



INTERNATIONAL CIVIL AVIATION ORGANIZATION
EASTERN AND SOUTHERN OFFICE

First Meeting of the AFI VSAT Networks Managers (AFI VSAT/1)
(Kwa-Zulu Natal, South Africa, 13 to 15 June 2011)

Agenda Item 2c: Systems Architecture

SPACE SEGMENT, TRANSPONDER, FREQUENCY, BAND BANDWIDTH ETC.

(Presented by ATNS)

SUMMARY

This working paper provides information on the SADC VSAT II and NAFISAT VSAT network architecture.

REFERENCE(S)

1. INTRODUCTION

1.1. ATNS and IATA are the appointed Network Service Provider for the SADC VSAT II and NAFISAT (North East AFI Satellite Network) VSAT Networks. These networks provide aeronautical fixed communication from and between main Air Traffic Control Centres in the region. The VSAT terminals provide the following services:

1.2. **Air Traffic Services/Direct Speech (ATS/DS)** services from and between, a specific Flight Information Region (FIR) and the adjacent FIR's as provided for in the ICAO AFI Plan.

1.3. **Aeronautical Fixed Telecommunication Network (AFTN)** data communications between Air Traffic Control Centres as per the ICAO AFI AFTN routing plan.

1.4. **Aeronautical Telecommunication Network (ATN)** data communications between Air Traffic Control Centres as per the ICAO AFI ATN routing plan.

2. DISCUSSION

2.1. The table below shows the applicable network parameters

2.2. Network Parameters

FEATURE/FUNCTION	DESCRIPTION
Satellite Operator	INTELSAT
Satellite Name	IS 10-02
Orbital Position	359 ⁰ East Longitude
Transponder (Up/Down)	23/23
Lease Bandwidth	9 MHz
Antenna Size	3.8m
Type of Network	Hubless
Network Topology	Fully Meshed VSAT network
Satellite Access Method	MF-TDMA

2.3. **Network Interconnectivity.** Please refer to WPs' 2e, 2c1, and 2c3, for graphical representations of the circuit connectivity's provided.

3. CONCLUSION

3.1 The meeting is invited to:

3.1.1 Note the information provided in this working paper.

3.1.2 Take the information into account during discussions.

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