



INTERNATIONAL CIVIL AVIATION ORGANIZATION
Western and Central African (WACAF) Office

**Nineteenth Meeting of the AFI Satellite Network Management Committee
(SNMC/19)**

(Accra, Ghana, 14 to 18 November 2011)

Agenda Item 10: Updating SNMC Form of Agreement

Agreements covering the interconnections between AFISNET and SADC/2 and NAFISAT

(Presented by ATNS)

SUMMARY

The working paper proposes the establishment of formal agreements for the operation of interconnecting AFS links between neighbouring VSAT networks.

1 Introduction

1. Although ATNS, ASECNA and other Civil Aviation Authorities have a number of interconnection in place in respect of the SADC/2, NAFISAT and AFISNET networks, these links are operated at this stage without any formal arrangements in place in respect of technical, operational and financial responsibilities.

2 Discussion

1. The first meeting of the AFI VSAT Managers (Kwa-Zulu Natal, South Africa, 13 to 15 June 2011) established a set of Best Practices, which contained, amongst others provisions, that State's commitment should be formalized and documented, including delegation of operational, technical and financial authority, as stipulated in ICAO Doc 7474 (ANP/FASID) – Guidelines for multinational facility/service.
2. It is there proposed that ASECNA, ATNS and any other Civil Aviation Authorities concerned, engage in discussions to establish formal arrangements in regard to these

interconnecting links, that will cover at least the following clauses for all existing and any future Aeronautical Fixed Services.

- 2.2.1 The objective of the arrangements and proposed solution;
- 2.2.2 Clauses to regulate the methods, procedures and steps used to implement the AFS links, as well as governance of the relationship between the parties;
- 2.2.3 Financial arrangements in respect of the purchase of equipment, cost of installation, running cost i.e. the utilization of space segment, maintenance, etc;
- 2.2.4 Provision by all parties of technical information and specifications to ensure an effective and fully functional solution;
- 2.2.5 Functions of the AFS to provide services as agreed between the two parties, including routing arrangements for the links;
- 2.2.6 Fault reporting procedures including contact details of fault reporting facilities in place, etc. The attached Annexure A and B give brief descriptions of the ATNS Support and Maintenance System and Fault Reporting Procedures respectively.
- 2.2.7 Term of the agreement, arrangements for extension and applicable arrangement for amendment or termination of the services.

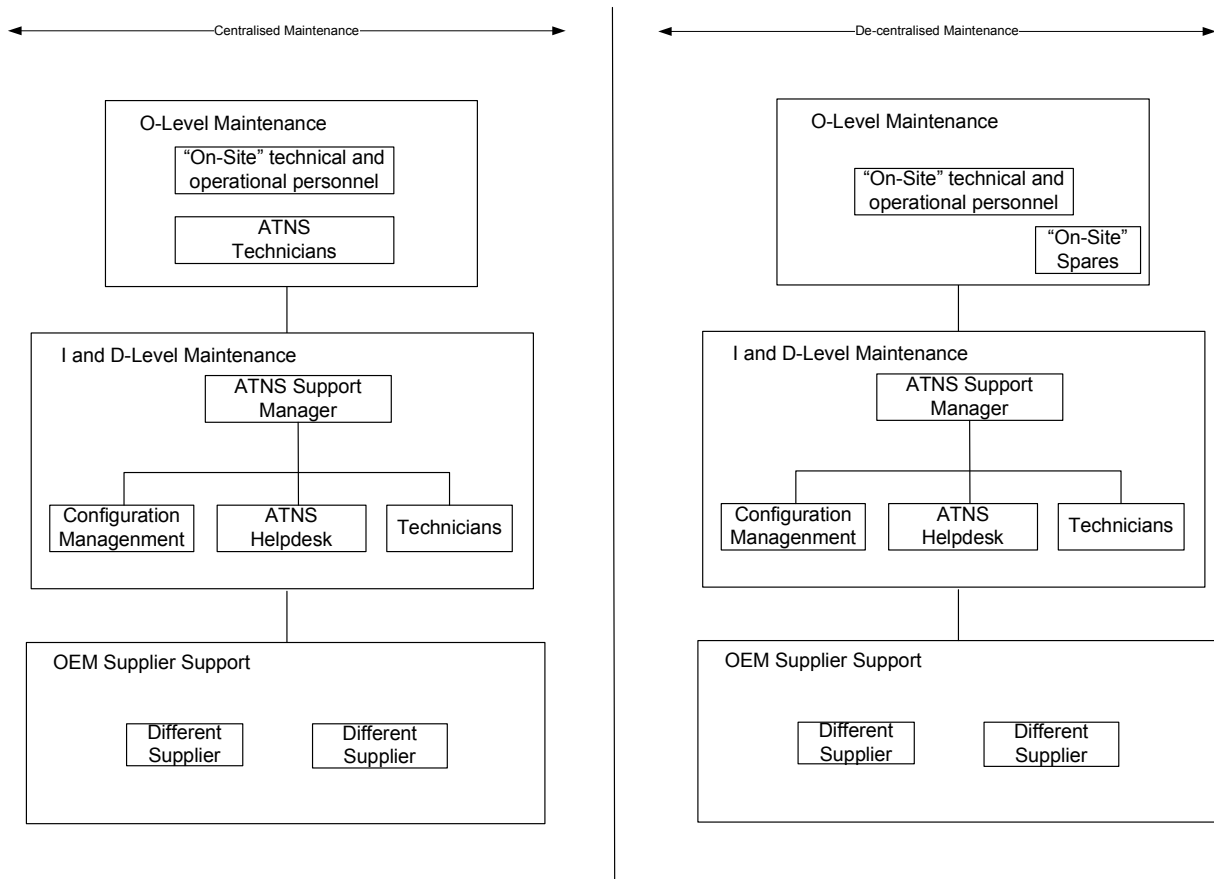
3 Conclusion

1. The meeting is requested to discuss the information provided in this working paper.
2. Submitted for consideration and endorsement by the meeting.

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SUPPORT AND MAINTENANCE SYTEM

1. The Support and Maintenance system in place today for operation and support of both the SADC/2 and NAFISAT networks are based on the normal standard three tier “O” (operational), “I” (intermediate) and “D” (depot) level support structure. In the case of decentralised maintenance the local on-site technicians are responsible for “O” and “I” level.
2. The diagram below shows the differences between the centralised and the decentralised network support structures.



3. The successful implementation of the support structure and the continued high network availability levels is to a large extent dependent on the use of support tools throughout the network. Two major network support tools are the ATNS Helpdesk/Maintenance Management System (MMS) and the Network Management and Control System (NMS) deployed throughout the two networks.
4. All faults occurring in any of the two networks are reported to the ATNS Fault Reporting Centre where all detail prescribing the failure is recorded on a maintenance database. This facilitates the collection of network statistics and tracks failures in detail through a fault ticketing system.
5. The Network Management and Control System (NMS) is deployed throughout the two networks to the extent that a client NMS terminal is installed at each site to collect data and health statistics of the individual terminals but also statistics network wide. These statistics and health checks are all available on the central NMS servers.
6. ATNS has implemented additional network maintenance tools such as the in-line test equipment recently deployed throughout the network to particularly monitor the health of the AFTN lines. Thus ATNS can react immediately to any corrective maintenance task required.
7. Furthermore, the “On-Site” and the ATNS technicians have received extensive training in the operation and maintenance of the VSAT networks.
8. Not only corrective maintenance is conducted in the SADC/2 and NAFISAT networks, but each year an extensive preventative maintenance program is implemented whereby each of the VSAT sites are visited by an ATNS technician and together with the local “on-site” technicians, extensive tests are conducted to ensure a minimisation of corrective failures through the next maintenance cycle.
9. All equipment deployed is under configuration management and should equipment fail and are replaced with spares, the failed units are sent back to the ATNS Maintenance Centre, thoroughly tested to confirm the exact nature of the failure and sent for repairs to the

individual OEM (Original Equipment Supplier) suppliers. These repaired units are sent back to the ATNS MMC and re-introduced into the corrective maintenance supply chain.

FAULT REPORTING PROCEDURES

ATS/DS Fault Reporting

1. If any problem is experienced with voice connectivity, the “in-country” operator must first ascertain whether, the system status display his own VCCS and the UPS power supply to the VSAT terminal is normal in accordance with the “First Line Maintenance” guidelines.

2. After completion of the “First Line Maintenance” actions, any abnormal system status display conditions must be noted and relayed to the ATNS Fault Reporting Centre as part of the fault report. These and any other observations must be reported as soon as possible to the Duty Engineering Technician at the central or master site responsible for operating the ATNS Fault Reporting Centre (FRC):
 - a. **Telephone Number:** To Be Advised

 - b. **Facsimile Number:** To Be Advised

 - c. **Electronic Mail:** To Be Advised

3. During reporting of the fault to the ATNS Fault Reporting Centre, the Duty Engineering Technician will record specific detail pertaining to the failure on the ATNS FRC Maintenance Management System.

4. All faults will be recorded in the Facility Faults Log or Maintenance Management System and a unique “**Unserviceability Number**” will be allocated by the Duty Engineering Technician.

5. The Duty Engineering Technician will carry out specific prescribed ATS/DS tests in an attempt to further localise the fault.

AFTN/ATN Fault Reporting

1. If any problem is experienced with AFTN connectivity, the “in-country” operator must first ascertain whether the system status display (client NMS terminal), his own AFTN switch or ATN router and UPS power supply to the ATNS VSAT terminal is normal in accordance with the “First Line Maintenance” guidelines.

2. After completion of the “First Line Maintenance” actions, any abnormal system status display conditions must be noted and relayed to the ATNS Fault Reporting Centre as part of the fault report. These and any other observations must be reported as soon as possible to the Duty Engineering Technician at the central or master site responsible for operating the ATNS Fault Reporting Centre (FRC):
 - a. **Telephone Number:** To Be Advised

 - b. **Facsimile Number:** To Be Advised

 - c. **Electronic Mail:** To Be Advised

3. During reporting of the fault to the ATNS Fault Reporting Centre, the Duty Engineering Technician will record specific detail pertaining to the failure on the ATNS FRC Maintenance Management System.

4. All faults will be recorded in the Facility Faults Log or Maintenance Management System and a unique “**Unserviceability Number**” will be allocated by the Duty Engineering Technician.

5. The Duty Engineering Technician will carry out specific prescribed AFTN tests in an attempt to further localise the fault.