INTERNATIONAL CIVIL AVIATION ORGANIZATION

WESTERN AND CENTRAL AFRICA OFFICE

Twenty Second Meeting of the AFI Satellite Network Management Committee (SNMC/22)
(Lomé, Togo, 15-19 December 2014)

Agenda Item 3: interconnection and interoperability of AFISNET with its neighboring networks (CAFSAT, NAFISAT, SADC/2)

(**Presented by the secretariat**)

SUMMARY

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

Reference: Report of APIRG/16*: **Conclusion 16/16 implementation/interconnection of SADC/2, NAFISAT and AFISNET VSAT Networks***
Report of SNMC/17
Report on SNMC/18
Report on APIRG/19
Report on APIRG 20

Action by the meeting see paragraph 3

1. Introduction

In order to realize the implementation of AFI planned Aeronautical Fixed Service (ATS-DS & AFTN) AFISNET was to be interconnected with its neighboring networks (CAFSAT, NAFISAT, SADC2). This interconnection is aiming to ensure a seamless interoperation for the provision of ground/ground communication service

2. Discussion

AFISNET nodes are located in a transition area between, the northern and the southern parts of the continent in one hand, the eastern and the western part in the other hand.

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.

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 (Las Palmas 2012, Dakar 2013), the establishment of an ATS/DS circuit between Abidjan and Recife was considered. During the SAT 19 Meeting in Buenos Aires, the Secretariat facilitated informal meetings between representatives of ASECNA, Brazil and Trinidad & Tobago.

These discussions led to a proposal from ASECNA to offer three AFISNET VSATs respectively to Brazil, French Guyana and Trinidad & Tobago. These stations will be designed for the establishment of the Atlántico/Abidjan, Rochambeau/Dakar, Trinidad & Tobago/Rochambeau ATS/DS circuits.

This offer seems to be applauded by French Guyana and Trinidad & Tobago. The discussion between ASECNA and Brazil is still ongoing

2.2- Integration with NAFISAT and SADC2

The integration of AFISNET with NAFISAT and SADC/2 networks was the result of a balanced interconnection exercise comprising four (04) NAFISAT nodes (Tripoli, Khartoum, Addis Ababa and Nairobi) two (02) SADC/2 Nodes (Luanda and Johannesburg) five (05) AFISNET nodes (Abidjan, Accra, Brazzaville, N'Djamena, Niamey).

The Accra and Luanda nodes interconnection exercise has been completed as well as the Brazzaville (AFISNET) and Kinshasa (SADC/2) nodes.

However the interconnection between Bangui (AFISNET) and Gbadolite (RVA domestic Network) ATS/DS circuit is outstanding due to the current situation in Central African Republic.

2.3-Extension of AFISNET to EUR Region

AFISNET has already been expanded in Europe with the Toulouse and Las Palmas nodes.
In addition to the interconnection of AFISNET to CAFSAT and NAFISAT SADC/2 the network has been spreading its growth by the planned realization of the Aix (France) node to be connected to Algiers AFISNET station and thus ensure a continuous flow for AFTN and AIS messages from Johannesburg to EUR area through Brazzaville, Niamey and Algiers as requested by AFI Air Navigation Plan for AFS.
The Secretariat has no recent report on this project.

2.4 Implementation of ATN Ground/Ground components through AFISNET

The interconnection operation of these various networks allows AFI Region to be provided with the suitable support for CNS and particularly ATN components implementation.

The operational requirements on Voice over IP (**VoIP**), ATS Message Handling Systems (**AMHS**), ATS Interfacilities Data Communication (**AIDC**), extended VHF coverage and Surveillance Data sharing (**SSR, ADS-C),** indicate that the interconnection of AFISNET with its neighboring network has become a great challenge for SNMC in terms of insurance of interoperability

3. Action by the meeting

The meeting is invited to:

a) Take note of the information given above

b) Encourage concerned States/Organizations to realize/complete the interconnection process between AFISNET 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 a harmonized AFI network provided with the capability to support the forthcoming CNS applications.
