



RTCA Paper No. 200-18/SC223-065  
EUR 201-18/WG108-09  
July 25, 2018

**MINUTES OF THE TWENTY-SEVENTH SC-223 PLENARY  
JOINT WITH THE SECOND EUROCAE WORKING GROUP  
108 MEETING**

**“Internet Protocol Suite (IPS) and AeroMACS”**

**DATE:** June 4-7, 2018

**TIME:** June 4, 2018 10:30 a.m. – 5:00 p.m.  
June 5-7, 2018 9:00 a.m. – 5:00 p.m.  
Working Session June 8, 2018 9:00 a.m. – 12:00 p.m.

**PLACE:** Hosted by EUROCAE  
9 Rue Paul Lafargue  
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Attendees:

Name	Role	Affiliation	Note
Aloke Roy	Chair of SC-223	Honeywell International, Inc.	
Brent Phillips	DFO	Federal Aviation Administration	
Rebecca Morrison	Program Director	RTCA, Inc.	
Dongsong Zeng	Secretary of SC-223	The MITRE Corporation	

Francois d'Humieres	Member	Frequentis	
Stephane Pelleschi	Chair of WG-108	Rockwell Collins, Inc.	
Kristen Mineck	Member	INMARSAT	Via WebEx
Adrian Cioranu	Member	EUROCAE	
Madhu Niraula	Member	Rockwell Collins, Inc.	
Antonio Correias	Member	Skymantics	Via WebEx
Victor Flores Gomez	Member	EUROCONTROL	
Michael Vanguardia	Member	The Boeing Company	
Ana Mirsayar	Guest	Thales, UK	
Xianyu Xu	Guest	Thales, France	
Liviu Popescu	Member	EUROCONTROL	
Zdenek Jaron	Guest	Honeywell	
Pavel Drasil	Member	Honeywell	
Ron Dlouhy	Member	Rockwell Collins, Inc.	Via WebEx
Rafael Apaza	Member	NASA	Via WebEx
Victor Flores Gomez	Member	EUROCONTROL	Via WebEx
Bernhard Haindl	Guest	Frequentis	Via WebEx
Robert Segers	Member	Federal Aviation Administration	Via WebEx
Stephen Tamelet	Member	Airbus	Via WebEx
Kanaan Abdo	Guest	AirTel	Via WebEx

## AGENDA

1. Welcome, Introductions, and 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
  - c. RTCA SC-223 status
  - d. EUROCAE WG-108 status
4. Current State of Activities
  - a. SESAR Programs
  - b. ESA IRIS Precursor
  - c. Any Other Activities
5. IPS Technical Discussions
  - a. Review of IPS high-level profile and RFC detail Profiles
  - b. Discussion of MASPS and guidance document scope & plan
  - c. IPS Security Discussion
6. Review and Approve changes to the Terms of Refence for SC-223 and WG-108
7. Any Other Topics of Interest
8. Plans for Next Meetings
9. Review of Action Items and Meeting Summary
10. Adjourn when plenary business is complete

## **Agenda Items 1. Welcome, Introductions, Administrative Remarks**

Aloke Roy, Chair of SC-223, Honeywell, and Stephane Pelleschi, Chair of WG-108, Rockwell Collins, welcomed the participants.

Rebecca Morrison, Program Director, RTCA, started the meeting with the RTCA anti-trust policy:

“RTCA meetings are conducted in strict compliance with U.S. antitrust laws. Meetings shall not consider, or be used to discuss, agreements on prices, including terms of sale or credit, production plans, marketing strategies or customer potential, or any other element of competition between participants.

RTCA staff will suspend any discussion that relates to such matters and the Meeting will proceed only after appropriate limitation of such discussions has been advised and agreed.”

Then Rebecca Morrison, RTCA, announced the RTCA Proprietary References Policy and Membership Policy. Adrian Cioranu, EUROCAE, presented the EUROCAE Proprietary References Policy and Membership Policy as well.

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

The working group reviewed and approved the of SC-223 P26 meeting minutes without changes, and updated the status of previous action items.

## **Agenda Item 3. Review of Current State of Industry Standards**

### **3a. ICAO WG-I**

Aloke Roy, Honeywell, updated the group on the ICAO WG-I/26 meeting, Montreal, Canada, May 14-18, 2018.

On the one hand, the Security SG plans to complete the IPS security documents, i.e., Doc10090 Manual of Security for aeronautical communications, Doc10094 Manual of the Aeronautical Telecommunication Network (ATN) Secure Dialogue Service, and Doc10095 Manual of Public Key Infrastructure (PKI) Policy for Aeronautical Communications, by November 2018.

On the other hand, in response to the three IPS mobility candidate solutions, i.e., AERO, LISP and Mobile IPv6, that have been proposed to WG-I, the mobility SG developed a set of criteria to further down-select the mobility solutions and plans to finally decide the best global mobility solution by the end of 2018.

### **3b. AEEC IPS Sub Committee**

The AEEC IPS Sub Committee plans to develop AEEC IPS standards in two steps:

Step 1: 18-month planning activity with five 2-day meetings, potentially involving ICAO, RTCA, EUROCAE, etc. (2015 to 2017, deliverable ARINC 658); and

Step 2: Standards writing (2017 to 2019, deliverable ARINC 858).

The ARINC Project Paper 658: Internet Protocol Suite (IPS) for Aeronautical Safety Services – Roadmap Document was approved for publication in 2017. The AEEC IPS Sub Committee is currently working on ARINC 858.

### 3c. EUROCAE Working Group

Stephane Pelleschi, Rockwell Collins, provided an update on the WG-108 status. The EUROCAE TAC tasked WG-108, to prepare a guidance document to ensure that the ATN/IPS deployment satisfies the IPS safety, security and performance needs. A new certification framework may be needed to assure IPS end-to-end interoperability. WG-108 will cooperate with SC-223 on the IPS profile and the MASPS development.

## Agenda Item 4. Current State of Industry Activities

### 4a. SESAR Programs

Francois d’Humieres, Frequentis, provided an update on SESAR2020 P14.2.4 (FCI). Figure 1 shows an overall project plan of SESAR2020 P14.2.4 (FCI). Table 1 elaborates the definitions of some symbols used in Figure 1.

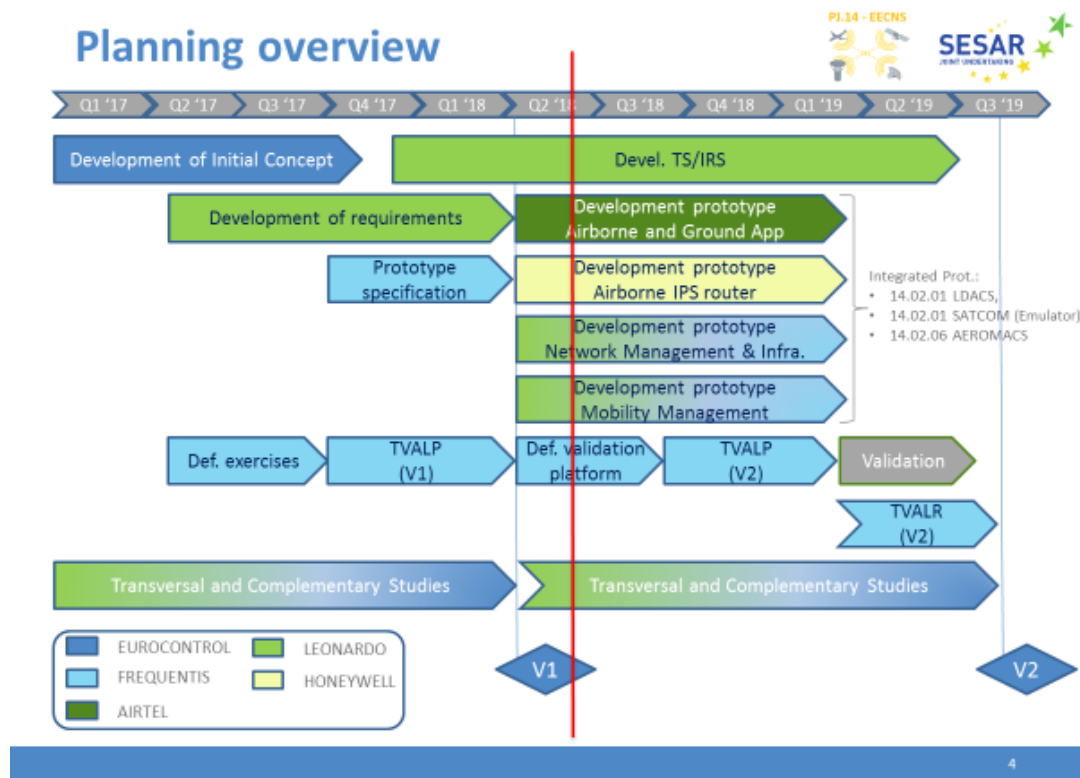


Figure 1. SESAR 2020 P14.2.4 (FCI) Overview

Table 1. V1 and V2 Data-pack Description

	<b>Deliverables</b>	<b>Milestone</b>	<b>Lead</b>	<b>ID</b>
V1 Data-pack	<b><u>ATM Research</u></b>			
	Concept outlines and identification of potential benefits and risks	ER initial delivery	Eurocontrol – T01	D5.1.010
	Initial concept description Initial transversal and complementary studies	ER final delivery	Eurocontrol – T01 Leonardo – T04	D5.1.020.1 D5.1.020.2
	Technology Demonstrator	ER final delivery	Not applicable	
	<b><u>Industrial Research</u></b>			
	Functional Requirements Definition	V1 final delivery	Leonardo – T02	D5.2.010
	Technical Validation Report (TVALR) (TRL2)	V1 final delivery	Not applicable	
V2 Data-pack	Technical Validation Plan (TVALP) V2(TRL4) defining the verification roadmap for phase V2 (TRL4)	V1 final delivery	Frequentis – T03	D5.1.030
	<b><u>Initial System Requirements definition</u></b>			
	Initial Technical Specification (TS/IRS)	SYS	Leonardo – T02	D5.3.010
	<b><u>Technical Validation Objectives definition</u></b>			
	Technical Validation Plan (TVALP)	SYS	Frequentis – T03	D5.3.020
	<b><u>V2(TRL4) Platform development</u></b>			
	Availability Note (AN)	EXE START	All	D5.3.030
	<b><u>Technical Validation Results consolidation</u></b>			
	Technical Validation Report (TVALR) V2(TRL4) (VR)	Final Delivery	Frequentis – T03	D5.3.040
	Transversal and complementary studies (including economical appraisal)	Final Delivery	Leonardo – T04	D5.3.060
	Technical Validation Plan (TVALP) defining the validation roadmap for phase V3(TRL6)	Final Delivery	Frequentis – T03	D5.3.050
<b><u>Systems Requirements consolidation</u></b>				
Technical Requirements (TS/IRS)	Final Delivery	Leonardo – T02	D5.4.010	

#### 4b. ESA IRIS

No updates on ESA IRIS.

#### 4c. Any Other Activities

No other activities were reported.

### **Agenda Item 5. IPS Technical Discussions**

#### **5.a. Review of IPS high-level profile**

The groups revisited and updated the resolutions of the WG-108 review comments highlighted in Table 2.

Table 2. WG-108 Comments on IPS Profile and Corresponding SC-223 Resolutions

No.	Company	Section	WG-108 Comment Description	SC-223 Resolution
1		Figure 2.1-1	This figure, in line with ICAO general diagram, shows that the OSI-IPS convergence is done between the end-systems whereas it may be different in the case of the accommodation on the ground side. Indeed, the inter-domain router could also manage the accommodation. In addition, avionics or ground systems can also operate as pure OSI systems.	Change "OSI/IPS convergence" to "ATN PKT adaptation", add another box to support native IP. Stephane and Madhu will draft a new diagram.
2		Figure 2.1-2	Is TCP recommended or optional?	Change recommended to optional. On page 17, TCP is optional on the air side and mandatory on the ground side.
3		§2.3.1.2	Is DNS confirmed by ICAO?	DNS is still under consideration and has not been finalized by any group.
4		§2.4	VoIP is not part of the AEEC IPS baseline. Discussion to harmonize between groups on this topic needed?	Add a VoIP clarification that VoIP is only treated as data flow over IPS, no additional design considerations are provided in this profile.
5		Figure 2.4-1	UAS ATS link managed on ground? Seems not to be in line with WG-105 feedback during the WG-108 kick-off meeting	Subject to SC-228 and WG-105 decision.
6		§3.3.1	Is SCTP needed even for ADS-C? if yes, this should be mandatory otherwise we could remove it	No need for SCTP.
7		p19	1981: Why is it kept as optional if the note explains that it should not be needed?	Air side is not required.
8		p20	If 5225 supersedes the definition of 5795, why do we keep 5795	5795 is a framework
9		p21	RFC 3843/4362: why not mandatory if we want to go that path?	Need further analysis on the benefits of requiring these RFCs. Identify benefits to justify mandatory requirements.
10		§3.3.3 p24	8. the "IPS system"	Editorial
11		§3.3.3 p25	Regarding Multicast Listener, does the "O" means that this is not fully decided yet and could become a "Y" or a "N" in a future version?	Same resolution as in Row 2.
12		p33	DNS servers replication: is this the scope of this document?	Replication requirement will be removed
13		§3.3.10.1 to §3.3.10.4	Is it part of the scope for profiles? This does not drive any interop behaviors between IPS systems	SNMP will not be required. High-level requirements will likely to move to SARPS.
14	FRQ	chapter 2.3	Why is here only DNS mentioned?	See resolutions of other DNS comments.
15	FRQ	Table 1.5.3	The devices classes shall be discussed. In the FCI architecture used by Sesar the A/G router is the interface between the IPS Ground Internetwork and the different A/G access networks and the access router is the router interfacing with the ground radios	In the context of IPS profile, the routing relationship is between airborne router and air/ground router.

16	FRQ	Figure 2.1.2	The IPS context diagram should be discussed.	See resolutions of Figure 2-1.2 above.
17	FRQ	2.3.1.2.1	Please justify why the DNS service has to support name resolution for mobile systems.	See resolutions of other DNS comments.
18	FRQ	chapter 3.3.1	Shall the reliable UDP be only used over bandwidth limited A/G channels. What is meant with reliable UDP? The DS over UDP used to make the communication reliable for the application?	A: No. B: Please see Doc9896 for reliable UDP. C: Yes, it is intended to make communication reliable.
19	FRQ	Table 3.3.1-1	Why is UDP mandatory for the routers? Please have a look at Figure 2.1.1	Add a note in the table to indicate that UDP is needed to support some of the routing, management and security functions in the router.
20	FRQ	Table 3.3.2-2	The mapping of ATN applications to DSCP values should be discussed.	This table is aligned with Doc 9896, 10044, and WG-82.
21	FRQ	Table 3.3.2-2	Is EF required in the aircraft?	Yes. However, the table will be updated and reside in Doc9896 instead of the RTCA/EUROCAE Profile.
22	FRQ	Table 3.3.2-2	What does ROHC means for the multilink concept in terms of handover performance.	ROHC is needed for communication efficiency and may be independent of multilink.
23	FRQ	Table 3.3.2-2 / RFC 2998	Is this RFC really needed in the aircraft	Yes, to support end-to-end QoS signaling. Implementation details of the scheduler is out of the scope.
24	FRQ	chapter 3.3.3 / 2	Why do we need a stand-alone routing domain in the aircraft	Aircraft is a stand-alone domain, separate from air/ground domain. Document updated with suggested text and subject to review.
25	FRQ	chapter 3.3.3 / 6	The following statement: "the IPS router shall update its routing information base using reachability data received from its neighboring routers and hosts" should be extended with radio devices.	Please clarify. Updated with suggested texts.
26	FRQ	chapter 3.3.3 / 8	Please explain what is meant with "The IPS shall provide capability to discover its neighbors."	High-level requirement.
27	FRQ	Table 3.3.3-1	Why is RFC 4861 (Neighbor Discovery) needed on the Air Router and why is it not needed on the Ground Host?	Only RS and RA messages are supported over air/ground. It is required for Ground host.
28	FRQ	Table 3.3.3-1 page 25	All the multicast RFCs are optional. Does this mean that there is no need for Multicast support? Is this in line with the discussion in the ICAO mobility SG?	Multicast is optional because there is no high priority use case in the near term and it is very difficult to specify considering security and dynamic aircraft situations. It is expected to be covered in the future standards update.
29	FRQ	Table 3.3.3-1 page 25	Why is the Ipv6 Router Advertisement Flags Option (RFC 5175) required in the aircraft?	This is an expedited mechanism to signal link preference. Additional extension of RA flag option is desired for quick network convergence.
30	FRQ	chapter 3.3.4	The functionality that the same IPv6 unicast address shall be assigned to multiple interfaces of different subnetworks shall be discussed	This is standard IPv6 capability, therefore, it is continually required for IP mobility.

31	FRQ	chapter 3.3.4 / page 27	Is the described address format compliant to the address format defined in ICAO 9896.	Yes, but subject to INNOVA task force resolution.
32	FRQ	chapter 3.3.4 / page 28	Is the IEEE EUI-64 guideline required for interfaces in the aircraft and / or on ground?	Recommended but need a common mechanism for the lower 64-bit configuration.
33	FRQ	chapter 3.3.4.4/3	Why is IEEE EUI-64 rules are required?	This is recommended.
34	FRQ	Table 3.3.4-1/page 31	Why is the IPV6 Stateless Address Autoconfiguration required for the aircraft. Isn't that a static address configuration.	SLAAC is needed to configure interface address specific to access network reached by that interface.
35	FRQ	Table 3.3.5-1/page 34	The LISP functionality is not required at the Ground Host and also not on the A/G router. Note that the architecture used in SESAR is different than the one used here and therefore the A/G route is defined differently. (see comment 15)	Wait for MSG resolution in May
36	FRQ	Table 3.3.7-1/page 42	Why is RFC 4941 required in the aircraft?	See resolution in row 35
37	FRQ	page 77	Why is RFC3246 (EF) required at the air router?	See resolution in row 30
38	AIRBUS	§ 2.3.1.2	DNS should not be made mandatory in a minimum profile for the Airborne systems. The current Airborne D/B could continue to be used, at least while it is considered that it will be more cost effective than certifying an Airborne DNS application coupled with an Airborne Database of ground DNS servers addresses.	Still being worked. From Airbus and DSN perspective, DNS is not urgent in the near future.
39	AIRBUS	§3.3.2	Not sure DiffServ complex scheduler should be made mandatory for Airborne routers. Current Airborne routers are handling very few infrequent messages (typically less than one per minute) and the need of a complex scheduler can therefore be challenged, especially while Voice over ATN/IPS is not implemented	Signaling of QoS of DiffServ is required
40	AIRBUS	§3.3.3	The Airborne router profile should be "subject to ICAO WG-I Mobility subgroup"	Being coordinated with WG-I and MSG.
41	AIRBUS	§3.3.10.5	SNMPv3 should not be mandatory on Airborne systems side, because specific BITE protocol are generally used for onboard systems management, and also because use of SNMP over the A/G link must be precluded over the A/G link for security reason.	On the air side, the SNMP should be optional.
42	ALTYS	§2.3.1.2	Air router could be challenged to maintain a local DNS cache with sufficient size / expiry period (TTL) to avoid DNS update during flight and to privilege DNS update on ground? Any recommendation on the DNS size and TTL?	Resolved above for DNS comment
43	ALTYS	§3.3.1	The SCTP protocol supports multihoming, is there any impact/simplification on the mobility protocol choice if this feature is used?	SCTP requirement is removed. No plan to support SCTP.



44	ALTYS	Table 3.3.2	when used for A/G and Air routers, is there any required modification or adaptation for the ICMPv6 to optimize the A/G ground bandwidth usage? e.g. for Router Solicitation / Advertisement messages, use a high RA retransmission timer? etc.	RS and RA are only used at startup as well as to notify connectivity status changes. Other ICMP messages are not sent over A/G subnetwork. The timer and performance specification will be addressed during MOPS development.
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The work groups went through Rockwell Collins’s comments on the high-level profile, and made the following decision:

**Decision 3:** Simple name lookup is conditional: if all aircraft safety applications can provide IPv6 addresses of its peer ground entities, then simple name lookup is not required, otherwise, it is mandatory. Therefore, simple name lookup responder is mandatory for the ground access network providers. Explain the needs, proposed solution, tradeoffs, and benefits that lead to simple name lookup in the MASPS.

Through the discussion, the work groups generated the following action items:

**Action Item P27-1:** Alope Roy, Liviu Popescu, Stephane Pelleschi, Vic Patel, Greg Saccone, and Luc Emberger to craft a development timeline and dependency table for the ICAO/RTCA/EUROCAE/AEEC working groups, and initiate a general guidance on the demarcation of the scope of each group.

**Action Item P27-2:** Bernhard Haindl to update table column for ground/ground boundary router.

**Action Item P27-3:** Alope Roy, Stephane Pelleschi, Dongsong Zeng to summarize the decisions made regarding the device classes in the meeting minutes.

The groups made two changes to the device classes during the meeting. One is to change “Ground/Ground Router” to “Ground/Ground Boundary Router”, i.e., “Ground/Ground Boundary Router - All ATN ground/ground inter administrative domain routers except Air/ground routers.”

The other change is to add the following note:

“Note: Specific implementations may have other router types such as access router, intra-domain routers, etc. These routers are outside the scope of this standard.”

**Action Item P27-4:** Alope Roy and Madhu Niraula to update Table 3.3.2-1: IPS DiffServ (DSCP & PHB) to ATN Priority Mapping and submit to WG-I for consideration after the RTCA/EUROCAE consolidation of comments. Note: the content will remain in the Profile until WG-I accepts it before FRAC/OC.

**Action Item P27-5:** Alope Roy to update Chapter 3.3.3 / 2 on the aircraft stand-alone routing domain.

After the meeting, Alope Roy proposed the reworded text of requirement #2 in section 3.3.3 as “Each aircraft will have a globally routable, unique IPv6 address prefix.” This proposed text is subject to group review at the next SC-223 meeting.

**Action Item P27-6:** Alope Roy to add definitions of IPS system, router, etc., in terms of acronym section. Alope and Stephane Pelleschi to update all general sections in the profile document.

After the meeting, Alope Roy proposed the following new definitions that are subject to group review at the next SC-223 meeting.

- o IPS System: The IPS System is the all-encompassing Aviation Internet that provides data transport, networking, routing, addressing, naming, mobility, multilink and information security functions to the aviation services. The IPS System includes the Layer 3 and Layer 4 functions of the ISO/IEC 7498-1 OSI 7-layer Reference Model. The IPS System does not include the underlying subnetwork functions that provide connectivity or the Applications.
- o IPS Router: The IPS Router is the function that forwards Aviation Internet Protocol (IP) packets in transit from the originating Host to the destination Host through the IPS System. The IPS Router processes IP packets not explicitly addressed to them to perform routing and relaying functions.
- o IPS Host: The IPS Host is the originator or terminator of IP packets in the IPS System. The IPS Hosts do not route IP packets that are not addressed to it.
- o IPS Air/Ground Router: The IPS Air/Ground Router is a ground IPS router that interfaces directly with an adjacent airborne host/router over RF media. In other words, the air/ground router is the first-hop ground router for airborne host/router.
- o IPS Boundary Router: The IPS Boundary Router is a ground IPS router that routes IP packets across two interconnecting administrative domains.
- o Administrative Domain: See existing definition in Doc 9896.

**Action Item P27-7:** Stephane Tamalet to write a whitepaper to explain that TCP should be prohibited for dialogue services.

**Action Item P27-8:** Stephane Pelleschi to write a note on TCP, SCTP, UDP explaining the use of these protocols. Please consider the disposition of Frequentis' comments.

**Action Item P27-9:** Dongsong Zeng, Stephane Tamalet, Antonio Correias and Bernhard Haindl, to expand the requirement (Chapter 3.3.2/ 7), into multiple requirements such as link performance metrics, link security status. Adjust independently "shall" or "should".

**Action Item P27-10:** Alope Roy to re-submit the IP addressing proposal to CP DCIWG, WG-I and INNOVA.

**Action Item P27-11:** Mike Vanguardia and Stephane Tamalet to draft a whitepaper on what is needed to be done on the ground side for security/certification.

**Action Item P27-12:** Madhu Niraula to coordinate with Alope Roy, Greg Saccone, Stephane Pelleschi, and Stephane Tamalet to compile the port list in Profile chapter 3.3.8, and WG-I.

**Action Item P27-13:** Madhu Niraula to send the updated simple name lookup proposal to Dongsong Zeng.

**Action Item P27-14:** Dongsong Zeng to integrate the previous version RFC profile spreadsheet to the current one, and validate it.

**Action Item P27-15:** Dongsong Zeng to update RFC spreadsheet based on updated profile comments.

**Action Item P27-16:** SC-223 and WG-108 leadership to make sure all the previous working files are properly uploaded to the workspaces.

The group agreed to use the RTCA workspace as main repository of working documents and meeting materials, with the EUROCAE workspace as redundancy to backup necessary materials. We will not duplicate all the records on the EUROCAE workspace.

**Action Item P27-18:** Alope Roy and Dongsong Zeng to request Hawkins to release the updated profile version to incorporate all the changes up to date preferably by end of next week.

## 5b. Discussion of MASPS and Guidance Document Objective and Scope

The group discussion started with a comparison of the objectives of both SC-223 IPS MASPS and WG-108 Guidance document. The objective comparison results are summarized in Table 3, from which we can see that the objectives of the two documents are the same.

Table 3. Comparison of Objectives of SC-223 IPS MASPS and WG-108 Guidance Document

Objective Number	SC-223 IPS MASPS	WG-108 Guidance Document
1	Scope of MASPS over services and use cases	Yes
2	Enable FAA/EASA to certify IPS system implementations (both aircraft and ground)	Yes
3	Enable continuous operational safety	Yes
4	Allocate security requirements (CAI)	Yes
5	Allocate safety requirements	Yes
6	Allocate performance requirements (QoS, availability, reliability)	Yes
7	MASPS (profiles) requirements validation and verification	Yes
8	Assure end-to-end interoperability	Yes
9	Transition (application and network)	Yes
10	Regional constraints	Yes

The group discussion proceeded with a comparison of the scope of applications that both SC-223 and WG-108 would like their MASPS and Guidance document to support. Through the application scope comparison, the group agreed on that both MASPS and Guidance document must support high priority applications, such as FANS1/A, B2 (B2A, B2B), B1, UAS C2 BLOS, safety ACARS, and may support low priority applications, such as SWIM, B3, A/G VoIP, to the extent of definitions and specifications being available.

The group discussion ended with a conclusion that the objectives and scope of both SC-223 MASPS and WG-108 Guidance material are identical.

**Decision 1:** Group agreed on that the objectives and scope of both SC-223 MASPS and WG-108 Guidance material are the same.

### 5.c. IPS Security Discussion

SC-223 and WG-108 had a discussion on IPS security. The discussion points are as follows.

- Need to define a security reference document
- Threat analysis starts from
  - Airbus, Boeing security risk analysis
  - FAA security requirements
- Assumptions
  - Security framework and policy will be developed by ICAO WG-I SSG in Doc 10090 and Doc 10095
  - Security at application level is developed by ICAO WG-I SSG Doc 10094, therefore out of scope for RTCA/EUROCAE assuming secure dialogue service (SDS) will provide that capability for safety services
  - Future IP data links such as IRIS, LDACS, AeroMACS, will provide security at subnetwork
  - Unclear whether VDL2 will have subnetwork security
    - Airbus position is that VDL2 security needs to be implemented for IPS
    - However, for legacy applications such as FANS, SDS might be adequate
    - However, impact on the overall aircraft level needs to be assessed
- Security is a general term used here to imply authentication, confidentiality, integrity

### **Agenda Item 6. Review and Approve changes to the Terms of Refence for SC-223 and WG-108**

As the objectives and scope of both SC-223 MASPS and WG-108 Guidance material are the same (See 5.b), both SC-223 and WG-108 agreed that it would be beneficial to the standard development that both groups work on the same deliverables with the same schedule. Table 4 shows the joint deliverables and schedule that both groups agreed on.

Table 4. SC-223 and WG-108 Joint Deliverable and Schedule

<b>Deliverable</b>	<b>Completion Date</b>
Joint Aviation Profiles for Internet Protocol Suite	December 2018
Joint Minimum Aviation System Performance Standard (MASPS) for the Internet Protocol Suite used in Aviation A-G Communication System	December 2019

**Decision 2:** The plenary approved to update the TORs to reflect the new joint deliverable and schedule in Table 4, for both SC-223 and WG-108.

The chairs of the SC-223 and WG-108 plan to submit the draft updated TORs to RTCA PMC and EUROCAE TAC for approval, respectively.

The RTCA PMC approved the proposed SC-223 TOR revision on June 21, 2018. The EUROCAE TAC will consider the WG-108 ToR update.

**Action Item P27-17:** Adrian Cioranu and Rebecca Morrison to coordinate for FRAC/OC of the profile according to the TOR.

**Agenda Item 7. Any Other Topics of Interest**

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

**Agenda Item 8. Plans for Next Meetings**

**Decision 4:** Future meetings:

- Monthly joint telecons (6/29, 7/18, 10:00AM EST)
- SC-223 P28 meeting, August 13-17, 2018, Inmarsat, Washington, D.C.
- Joint SC-223 P29 / WG-108 meeting (Profile FRAC/OC Release), September 24 - 28, 2018, RTCA
- Joint SC-223 P30 / WG-108 meeting (Profile FRAC/OC Resolution), December 10 – 14, 2018 (Frequentis Austria, or Brussels)

**Agenda Item 9. Review of Action Items and Meeting Summary**

Dongsong Zeng, MITRE, presented the out-briefing (SC-223 IPS Meeting OutBriefing\_June\_2018.pptx) which summarizes all the decisions and action items that were made during this meeting. The work group reviewed and agreed on the out-briefing.

**Agenda Item 10. Adjourn**

The meeting adjourned around 12:00 PM, Friday, June 8, 2017.

**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. 2/2017 – Keep open 5/2/2017 – Keep open, SC-216 draft document says single layer security may be adequate. 8/21/2017 – Keep open.

				10/23/2017 – Closed. IPS can be used by GA if it provides business benefits, same as air transport aircraft.
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. SSA-lite was a limited report, not to be used as system safety analysis.
P18-5	Conduct the safety analysis (IPS use for safety and regularity of flight domain) for IPS and provide the Design Assurance Level (DAL) for IPS	David Robinson, Brent Phillips, FAA	August 17, 2016	Open 8/2016 - Start with safety assessment, then decide DAL. 2/2017 – Open. 5/2/2017 – Not aircraft certification office responsibility, David to check with UAS. 8/21/2017 – keep open. 10/23/2017 – Keep open. Data Comm Seg 2 requires security provisions. UAS C2 will require security (mutual authentication and integrity are required, encryption is optional). See action item P24-4 12/4/17 – Closed. Refer to RPAS (SC-228) safety assessment and network availability requirement to derive the IPS safety requirements because RPAS C2 would be the most stringent use case for IPS. SC-228 will provide safety/security inputs in the next SC-223 March meeting.
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 2/2017 - Closed
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 2/2017 – the formal ISRA should be developed by SC-206 if this is needed. 5/2/2017 – CLOSED. Checked with A/G SWIM, no IP service needs.
P18-9	Check whether RFC 2488 Enhancing TCP over Satellite Channels is needed by IPS	Danny Bharj and David Robinson	August 17, 2016	Open 2/2017 - Inmarsat is looking at the draft from David. Boeing is proposing an updated UDP to ICAO WG-I. 5/2/2017 - CLOSED

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 2/2017 – EUROCAE is waiting for AEEC IPS roadmap completed. 5/2/2017 – CLOSED. AEEC road will not complete until Oct 2017, we decided to proceed with SC-223 plan.
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 2/2017 – Closed.
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 2/2017 – Closed. Company profiles are not releasable.
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 2/2017 – Closed.
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 Correas	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 2/2017 – on going 5/2/2017 – CLOSED.
P19-2	Identify IPv6 functions and corresponding RFCs, on the basis of the Appendix C: Requirements Summary Table in the file <a href="#">disr_ipv6_profile_version_6_july_2011.pdf</a> , with consideration of NIST USGv6_v1 document and RFC6434. Task group reports findings from DoD IPv6 Profile at the next telecon.	Paul Mettus, Antonio Correas, 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 2/2017 – David is working on the NDA with FTI. On-going. 5/2/2017 – on going. 8/21/2017 – new FTI manager selected. Brent reached out to Andy. Material received, working on approval to release. Keep open. 10/23/2017 – Closed.
P19-5	From SC-223 perspective, there is no need to develop ISRA with SC-222. SC-223 TOR 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 subnetwork.	Aloke Roy	November 8, 2016	Closed – 11/2016
P20-1	Investigate Cisco RFC implementation for IP over SATCOM	Rafael Apaza and David Robinson	Feb 28, 2017	2/2017 – on going. 5/2/2017 – Nothing special identified in current SATCOM trials. Ongoing. 8/21/2017 – keep open 10/23/2017 – Closed. IPS will define a standard interface.
P20-2	Check with FAA infrastructure people about how to use A/G capabilities of IPS. Would FAA use the IPS Profiles in the infrastructure procurement?	Aloke Roy and Brent Phillips (Andy Isaksen)	Feb 28, 2017	2/2017 – Open 5/2/2017 – Keep open. Would FTI 2 refer to IPS Profiles? 8/21/2017 – keep open 10/23/2017 – Closed. They can use the same IPS profiles if necessary, additional RFCs can be specified for G/G.
P20-3	Draft initial high-level diagram of a generic network architecture for IPS	Madhu Niraula	Feb 28, 2017	2/2017 – Closed.  Feb 28 review, and will be available on the workspace.
P20-4	Add notes to elaborate the required RFCs	Tiger team	Feb 28, 2017	2/2017 – Closed.
P20-5	Expand the high-level profile for IPS	Tiger Team	Feb 28, 2017	2/2017 – Closed.
P20-6	Present the updated TOR to PMC	Brent Phillips	Feb 28, 2017	2/2017 – Closed.
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	2/2017 – Closed.
P20-8	Present Gap analysis comments to AEEC IPS	Brent Phillips and Dongsong Zeng	Feb 28, 2017	2/2017 – Closed.
P20-9	Develop use case based on existing vulnerability analysis for FTI and AeroMACS	David Robinson	Feb 28, 2017	2/2017 – On going. 5/2/2017 – keep open. 8/21/2017 – keep open. 10/23/2017 – Closed. See action item P24-4.
P21-1	Add RFC 7296, 7427, 7670 1034, 1035, 1123, 2181 to high-level profile.	Dongsong Zeng	May 2, 2018	5/2/2017 – CLOSED



P21-2	Draft detail profiles for RFC 2460, 5795, 6846, 5225, 3095, and 4815.	Paul Mettus	May 2, 2018	5/2/2017 – Keep open 8/21/2017 – in progress 10/23/2017 - Keep open 12/4/17 – Keep open 3/5/18 – Keep open 6/4/18 – Alope will take care of this.
P21-3	Draft detail profiles for RFC 4443, and 4861.	Madhu Niraula	May 2, 2018	5/2/2017 – CLOSED.
P21-4	Draft detail profiles for RFC 4862, 4429, 4291, 2474, 2475, 2597, and 3246.	Alope Roy	May 2, 2018	5/2/2017 – keep open 8/21/2017 – In progress. 10/23/2017 – In progress 12/4/17 – Keep open 3/5/18 – Keep open until Alope put them on the workspace 6/4/18 – Keep open.
P21-5	Refine detail profiles for RFC 2464, 5175, and 768.	Dongsong Zeng	May 2, 2018	5/2/2017 – CLOSED.
P21-6	RFC 3411, 3412, 3413 (SNMP low priority) to be assigned.	All members	May 2, 2018	5/2/2017 – keep open 8/21/2017 – keep open 10/23/2017 – In progress 12/4/17 – Keep open, low priority 6/4/18 – Keep open.
P21-7	Draft detail profiles for RFC 1151 (RDP), and 7542 (NAI).	Antonio Correias	May 2, 2018	5/2/2017 – CLOSED
P21-8	Initiate the IPS system overview and use cases	Alope Roy, Rafael Apaza, Antonio Correias and Dongsong Zeng	May 2, 2018	5/2/2017 – in progress 8/21/2017 – in progress 10/23/2017 – Closed and subject to review.
P21-9	Merge the two high-level profiles and draft the working paper for next WG-I meeting	Dongsong Zeng	May 2, 2018	5/2/2017 – CLOSED
P21-10	Investigate the tradeoffs of SCTP, RDP, UDP and TCP.	Dongsong Zeng and Antonio Correias	May 2, 2018	5/2/2017 – CLOSED
P21-11	Identify DNS related RFCs and develop use cases.	Rafael Apaza	May 2, 2018	5/2/2017 – keep open. 8/21/2017 – Closed
P22-1	Develop DNS use case	Rafael Apaza	August 21, 2017	8/21/2017 – Closed, subject to group review.
P22-2	Develop general connection establishment, data flow and mobility use case	Madhu Niraula	August 21, 2017	8/21/2017 – keep open 10/23/2017 – In progress 12/4/17 – Closed.
P22-3	Develop general security use case	Madhu Niraula	August 21, 2017	8/21/2017 – keep open 10/23/2017 – In progress 12/4/17 – Keep open 3/5/18 – Madhu provided initial draft, the group needs to discuss it. 6/4/18 – Closed and subject to group review

P22-4	Develop multi-link use case	Antonio Correas and Dongsong Zeng	August 21, 2017	8/21/2017 – Closed, subject to group review.
P22-5	Generate mapping table between WG-I requirements and derive requirements to identify gaps	Aloke Roy	August 21, 2017	8/21/2017 – Closed, overtaken by events. We will address it through use cases development
P22-6	Develop initial Profile and MOPS outline	Aloke Roy	August 21, 2017	8/21/2017 – Closed. Profile draft is done, MOPS outline can be deferred to later time.
P22-7	Place/organize the approved profiles on the work space	Dongsong Zeng	August 21, 2017	8/21/2017 – Closed.
P23-1	Explore subnetwork point of attachment (SNPA) addresses for aircraft.	Aloke Roy	October 23, 2017	10/23/2017 – Closed.
P23-2	Explore how many subnets typical DSPs have.	Madhu Niraula	October 23, 2017	10/23/2017 – Closed.
P23-3	Explore how many subnets FAA enterprise has.	Brent Phillips	October 23, 2017	10/23/2017 – In progress 12/4/17 – Closed. Rob Segers - for aviation interop only certain element of FAA network will be exposed. For those elements, 64 subnets will be more than adequate. This strategy might be applicable to other ANSPs.
P23-4	Explore how many subnets PAN European enterprise has.	Danny Bharj	October 23, 2017	10/23/2017 – In progress 12/4/17 – Closed. Refer to ECDL WP3 form CP WG-I/25.
P23-5	Review what is available in the IETF for multilink.	Antonio Correas, Madhu Niraula, Dongsong Zeng	October 23, 2017	10/23/2017 – Closed
P23-6	Flesh out the IPS CONOPS text.	Dongsong Zeng	October 23, 2017	10/23/2017 – Closed
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
P23-8	Review the existing RFC detail profiles for 5795, 4861, 2597, 3260, 2474, 3246 and provide comments before next telecon.	All member	October 23, 2017	10/23/2017 – In progress 12/4/17 – Closed and will be subject to document walk through.
P23-9	Identify what criteria are needed for link selection.	Antonio Correas	October 23, 2017	10/23/2017 – Closed
P23-10	Generate a whitepaper for the need for airborne router.	Madhu Niraula	October 23, 2017	10/23/2017 – Closed.
P24-1	Draft the simple name lookup provision	Madhu Niraula	December 4, 2017	12/4/17 – Closed and to be discussed.
P24-2	Compare the difference between RFC 8200 and RFC 2460, and recommend profile update	Paul Mettus	December 4, 2017	12/4/17 – Closed and to be discussed.
P24-3	Draft working paper to ICAO WG-I on the use of unique aircraft routing prefix mapped to mobility service provider for route determination. The ground entities use normal	Madhu Niraula	December 4, 2017	12/4/17 – Closed

	routing protocols to propagate the path information. This is an alternate solution to AERO, ground LISP and mobile IPv6			
P24-4	Provide safety/security requirements for both data and control messages	Robert Segers	December 4, 2017	12/4/17 – Keep open 3/5/18 – done and subject to group review. 6/4/18 - Closed
P24-5	Provide link layer security white paper to Rob	Madhu Niraula	December 4, 2017	12/4/17 – Keep open 3/5/18 – Closed
P24-6	Provide CONOPS and DNS to Rich for incorporation to IPS profile draft	Dongsong Zeng	December 4, 2017	12/4/17 – Keep open 3/5/18 – closed
P24-7	Provide link selection criteria specifying which are optional and which are required	Antonio Correias	December 4, 2017	12/4/17 – Closed and to be discussed
P24-8	Provide a concept scheme showing multilink management of packet queuing and forwarding	Antonio Correias	December 4, 2017	12/4/17 – Closed and to be discussed
P24-9	Analyze IP multicast over multilink for emergency messages	Antonio Correias	December 4, 2017	12/4/17 – Closed and to be discussed
P24-10	Update profile schedule to the PMC	Aloke Roy and Brent Phillips	December 4, 2017	12/4/17 – Keep open. 3/5/18 – to be presented in March PMC
P25-1	Draft simple name lookup use case considerations for FANS over IPS and B2 over IPS in the format ready to be incorporated in the Profile	Madhu Niraula	March 5, 2018	3/5/18 – Done and subject to review.
P25-2	Draft security and mobility use case whitepaper and RFC detail profiles	Madhu Niraula	March 5, 2018	3/5/18 – Done and subject to review.
P25-3	Define security requirements and investigate FAA special conditions and share with SC-223	Robert Segers	March 5, 2018	3/5/18 – Done and subject to review.
P25-4	Analyze the DNS security RFCs and if needed generate the detailed RFC profiles	Robert Segers	March 5, 2018	3/5/18 – Done and subject to review.
P25-5	develop port filtering and firewall rules for TCP/UDP ports	Aloke Roy	March 5, 2018	3/5/18 – Done and subject to review.
P25-6	Investigate additional DNS fields needed for simple name lookup, and RFC detail profiles	Rafael Apaza	March 5, 2018	3/5/18 – keep open 6/4/18 - Closed
P25-7	Review Section 3 Functional Requirements of the draft Profile	All members	March 5, 2018	3/5/18 – keep open 6/4/18 – Keep open
P25-8	Finish multilink use case and requirements	Antonio Correias	March 5, 2018	3/5/18 – Done and subject to review.
P25-9	work on multicast use case (uplink/downlink) and RFCs	Antonio Correias and Aloke Roy	March 5, 2018	3/5/18 – Done and subject to review.
P25-10	Investigate the initial discovery for each subnetwork prefix and default gateway (wait for RC IMS paper)	Dongsong Zeng and Madhu Niraula	March 5, 2018	3/5/18 – keep open. 6/4/18 – keep open
P25-11	Review the current RFC 8200 detail profile and provide comments to Paul (starting from item 9 in Section 4.6)	All members	March 5, 2018	3/5/18 – Done and subject to review.
P26-1	Resolve the end-to-end security requirement issue.	Madhu Niraula/Robert Segers	June 4, 2018	6/4/18 – keep open
P26-2	Coordinate the SC-223 approved IPS security requirements with AEEC IPS subcommittee and ICAO WG-I.	Aloke Roy and Dongsong Zeng	June 4, 2018	6/4/18 – keep open

P26-3	Work with regulators to investigate the potential IPS certification criteria.	Aloke Roy, Stephane Pelleschi, and Dave Robinson	June 4, 2018	6/4/18 – Closed and subject to group discussion. FAA regulatory decision to change from MOPS to MASPS, comments from EASA received.
P26-4	Investigate RFC 4035 Section 3.1.5 about the security concerns over zone transfer.	Robert Segers	June 4, 2018	6/4/18 – Keep open.
P26-5	Initiate IETF coordination.	Stephane Pelleschi	June 4, 2018	6/4/18 - Closed
P26-6	Update Figure 2.1-2 in the IPS profile and create a new IPS data flow diagram.	Madhu Niraula and Michael Vangadia	June 4, 2018	6/4/18 – Closed
P26-7	Review the functional profile and identify which ground options should be changed to mandatory	Stephane Pelleschi	June 4, 2018	6/4/18 – Closed and subject to group discussion.
P26-8	Take to the INNOVA the CONOPs and framework of naming convention and ground DNS server responsibility, then provide requirements to SC-223/WG-108.	Rob Segers	June 4, 2018	6/4/18 – Closed.
P26-9	Provide a writeup describing simple name lookup for incorporation into the Profile.	Madhu Niraula	June 4, 2018	6/4/18 – closed and subject to review.
P26-10	Provide an architecture diagram/s with focus on expanding the architecture to include mobility, transition, access subnetworks	Aloke Roy	June 4, 2018	6/4/18 – keep open
P26-11	Change all mandatory requirements to conditional on DNS support (IO-DNS). Also re-assess air requirements because DNS is not supported over A/G	Rafael Apaza	June 4, 2018	6/4/18 – Closed and subject to plenary review.
P26-12	Add an introduction to define the scope of RFC 1035	Rafael Apaza	June 4, 2018	6/4/18 – Closed and subject to plenary review.
P26-13	Draft an initial 2-year meeting schedule	Stephane Pelleschi	June 4, 2018	6/4/18 – closed
P26-14	Look into the data base driven name lookup option	Michael Vangardia	June 4, 2018	6/4/18 – closed. The database driven name lookup is not suitable due to security limitations.
P26-15	Provide a list of IPsec RFCs implemented for Iris precursor	Kristen Mineck	June 4, 2018	6/4/18 – keep open. Sanity check with the security RFCs within the Profiles.
P26-16	Initiate a strawman outline of the MOPS document	Aloke Roy	June 4, 2018	6/4/18 – closed. Replaced by the decision of MASPS.
P27-1	craft a development timeline and dependency table for the ICAO/RTCA/EUROCAE/AEEC working groups, and initiate a general guidance on the demarcation of the scope of each group	Aloke Roy, Liviu Popescu, Stephane Pelleschi, Vic Patel, Greg Saccone, and Luc Emberger	August 12, 2018	

P27-2	Update table column for ground/ground boundary router	Bernhard Haindl	August 12, 2018	
P27-3	Summarize the decisions made regarding the device classes in the meeting minutes	Aloke Roy, Stephane Pelleschi, Dongsong Zeng	August 12, 2018	
P27-4	Update Table 3.3.2-1: IPS DiffServ (DSCP & PHB) to ATN Priority Mapping and submit to WG-I for consideration after the RTCA/EUROCAE consolidation of comments. Note: the content will remain in the Profile until WG-I accepts it before FRAC/OC	Aloke Roy and Madhu Niraula	August 12, 2018	
P27-5	Update Chapter 3.3.3 / 2 on the aircraft stand-alone routing domain	Aloke Roy	August 12, 2018	
P27-6	Add definitions of IPS system, router, etc., in terms of acronym section. Aloke and Stephane Pelleschi to update all general sections in the profile document	Aloke Roy	August 12, 2018	
P27-7	Write a whitepaper to explain that TCP should be prohibited for dialogue services	Stephane Tamalet	August 12, 2018	
P27-8	Write a note on TCP, SCTP, UDP explaining the use of these protocols. Please consider the disposition of Frequentis' comments	Stephane Pelleschi	August 12, 2018	
P27-9	Expand the requirement (Chapter 3.3.2/ 7), into multiple requirements such as link performance metrics, link security status. Adjust independently "shall" or "should"	Dongsong Zeng, Stephane Tamalet, Antonio Correias and Bernhard Haindl	August 12, 2018	
P27-10	Re-submit the IP addressing proposal to CP DCIWG, WG-I and INNOVA	Aloke Roy	August 12, 2018	6/29/18 – Done. Aloke and Madhu to further coordinate on the multilink and addressing scheme.
P27-11	Draft a whitepaper on what is needed to be done on the ground side for security/certification	Mike Vanguardia and Stephane Tamalet	August 12, 2018	
P27-12	Compile the port list in Profile chapter 3.3.8, and WG-I	Madhu Niraula to coordinate with Aloke Roy, Greg Saccone, Stephane Pelleschi, and Stephane Tamalet	August 12, 2018	
P27-13	Send the updated simple name lookup proposal to Dongsong Zeng	Madhu Niraula	August 12, 2018	
P27-14	Integrate the previous version RFC profile spreadsheet to the current one, and validate it	Dongsong Zeng	August 12, 2018	6/29/18 – Done.
P27-15	Update RFC spreadsheet based on updated profile comments	Dongsong Zeng	August 12, 2018	6/29/18 – Done.

P27-16	Make sure all the previous working files are properly uploaded to the workspaces	SC-223 and WG-108 leadership	August 12, 2018	
P27-17	Coordinate for FRAC/OC of the profile according to the TOR	Adrian Cioranu and Rebecca Morrison	August 12, 2018	
P27-18	Request Hawkins to release the updated profile version to incorporate all the changes up to date preferably by end of next week	Aloke Roy and Dongsong Zeng	August 12, 2018	6/29/18 – Done.

-S-  
Dongsong Zeng  
Secretary

**CERTIFIED** as a true and accurate summary of the meeting.

- S-  
Aloke Roy  
Chairman