INTERNATIONAL CIVIL AVIATION ORGANIZATION
EASTERN AND SOUTHERN AFRICAN (ESAF) OFFICE

THIRTEENTH MEETING OF THE NAFISAT SUPERVISORY BOARD (NAFISAT-SVB/13)
(DAR-ES-SALAAM, TANZANIA, 7 – 8 NOVEMBER 2018)

Agenda Item 5: VSAT-IP Network for COMESA countries

SUMMARY

The purpose of this WP paper is paving the way to establish a VSAT-IP network for COMESA countries to facilitate the integration of ATC and enhance the commercial cooperation between its member states.

Reference:

(1) Report of APIRG/16: Conclusion16/16: implementation/interconnection of SADC/2 ,NAFISAT and AFISNET VSAT Networks
(2) Report of Fifth Meeting of APIRG Communications, Navigation and, Surveillance Sub-group (CNS/SG/5, Nairobi, Kenya, 16-19 September2013)
(3) Book of "Directions in development infrastructure, Ready for takeoff? –The potential for low-cost carriers in developing countries(Charles E.Schlumberger and Nora Weisskoph)
(4) Guide lines on performing of VSAT networks (Ref. Conclusion 5/17 of ALLPIRG Meeting)
(5) ICAO / Eastern and Southern African (ESAF) Office / First Meeting of the AFI VSAT Networks Managers (AFI VSAT/1)
(6) Special AFI RAN Report. On 1 December 2006.

1 Introduction

1.1 The objective of COMESA countries are to “harmonize their polices on civil aviation to promote the development of safe, reliable, efficient , and economically viable civil aviation with a view to developing appropriate infrastructure ,aeronautical skills and technology, as well as the role of aviation in support of other economic activities.

1.2 Communication infrastructure (ground-to-air and ground-to –ground) has improved considerably, and most of COMESA countries have benefited from regional communications projects such as the SADC VSAT which covers of 14 Member Countries:

Angola, Botswana, Congo (DR), Lesotho, Malawi,
Mauritius, Mozambique, Namibia, Seychelles, South
Africa, Swaziland, Tanzania, Zambia and Zimbabwe, as well as NAFISAT-VSAT which cover of 14 members countries:
Djibouti, Egypt, Eritrea, Ethiopia, Kenya, Libya, Seychelles,
Sudan, Uganda, Somalia , Saudi Arabia, Tanzania ,Yemen and South Sudan.

1.3 There is a great need to linking between COMESA countries with a new VSAT-IP network to facilitate the way to establish an integrated Air space and to support the economic progress between them.

1.4 So, it is required to design a new VSAT-IP network stations which can support CNS, Communication, Navigation Surveillance among its member state.

2 Discussions

2.1 In line with APIRG/18 recommendation to monitor and take advantage of lessons learnt by other ICAO regions 'experience in implementing integrated regional communications networks, the CNS Sub-Group noted the information provided by France (DGCA) on the South American (SAM) Region project to implement an aeronautical Internet Protocol(IP)-based VSAT network, and recognized the importance of timely consideration of issues related to system safety, security appropriate technologies and system management.

2.2 AFI ATN Architecture Plan adopted by the APIRG/18Meeting called for developing an action Plan taking into consideration the latest developments related to ATN, including:

- ICAO Standards and Recommended Practices (SARPs) contained in Annex10, Volumes II and III;
- Relevant guidance material in ICAO Doc9880 (Manual on Detailed Technical Specifications for the ATN using ISO/OSI Standards and Protocols) and Doc9896 (Manual on the ATN using Internet Protocol Suite(IPS)Standards and Protocols);
- ICAO Aviation System Block Upgrades (ASBUs) and supporting Technology Road maps for Communications, Navigation and Surveillance (CNS) ,Information Management (IM) and Avionics;
- Alignment of regional air navigation plans(ANPs) and regional supplementary procedures (SUPPs) in accordance with Recommendation 6/11 of the ICAO Twelfth Air Navigation Conference; and
- Status of implementation by States of the ATN infrastructure and supported applications

2.3 The good example of the importance of supporting installing the high technology infrastructure is EAC community (East African Community). As one of the fastest growing regional economic blocs in the world, the EAC is widening and deepening co-operation among the Partner States in various key spheres for their mutual benefit. These spheres include political, economic and social. At the moment, the regional integration process is in full swing as reflected by the encouraging progress of the East African Customs Union, the establishment of the Common Market in 2010 and the implementation of the East African Monetary Union Protocol.

2.4 The (EAC) is a regional intergovernmental organization of 6 Partner States: the Republics of Burundi, Kenya, Rwanda, South Sudan, the United Republic of Tanzania, and the Republic of Uganda, with its headquarters in Tanzania.

2.5 The EAC is home to 150 million citizens, of which 22% is urban population. With a land area of 1.82 million square kilometers and a combined Gross Domestic Product of US$ 146 billion (EAC Statistics for 2016).

2.6 The proposed VSAT-IP network provide interfaces with ATS/DS, AFTN, VHF and Radar applications. “Regional Cooperation between Civil Aviation Authorities (CAAs) and Air Navigation Services Providers (ANSPs) has resulted in the streamlining and harmonizing of Air Navigation Regulations (ANRs), which are safety oriented”.

2.7 There is a great need to strength the frame work of COMESA countries to harmonize the proposed VSAT-IP network operation in order to ensure an end to end interoperability.

2.8 As a matter of coordination between these various interconnected networks, the special AFI/RAN meeting adopted recommendation that calls for all entities involved with planning, implementation and operation of VSAT networks in the AFI Region to hold regular joint meetings under the auspices of ICAO regional offices.

2.9 NAFISAT member states as a major part of COMESA countries shall pursue the work done by the AFI Aeronautical VSAT Networks Manager towards the continuous development of an AFI integrated aeronautical telecommunication infrastructure, in accordance with APIRG/18Decision 18/28.

2.10 GNSS provides the basis for modern surveillance technology such as automatic dependent surveillance-broadcast system (ADS-B) which is a more advanced and cost effective substitute to today radar system and is currently implemented in USA, Europe and a view other countries. It has also considered in the EAC.

2.11 The interconnection between COMESA countries will help of this organization region to extend its interconnection to EUR Region**.**

3 Action required by the meeting:

a) Take note of the above information.
b) Inviting ICAO –ESAF office and the meeting to form a committee from selected NAFISAT member states, ICAO, and service providers representatives of NAFISAT-SADC2 to prepare a CBA "Cost benefit Analysis" study for installing like this VSAT-IP network for COMESA countries.
c) Encouraging the members states of NAFISAT and SADC 2 VSAT networks to trace the way of Europe to fulfill the dream of Africa region to be a Single African Sky “SAS”

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