

International Civil Aviation Organization



**THE SIXTH MEETING OF AERONAUTICAL
TELECOMMUNICATION NETWORK (ATN)
IMPLEMENTATION CO-ORDINATION GROUP
OF APANPIRG (ATNICG/6)**



Seoul, Republic of Korea, 16 - 20 May 2011

Agenda Item 3: Review outcome of relevant meetings

OUTCOME OF ATNICG WORKING GROUP 8 AND 9 MEETINGS

(Presented by the Secretariat)

SUMMARY

Eighth Working Group meeting of ATNICG was held in Christchurch, New Zealand from 28 September to 1 October 2010 and the Ninth Working Group met on 25 and 26 January 2011 in Bangkok. This paper briefly reviews the outcome of the two meetings.

1. INTRODUCTION

1.1 Eighth Working Group meeting of Aeronautical Telecommunication Network (ATN) Implementation Coordination Group of APANPIRG (ATNICG WG/8) was held in Christchurch, New Zealand from 28 September to 1 October 2010. Meeting, hosted by Airways Corporation of New Zealand Ltd, was attended by 29 participants from 11 States (Hong Kong China, Fiji Islands, India, Indonesia, Japan, Malaysia, New Zealand, Philippines, Singapore, USA and Vietnam) and one industry.

1.2 ATNICG Ninth Working Group met in ICAO APAC Office on 25 and 26 January 2011. The meeting was hosted by Aeronautical Radio of Thailand. The meeting held prior to the Aeronautical Communication Panel (ACP) Working Group I (IPS) and M (Maintenance) was attended by 39 participants from 11 States (Brunei Darussalam, China, India, Indonesia, Japan, Malaysia, Mongolia, Philippines, Singapore, Thailand and USA).

2. DISCUSSION

2.1 ATNICG WG/8 meeting

2.1.1 After discussing the outcome of CNS/MEG SG/14 and APANPIRG/21 meetings, Action Items developed/reviewed by the ATNICG/5 held in Kuala Lumpur from 31 May to 4 June were taken up for review. Out of 15 Action Items, which were brought forward from the ATNICG meeting, seven were considered completed/closed. Status of the remaining 8 items was reviewed and recorded. Eight new Action Items were developed during the course of the Working Group meeting.

2.1.2 Issues related to the incompatibility between the AMHS version installed in Japan and the AMHS hubs installed at the reciprocal ends was discussed. Japan was requested to address the issued through the following Action Item:

Action Item 16: Japan should address the issues related to incompatibility of AMHS versions installed in Japan with the versions installed in the neighboring States as it affects the overall network connectivity and hence the implementation of AMHS in the whole region.

2.1.3 Singapore, India and Pakistan presented the status of their inter-regional connectivity. Status of implementation of inter-regional connectivity was reported as below:

Circuits	Status
USA/UK	Early 2011
Singapore/UK Trial	1 st Quarter 2011
Singapore/Bahrain Trial	1 st Quarter 2011

Information on other important inter-regional circuits like Australia/South Africa, Japan/Russia etc. was not immediately available.

2.1.4 US presented outcome on the trials conducted for the transmission of MET data in XML format using web services over AMHS. Paper also described WXXM weather data model and provided an example of METAR messages using WXXM. USA was assigned following Action Item to prepare a paper for the MET group on the subject.

Action Item 17: USA to prepare a Working Paper for presentation to CNS/MET SG through ATNICG/6 addressing the requirement of standards for using XML over ATN for OPMET data.

2.1.5 Meeting was informed that the first step in transition to IP will be to phase out X.25 by migrating to IP sub-net over point-to-point links and then into fully meshed IPS network and introduce security measures at that time. Meeting noted that most of the circuits in the region were still operating on X.25 Following sequence was generally agreed to in the transition:

Phase out X.25 → Point to Point IPS → IPS network within region

Following Action Item was developed:

Action Item 18: Decide about the sunset for X.25. It was agreed that a strategy to phase out X.25 network protocol and implementation of IP network underlining the IP subnet and security approach as well as dual stack application will be analyzed at the Next Working Group. The Chairman will develop a WP with input from Mark Brown of Japan to present at the next meeting.

2.1.6 USA proposed that the three bits immediately after /32 bit address in the IPv6 addressing scheme, adopted by Europe can be used for identifying the ICAO regions. USA informed the meeting about BGP-4 and IDRP routing protocols and the levels of route aggregation. It was informed that Asia/Pacific IPv4 addressing plan was based on the use of private addresses because of the depletion of commercially usable address space. USA agreed to the following action item on the subject:

Action Item 19: USA to develop an IPv6 addressing approach for presentation to the next ACP Working Group – I meeting.

2.1.7 It was proposed that the option of developing a new high level regional policy or enhancing the existing policy to include issues like disaster recovery etc. should be explored. In Europe PENS is being implemented and in USA FIT has been implemented, but there is nothing similar in the APAC region. Hence it needs to be decided if there is a requirement to go for routed IP network infrastructure or the existing arrangement of point-to-point contact will be adequate. It was also felt that over security may be countered productive and hence it was proposed that the security should be optimized taking into account the operating environment. Following Action Item was developed by the meeting on this issue:

Action Item 20: Hong Kong China, USA, Singapore, Japan and other States to review recently published ICAO Doc 9896 and to provide inputs to Mr. V. Patel (FAA) for developing comprehensive Working Paper for presentation to ACP WG-M ATNICG and other relevant forums bringing out all the issues like detailed guidance for the implementation of ATN over IPS etc.

2.1.8 Meeting was reminded that the primary requirement of providing Directory Services to support AMHS operations were

- a) All the ANSPs actually implement AMHS; and
- b) All the AMHS implement ATN Directory services.

It was also felt that synchronization between all the directory services was absolutely essential so that the directory data used is always the same at all the times. Meeting appreciated that synchronization at global level was difficult however efforts were being made in Europe to integrate directory service with AMC. This may lead to the provision of semi-automatic services and synchronization between MTAs. It was suggested that the latest AMC data circulated by EUROCONTROL should be stored by the ANSPs and should be activated as per the AIRAC Cycle schedule

2.1.9 Issues related to VoIP evolution and modernization of Aeronautical Fixed Services (AFS) were also taken up for discussion. Meeting also reviewed the *Global Interface Control Document (ICDE) for ATS Inter-facility Data Communication (AIDC)* and following Action Item was developed inviting comments on it:

Action Item 21: Information provided in Part II, Paragraph 1 and 13, may be reviewed and comments on the same may be conveyed to the ICAO APAC Office by end October for further transmission to Ms. Karen Chiodini.

2.1.10 AIDC implementation Planner, developed on the same lines as the ATN/AMHS Implementation Planner by Hong Kong China was presented to the meeting.

2.1.11 Brief introduction to the *Manual on the Aeronautical Telecommunication Network (ATN) Using Internet Protocol Suite (IPS) Standard and Protocol* (Doc 9896) was presented to meeting. Following Action Item was developed urging USA to develop IP Router ICD based on their experience with the UK connectivity.

Action Item: USA will develop and present the point-to-point IP Router ICD after cut over with UK in early 2011.

2.1.12 Following implementation issues related to transition from ATN/OSI to ATN/IPS were discussed:

- a) ICAO Doc 9896 ATN/IPS Technical Manual. Application and Guidance
- b) The use of VoIP as provided in ICAO Doc 9896
- c) The reference of RFCs in ICAO Doc 9896
- d) Regional IPv6 address block arrangement

2.1.13 ATNICG Tasks List was reviewed and updated. Japan pointed out that the current Asia/Pacific regional AMHS ICD is based on Doc 9705 Edition II and hence needs to be updated. After a brief discussion on various issues related to the currency of the ICD, Japan was requested to review the contents and inform about the significant differences between Edition II and Edition III based systems:

Action Item 23: Japan to review the current AMHS ICD and suggest changes required for making it compatible for Doc 9705 Edition III.

2.1.14 Chairman, on behalf of the meeting thanked Airways New Zealand for hosting the meeting. The meeting also recorded appreciation for the excellent arrangements made.

2.2 ATNICG WG/9 Meeting

2.2.1 ATNICG WG/9 meeting started with the review of the previous Working Group meeting report and briefly discussed issues related to the transition of ATN from X.25 to IP and decided to adopt “logically fully meshed network” as the ultimate objective at the sub-network level. Meeting urged India and China to share their experience of migrating AFTN circuits from X.25 to TCP/IP at the next ATNICG meeting, so that requirement for developing an ICD for AFTN over IP could be assessed. Action Items from the previous meetings were reviewed.

2.2.2 Meeting was informed about the paper “A Global CNS Technology Roadmap – A Tool to aid investment Decision” presented to the 37th Session of ICAO Assembly and the CNS roadmap proposed in the paper. Meeting in addition to reviewing the status of ATN/AMHS implementation in MID and CAR SAM regions also reviewed the status within the region.

State	Status	Schedule
USA	Connectivity with Fiji and UK	Mid 2011
Fiji (Reported by USA)	Connectivity with USA	Mid 2011
Australia (Reported by USA)	Connectivity with USA	Mid 2011
Thailand	Completion of AMHS Implementation	2011
Singapore	Completion of connectivity with India, Bahrain and UK	2011
	Coordination with UK, Thailand, Bahrain going on	
Mongolia	Connectivity with Russia and China planned. Equipment is ready for testing but the interfaces and protocols are yet to be finalized	
Malaysia	Implementation of AMHS to be completed	2012
China	Technical tests with Hong Kong China, Macao China and Republic of Korea conducted.	
	Operational testing with the Republic of Korea	2011
	Agreement with India liked to be signed shortly	
Indonesia	Connectivity test with Singapore	2009
	Trials also progressing with Australia	
India	AMHS in place. Coordination going on with Singapore, China, Thailand etc. MOU with Singapore being finalized	

2.2.3 In relation to the tripartite XML over AMHS test planned between USA, Singapore and Hong Kong, Singapore informed the meeting about medium related problem with Hong Kong. Japan was invited to provide information on XML for NOTAM data exchange between Fukuoka and Narita. Meeting was informed that SOA protocols were being used by SWIM, but underlying network could use AMHS and IP. It was hence felt that transport for XML over AMHS could be extended to SWIM based services. USA was requested to obtain more information on the following issues by participating in the OPMET/M/TF meetings:

- a) How is the OPMET data collected in the five RODBs through AFTN? Can this process be further augmented by using AMHS?
- b) How is data exchanged between RODBs and the two web centers for global dissemination?

Meeting also decided that a paper should be presented to the OPMET/M/TF meeting providing information on the outcome of recent XML over AMHS trials and invite Task Force to provide information on the OPMET requirements for the exchange of data over AMHS.

2.2.4 While presenting the AMC data for the region, meeting was informed that the data was still not complete in respect of many States. Paper, finalized for presentation to ACP Working I and M meetings contained following two recommendations:

- a) ACP Working Group M is requested to clarify the status of acquisition of global IPv6 address block.
- b) ACP Working Group is requested to provide guidance on the issues related to backward compatibility of AMHS, specifically interconnecting systems that support IPM84 and IPM88.

2.2.5 It was decided that USA will provide update information related to ATN/AMHS guidance documents in a Flow Chart format. The information then will be used by ICAO Bangkok Office to edit the currently available information on ICAO APAC website.

2.2.6 On behalf of the Working Group, meeting thanked Aeronautical Radio of Thailand and ICAO APAC Office for hosting the meeting and for very good arrangements made.

3. ACTION REQUIRED BY THE MEETING

3.1 The meeting is invited to note the outcome of the two Working Group meetings and review developments since the time two meetings were held.
