

MINUTES OF THE TWENTIETH SC-223 PLENARY MEETING
“Internet Protocol Suite (IPS) and AeroMACS”

DATE: November 8-10, 2016
TIME: 9 a.m. – 5 p.m. Tuesday - Wednesday
 9 a.m. – 12 p.m. Thursday

PLACE: RTCA, Inc.
 1150 18th Street NW Ste 910 Washington, DC 20036

CONTACT: Claudia Chaudhari, Program Director
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Attendees:

Aloke Roy	Chairman	Honeywell International, Inc.	
Brent Phillips	DFO	Federal Aviation Administration	
Rebecca Morrison		RTCA, Inc.	
Claudia Chaudhari	Program Director	RTCA, Inc.	
Dongsong Zeng	Secretary	The MITRE Corporation	
Rafael Apaza		NASA	
Bruce Eckstein		Harris Corporation	
Jennifer Iversen		RTCA, Inc.	
Paul Mettus		LS Technology LLC	
Madhu Niraula		Rockwell Collins, Inc.	
Eric Nixon		Engility Corporation	
Bill Holtzman		MOSAIC ATM	
Antonio Correas		Airtel ATN	
David Robinson		Federal Aviation Administration	
Brian Crowe		Hitachi	
Nima PourNejatian		WiMAX Forum	Via WebEx

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

AGENDA

1. Welcome, Introductions, Administrative Remarks
2. Review of previous meeting notes and action items
3. Review of Current State of Industry Standards
 - a. ICAO WG-I
 - b. AEEC IPS Sub Committee
4. Current State of Industry Activities
 - a. SESAR Programs
 - b. ESA IRIS Precursor
 - c. Any Other Activities
5. IPS Technical Discussions
 - a. Review of Profiling Report on IPv6 functions and corresponding RFCs
 - b. Review of IPS RFC Profiles
 - c. Prioritization of additional IETF RFCs for Profiling
6. Any Other Topics of Interest
7. Plans for Next Meetings
8. Review of Action Items and Meeting Summary
9. Adjourn

Agenda Items 1. Welcome, Introductions, Administrative Remarks

Aloke Roy, Honeywell, welcomed the participants and reviewed the agenda.

In accordance with RTCA policy, Brent Phillips, the designated FAA representative, 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: March 15, 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 – Claudia Chaudhari and the Chair – Aloke Roy”

Brent Phillips also announced the RTCA Proprietary References Policy and Membership Policy.

Agenda Item 2. Review of previous meeting notes and action items

The working group approved the of SC-223 P19 meeting minutes and updated the status of previous action items.

Agenda Item 3. Review of Current State of Industry Standards

3a. ICAO WG-I

ICAO WG-I has been approved to update ICAO SARPS and IPS Tech Manual to provide guidance on IPS architecture, addressing, naming conventions, mobility, security, etc.

3b. AEEC IPS Sub Committee

AEEC IPS Sub Committee is continuing its Phase 1 effort to work on aircraft architecture and standardization roadmap for IPS. The AEEC IPS Sub Committee plans to complete IPS standards in the following two steps:

Step 1: 18-month planning activity with five 2-day meetings, potentially involving ICAO, RTCA, EUROCAE, etc. (2015 to 2017); and

Step 2: Standards writing step (2017 to 2019).

The working group reviewed the Gap analysis from AEEC IPS and provided comments that were documented in “PP658-Sect5_IPS Gap Analysis Input_SC223_20161110.xlsx”.

Action Item P19-8: Brent Phillips and Dongsong Zeng to present Gap analysis comments to AEEC IPS.

Agenda Item 4. Current State of Industry Activities

4a. SESAR Programs

The group chatted about IPS related work in SESAR2020 multi-annual work programme, which includes LDACS (PJ.14-02-01), future SATCOM (PJ.14-02-02), IPS including multilink & VoIP (PJ.14-02-04), and AeroMACS (PJ.14-02-06).

4b. ESA IRIS Precursor

As no Inmarsat representative attended the meeting, there was no update on ESA IRIS Precursor project.

4c. Any Other Activities

The group chatted about European Clean Sky Joint Undertaking (CSJU), which is a public-private partnership between the European Commission and the European aeronautics industry. Clean Sky, started in 2008, aims at research and innovation activities for quieter and more environmentally friendly aircraft. Clean Sky 2 programme (CS2) was launched in 2014.

Agenda Item 5. IPS Technical Discussions

5a. Review of Profiling Report on IPv6 functions and corresponding RFCs

The group reviewed the high level IPv6 RFC profile initiated by the tiger team. As ICAO WG-I is working on the security and mobility, the group agreed to review the security and mobility high level RFC profile later.

Decision 1: The group reviewed and approved tiger team high level functional RFC profiles except security and mobility functions.

Action Item P19-1: Rafael Apaza and David Robinson to investigate Cisco RFC implementation for IP over SATCOM.

Action Item P19-2: Alope Roy and Brent Phillips to check with FAA infrastructure people about how to use A/G capabilities of IPS.

Action Item P19-3: Madhu Niraula to draft initial high level diagram of a generic network architecture for IPS.

Action Item P19-4: Tiger team add notes to elaborate the required RFCs.

Action Item P19-5: Tiger team to expand the high level profile for IPS.

Action Item P19-7: Alope Roy and Dongsong Zeng to present a working paper to WG-I with RFC recommendations and profile for RFC2460 and RFC2474.

Action Item P19-9: David Robinson to develop use case based on existing vulnerability analysis for FTI and AeroMACS.

5b. Review of IPS RFC Profiles

The group didn't have time to review the detail RFC profiles.

5c. Prioritization of additional IETF RFCs for Profiling

Based on the review of high level IPv6 RFC profile, the work group decided to start detail profiling with the focus on several top priority RFCs. The group selected the top priority RFCs and assigned to members for detail profiling as follows.

Paul Mettus to update detail profiles of RFC2460, 2474

Paul Mettus to draft detail profiles of RFC 5795, 6846, 5225, 3095, 4815

Madhu Niraula to draft detail profiles of RFC4443, 4861

Alope Roy to draft detail profiles of RFC4862, 4429, 4291

Dongsong Zeng to draft detail profiles of RFC 2464, 5175

Nima PourNejatian and Brian Crowe to draft detail profiles of RFC3411, 3412, 3413

Antonio Correias to draft detail profile of RFC 3289.

Agenda Item 6. Any Other Topics of Interest

The group reviewed and approved the revised SC-223 TOR.

Action Item P19-6: Brent Phillips to present the revised TOR to PMC in December 2016.

Agenda Item 7. Plans for Next Meetings

Decision 2: SC-223 P21 meeting is from Feb 28 – March 2, 2017, at RTCA.

Decision 3: SC-223 P22 meeting is from May 2 - 4, 2017, at RTCA.

Decision 4: Next telecon is on Dec 21, 2016, from 10 – 11 AM EST.

Agenda Item 8. Review of Action Items and Meeting Summary

Dongsong Zeng, MITRE, presented the out-briefing (SC-223 IPS Meeting OutBriefing_11_2016.pptx) which summarizes all the decisions and action items that were made in this meeting. The work group reviewed and agreed on all the decisions and action items recorded in the out-briefing.

Agenda Item 9. Adjourn

The meeting adjourned at noon, Thursday, November 10, 2016.

List of Action Items

Action Item #	Action Content	Responsible	Due Date	Status
P18-1	Add ARINC658, DO-350a, DO-351a, DO-352a, and DO-353a to the initial documents in TOR	Aloke Roy	August 17, 2016	Closed - 11/2016 8/2016 - Draft done, need to present to next PMC
P18-2	Inform us about SESAR IPS related projects	Antonio Correias	August 17, 2016	Closed - 11/2016
P18-3	Check with FAA about GA participation in IPS data communication and FAA data communication safety and security assessment and requirements	Brent Phillips	August 17, 2016	Open 8/2016 - AeroMACS security was just completed, IPS security will leverage that later.
P18-4	Provide communication related system level safety analyses	Bruce Eckstein	August 17, 2016	Closed 8/2016 - Reference to DO-350a for operational safety analysis will satisfy the intent of this action item
P18-5	Conduct the safety analysis for IPS and provide the Design Assurance Level (DAL) for IPS	David Robinson	August 17, 2016	Open 8/2016 - Start with safety assessment, then decide DAL.
P18-6	Inform ICAO WG-I about ICAO Doc9896 Section 2.2 Link Layer Requirements, in which interface requirements should not be local issues	Aloke Roy	Next WG-I meeting in May 2016	Open 8/2016 - Will be presented at December meeting
P18-7	Generate a work sheet of RFC list	Dongsong Zeng	August 17, 2016	Closed - 8/2016
P18-8	Check with SC-206 for the needs of IP services like FTP, Telnet, SNMP, etc.	Aloke Roy	August 17, 2016	Open 8/2016 - Will start a new ISRA with SC-206
P18-9	Check whether RFC 2488 Enhancing TCP over Satellite Channels is needed by IPS	Danny Bharj and David Robinson	August 17, 2016	Open

P18-10	Continue coordinating with EUROCAE about global harmonization and EUROCAE participation in IPS standardization	Aloke Roy and Brent Phillips	August 17, 2016	Open 8/2016 - On going 11/2016 - On going
P18-11	Bring the TOR schedule modification request to next PMC for approval	Aloke Roy	Next PMC meeting in June 2016	Closed – 11/2016 8/2016 – Will present to September meeting
P18-12	Reach out to NIST for the latest version of USGv6 on the profile for IPv6 in US Government	Brent Phillips	August 17, 2016	Open 8/2016 - On going
P18-13	Identify any other profiles that can be shared in the group	All SC-223 members	August 17, 2016	Open 11/2016 - On going
P18-14	Draft a working paper for ICAO WG-I on the scope and function of IPS based on USGv6_v1 structure	Aloke Roy	August 17, 2016	Open 8/2016 - next WG-I meeting in December
P18-15	Coordinate with SC-222 about SATCOM providers' participation	Aloke Roy and David Robinson	August 17, 2016	Closed 8/2016 - Ann Heinke will participate SC-223
P18-16	Members are invited to develop profiles for RFCs that are within the scope and bring to the next meeting as a strawman proposal	All SC-223 members	August 17, 2016	Closed - 8/2016
P18-17	Develop initial draft profile for RFC 768 User Datagram Protocol, August 1980	Dongsong Zeng	August 17, 2016	Closed - 8/2016
P18-18	Develop initial draft profile for RFC 791 Internet Protocol	Paul Mettus and Aloke Roy	August 17, 2016	Closed - 8/2016
P18-19	Develop initial draft profile for RFC 793 Transmission Control Protocol (TCP), September 1981	Bruce Eckstein and Antonio Correias	August 17, 2016	Closed - 8/2016
P19-1	Review the draft RFC profiles and provide comments before next meeting	All members	November 8, 2016	11/2016 - On going
P19-2	Identify IPv6 functions and corresponding RFCs, on the basis of the Appendix C: Requirements Summary Table in the file <code>disr_ipv6_profile_version_6_july_2011.pdf</code> , with consideration of NIST USGv6_v1 document and RFC6434. Task group reports findings from DoD IPv6 Profile at the next telecon.	Paul Mettus, Antonio Correias, Madhu Niraula, and Dongsong Zeng	November 8, 2016	Closed – 11/2016
P19-3	Restructure the workspace to set up working folder and final folder	Dongsong Zeng and Rebecca Morrison	November 8, 2016	Closed – 11/2016
P19-4	Explore FTI documents on IPv6 profiles and test procedures	FAA, David Robinson and Brent Phillips	November 8, 2016	On going
P19-5	From SC-223 perspective, there is no need to develop ISRA with SC-222. SC-223 TOR	Aloke Roy	November 8, 2016	Closed – 11/2016

January 5, 2017

	requires definition of the subnet user interface and generic subnetwork performance requirements. It is not the responsibility of SC-223 to allocate RCTP to each specific subnetworks.			
P20-1	Investigate Cisco RFC implementation for IP over SATCOM	Rafael Apaza and David Robinson	Feb 28, 2017	
P20-2	Check with FAA infrastructure people about how to use A/G capabilities of IPS	Aloke Roy and Brent Phillips	Feb 28, 2017	
P20-3	Draft initial high level diagram of a generic network architecture for IPS	Madhu Niraula	Feb 28, 2017	
P20-4	Add notes to elaborate the required RFCs	Tiger team	Feb 28, 2017	
P20-5	Expand the high level profile for IPS	Tiger Team	Feb 28, 2017	
P20-6	Present the updated TOR to PMC	Brent Phillips	Feb 28, 2017	
P20-7	Present a working paper to WG-I with RFC recommendations and profile for RFC2460 and RFC2474	Aloke Roy and Dongsong Zeng	Feb 28, 2017	
P20-8	Present Gap analysis comments to AEEC IPS	Brent Phillips and Dongsong Zeng	Feb 28, 2017	
P20-9	Develop use case based on existing vulnerability analysis for FTI and AeroMACS	David Robinson	Feb 28, 2017	

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Dongsong Zeng
Secretary

CERTIFIED as a true and accurate summary of the meeting.

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Aloke Roy
Chairman