

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

**DATE:** Oct 23 - 27, 2017

**TIME:** 9:00 a.m. – 5:00 p.m

**PLACE:** The MITRE Corporation.  
7515 Colshire Drive, McLean, VA 22102

**CONTACT:** Rebecca Morrison, Program Director  
(202) 330-0654 or [rmorrison@rtca.org](mailto:rmorrison@rtca.org)

Attendees:

<b>Name</b>	<b>Role</b>	<b>Affiliation</b>	<b>Note</b>
Aloke Roy	Chairman	Honeywell International, Inc.	
Robert Segers	Member	Federal Aviation Administration	
Rebecca Morrison	Program Director	RTCA, Inc.	
Dongsong Zeng	Secretary	The MITRE Corporation	
Bill Holtzman	Member	Mosaic ATM, Inc.	
Moin Abulbosm	Member	Federal Aviation Administration	
Kristen Mineck	Member	INMARSAT	
Paul Mettus	Member	LS Technology LLC	
Madhu Niraula	Member	Rockwell Collins, Inc.	
Antonio Correias	Member	Skymantics	
David Robinson	Member	Federal Aviation Administration	
Peter Muraca	Member	Federal Aviation Administration	
Bruce Eckstein	Member	Firebird SE LLC	Via WebEx
Richard Hawkins	Member	WiMAX Forum	Via WebEx
Nikolaos Fistas	Member	EUROCONTROL	Via WebEx
Vaughn Maiolla	Member	International Civil Aviation Organization	Via WebEx
Thomas Mustach	Member	Federal Aviation Administration	Via WebEx
Stephane Pelleshi	Guest	Rockwell Collins, Inc.	Via WebEx
Stephane Tamalet	Guest	Airbus	Via WebEx
Stephen Van Trees	Member	Federal Aviation Administration	Via WebEx
Chris Wargo	Member	Mosaic ATM, Inc.	Via WebEx

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In accordance with the Federal Advisory Committee Act, Robert Segers, Federal Aviation Administration (FAA), representing Brent Phillips, was the acting Designated Federal Official for this meeting.  
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## 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
  - c. EUROCAE WG status
4. Current State of Industry Activities
  - a. SESAR Programs
  - b. ESA IRIS Precursor
  - c. Any Other Activities
5. IPS Technical Discussions
  - a. Review of IPS high-level profile (working papers)
  - b. Review of IPS RFC detail 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, Robert Segers, representing 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 – Rebecca Morrison and the Chair – Aloke Roy”

Rebecca Morrison presented the RTCA Proprietary References Policy and Membership Policy.

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

The working group reviewed and approved the of SC-223 P23 meeting minutes, and updated the status of previous action items.

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

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

Aloke Roy updated the group on the ICAO WG-I/24 meeting, held at ICAO headquarter, in Montreal, Canada, September 27-29, 2017.

For IPS security, three ICAO 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, are planned to be completed by November 2018. Meanwhile, ICAO INNOVA task force is also working on the security framework and policies.

For IPS mobility, there exist three competing mobility solution candidates, i.e., AERO, LISP and Mobile IPv6. The Mobility group has determined the mobility solution selection criteria. Mobility solution comparison and selection will follow.

ICAO WG-I generally agreed on the IP address scheme proposed by Aloke Roy, although the details may be adjusted in the future.

### **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); and

Step 2: Standards writing (2017 to 2019).

The ARINC Project Paper 658: Internet Protocol Suite (IPS) for Aeronautical Safety Services – Roadmap Document has been circulated in the AEEC IPS subcommittee for review and comments. It is planned that the final ARINC 658 will be submitted to AEEC general session for approval in October 2017.

### **3c. EUROCAE Working Group**

Stephane Pelleschi, Rockwell Collins in France, reported that EUROCAE has established a new WG to collaborate with RTCA SC-223 on IPS standards. Their initial work plan is to produce a certification guidance document, and the profile document will be RTCA and EUROCAE joint publication. The WG kickoff meeting is scheduled in January 2018.

SC-223 committee desires to complete the profile no later than first half 2018, which still reflects the 6 months slip due to accommodation of EUROCAE work plan. Therefore, it is critical from RTCA perspective that EUROCAE profile actions be started in earnest in January such that these schedule targets can be met. RTCA recommends that at least the first two meetings, after kickoff, in 2018 be jointly held between SC-223 and EUROCAE WG.

SC-223 proposes the first joint meeting be held from March 5-9, 2018 and the second joint meeting be held from June 4-8, 2018. The locations can be alternated between US and Europe.

**Action Item P24-10:** Aloke Roy and Brent Phillips to update profile schedule to the PMC.

## **Agenda Item 4. Current State of Industry Activities**

#### **4a. SESAR Programs**

Kristen Mineck, Inmarsat, updated the group on SESAR programs.

SESAR PJ14.2.2 project, which is part of the SESAR 2020 Multi-Annual Program for the period 2016-2019, focuses on Future Satellite Communications in continental and oceanic regions. It will include digital voice as an element of the Future Communications Infrastructure (FCI). It has a strong relationship with Iris and there will be a dedicated work package within Iris IOC activities to ensure full coordination, specifically:

- Compliance with ATN baseline 2 (i4D) requirements
- Development of technical specifications and validation procedures
- ATN/OSI Multi-link strategy and validation with VDL M2 and Iris in the short and medium term
- ATN Baseline 3 (full 4D) requirements with ATN/IPS, FCI and FCI Multi-link for the long term

The SESAR EAGLES project aims to demonstrate that satellite technologies can bring interoperability, from the airlines' perspective, for operations in continental US and Europe as well as in oceanic/remote areas. Three European ANSPs (NATS, ENAIRE, MUAC) will integrate Inmarsat link into their systems, and evaluate the use of Iris for ATM. NATS will also be evaluating the use of Aireon's satellite-based ADS-B surveillance (S-ADS-B).

Antonio Correias, Skymantics (supporting Airtel ATN), added that SESAR, projects 14.2.1 (LDACS spec) and 14.2.4 (FCI architecture) have been started. The FCI architecture project is related to the design of the ATN/IPS architecture. Recent outcomes from this project include:

- a) Ground LISP is still considered the only solution for ground mobility and routing.
- b) In multilink, the idea of PDU duplication has been abandoned (pushed up to higher layers, if required), however there are some pending gaps e.g. the reluctance to use SNMP as link monitoring protocol. SESAR is taking the action to analyze the requirements for a specific link monitoring protocol, not clear whether this will include protocol spec.
- c) In security, IPsec is proposed as a Layer 3 solution to secure LISP (control plane, which is currently not secured).
- d) For accommodation of OSI networks, a protocol gateway solution is proposed.

#### **4b. ESA IRIS Precursor**

Kristen Mineck, Inmarsat, updated the group on Iris precursor program.

The final Iris Precursor activities are due by June of 2018. Final flight trials with the NLR aircraft will take place April-May 2018. V&V activities continue with the Honeywell Aspire 400. Contract signature for the next stages of Iris is expected in November 2017. The Iris Initial Operational Capabilities (IOC) Phase will demonstrate system eligibility to the SESAR Very Large Scale Demonstrations (VLD) including system implementation, Iris Service Provider (ISP) certification, Pilot Phase with 20 aircraft (I4D/ATN B2 multilink VDL2/IRIS).

#### **4c. Any Other Activities**

No other activities were brought up.

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

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

## **IPS CONOPS**

Dongsong Zeng, MITRE, presented a draft Section 2.4 Concept of Operations. The group reviewed and agreed on the draft section with a few modifications.

## **DNS**

Two DNS proposals have been received, one is the normal DNS from Rafael Apaza, and the other is the simple name lookup from Madhu Niraula.

The draft paper “Domain Name System (DNS) - Aviation Use Case” by Rafael Apaza, describes a DNS use case with a detailed DNS query and reply process, and proposes high-level requirements and recommendations. The group reviewed and accepted the draft paper with a few comments that were documented in the same file.

**Decision 3:** Normal DNS functions per IETF RFCs will be supported for non-Dialogue-Service communications.

**Decision 4:** Standard DNS should be supported for G/G communications.

**Decision 5:** Reviewed the DNS use case paper and decided to include it in the draft IPS profile document with suggested modifications.

**Action Item P24-6:** Dongsong Zeng to provide CONOPS and DNS to Richard Hawkins for incorporation to IPS profile draft.

The group also discussed the simple name lookup provision proposed by Madhu Niraula.

**Decision 1:** Name lookup provision to be included inside IPS dialogue service – subject to Madhu’s action to get it through WG-I.

**Decision 2:** Simple name lookup provision will be proposed to ICAO WG-I for Doc9896 update.

**Action Item P24-1:** Madhu Niraula to draft the simple name lookup provision.

## **IPv6 Airborne Multihoming Host and Routing**

Madhu Niraula, Rockwell Collins, provided a position paper entitled “Airborne Multihomed Host and Routing”. This paper introduces a multihomed node / host configuration, which doesn’t need any airborne router. The host can select the best air to ground access network based on the preference, policy, performance, and cost. Given the current and future safety service applications, airborne IP host can utilize the multihomed framework to route the packet to the multiple service providers access network.

**Action Item P24-3:** Madhu Niraula to 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 routing protocols to propagate the path information. This is an alternate solution to AERO, ground LISP and mobile IPv6.

## **IPS over VDL2**

Dongsong Zeng, MITRE, presented an “Interoperability Analysis of IPS Over VDL2” whitepaper. The group discussed the paper and would like to coordinate with SC-214 to:

- a) Increase VDL2 Frame Size (N1 value) to support IP packets
- b) Broadcast the Ground Router IP Address in VDL2 Ground Station Information Frame (GSIF).

## **Multilink**

Antonio Correias, Skymanatics, presented the “Multilink Use Case” whitepaper to the group.

**Decision 6:** Apply multilink selection on per packet basis.

**Decision 7:** Categorizing packet for multilink selection according to IP socket (address and port combination) and traffic class signaled in the header.

**Action Item P24-7:** Antonio Correias to provide link selection criteria specifying which are optional and which are required.

**Action Item P24-8:** Antonio Correias to provide a concept scheme showing multilink management of packet queuing and forwarding.

**Action Item P24-9:** Antonio Correias to analyze IP multicast over multilink for emergency messages.

## **5b. Review of IPS RFC detail Profiles**

Aloke Roy, Honeywell, informed the group that a new IPv6 RFC 8200, published in July 2017, obsoletes the old IPv6 RFC2460. Naoki Kanada, Electronic Navigation Research Institute (ENRI), Japan, identified other updated RFCs that obsolete existing IPv6 related RFCs.

- a) RFC 8201: Path MTU Discovery for IP version 6 obsoletes RFC 1981
- b) RFC 8106: IPv6 Router Advertisement Options for DNS Configuration obsoletes RFC 6106
- c) RFC 8096: The IPv6-Specific MIB Modules Are Obsolete obsoletes RFC 2452, RFC 2454, RFC 2465, RFC 2466
- d) RFC 6437: IPv6 Flow Label Specification obsoletes RFC 3697
- e) RFC 7526: Deprecating the Anycast Prefix for 6to4 Relay Routers obsoletes RFC 3068, RFC 6732
- f) RFC 7084: Basic Requirements for IPv6 Customer Edge Routers obsoletes RFC 6204
- g) RFC 6177: IPv6 Address Assignment to End Sites obsoletes RFC 3177

**Action Item P24-2:** Paul Mettus to compare the difference between RFC 8200 and RFC 2460, and recommend profile update.

## **5d. Prioritization of additional IETF RFCs for Profiling**

RFC 8200 IPv6, DNS related RFCs, RFC 4996 and 5225 may be profiled next.

## **Agenda Item 6. Any Other Topics of Interest**

### **IPS Security**

IPS for safety services supports the same communication functionalities (AOC, FANS1/A, A623, B1 or B2 over IPS) existing in current ACARS or ATN OSI networks. However, environmental conditions such as wide availability of expertise and consequences of using COTS products and potential open sources may expose different security challenges.

Future data comm services supporting aviation will support capabilities of higher criticality levels than currently supported by ACARS and ATN. These higher criticality services require higher integrity and information assurance. Hence, information security for future data comm is required to support the new capabilities. Security assessments for new capabilities supported by IPS should be conducted as necessary to determine the level of security requirements. In anticipation for the future services, IPS should have provision for authenticity, integrity, confidentiality.

End-to-end security and link layer security as well as IPS control plane security may be required based on the safety/security assessment of these services. End-to-end security by SDS is covered under ICAO Doc9896. Link layer security for SATCOM, AeroMACS, and LDACS will be covered under respective subnetworks. SC-223 scope includes provisions for network control plane security and end-to-end security for native IP services.

**Action Item P24-4:** Rob Segers to provide safety/security requirements for both data and control messages.

**Action Item P24-5:** Madhu Niraula to provide link layer security white paper to Robert Segers.

## **Agenda Item 7. Plans for Next Meetings**

The next SC-223 P25 meeting is from December 4 – 8 noon, 2017, at RTCA.

**Decision 8:** The P26 meeting is March 5-9, 2018 (Possibly Rockwell Collins, Melbourne, FL).

**Decision 9:** March meeting and P27 (June 4-8) meeting will be joint meetings with EUROCAE WG, one in US and one in Europe.

## **Agenda Item 8. Review of Action Items and Meeting Summary**

Dongsong Zeng, MITRE, presented the out-briefing (SC-223 IPS Meeting OutBriefing\_October\_2017.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 5:00pm, Thursday, October 26, 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
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 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 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	Paul Mettus, Antonio Correias, Madhu Niraula, and	November 8, 2016	Closed – 11/2016

	document and RFC6434. Task group reports findings from DoD IPv6 Profile at the next telecon.	Dongsong Zeng		
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
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.	Aloke Roy	May 2, 2018	5/2/2017 – keep open 8/21/2017 – In progress. 10/23/2017 – In progress
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
P21-7	Draft detail profiles for RFC 1151 (RDP), and 7542 (NAI).	Antonio Correas	May 2, 2018	5/2/2017 – CLOSED
P21-8	Initiate the IPS system overview and use cases	Aloke Roy, Rafael Apaza, Antonio Correas 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 Correas	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
P22-3	Develop general security use case	Madhu Niraula	August 21, 2017	8/21/2017 – keep open 10/23/2017 – In progress
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
P23-4	Explore how many subnets PAN European enterprise has.	Danny Bharj	October 23, 2017	10/23/2017 – In progress
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
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
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	
P24-2	Compare the difference between RFC 8200 and RFC 2460, and recommend profile update	Paul Mettus	December 4, 2017	
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 routing protocols to propagate the path information. This is an alternate solution to AERO, ground LISP and mobile IPv6	Madhu Niraula	December 4, 2017	
P24-4	Provide safety/security requirements for both data and control messages	Robert Segers	December 4, 2017	
P24-5	Provide link layer security white paper to Rob	Madhu Niraula	December 4, 2017	
P24-6	Provide CONOPS and DNS to Rich for incorporation to IPS profile draft	Dongsong Zeng	December 4, 2017	
P24-7	Provide link selection criteria specifying which are optional and which are required	Antonio Correas	December 4, 2017	
P24-8	Provide a concept scheme showing multilink management of packet queuing and forwarding	Antonio Correas	December 4, 2017	
P24-9	Analyze IP multicast over multilink for emergency messages	Antonio Correas	December 4, 2017	
P24-10	Update profile schedule to the PMC	Aloke Roy and Brent Phillips	December 4, 2017	

Dongsong Zeng  
Secretary

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

- S-  
Aloke Roy  
Chairman