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EUR 175-19/WG108-18

Washington D.C. & Saint Denis, 1 April 2019

**MINUTES OF RTCA SC-223 (PLENARY #33) / EUROCAE
WG-108 (MEETING #10) / JOINT MEETING #6
“Internet Protocol Suite (IPS) and AeroMACS”**

DATE: June 17-21, 2019

TIME: 9:00 a.m. – 5:00 p.m. EDT

PLACE: Collins Aerospace
6, Avenue Didier Daurat - BP 20008 - 31701
Blagnac, FRANCE

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Adrian Cioranu, Technical Program Director, EUROCAE
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Attendees:

Name	Role	Affiliation	Note
Cioranu, Adrian	Member	EUROCAE	
d'Humières, François	Member	FREQUENTIS A.G.	
Dlouhy, Ron	Member	Collins Aerospace	
Drásil, Pavel	Member	Honeywell International, Inc.	
Dlouhy, Ron	Member	Collins Aerospace	
Graefe, Jonathan	Member	Collins Aerospace	
Leonardon, Laurent	Member	Collins Aerospace	
Mineck, Kristen	Member	INMARSAT	
Morrison, Rebecca	Manager	RTCA, Inc.	
Niraula, Madhu	Member	Collins Aerospace	
Nisbet, David	Member	Thales Group	

Pelleschi, Stephane	WG-108 Chair	Collins Aerospace	
Phillips, Brent	Government Authorized Representative	Federal Aviation Administration (FAA)	
Popescu, Liviu	Member	EUROCONTROL	
Rossi, Nicolas	Thales	Guest	
Roy, Alope	SC-223 Chair	Honeywell International, Inc.	
Solery, Michel	Member	DSHA-DTI	
Tamalet, stéphane	Member	Airbus	
Vanguardia, Michael	Member	The Boeing Company	
Zeng, Dongsong	SC-223 Secretary	The MITRE Corporation	

AGENDA

1. Welcome, Introductions, EUROCAE and RTCA Policy Statements, Administrative Remarks
2. Review and approve the Agenda
3. Review of previous meeting notes and action items
4. Review of Current State of Industry Standards
 - a. ICAO WG-I
 - b. AEEC IPS Sub Committee
 - c. Alignment of ICAO, RTCA/EUROCAE, & AEEC timelines and dependencies
5. Current State of Activities
 - a. SESAR Presentation
 - b. ESA IRIS
 - c. DSNA activity update
 - d. Any Other Activities
6. SC-223/WG-108 TOR revision and approval
7. IPS MASPS Development
 - a. Security Risk Assessment (Madhu)
 - b. OSED outline (Dongsong)
 - c. CONOPS (C2, FANS, transition) (Collins, Madhu)
 - d. IPS CONOPS, security, etc. (David, Thales)
 - e. Use cases (Mike Vanguardia)
8. IETF/ICANN update
9. Any Other Topics of Interest
10. Plans for Next Meetings
11. Review of Action Items and Meeting Summary

12. Adjourn when plenary business is complete

Agenda Items 1. Welcome, Introductions, EUROCAE and RTCA Policy Statements, Administrative Remarks

Stephane Pelleschi, Chair of WG-108, Collins, and Dongsong Zeng, Secretary of SC-223, welcomed the participants.

Rebecca Morrison, Program Director, RTCA, and Adrian Cioranu, Technical Program Manager, EUROCAE, presented the RTCA/EUROCAE policy statements.

Agenda Item 2. Review and approve the Agenda

The group reviewed and approved the meeting agenda.

Agenda Item 3. Review of previous meeting notes and action items

The group approved the SC-223 P32 meeting minutes and updated the status of action items.

Agenda Item 4. Review of Current State of Industry Standards

4a. ICAO WG-I

Liviu Popescu, EUROCONTROL, reported that the ICAO SARPS revision publication is postponed from 2020 to 2022 due to the busy approval schedule of ICAO Communications Panel (CP). ICAO Air Navigation Commission formed a Trust Framework Study Group (TFSG) to develop a globally harmonized aviation trust framework of a resilient aviation network. TFSG has three working groups: global resilient aviation interoperable network (GRAIN), current and future operational needs (CAFON) and digital identity working group (DIWG), with each group focusing on different area.

4b. AEEC IPS Sub Committee

Stephane Pelleschi, Collins Aerospace, provided an update on AEEC IPS subcommittee. AEEC IPS is progressing on the development of ARINC 858 document. Sections 1, 2 and 3 are relatively mature and some progress has been made on Section 4. Inputs to Section 5 is expected to be provided during the June meeting. AEEC agrees on the need for coordination with ICAO, RTCA and EUROCAE to figure out how to organize different IPS standard topics into different standard documents.

4c. Alignment of ICAO, RTCA/EUROCAE, & AEEC timelines and dependencies

To better facilitate the coordination between ICAO, RTCA/EUROCAE and AEEC, joint meetings are planned for late 2019 and early 2020. Figure 1 shows the detailed joint meeting schedule.

Agenda Item 5. Current State of Activities

5a. SESAR FCI update

François d’Humières, Frequentis, presented an update on SESAR 2020 PJ14-02-04 FCI validation (See SESAR2020_PJ14.02.04_FCI_EXE1_EXE2_v4.pptx for more details).

The key objectives of FCI validation include:

- Evolution of the SESAR1 concept of operations to support future service concepts such as multilink, ATN/IPS, mobility and trajectory-based operations with sector-less voice communications,
- Create technical architecture, FCI requirements, and data link gateway interface documents,
- Development and verification of prototypes,
- Address transversal topics including security, safety, and civil-military interoperability, and
- Support to standardization activities.

The validation is planned to be carried out in two waves: Wave 1 from Q2 2018 to Q3 2019, and Wave 2, from Q4 2019 to Q4 2022. By the end of Wave 1, the technology readiness is expected to be TRL4. Figure 1 shows an overview of the validation plan.

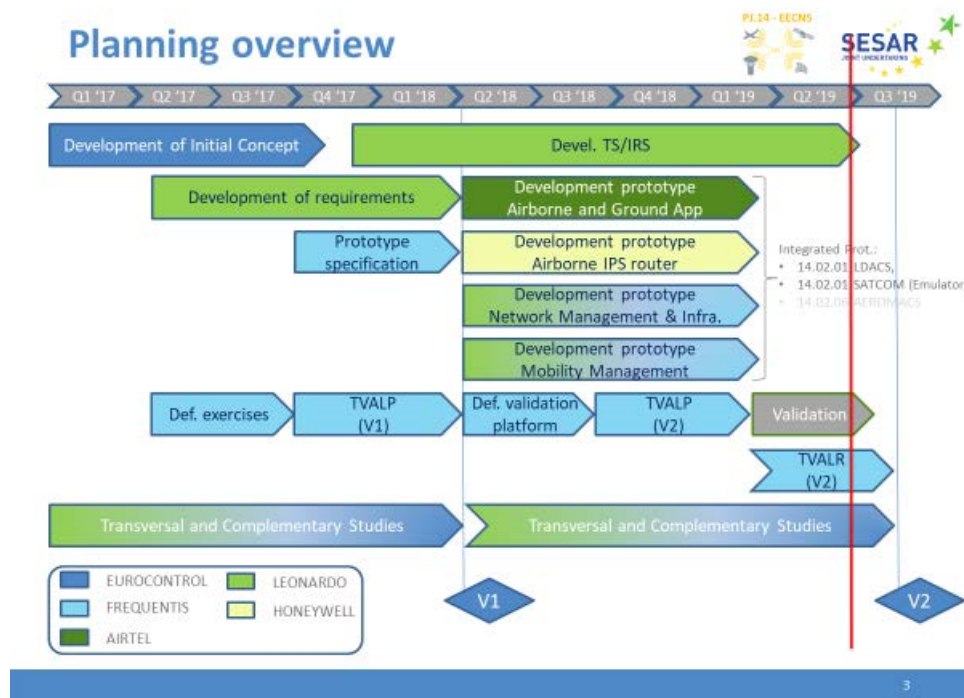


Figure 1. SESEAR FCI Validation Plan Overview

5b. ESA IRIS

No update was reported on ESA IRIS.

5c. DSN activity update

Michel Soléry, DSN, presented a paper already shared with ICAO explaining the questions related to the PENS deployment and the security questions. The group agreed that some assumptions and associated requirements from the ANSPs should be incorporated in the RTCA/EUROCAE MASPS.

5d. Any Other Activities

No other activities were reported.

Agenda Item 6. SC-223/WG-108 TOR revision and approval

Decision 1: The group approved the SC-223/WG-108 TOR revision that extends the IPS MASPS completion date from December 2019 to December 2020 and adds a new task of completing IPS Profiles Rev A by December 2020.

Action Item P33-1: Dongsong Zeng to update IPS MASPS development schedule.

The updated SC-223/WG-108 development schedule is shown in Figure 2.

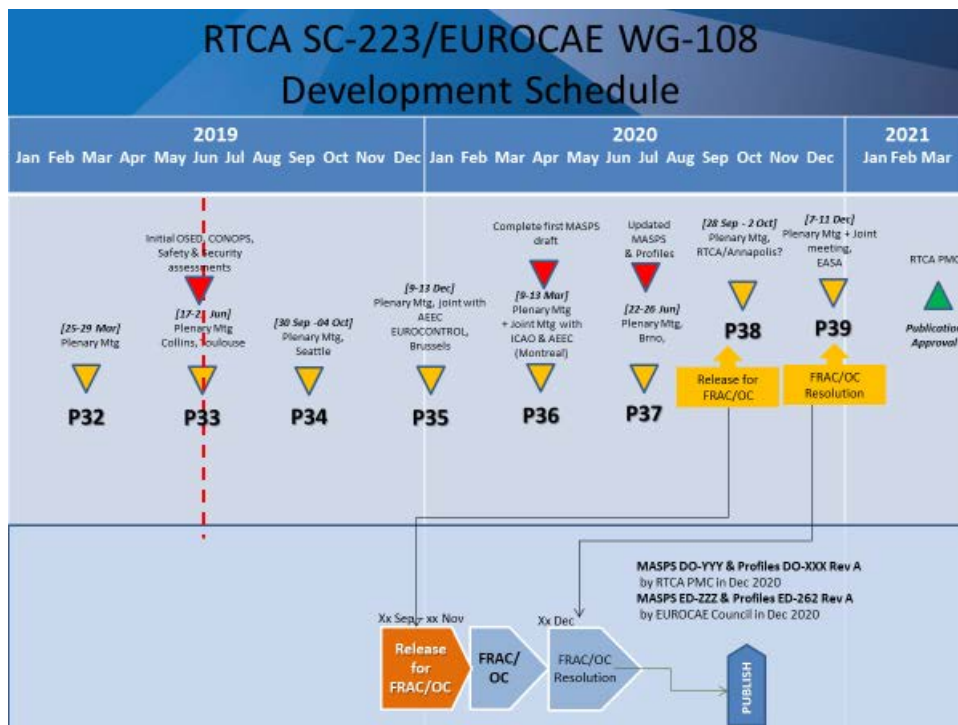


Figure 2. Updated SC-223/WG-108 Development Schedule

Agenda Item 7. IPS MASPS Development

Madhu Niraula, Collins Aerospace, presented an initial security risk assessment. Dongsong Zeng, The MITRE Corporation, presented a draft outline for IPS OSED. Madhu Niraula, Collins Aerospace, presented a draft CONOPS for UAS C2 link, FANS and transition considerations. David Nisbet, Thales Group, provided inputs on IPS CONOPS and security. Michael Vanguardia, The Boeing Company, provided inputs on IPS security use cases. All the inputs will be collected in the MASPS working document.

Decision 2: The group reviewed the initial inputs to the MASPS.

Decision 3: The group decided to continue Security Risk Analysis. Disposition of where to put the material will be discussed in the next joint ICAO/RTCA/EUROCAE/AEEC meeting.

Action Item P33-2: Madhu Niraula to schedule a telecon to advance IPS security risk assessment.

Action Item P33-3: Stephane Pelleschi and Adrian Cioranu to coordinate with EASA for participation in SC-223/WG-108 P39 December 2020 meeting for FRAC/OC resolution.

Action Item P33-4: Madhu Niraula to present DNS concept to ICAO WG-I.

Action Item P33-5: Stephane Pelleschi to consolidate inputs to the MASPS moving work-in-progress materials into annexes.

Action Item P30-6: Madhu Niraula to present Collins' multilink concept to the next ICAO WG-I in September 2019.

Agenda Item 8. IETF/ICANN update

Rebecca Morrison, RTCA, Inc., reported that the negotiation between RTCA and IETF regarding how RTCA standards can reference IETF RFCs properly is going well. The IPS profiles standard is expected to be published soon.

Agenda Item 9. Any Other Topics of Interest

No other topics of interest were brought up during the meeting.

Agenda Item 10. Plans for Next Meetings

- Joint SC-223 P34 / WG-108 meeting, September 30 - October 4, 2019, Boeing Headquarters, Seattle.
- Joint SC-223 P35 / WG-108/AEEC meeting, December 9 - 13, 2019, EUROCONTROL, Brussels (Inform Liviu before December 1 if you plan to attend).
- Joint SC-223 P36 / WG-108 / ICAO WG-I / AEEC IPS Subcommittee meeting, March 9-13, 2020, IATA, Montreal.

Agenda Item 11. Review of Action Items and Meeting Summary

Dongsong Zeng, The MITRE Corporation, presented the out-briefing (SC-223 P33_WG-108 Meeting OutBriefing_june_2019.pptx) which summarizes the decisions and action items that were made during this meeting. The work group reviewed and agreed on the out-briefing.

Agenda Item 12. Adjourn when plenary business is complete

The meeting adjourned around 1:00 PM, June 21, 2019.

List of Action Items

Action Item #	Action Content	Responsible	Due Date	Status
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P23-7	Investigate the CRCs of ROHC at system level.	Aloke Roy	October 23, 2017	10/23/2017 – In progress 12/4/17 – Keep open 3/5/18 – keep open 6/4/18 – keep open 8/13/18 – keep open. 9/24/18 – keep open. 12/10/2018 – postponed to MASP discussion 3/25/2019 – keep it open 6/17/2019 – keep open
P29-2	Reach out to SC-228 to verify whether IPS will be used by C2 link	Aloke Roy	Dec. 3, 2018	12/10/2018 – done. The dependency is still to be defined. 3/25/2019 – keep it open. 6/17/2019 – keep open
P32-1	Update the Profile to include all FRAC/OC resolutions and Rebecca to distribute the file to the group	Dongsong Zeng	April 8, 2019	4/24/2019 – Done and closed
P32-2	Work out a consented resolution on row reduction in Appendix B-6 RFC 2597 detailed profile	Aloke Roy and Stephane Tamalet	April 1, 2019	4/24/2019 – Done and closed
P32-3	Review the updated Profile to make sure all FRAC/OC resolutions are correctly executed	All members	April 1, 2019	4/24/2019 – Done and closed
P32-4	Update the MASPS schedule and draft corresponding TOR revision	Stephane Pelleschi and Aloke Roy	June 17, 2019	6/17/2019 – keep open
P32-5	Put SC-223/WG-108 TOR approval on the agenda of next meeting	Dongsong Zeng	June 17, 2019	6/17/2019 – Done and closed.
P32-6	Resolve Alistair’s comment	Aloke Roy	April 1, 2019	4/24/2019 – Done and closed
P32-7	Members who were assigned to work on specific MASPS sessions will start to develop the corresponding MASPS annexes	Assigned Members	June 17, 2019	6/17/2019 – keep open
P33-1	Update IPS MASPS development schedule.	Dongsong Zeng	Sept. 30, 2019	7/17/2019 – Done.
P33-2	Schedule a telecon to advance IPS security risk assessment.	Madhu Niraula	Sept. 30, 2019	
P33-3	Coordinate with EASA for participation in SC-223/WG-108 P39 December 2020 meeting for FRAC/OC resolution.	Stephane Pelleschi and Adrian Cioranu	Sept. 30, 2019	
P33-4	Present DNS concept to ICAO WG-I.	Madhu Niraula	Sept. 30, 2019	
P33-5	Consolidate inputs to the MASPS moving work-in-progress materials into annexes	Stephane Pelleschi	Sept. 30, 2019	
P33-6	Present Collins’ multilink concept to the next ICAO WG-I in September 2019.	Madhu Niraula	Sept. 30, 2019	

-S-
Dongsong Zeng
Secretary

CERTIFIED as a true and accurate summary of the meeting.

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Aloke Roy
SC-223 Chairman

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Stephane Pelleschi
WG-108 Chairman