

ATNP/WG3

WP/12-22

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AERONAUTICAL TELECOMMUNICATIONS NETWORK PANEL(ATNP)

WORKING GROUP 3 - APPLICATIONS AND UPPER LAYERS

Rio de Janeiro, 16-20 March 1998 (twelfth meeting)

Agenda Item 5 : Ground-Ground Applications

WP/12-22 : SG1 progress report

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Ground-Ground Applications Subgroup Chairman

Summary

This paper aims at reporting to the ATNP Working Group 3 about the progress achieved by WG3/SG1 in its Work Programme, since the 11th WG3 meeting in Redondo Beach.

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1. INTRODUCTION

This paper aims at reporting to the working group the work achieved by SG1 since the Redondo Beach WG3 meeting.

2. MEETINGS

The subgroup has held two meetings:

- its 12th meeting in Orlando (U.S.A.) from 14th to 16th January 1998,
- its 13th meeting in Rio de Janeiro (Brasil) from 11th to 12th March 1998.

There were 8 and 11 participants, respectively. The lists are given in Appendix.

3. WORK PROGRESS

3.1 Maintenance of CNS/ATM-1 Package SARPs

3.1.1 ATSMHS

The subgroup has discussed a set of comments and potential PDRs about the following points in ATSMHS SARPs:

1. conversion of AFTN acknowledgement messages in particular situations,
2. logging of certain error conditions,
3. tolerances in the conversion process at the gateway,
4. year 2000 dependency in the ASN.1 UTC Time type,
5. use of receipt notifications for messages sent to Distribution Lists.

It has been agreed to address the first three points as SARPs enhancements in the final package, to submit a PDR for point 4 and to further study the operational requirements associated with item 5, which could then give rise a PDR, depending on the outcome on the investigation.

3.1.2 AIDC

There has been no specific subgroup work on AIDC. Two PDRs submitted to the CCB have been presented to the subgroup.

3.2 Work part of the SG1 Work Programme

3.2.1 Extended ATS Message Service

The following has been agreed by the subgroup concerning the Extended ATS Message Service:

AIS Messaging

It was identified that the Extended ATS Message Service could be a suitable communication system for all or part of AIS communication requirements. It was agreed that subgroup members should try to coordinate informally within their organisations to obtain more information about AIS requirements. This is to provide some input for the discussion of the use of the extended AMHS messaging services for AIS messaging and of the technical details of the services.

Also the need for a potential communication was identified with the AIS/MAP SG, which has started recently its work in the ICAO context. It was agreed that this should go through the WG3 and WG1 Rapporteurs, as well as through the ATNP Secretary.

Business Extensions

For the Extended ATS Message Service ,the principle was agreed to use Business-Class Messaging Extensions to IPM in support of the parameters currently conveyed in the ATS-Message-Header. The adopted elements of service are as follows:

- a) Primary Precedence for the support of ATS-Message-Priority,
- b) Extended Authorization Information for the support of ATS-Message-Filing-Time,
- c) Originator Reference for the support of ATS-Message-Optional-Heading-Information.

It was also agreed that backwards compatibility with the Basic ATS Message Service should be further analysed before final approval of this solution. This was part of SG1 subdeliverable D123.

Security

A preliminary analysis has been carried out to select a security class for the SEC Optional Functional Group, among those defined in the ISPs, so as to offer an appropriate level of protection against the identified threats to the AMHS. This was part of subdeliverable D112.

However, the subgroup observed that the risk analysis included in the Overall ATN Security Concept, as presented at ATNP/2 (Appendix A to WP/25), was too general as far as in the AMHS was concerned. The subgroup therefore agreed that a more detailed risk analysis, which would be at the level of categories of messages, would be needed, as part of subdeliverable D111. The question whether this was completely in the terms of reference of WG3/SG1 was raised. To progress in a pragmatic manner, it was agreed that this could be performed by SG1, based on its AFTN experience, and then submitted for endorsement by WG3 and WG1. This refined analysis has been done and will be presented as a separate WP to WG3-12.

Systems Management

The following work was performed as part of SG1 subdeliverable D14 (AMHS Systems Management).

Thanks to co-ordination with WG3/SG3, the tasks to be performed by WG3/SG1 for the AMHS Systems Management have been identified as the following:

- specification of a CMIP protocol stack using full functionality Presentation and Session, for the exchange of Management information,
- specification of Managed Objects (MOs) for the AMHS applications,
- specification of Managed Objects (MOs) for the underlying full functionality upper layers.

The principle to use as much as possible existing standards and/or ISPs was agreed. In a first instance, the subgroup has agreed to focus on MTA Management, based on ISO/IEC 10588-8.

3.2.2 CIDIN/ATN Gateway

The following work was performed as part of SG1 subdeliverable D15 (Specification of the CIDIN/ATN Gateway).

The subgroup agreed to specify the CIDIN/ATN gateway in the form of a CIDIN/AMHS Gateway. This will allow to gain benefit from the experience learned in the specification of the AFTN/AMHS Gateway. In particular, this allows to adopt the general model in three main components, which are:

- ATN Component (this may be identical to that of an AFTN/AMHS Gateway),
- Message Transfer and Control Unit (MTCU), possibly one dedicated for each type of CIDIN traffic,
- CIDIN component.

A general specification has been formulated for the interface between the CIDIN and the MTCU.

It was agreed that the number of scenarios to be taken into account for AMHS/CIDIN/AFTN interoperation should be limited to the strict minimum, so as to minimize the effort spent on the accommodation of the CIDIN technology. It was considered that appropriate configurations in the AMHS/CIDIN/AFTN environment could allow to limit the situations which are encountered in day-to-day operation of this environment. In particular CIDIN tunneling should not be considered, nor should peer-to-peer CIDIN Gateway communications be taken into consideration.

It has been pointed out that a progressive migration of existing Cidin E-S to ATN E-S (ATSMHS) should be in some case no complex and had to be encouraged such as discussed at ATNPBanff meeting.

3.3 Monitoring of Validation and Implementation activities

The subgroup has been informed about the Implementation Status and Plans for the U.S. FAA's AIDC Software System, the goal of which is to have an implementation running by Mid-98. The system is running on a Sun Solaris platform, and it implements the latest version of the AIDC SARPs (ICAO December 1997 output). The development is well underway. This will be the first full implementation of the AIDC application.

The subgroup has been informed about the Implementation Status and Plans for the U.S. FAA's AFTN/ATN Message Handling System Gateway. The goal of the implementation project is to have a system running by End 98, incorporating an AFTN/AMHS Gateway and the included MTA. The system will be running on a Sun Solaris platform, and it will implement the latest version of the ATSMHS SARPs (ICAO December 1997 output).

3.4 AFTN issues

3.4.1 Optional Heading Information

The subgroup agreed that some guidelines should be suggested to the ATN Panel to limit future use of the AFTN Optional Heading Information, to avoid a permanent evolution of the AFTN which could compromise the validity of the AFTN/AMHS Gateway SARPs.

3.4.2 Addressing Issues

The subgroup has been officially tasked with these issues. Progress has been done and different views or solutions have been presented. However, in order to make an appropriate proposal to the Working Groups, an accurate formulation of the problem to be solved and of a description of the requirement need to be addressed to SG1. In particular, it would be helpful to distinguish if the problem is;

- how to address AFTN gateways towards a service provider network? or,
- how to address via an AFTN gateway an end-user located on a service provider network?

The contribution of experts from service provider networks could also clarify the problem. They should be again invited to take part at SG1 the meetings.

Whatever the solution is on any AFTN issues, the SG1 believes that limited amendments on the existing AFTN should be done. Any extension or enhancement should rather be provided in the scope of the AMHS.

4. RECOMMENDATION

The working group is invited to note the progress achieved by the subgroup and to report, as appropriate, to other instances (WG1, ICAO Secretariat, etc.) about some specific points (AIS, AMHS Security, AFTN) identified in this report.

5. APPENDIX A: STATUS OF WORK ACHIEVED BY THE SUBGROUP

	Main Deliverable		Subdeliverable	Progress
D1	Extended ATS Message Service	D11	Security functionalities for the AMHS	
		D111	Analysis of risks and threats against the ATS Message Service	90%
		D112	Selection of a security (SEC) Optional Functional Group among the definitions of the MHS Profiles, offering an appropriate protection against the identified risks	75%
		D12	Message Contents in support of the Extended ATS Message Service	
		D123	Analysis of suitability of IPM Business Class Messaging Extensions for the support of ATS Message Service parameters	75%
		D13	Directory Functionalities for the ATS Message Service	20%
		D14	Systems Management functionalities for the AMHS	10%
		D15	CIDIN/ATN Gateway	20%

6. APPENDIX B : LIST OF MEETING PARTICIPANTS

12th meeting, Orlando, 14-16 January 1998:

Simon Clothier	(NATS)
Manuel Garcia	(Aena)
Tetsuo Mizoguchi	(Melco for JCAB)
Jim Moulton	(ONS for FAA)
Manfred Okle	(Nortel Dasa for DFS)
Jean-Yves Piram	(STNA)
Jürgen Ruffleth	(Comsoft for DFS)
Jean-Marc Vacher	(ON-X for STNA)

13th meeting, Rio de Janeiro, 11-12 March 1998:

Gregg Anderson	(FAA)
Toru Iida	(NEC for JCAB)
Sadayuki Izuka	(JCAB)
Henry Lam	(Unitech for FAA)
Tetsuo Mizoguchi	(supporting JCAB)
Jack McConnell	(advisor for FAA)
Jim Moulton	(ONS for FAA)
Manfred Okle	(Frequentis for DFS)
Jean-Yves Piram	(STNA)
Ricardo Porras	(Isdefe for Aena)
Jean-Marc Vacher	(ON-X Consulting for STNA)