International Civil Aviation Organization
CAR/SAM Regional Planning Implementation Group (GREPECAS)
Air Traffic Management / Communications, Navigation and Surveillance Subgroup (ATM/CNS/SG)
Communications, Navigation and Surveillance Committee
FIFTH MEETING OF THE ATN TASK FORCE (ATN/TF/05)
(Mexico City, Mexico, 12 to 13 June 2009)

Agenda Item 1: Review of the ATN CAR/SAM Planning / Implementation Activities

g) IP Test Procedures

TESTING AND IMPLEMENTATION OF AMHS SERVICE BETWEEN THE UNITED STATES OF AMERICA AND MEMBER STATES OF THE CARIBBEAN AND SOUTH AMERICAN REGIONS

(Presented by the USA/FAA)

SUMMARY

This paper provides a brief discussion regarding the effort to establish ATS Message Handling System service between the USA and member states of the CAR/SAM region. Topics include a description of the existing environment, the benefits of the new service and a proposed schedule for implementation.

1. Introduction

1.1 The Federal Aviation Administration (FAA) of the United States of America will soon be implementing ATS Message Handling System (AMHS) connectivity with member states of the Caribbean and South American Regions, thereby upgrading and replacing existing AFTN service. These activities will be part of a larger effort by all major ICAO Regions to implement AMHS. This paper describes a high-level plan for these activities as well as a tentative timeframe for initiation of test efforts.

2. Discussion

2.1 Current Environment

2.1.1 The AFTN provides global ground-ground infrastructure for the exchange of data such as Flight Plans, Flight Movement messages, NOTAMS, Weather, Search and Rescue, and Oceanic messages. The primary connectivity between the USA and the CAR/SAM Region is currently AFTN. However, all major ICAO Regions have made a commitment to AMHS as replacement for AFTN in order to accommodate increasing air travel as well as better utilize advancing technology. As AMHS connectivity between the USA and its neighbors in the CAR/SAM Region moves closer to reality, plans and schedules must provide for orderly testing and implementation of these connections.

2.2 Proposed FAA-CAR/SAM AMHS Test and Implementation Activities

2.2.1 AMHS service between the USA and CAR/SAM member states will operate out of the FAA's Atlanta National Network Control Center (NNCC). The AMHS system for the Atlanta NNCC is currently undergoing internal test, and is expected to be installed by the end of the third quarter of 2009. Following the completion of this installation, test activities can begin with the initial AMHS partners. These test activities will consist of an initial application test, followed by connectivity test of the actual circuit to be used, and finally implementation. These phases are described in detail below.

2.3 MTA-to-MTA Application Test

2.3.1 Initial AMHS testing can be conducted using the FAA's AMHS test facility, located at the Williams J Hughes Technical Center in Atlantic City, NJ. This facility can be accessed via an internet connection, as the goal of this test is not to verify circuit connectivity but rather to ensure successful MTA-to-MTA application level operability. The FAA can provide a template and plan for this phase of testing. The template provides for the exchange of test and implementation parameters such as AMHS addressing schemes, timers, and Originator/Recipient information. The plan provides the set of functionality to be verified at this stage.

2.3.2 Concurrently with this phase, the FAA and the adjacent member can initiate the process to request telecommunications service, if not already in place. This will ensure that service is available when required for site test and implementation.

2.4 Connectivity Test

2.4.1 Following the successful completion of MTA-to-MTA application test, activities can be scheduled to provide for verification of AMHS circuit connectivity. This will confirm the integrity of the circuit which will carry AMHS messages from the FAA's Atlanta NNCC to the adjacent site. As in the previous phase, the FAA can provide a plan for this phase of testing, which primarily involves the exchange of test messages between the facilities.

2.5 AMHS Implementation

2.5.1 Following the successful completion of circuit test between the AMHS facilities, cutover activities can be scheduled. These activities will provide for the introduction of live AMHS traffic to be exchanged over the circuit.

2.6 Tentative Timeframe for FAA-CAR/SAM AMHS Test and Implementation Activities

2.6.1.1 The following timeframe is proposed for implementation of AFTN and AMHS service between the CAR/SAM States and the USA:

- Test and implementation of AMHS System in FAA ATL NNCC: Completed Q3/2009
- Initial MTA application test activities: Q4/2009
- Connectivity test activities: Scheduled pending results of each application test

2.6.1.2 It is anticipated that the initial test activities will be conducted with Jamaica, Honduras, and Trinidad & Tobago. However, in the interest of expediency, the FAA intends to maintain flexibility in its approach to test and implementation activities.

3. Conclusion

3.1 The use of air travel has increased in recent years and that trend is expected to continue in the coming years. In addition, this increase in air travel as well as changing technology will create a change in the nature of the data associated with air travel. These factor, and others, are expected to result in the following trends:

- Increase in message traffic
- Exchange of binary data
- Need for network diversity for increased reliability

3.2 In order to deal with these trends, all major ICAO Regions have made a commitment to AMHS as replacement for AFTN. AMHS provides the following benefits:

- Increased capacity
- Increased functionality
- Increased reliability

3.3 Efforts are underway in all major ICAO Regions to implement AMHS on a wide scale basis so as to maximize the utilization of these benefits. The effort to establish AMHS service between the USA and members of the CAR/SAM Region is part of that implementation.

4. Suggested Actions

4.1 The Meeting is invited to:

a) Take note of the information presented in this paper

b) Review Timeframe for FAA-CAR/SAM AMHS Test and Implementation Activities provided under paragraph 2.5.2 and

c) Develop a waterfall schedule for

- MTA-to-MTA Application test
- Connectivity test and
- AMHS Implementation

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