International Civil Aviation Organization

AFI PLANNING AND IMPLEMENTATION REGIONAL GROUP
SIXTEENTH MEETING (APIRG/16)
(Kigali, Rwanda 19-23 November 2007)

Agenda Item 4.0: AFI Regional Air Navigation Planning and Implementation Issues

4.2: Communication, Navigation and Surveillance (CNS)

Implementation of Rationalized AFTN Plan in the ASECNA Area

(Presented by ASECNA)

SUMMARY

The present Working Paper gives a progress report on the implementation of rationalized AFTN Plan in ASECNA area. For the shortcomings and deficiencies still existing in the establishment of the concerned circuit, it proposes solutions to overcome them.

Action required of APIRG is at Paragraph 3.

1. Introduction

1.1 The elimination of the shortcomings and deficiencies in the field of aeronautical telecommunications in AFI Region and in particular that dealing with the Aeronautical Fixed Service (AFS) links, became an essential challenge for the implementation of the area control service, specified in APIRG/13 conclusion 13/31.

1.2 In this context, the effective implementation of the A FTN circuits, can be done only in a co-operative/proactive approach and by the adequate use of the existing and reliable links.

1.3 According to the RAN AFI/7 recommendations 5/23 and 9/2 , relating to the use of VSAT technology for the implementation and improvement of the AFS circuits, ASECNA carried on and expedited its VSAT installation stations schedule , in order to eliminate the noted shortcomings and deficiencies.

2. Discussion

2.1 The AFI map , below in appendix shows the planned AFTN circuits reviewed by APIRG 15 (Doc:7474 FASID)

- **Implementation of rationalised AFTN circuits**

Table1 allows to:

- highlight that on 49 required circuits in ASECNA area , 47 are implemented for a realization rate about of 96%

- note that all the circuits of which the two ends are under ASECNA responsibility, are fully carried out (100% realization rate) through AFISNET facilities.
- note that some circuits realized through public telecommunication operators are sometime unavailable

- **AFTN circuits Performances**

The **AFTN circuits Performances** for ASECNA AFI main centres is summarized up in table 2
More details for each ASECNA site is available.

Most of the circuits have the required availability rate (≥ 97%); the low rates are related to facilities dysfunctions and cooperative trials should be conducted to clear these dysfunctions.
Table 2: Availability of AFI rationalized AFTN of ASECNA Main Centres circuits

- **AFTN on going projects**

ASECNA has planed to renew the main AFTN switches by the end of 2008.
The project consists on :

- Implementing the missing planed circuit in a joint collaborative approach with other ANSP through AFISNET inteconnexion with new COM centres (***Bissau, Banjul & Sao-Tome-equipped by ASECNA, Algiers***);
- Interconnecting AFISNET with existing **CAFSAT** network (***Nouakchott Las Palmas***, ***Nouakchott Casablanca***, ***Nouadhibou –Las Palmas***) and with coming **NAFISAT/SADC2** network (***Brazzaville-Nairobi, Brazzaville-Luanda, Niamey-Addis***);
- Separating AFTN and GTS Switches in each centre and implementing proper circuits for both AFTN and GTS.
    - ***Douala, Libreville, Bangui, Abidjan already installed for both AFTN and GTS;***
    - ***Niamey, Brazzaville and Dakar for GTS;***
    - ***All ASECNA centres to be equipped sooner in the coming plan***

- **Improvement of AFTN Network and performance**

With the new technologies AFTN Network and performance should be more be easily increased pending technical arrangement to take into account:

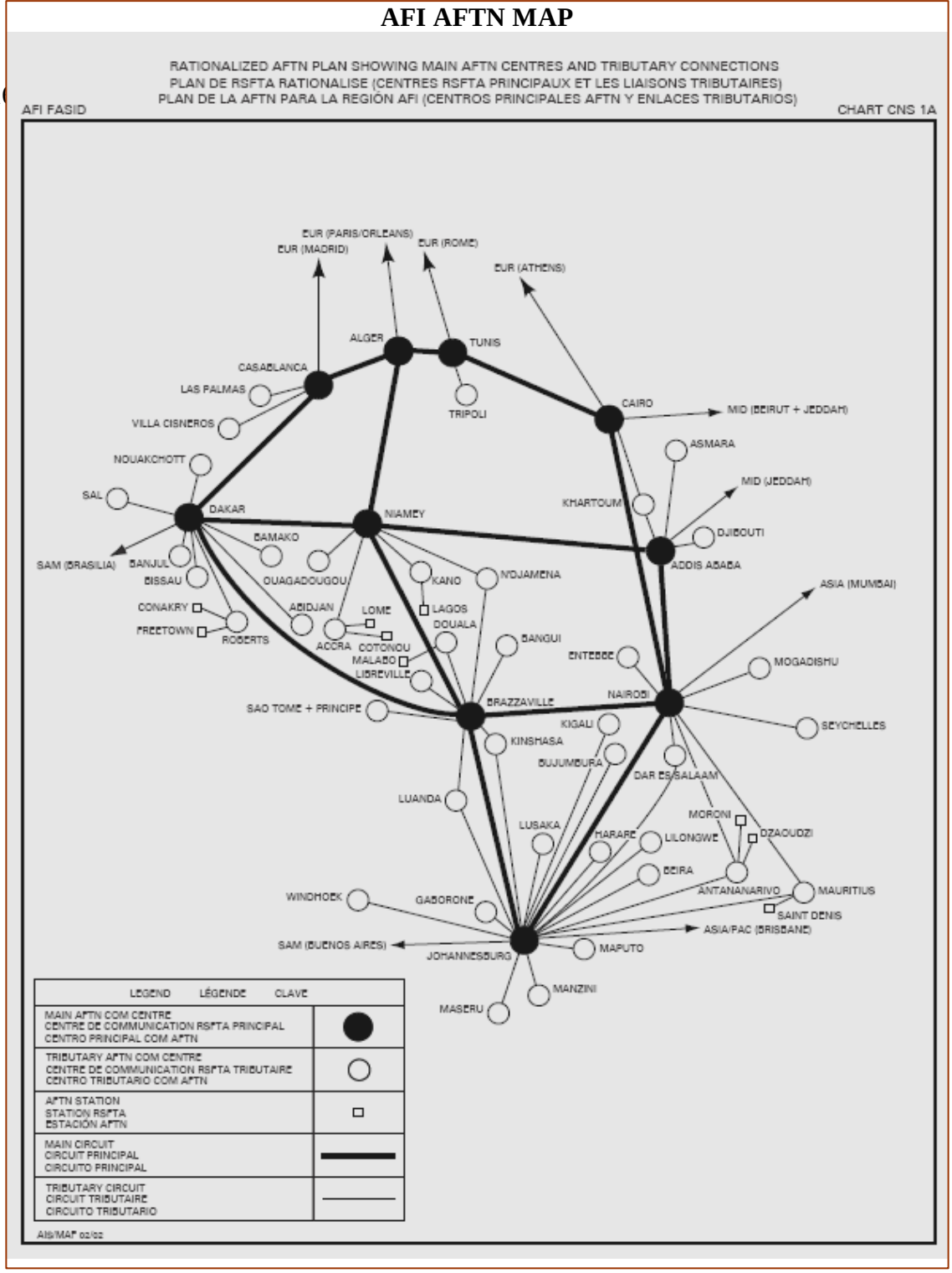
- The need of an end to end available and reliable service, facing RVSM requirements and including contingency plan and;
- The cost/effective investment by using the new technologies and therefore;
- The need to review the "**rationalized**" topology for AFTN.

3. Action by APIRG:

3.1 The meeting is invited to:

- note the implementation rate for the AFTN circuits implemented in ASECNA area (under its full responsibility), which are a question of vital importance for the air navigation service;
- ***note the current deficiencies and take the appropriate actions particularly by conducting cooperative trials be to clear these dysfunctions.***
- ***Encourage the others side regarding the circuits not yet implemented to carry out their implementation***;
- ***Note the new technologies and build appropriated guidelines to integrate them in AFTN systems;***
- ***Address CNS-SG 2 for a deep evaluation of rationalized AFTN topology and a technical proposal to improve it's topology***

AFI AFTN MAP



The figure 1, below shows the situation of the physical links of and to the ASECNA AFTN centres .

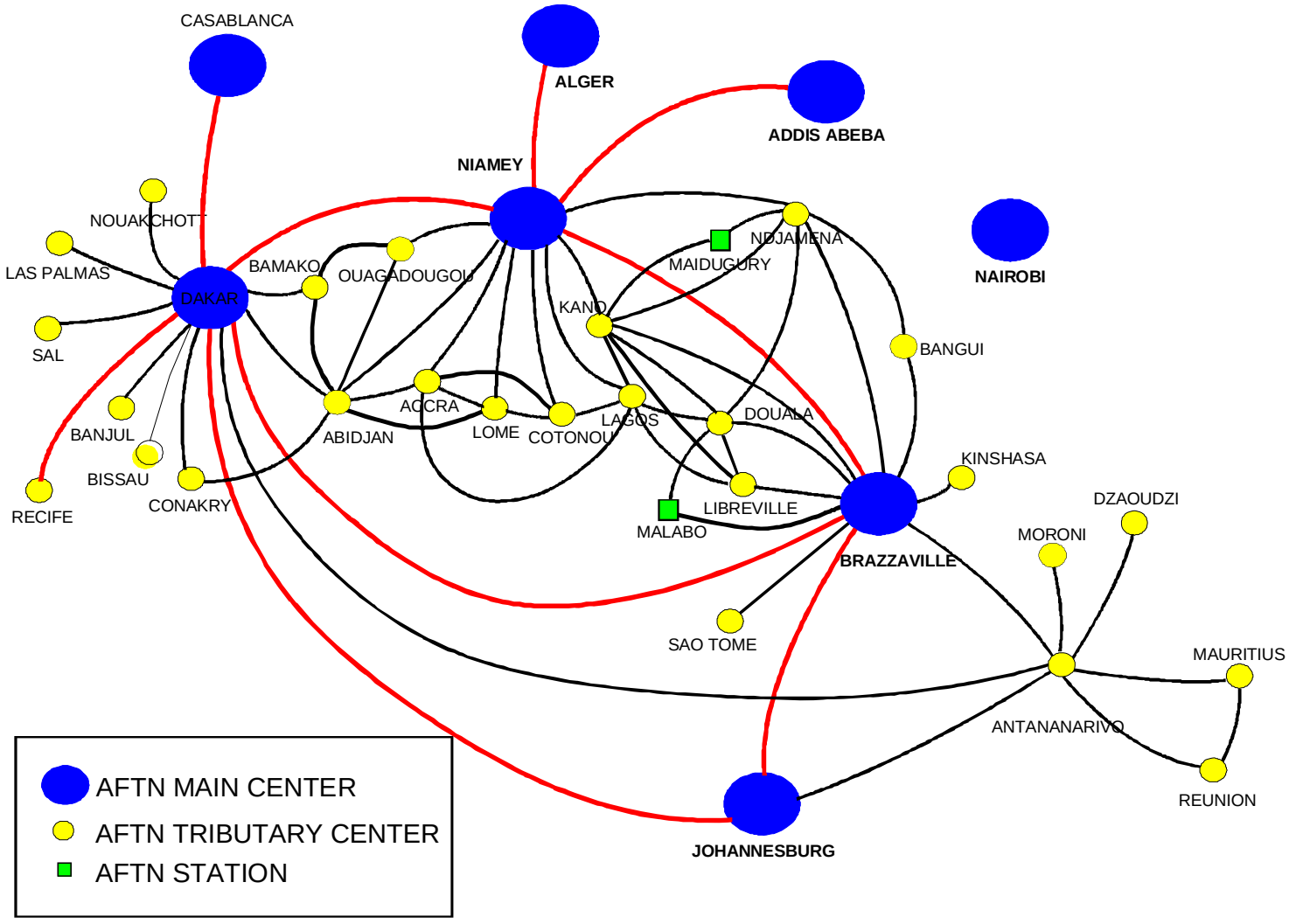


FIGURE 1: *Physical links implemented in ASECNA area*

It can be noted all the links are implemented via AFISNET, CAFSAT and SADC networks, except for the links Brazzaville/Kinshasa(by microwave) and Niamey/Addis Ababa (PTT facilities: leased line)

Tableau 1 : Rationalized AFTN implementation circuits status

Country	COM CENTRE	REQUIRED CIRCUITS	IMPLEMENTED CIRCUITS	%	NOT IMPLEMENTED CIRCUITS	BILATERAL IMPLEMENTED CIRCUITS
BENIN	COTONOU	2	2	**100%**		LOME , NIAMEY

BURKINA	OUAGA	1	1	**100%**		BAMAKO, BOBO
CAMEROON	DOUALA	2	2	**100%**		KANO, LIBREVILLE, LAGOS, N'DJAMENA, GAROUA
CONGO	BRAZZAVILLE	11	9	**91%**	**LUANDA NAIROBI**	ACCRA, KANO, MALABO, POINTE NOIRE
COTE D'IVOIRE	ABIDJAN	1	1	**100%**		LOME, NIAMEY, ACCRA , BAMAKO
GABON	LIBREVILLE	1	1	**100%**		DAKAR, DOUALA, KANO, LAGOS, ACCRA
BISSAU GUINEE	BISSAU	1	1	**100%**		
EQUATORIAL GUINEE	MALABO	1	1	**100%**		BRAZZAVILLE
MADAGASCAR	IVATO	4	4	**100%**		ST-DENIS
MALI	BAMAKO	1	1	**100%**		OUAGADOUGOU, ABIDJAN
MAURITANIE	NOUAKCHOTT	1	1	**100%**		NOUADHIBOU
NIGER	NIAMEY	8	8	**100%**		ABIDJAN, COTONOU, LOME
R C A	BANGUI	1	1	**100%**		NDJAMENA
SENEGAL	DAKAR	11	11	**100%**		LAS PALMAS, LIBREVILLE
TCHAD	NDJAMENA	2	2	**100%**		BANGUI , KANO, MAIDUGURI, DOUALA, GAROUA
TOGO	LOME	1	1	**100%**		ABIDJAN, COTONOU, NIAMEY, NIAMTOUGOU
		49	**47**	**96%**		