International Civil Aviation Organization

REGIONAL WORKSHOP ON AMHS

INTRODUCTION

(Dakar, 28-29 May 2013)

Outline

- Overview
- End Systems providing ATSMHS
- Terminology

OVERVIEW

- The ATSMHS application, formerly known as the ATS message service, allows ATS messages to be exchanged between service users.
- The ATSMHS application aims to provide generic message services over the ATN internet. It may in turn be used as a communication system by user-applications communicating over the ATN. This may be achieved, for instance, by means of application programme interfaces with the ATSMHS.
- The ATSMHS is provided by the implementation over the ATN internet communication services of the message handling systems specified in ISO/IEC 10021 and CCITT or ITU-T X.400, complemented by the additional requirements specified in ICAO Manual 9880.

OVERVIEW

- The ISO/IEC MOTIS international standards and the CCITT X.400 series of recommendations (1988 or later) are in principle aligned with each other. However, there are a small number of differences between these international standards and ISPs where applicable.
- Where necessary, for example, for reasons of interworking or to point out differences, reference is also made to the relevant X.400 recommendations.
- Two levels of service are defined within the ATSMHS:
  - a) the basic ATSMHS; and
  - b) the extended ATSMHS.

OVERVIEW

- The basic ATSMHS is based on the first version of the ISO/IEC ISPs, published in 1994 and based on the ISO/IEC 10021:1990 set of standards.
- The extended ATSMHS is based on the third version of the ISO/ IEC ISPs, published in 2003 and based on the ISO/IEC 10021:2003 set of standards.
- Both levels of service are compatible with one another. The extended ATSMHS is functionally a superset of the basic ATSMHS and is backward compatible with the basic ATSMHS.

OVERVIEW

- The basic ATSMHS meets the basic requirements of the message handling systems profiles published by ISO/IEC as ISPs and incorporates additional features to support the service offered by the AFTN. The extended ATSMHS includes supplementary functions to provide a secure message service to allow for the use of the ATN directory. The ATSMHS is further specified in Chapter 3, including which ISPs apply in this context.
- It is intended that the extended ATSMHS will eventually be supported by all ATSMHS users, so that the basic ATSMHS will no longer be required. However, the latter may be maintained for transition purposes as long as required.

END SYSTEMS PROVIDING THE ATSMHS

- The set of end systems providing the ATSMHS is collectively denominated as the AMHS.
- Three types of ATN end systems are defined in this manual:
  - a) the ATS message server;
  - b) the ATS message user agent; and
  - c) the AFTN/AMHS gateway.
- Connections may be established over the ATN ICS or using the IPS between any pair constituted of these ATN end systems and listed in Table 1-1.

END SYSTEMS PROVIDING THE ATSMHS

Communication between ATN end systems implementing the ATSMHS

ATN end system 1	*ATN end system 2*
ATS message server	ATS message server
ATS message server	AFTN/AMHS gateway
ATS message server	ATS message user agent
AFTN/AMHS gateway	AFTN/AMHS gateway

TERMINOLOGY

- The following terminology applies :
- **AFTN acknowledgement message.** An AFTN service message acknowledging the receipt of an AFTN message, of which priority indicator has the value “SS”.
- **Direct AMHS user.** An ATSMHS user who engages in the ATSMHS at an ATS message user agent. A direct AMHS user may belong to two subgroups as follows:
  - *Human users who interact with the ATSMHS by means of an ATS message user agent connected to an ATS* message server.
  - *Host users which are computer applications running on ATN end systems and interacting with the ATSMHS by* means of application programme interfaces.

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- **Indirect AMHS user.** An ATSMHS user at an AFTN station using an AFTN/AMHS gateway to communicate with other ATSMHS users.
- **Subject AFTN message.** An AFTN message which causes an AFTN service message or an AMHS report to be generated.
- **Subject AMHS message.** An AMHS message which causes an AFTN service message or an AMHS report to be generated.
- **Subject IPM.** The IPM which is the content of an AMHS message and which causes an AMHS RN to be generated.
- **Unknown address AFTN service message.** An AFTN service message requesting correction by the originator of a message received with an unknown addressee indicator.

TERMINOLOGY

- The classifications defined in the ISPs apply for expressing conformance requirements (i.e. static capability). The ISP classifications refine the ISO/IEC 9646-7 classification to include different levels of mandatory support, depending on the level of functionality to be supported by the considered message handling system.
- These classifications include the following elements, for which the complete definition may be found in each referenced ISP:
  - a) **mandatory (full) support (M);**
  - b) **mandatory minimal support (M-);**
  - c) **mandatory O/R name minimal support (M1) (see ISO/IEC ISP 12062-2);**
  - d) **optional support (O);**
  - e) **conditional support (C);**
  - f) **out of scope (I); and**
  - g) **not applicable (-).**

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- The following classification applies for expressing dynamic behaviour requirements (i.e. the action performed by the ATN end system) related to parameters or elements in PRLs for the specification of the AFTN/AMHS gateway:
- a) **Generated (G):** used to describe the generation of an AMHS or AFTN information object. It means that the element is generated by the AFTN/ AMHS gateway.
- b) **Optionally generated (G1):** used with the same meaning as generated (G), with the exception that the generation of the element is optional, the decision being a matter of policy local to the management domain operating the AFTN/AMHS gateway;

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- c) **conditionally generated (G2):** used only to describe the generation of an AMHS report or RN element.
  - It means, for a report generation, that the element is generated in the report or RN based on some condition related to the subject AMHS message being true. If the element is generated, it takes a value derived from elements present in the received AMHS information object which caused the generation of the report or RN;

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- d) **translated (T):** used to describe either the generation of an AMHS or AFTN information object or the use of a received information object.
  - It means that the element is translated by the AFTN/AMHS gateway, using a dependence relationship between the value of an element of the received information object and the value of the translated element in the generated information object.
  - If an element comprises several components, then the element is classified as translated if at least one of its components is translated, and the others are either generated or excluded in generation, discarded or out of scope in reception;

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- e) **conditionally translated (T1):** used with the same meaning as translated (T), with the exception that the translation of the element is subject to some condition being true, e.g. the presence of an optional element in the received information object;
- f) **discarded (D): used to describe the use of a received AMHS or AFTN information object.**
  - **It means** that the value of the element is not used by the message transfer and control unit when generating the elements of the information object converted from the received information object, and that the semantic information conveyed in the element is discarded during the process of conversion in the AFTN/AMHS gateway.

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- g) **excluded (X):** used to describe either the generation of an AMHS or AFTN information object or the use of a received information object.
  - Upon generation of an information object, it means that the element is not used or present in the generated information object.
  - Upon reception of an AMHS information object, it means that the presence of the element causes rejection of the information object and generation of an AMHS non-delivery report;
- h) **out of scope (I) or not-applicable (-): used to describe the use of a received information object, when** the element is
  - either a format element which cannot be processed in any way or
  - an element which presence is included in the ISPICS serving as a basis for the mapping specification.

Questions?

Thank you