23rd July: Plenary Day 2
 - a) Review of WPs submitted by the members to propose SPR and B2 standards update
 - i) Feedbacks and recommendations from SESAR 4D VLD DIGITS, Luc Emberger, Airbus
 - ii) Request to Update Interval Management (IM) Message Requirements, Randy Bone, The MITRE Corporation (SC-186)
 - iii) Other potential issues (no working papers received to date)
 - (1) Performance
 - (2) 4D trajectory
 - (3) Message set modifications and SPR modifications
 - (4) Request from SC-227, DRNP
 - b) Definition of a detailed working plan
 - c) Any other business
 - d) Review of Action Items
 - e) Adjourn

The group agreed to move forward with the agenda.

All documents and presentation material reviewed during Plenary have been uploaded and are available in the RTCA AerOpus documents folder. A link to this folder is provided: <https://aeropus.i3cloudservices.com/Group/GroupLanding/101?tab=Documents>

3. Collaboration Tool for RTCA SC-214/EUROCAE WG-78 Work

Claire Robinson (Universal Avionics) presented the collaboration tool, AerOpus (<https://aeropus.i3cloudservices.com/>). It was discussed and agreed that usually in joint RTCA/EUROCAE working arrangements only one of the collaboration tools are used as the main document repository. In this case the RTCA AerOpus will be the tool used. Participants

who do not have an AerOpus account should request one. Once approved, they can request to be added to the SC-214 roster. Alex Engel (EUROCAE) as acting WG-78 Secretary will copy relevant information including minutes and calling notices onto the EUROCAE Workspace. However, all working material will be held on AerOpus. Karan Hofmann (RTCA) then went over the file structure of AerOpus and how to access documents. There is a training video available at: [RTCA Training Videos - OneDrive \(sharepoint.com\)](#).

4. Previous Meeting Minutes Review

Rochelle Perera (Boeing) presented the previous meeting minutes. One change was proposed for incorporation. The group approved the minutes with the change included.

5. Review of ToRs

Luc Emberger (Airbus) presented the EUROCAE WG-78 ToR. The deliverables were reviewed which aligned with the deliverables in the SC-214 ToR. It was noted that the target deliverable publication date of 2023 is very important due to needing enough time to develop avionics to meet the B2 mandate in 2028. It was noted that the deliverable titles should be adjusted so that the two ToRs match as well as reflecting that these documents should be network type agnostic. Coordination with other standards development industry groups will be crucial in order to make sure operational concepts of features like D-RNP, D-TAXI and A-IM are met.

Claire Robinson (Universal Avionics) went over the SC-214 ToR Rev 15 which was approved by the PMC on Jun 17, 2021. An administrative change will be done to add Luc Emberger as the EUROCAE WG-78 Chair. The RTCA ToR includes an additional deliverable for a Verification Test Standard. Thomas Mustach (FAA) said that this additional deliverable will be required in order to obtain airworthiness approval. Luc Emberger (Airbus) commented that D-RNP, D-TAXI and A-IM features are not currently planned to be implemented in Europe.

6. Verification Test Proposal

Thomas Mustach (FAA) presented the Verification Test Procedure which was originally given at Plenary 35 and incorporated into the RTCA ToR rev 15. The deliverable was proposed for incorporation into the EUROCAE WG-78 ToR as well.

The new test procedure is driven by the FAA DataComm program which has encountered operational issues due to differing aircraft implementations. It was emphasized that this test is not intended to create new derived requirements. AC 20-140 will be revised to include the industry developed Verification Test as enabling criteria to demonstrate the aircraft behaves according to the set of SPR/Interop requirements applicable to each Interop Designator contained in AC 20-140 for applicants seeking an Airworthiness Approval based on AC 20-140().

There was a lot of debate and discussion around adding this test as a deliverable. Luc Emberger (Airbus) commented that it can be done for B2 implementations, however to apply it to existing ATN B1 or FANS 1/A+ implementations may result in new requirements. Jerome Condis (Airbus) added that each test step of such a verification test should be directly traceable to an existing interop requirement for the standards which already exist. Mike Matyas (Boeing) supported Airbus' position and Pete Muraca (FAA DataComm) agreed as well. It was also clarified in the ToR that this verification test would be created against the interop and SPR documents and therefore those document numbers were specified.

Frederic Beltrando (Airbus) suggested adding the specific ATN B1/B2 interop standards to this item in the ToR. After a question regarding applicability of this test to the ground centers, Thomas Mustach (FAA) said creation of a test was never intended to preclude the creation of a test for ground implementations, and participants at P35 indicated a similar benefit would be

achieved if a ground implementation test was developed. P35 agreed our ToR should develop an “ATS Data Communication Verification Test Standard” to qualify aircraft and/or ground implementations.

The deliverable due date of the verification test was discussed and it was determined that pushing it out to the end of 2023 would be best as it would allow the group to focus on the other ToR deliverables first. Additionally, it was decided that the verification test should be one document with different sections as to keep the overhead low.

Alex Engel (EUROCAE) motioned to add this deliverable to the EUROCAE ToR and it was approved. Claire Robinson (Universal Avionics) then made a motion to approve rev 16 for the addition of Luc Emberger (Airbus) as WG-78 Chair to the RTCA ToR and it was also approved.

The group then discussed future work meetings. Detailed schedule of future meetings is found in section 10 of these notes. This concluded the work for day 1 of the Plenary.

7. Working Papers

7.1 Feedbacks and Recommendation from SESAR 4D VLD DIGITS

Luc Emberger (Airbus) presented a working paper on recommendations which came out of the SESAR VLD project. A video explaining the Very Large scale Demonstration (VLD) was shown and can be found here: <https://www.youtube.com/watch?v=DDmBxDkwfbE> . The VLD project involved six airlines and almost 100 aircraft using certified B2 avionics. One outcome of the project was the conclusion that the ATS-B2 standards published in 2016 are mature enough for an operational deployment although refinement would aid future implementations. Additional lessons learned were shared and mostly revolved around ADS-C functionality. The group was invited to review these recommendations for incorporation into the next revision of the standards.

7.2 Request to Update Interval Management (IM) Message Requirements

Randy Bone (MITRE) presented a request from SC-186 to update Interval Management Message Requirements based on work that has been done by their group while the RTCA SC-214/SG-0 and EUROCAE WG-78 were dormant. During this dormant period, RTCA and EUROCAE have updated the IM SPR, conducted a HITL simulation and initiated an ADS-B spacing activity. An ISRA is being taken to the SC-186 Plenary on Aug 16, 2021 for approval to formally submit this request to SC-214/WG-78. Randy Bone (MITRE) then gave another presentation on the basics of IM for group members who were not as familiar with the concept. An IM familiarization presentation titled Interval Management (IM) Overview has been uploaded to AerOpus.

7.3 Observations on ED-228A/DO-350A Allocations and Availability

INMARSAT presented a paper with regards to variations observed in ED-228A/DO-350A RCP and RSP latency sub-allocations. The focus was on the inconsistencies and variations documented in Figure 1.

Defined Allocations for RCP Specifications ^{Note 4}								
Parameter	RCP 130/A1		RCP 240/A1		RCP 400/A1		RCP 400/A2	
	ET	TT _{95%}	ET	TT _{95%}	ET	TT _{95%}	ET	TT _{95%}
Transaction Time (Sec)								
Initiator	30	13	30	30	30	30	30	13
RCMP	120	60	210	180	370	320	380	174
Responder	100	44	60	60	60	60	371	161
RCTP	32	20	150	120	310	260	32	20
RCTP _{ATSP}	23	14	n/a	n/a	n/a	n/a	23	14
RCTP _{ATSU}	14 ^{Note1}	6 ^{Note1}	15	10	15	10	14 ^{Note1}	6 ^{Note1}
RCTP _{CSP}	18 ^{Note1}	10 ^{Note1}	120	100	280	240	18 ^{Note1}	10 ^{Note1}
RCTP _{Aircraft}	23	10	15	10	15	10	23	10

Figure 1: CPDLC RCP 130, RCP 240, and RCP 400 Allocations as defined in RTCA DO-350A, Vol. 1, Section 5.3.2

Thomas Mustach (FAA) agreed and said that it may be due to the statistical versus analytical approach. EUROCONTROL has also been working on tracking down how all the data was analyzed. The group agreed with the paper's proposal that validating the consistency and traceability of these sub-allocations be added to the work program of SC-214/WG-78. Additionally, it was agreed that adding more descriptive text to these values would be beneficial. All group members were also asked to review any historical material they may have which was used for the original development of these values to help with this task.

7.4 Request from SC-227 regarding D-RNP

The group then discussed a request from RTCA SC-227 regarding consistency with DO-236C/ED-75C documents for D-RNP datalink elements. The two items of concern were the use of FRT and also clarification on how lateral offsets were defined. Joachim Hochwarth (GE Aviation) was assigned the task of looking into this request as he was familiar with these issues from previous SC-214 work.

8. Any Other Business

No other business was discussed.

9. Review of Action Items

Rochelle Perera (Boeing) reviewed the action item list. The list was agreed upon by the group and is documented in "SC-214_WG78_Action_Item_List_July_2021".

10. Detailed Working Plan

The group then discussed the detailed working plan for SC-217/WG-78. For all the following group deliverables, authors and editors would need to be identified.

Table 10-1: SC-214/WG-78 deliverables and editors.

Document	Editor/Owner
ED-228 / DO-350 Revision B	TBD
ED-229 / DO-351 Revision B	TBD
ED-230 / DO-352 Revision B	TBD
ED-231 / DO-353 Revision B	TBD
ED-YYY / DO-XXX rev -	TBD

Then the group identified the following working groups which will be created in order to work specific sections of the documents.

Table 10-2: Working group descriptions and membership.

Working Group	Subjects
Operational WG	SPR Section 3 (ATS Services), 5 (CPDLC), 6 (ADS-C), and Verification Tests
Performance WG	SPR Volume 2 Appendix D, E, F
Safety WG	SPR Volume 2 Appendix B, C
Interop WG	Interop Docs, Coordination with OPDLWG

However the group as a whole will select the topics and scope of the activities for each working group. It was also agreed that the next meeting will focus on group activities as a whole rather than kicking off the working groups.

It was also noted that revisions made to the SC-214/WG-78 deliverables need to be communicated to the OPDLWG. This is in order to keep the SC-214/WG-78 deliverable contents in line with the content in the next revision of the PBCS manual. Since revision three of the PBCS manual is scheduled to be finished in spring of 2022, the SC-214/WG-78 work may delay the end release date of that document.

Claire Robinson (Universal Avionics, SC-214 Chair) presented the following detailed working plan. This was agreed upon by the group for the remainder of 2021 and also agreed that these meetings will remain virtual for the time being.

Schedule Type	2021					
	Jul	Aug	Sep	Oct	Nov	Dec
SC-214/WG-78 Working Group Meetings	Kickoff plenary SC-214 36 WG- 78 28, July 22- 23			Oct 12- 15, Virtual 09:00- 15:00 EDT		Dec 14- 17, Virtual 09:00- 15:00 EST
SC-214/WG-78 Working Group Telecons			Sep 9, 10:00- 12:00 EDT telecon		Nov 15, 10:00- 12:00 EST telecon	

11. Adjourn

The group was adjourned at 2:00pm EDT on July 23, 2021.

Rochelle Perera
Secretary, SC-214

CERTIFIED as a true and accurate summary of the meeting.

Claire Robinson
Chair, SC-214

Luc Emberger
Chair, WG-78