INTERNATIONAL CIVIL AVIATION ORGANIZATION

WESTERN AND CENTRAL AFRICA OFFICE

Second Meeting of the Central Atlantic FIR Satellite Network (CAFSAT) Management Committee (CNMC/2)
(Dakar, Senegal, 06-08 November 2012)

Agenda Item 4: interconnection and interoperability of CAFSAT with its neighboring networks (AFISNET, REDDIG)

(**Presented by the secretariat**)

SUMMARY

The purpose of this paper is to inform the meeting of the status of the interconnection between CAFSAT with other VSAT networks.

Reference: Report of CNMC/02
Action by the meeting see paragraph 3

1. Introduction

In order to realize the implementation of AFI, SAM an CAR planned Aeronautical Fixed Service (ATS-DS & AFTN) CAFSAT was to be interconnected with its neighboring networks (AFISNET, REDDIG). This interconnection is aiming to ensure a seamless interoperation for the provision of ground/ground communication service

2. Discussion

Main CAFSAT nodes are located in a transition area between, the western part of AFI region, the eastern SAM region and the southern EUR region.

The network interconnection with its neighbors had to ensure:

- Full operational applications and systems interoperability through the networks;
- End to end continuity of AFS;
- Required Quality of AFS in line with ICAO SARPs (Annex X, DOC 4444…);
- Smooth and continuous integration of CNS new components (implementation of ATN to support ground application)

To comply with these requirements a close coordination of interconnection operations was necessary.

In this framework many regional meetings called for such coordinating operation for the integration of regional sub networks (**See WP04**).

2.1-Integration between CAFSAT and AFISNET

The two Networks are integrated thanks to the installation of a CAFSAT Network in Nouakchott and the installation of an AFISNET node in Las Palmas. The integrated network

supports ATS/DS and AFTN services with available capability to support others ATN applications.

During the last SAT meetings (Recife 2011 and Las Palmas 2012), it was recognized the need to establish an ATS/DS circuit between Abidjan and Recife. As Abidjan is not provided with a CAFSAT node as well as Recife is not provided with an AFISNET's it was agreed to establish a provisional double hoop link between the two centers.

This link should be established by rerouting the incoming signal from Abidjan AFISNET station into the CAFSAT Dakar Recife link and vice versa.

2.2- Integration between CAFSAT and REDDIG

2.2.1 CNMC/1meeting noted that the Atlántico ACC-Dakar ACC, Atlántico ACC-Johannesburg ACC and Ezeiza ACC-Johannesburg ACC ATS/DS circuits are implemented through the CAFSAT network, and the rest of the some circuits are implemented using the international direct dialing (IDD) telephone calls.
Based on the successful interconnection between the REDDIG and MEVAII networks to realize the ATS/DS circuit between San Andres APP (Colombia) - and Medellin ACC (Colombia)-Panamá ACCI, it was noted that the ATS speech circuits that nowadays use IDD could be implemented through the REDDIG and CAFSAT VSAT networks through a double hoop satellite link, and an action plan was proposed to the concerned participants to carry out trials in order to verify the quality of the ATS speech circuits.

2.2.2 Following Conclusion SAT 16/6 trials was made for the interconnection between REDDIG CAFSAT networks with the support of Argentina Aeronautical Administration and INSA company between the ACC of Montevideo and South Africa through the CAFSAT node of Ezeiza (Argentina). The result of the trial was positive and the quality of audio for double hope satellite was acceptable. The link between Uruguay and Ezeiza (Argentina) was through REDDIG and between Argentina and South Africa was through CAFSAT.

2.2.3 In this respect the interconnection between REDDIG and CAFSAT would be implemented involving Uruguay, French Guyana (SAM Region) and Trinidad Tobago (Car Region) and the cost that represent this interconnection would be analyzed. Considering that in this moment CAFSAT will be migrating in a new network, in order to facilitate the interconnection and reduce the cost of interconnection for the States it is important to be aware of the new technology of CAFSAT. In reference at the new REDDIG (REDDIG II) technical characteristics are aspects:

- For baseband the new equipment will be router CISCO (CISCO 2901)
- For satellite modem the new equipment will be SKYWAN 1070

- The satellite access continue to be TDMA

2.2.4 With the current equipment of CAFSAT the interconnection with the REDDIG will be expensive for the States involved that. At this respect it is necessary that the coordination continues in order to complete the interconnection.

3. Action by the meeting

The meeting is invited to:

a) Take note of the information given above

b) Encourage concerned Sates/Organizations to realize/complete the interconnection process between CAFSAT and the neighboring networks in order to complete the remaining interconnection required for ATM operation.;

c) Pursue their collaboration when modernizing their respective networks components in order to build an harmonized interregional network provided with the capability to support the forthcoming CNS applications.
