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AERONAUTICAL TELECOMMUNICATIONS NETWORK PANEL (ATNP)

WORKING GROUP 3 (APPLICATIONS AND UPPER LAYERS)

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SUMMARY OF TRIALS AND IMPLEMENTATION ACTIVITIES CONCERNING ON THE SPANISH ATSMHS PROJECT

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SPAIN

Summary

This paper provides a brief outline of the trials and implementation activities that have been carried out by Aena with the goal of implementing a fully operational X.400 network within Spain.

1 Introduction

This paper provides a brief outline of the trials and implementation activities that have been carried out by Aena with the goal of implementing a fully operational X.400 network within Spain.

2 Summary of Trials and Implementation activities.

2.1 Spanish AFTN/AMHS Gateway.

Since March 1998, it has been installed the Spanish development of the AFTN/AMHS Gateway in a mock-up of the current Madrid COM Center. Until now, this Communication Center integrated an AFTN Component and a CIDIN Component.

With the AFTN/AMHS gateway, the system enhances its functionality and completely integers the following messaging systems: AFTN, CIDIN and AMHS. That means that any message can be received using any of the above mentioned message formats and, by using internal and integrated common routing tables, the message is submitted with the corresponding outgoing message format.

With this system, the ECG project idea is reached, integrating the three types of messaging mentioned before in a portable, scaleable and reliable system.

Thanks to this system, the evolution of current AFTN users is much easier. That is to say, it is possible to have several AFTN end users and some migrated AMHS ones at the same location as, by instance, an airport. The integrated COM Center will send messages to each one by using the appropiate procedures.

Since March 1998, this system has been receiving real duplicated traffic from the operational Madrid COM Center in order to convert and to submit these messages to the corresponding AMHS ones by using X.400 procedures.

At the beginning of June 1998 was integrated this last version of the Spanish AFTN/AMHS Gateway in the current and operational Madrid COM Center. Since that moment, this COM Center support the interchange of all AFTN/CIDIN/AMHS communications.

2.2 Spanish AMHS Network.

A complete and hierarchical addressing plan has been already developed by using a ‘MF’ format. That means that a set of fields of the X.400 address has been chosen with the goal of assuring an optimised routing among the network of messaging servers (MTAs).

Moving to another point, a complete network of X.400 messaging servers have also already been installed and setted up. This X.400 network is composed of sixteen MTAs placed in the five Spanish Control Centers (Madrid, Barcelona, Sevilla, Palma de Mallorca and Gran Canaria) and in the main Sector Heading Airports. This meets with the concept of the SPACE project within Spain, where the definition of serves is already foreseen.

Besides, a fully X.500 Directory Service is being implemented, in co-ordination with the

work that the WG3/SG1 is developing concerning on these issues. The general architecture of this X.500 Directory Service consists of a series of DUAs (Directory User Agents) hosted on the same computer as UAs and DSAs (Directory Server Agents) placed on the MTAs.

2.3 User's Migration.

The next stage is the substitution of current AFTN end users/applications by AMHS ones. After putting into operation the new AMHS functionality in the Madrid COM Center, the gradual migration of the current AFTN end users and applications to a new environment based on AMHS procedures will be performed.

As I said before, at this moment all the AMHS servers have been installed and, progressively, the migration of the current AFTN applications and end users will be carry out in order to evolve them into AMHS procedures in several steps:

1. Air Control Centers (ACCs). At present time, the human AFTN end users of the Madrid Control Center have been already substituted by UAs and they are managing incoming AMHS messaging.

2. Main Sector Heading Airports (future work).

3. Rest of Airports (future work).

4. Military Air Bases (future work).

This migration takes into account the following aspects:

- The human AFTN end users will evolve by using an 'user agent (UA)', taken incorporated X.500 directory services facilities.

- The current applications using AFTN messaging will migrate in two ways:

    1. By evolving their communication packages in order to support native X.400 procedures.

    2. By using a specific gateway developed explicitly with the aim to be capable of taking profit of the X.400 network already installed but with the minimum amount of changes in the application. This options has been developed with the goal of easing the evolution of critical applications, by instance, the Spanish Flight Plan Central Treatment application into AMHS procedures. By sure, the foresight of these applications is to evolve to AMHS, but easing them this evolution.

3 Recommendation

The meeting is invited to note what is presented in this information paper. A complete 'Working Paper' dealing with the subject of this document will be drawn up next WG3 meeting, placed in Bordeaux.