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 February 27, 2017

MINUTES OF THE TWENTY-SIXTH SC-214 PLENARY MEETING
“Standards for Air Traffic Data Communication Services”

DATE: February 27, 2017
TIME: 11:00 a.m. – 12:00 p.m.
PLACE: Virtual
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 Meeting password: Sc214#26!

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Attendees:

Chuck Stewart	Chairman	United Airlines
Thomas Mustach	DFO	Federal Aviation Administration
Karan Hofmann	Program Director	RTCA, Inc.
Dongsong Zeng	Secretary	The MITRE Corporation
Nazih Khaouly		Federal Aviation Administration
Jacob Anderson		ALPA
Mark Layton		Rockwell Collins - IMS
Stephane Pelleschi		Rockwell Collins - France
Mike Boynton		American Airlines
Mike Matyas		The Boeing Company
Joel Metcalf		GE AVIATION
Michael Laurent		Dassault
Riccardo Rosola		ENAV
Jose Godoy		SAE ITC, ARINC IA
Mark Patterson		Federal Aviation Administration

 In accordance with the Federal Advisory Committee Act, Thomas Mustach, Federal Aviation Administration (FAA), was the Designated Federal Official for this meeting.



Meeting Objective: SC-214 plenary to review and approve the draft SC-214 TOR Revision 8

AGENDA

1. Welcome and Administrative Remarks
2. Introductions
3. Agenda Review
4. Meeting Minutes Review
5. Terms of Reference (TOR) Revision Discussion
6. Approve TOR Revision
7. Any other Business
8. Date and Place of Next Meeting
9. Adjourn

Agenda Item 1. Welcome and Administrative Remarks

Chuck Stewart and Karan Hofmann welcomed members to Plenary 26 WEBEX meeting.

In accordance with the Federal Advisory Committee Act (FACA), Thomas Mustach, the Designated Federal Official (DFO), opened the meeting by reading the following text: “In accordance with the Federal Advisory Committee Act, this Advisory Committee meeting is OPEN TO THE PUBLIC. Notice of the meeting was published in the Federal Register on: December 14, 2016. Attendance is open to the interested public. With the approval of the Chairman, members of public may present oral or written statements at the meeting. Persons wishing to present or obtain information should coordinate with RTCA Program Director – Karan Hofmann and the Chair – Chuck Stewart.”

Karan Hofmann reminded the committee that none of the material should be proprietary material.

Agenda Item 2. Introductions

Attendees introduced themselves.

Agenda Item 3. Agenda Review

Dongsong Zeng presented the Plenary 26 Agenda and the group approved it.

Agenda Item 4. Meeting Minutes Review

The Plenary 26 reviewed and approved the previous Plenary 25 meeting minutes without modification.

Agenda Item 5. Terms of Reference (TOR) Revision Discussion

Chuck Stewart presented the draft SC-214 Terms of Reference (TOR) Revision 8, which is attached in Appendix A to this document. Chuck Stewart also presented the companion draft SC-214 TOR Revision 8 PMC presentation.

Stephane Pelleschi reported that he coordinated the corresponding draft WG-92 TOR revision with EUROCAE TAC. The TAC members (mainly SJU and EASA) had some questions why there are no modifications to the VDL2 MOPS. In addition to the protocol optimizations, they may need the working groups to standardize the “Best-in-Class” tests proposed by ELSA in the MOPS.

As the “Best-in-Class” tests are not available to the working groups yet, how to standardize them cannot be decided at this moment. The caveat is that the “Best-in-Class” tests, when made available to the working groups, may need modifications to the VDL2 MOPS in the future.

Agenda Item 6. Approve TOR Revision

The plenary reviewed and approved the SC-214 TOR Revision 8 and the companion presentation to be presented to the PMC.

Agenda Item 7. Any other Business

No other business topics were brought up.

Agenda Item 8. Date and Place of Next Meeting

The date and place of next SC-214 Plenary 27 meeting are TBD.

The next SC-214 subgroup meeting joint with EUROCAE WG-92 and AEEC DLK is at Eurocontrol (SIRIUS Room), in Brussels, from June 20-22, 2017.

Agenda Item 9. Adjourn

SC-214 Plenary 26 meeting adjourned at 11:50 pm ET, February 27, 2017.



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Appendix A. Draft SC-214 TOR Revision 8

TERMS OF REFERENCE
Special Committee (SC) 214
Standards for Air Traffic Data Communication Services
Revision 8

REQUESTORS:

Organization	Person
FAA – ATC Communications Services	Jim Eck

SC LEADERSHIP:

Position	Name	Affiliation	Telephone	email	Change
Chair RTCA SC-214	Chuck Stewart	United Airlines	303-780-5820	Chuck.Stewart@united.com	Remove WG-78 and the Co-Chair Jerome Condis
DFO	Thomas Mustach	FAA	425- 227-1935	Thomas.Mustach@faa.gov	
Secretary RTCA SC-214	Dongsong Zeng	MITRE	703-983-6470	dzeng@mitre.org	Replace Jane Hamelink with Dongsong Zeng

BACKGROUND:

The PMC established Special Committee 214 (SC-214) on March 22, 2007, named Standards for Air Traffic Data Communication Services. The committee was formed in response to a request from the FAA for a new Special Committee to develop documents in support of the Next Generation Air Transportation System (NextGen) for services in defined environments through 2025.

RTCA SC-214 is a joint committee with EUROCAE (WG-92), and is developing a revision to VDL Mode 2 standards to ensure harmonization of the standards. This joint group is also coordinating with AEEC Data Link (DLK) Systems Sub Committee to ensure harmony within VDL Mode 2 standards.

Note: Activities with standards for Baseline 2 ATS Data Communications by RTCA SC-214/EUROCAE WG-78 have been suspended until further notice.

A revised work plan was discussed and accepted by SC-214 at the Feb 27, 2017 Plenary.

The work plan incorporates a revision to the following standards to provide provisions for connectionless VDL Mode 2. Connectionless VDL Mode 2 will allow airplanes and ground stations to exchange data messages without having to establish an explicit connection. These changes are intended to further improve and extend the life of VDL Mode 2 operations.

- Develop Revision to **DO-224C**, *Signal-In-Space Minimum Aviation System Performance Standards (MASPS) for Advanced VHF Digital Data Communications including compatibility with digital Voice Techniques*
- Develop Revision to **DO-281B**, *Minimum Operational Performance Standards (MOPS) for Aircraft VDL Mode 2 Physical Link and Network Layer*

EUROCAE WG-92 and AEEC DLK Systems Subcommittee will work jointly with RTCA SC-214 to ensure VDL Mode 2 standards published by EUROCAE and AEEC are in harmony with the standards published by RTCA.

- Develop Revision to Supplement 7 to ARINC Specification **631**, *VHF Digital Link (VDL) Mode 2 Implementation Provisions*
- Develop Revision to EUROCAE **ED-92B**, *Minimum operational Performance Specification for an Airborne VDL Mode-2 System Operating in the Frequency Range 118-136.975 MHz*

Existing VDL Mode 2 requires airplanes and ground stations to establish an explicit connection. This is less efficient than connectionless VDL Mode 2 because of resulting overhead message traffic for link establishment, ground station handoff, etc. Existing VDL Mode 2 is also less robust because airplanes will accept an uplink only from a connected ground station and ground stations will accept a downlink only from a connected airplane.

Connectionless VDL Mode 2 is intended to further improve VDL Mode 2 performance because:

- Airplane will accept uplinks from any ground station and all ground stations will accept downlinks from the airplane.
- Connectionless data exchange will make ELSA “peer loss of communication” (a.k.a., “N2 events”) less likely to occur.
- Connectionless VDL Mode 2 will increase effective capacity and accordingly sustainability, especially since capacity limits are a valid concern in Europe and US.
- Connectionless VDL Mode 2 will leverage investments already made in

VDL Mode 2.

- Connectionless VDL Mode 2 will be beneficial for ATN/IPS when it is deployed.

DELIVERABLES:

Product	Description	SC Completion Date	Change
Revision to DO-224C, Signal-in-Space Minimum Aviation System Performance Standards (MASPS) for Advanced VHF Digital Data Communications Including Compatibility with Digital Voice Techniques	See MASPS Drafting Guide	April 2019	Revised the completion date from December 2017 to April 2019
Revision to DO-281B, Minimum Operational Performance Standards (MOPS) for Aircraft VDL Mode 2 Physical Link and Network Layer	See MOPS Drafting Guide	April 2019	Revised the completion date from December 2017 to April 2019

SCOPE:

Special Committee (SC) 214 and Working Group (WG) 92 in coordination with DLK Sub Committee shall develop a revision to the VDL Mode 2 standards to accomplish the following:

1. Air-Ground Interoperability Tests in Supplement 8 to ARINC 631 and possibly a EUROCAE standard. Such tests will:
 - Provide greater assurance that VDL Mode 2 will work as intended
 - Allow early detection of potential interoperability issues
2. Connectionless VDL Mode 2
 - Allow airplanes and ground stations to exchange data messages without having to establish an explicit connection.
 - Fully compatible with existing VDL Mode 2 implementations that are equipped on aircraft and deployed ground stations. Both variants will work on the same frequency at the same time.

The committee's work plan includes the following tasks:

- Develop Revision to DO-224C, Signal-in-Space Minimum Aviation System Performance Standards (MASPS) for Advanced VHF Digital Data Communications

Including Compatibility with Digital Voice Techniques, to improve air/ground interoperation.

- Develop Revision to DO-281B, Minimum Operational Performance Standards (MOPS) for Aircraft VDL Mode 2 Physical Link and Network Layer, to improve air/ground interoperation.

ENVISIONED USE OF DELIVERABLES:

The primary use of the committee work products shall be to establish internationally harmonized technical requirements for the development, government acceptance, and certification of aeronautical data link systems in support of the air traffic service as part of the NextGen and SESAR initiatives.

The FAA Air Traffic Organization intends to use these documents to develop specifications for acquisition of the supporting ground-based infrastructure. Airworthiness and operational authorities intend to use these documents to develop advisory circulars to qualify aircraft and operations that use air traffic data communication services.

SPECIFIC GUIDANCE:

In performing its duties, RTCA SC-214 shall:

- Develop the VDL Mode 2 standards identified under “Deliverables”.
- Coordinate with other organizations as necessary, including but not limited to:

ICC	RTCA Integration and Coordination Committee – Facilitating interworking between SC-214, SC-186, SC-206 and SC-227
EUROCAE	European Organization for Civil Aviation Equipment – Joint development of deliverables with Working Group 78 and coordination with Working Group 92
FAA	Federal Aviation Administration – Work product requirements
EASA	European Aviation Safety Agency
ICAO	International Civil Aviation Organization – Preparation of Information Papers for consideration by ICAO Panels
EUROCONTROL	European Organization for the Safety of Air Navigation – Work product requirements
AEEC	AEEC – Consultation on revision of VDL Mode 2 MOPS and MASPS.



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Document	Intended Use
RTCA DO-224C	Revise to support Connectionless VDL Mode 2 operations
RTCA DO-281B	Revise to support Connectionless VDL Mode 2 operations
EUROCAE ED-92B	Revise to support Connectionless VDL Mode 2 operations
ARINC SPECIFICATION 631	Revise to support Connectionless VDL Mode 2 operations
ICAO Doc 9776	Revise to support Connectionless VDL Mode 2 operations

TERMINATION:

Activities of this committee will terminate with approval by the PMC of the committee's final documents listed in the Terms of Reference. Any change/extension of a committee's work program requires prior PMC approval.