

THE 16TH SADC VSAT II

SUPERVISORY BOARD VIRTUAL MEETING

(12 - 13 JULY 2021)

SUMMARY OF DISCUSSIONS

Prepared by Air Traffic and Navigation Services (ATNS)

Table of Contents

1. Welcome Address	3
1.2. Opening Remarks	3
2. Election of the Chairperson	4
3. Secretariat	4
4. Attendance	4
5. Apologies/absent	4
6. Adoption of the Agenda and Work Programme	5
7. Discussion of the Agenda Items	5
7.1. Operation, maintenance and performance of the SADC VSAT II Network	5
7.1.2. Discussion	5
7.1.3. Trend analysis	6
7.1.4. Interoperability	7
7.1.5. Implementation of AMHS service on the SADC Network	7
7.1.6. Performance of the Network	8
7.2. Financial Reporting	9
7.2.1. Annual Financial Report 2019 / 2020	9
7.2.2. VSAT Financial Report for period ending March 2021	9
7.2.3. Budget Proposal 2021/2022	10
7.3. Value-added Services	10
7.4. Future of SADC VSAT Network Post 2022	10
7.4.1. Decisions taken by the meeting:	12
8. Any other business	13
9. Venue of next meeting	13
10. Approval of minutes	13
11. Closing of the meeting	13

Appendices

Appendix A - List of participants

FACILITATOR: Mr. HARVEY LEKAMISY
Regional Officer CNS (ICAO)

1. Welcome Address

1.1. Mr. Thabani Myeza, Executive: Commercial Services at Air Traffic and Navigation Services (ATNS), at the request of the Facilitator, took the opportunity to welcome all present at this 16th SADC VSAT Supervisory Board Virtual Meeting.

1.2. Opening Remarks

1.2.1. Mr. Myeza, welcomed and thanked Mr. Barry Kashambo, the Regional Director of the ICAO Eastern and Southern Regional Office (ESAF), for availing the time to grace us with his presence and agreeing to do the Opening Remarks.

1.2.2. Mr. Barry Kashambo welcomed the delegates from the SADC States and thanked their Authorities for allowing them to be present and be part of this unfolding history and journey. He acknowledged the unprecedented challenges we are currently facing - “the new normal”.

1.2.3. Mr. Barry Kashambo expressed his heartfelt gratitude to all delegates present: SADC Member States and representatives from ICAO, IATA, ATNS.

1.2.4. He mapped out the VSAT Network historical background and subtly reminded us of its initial purpose of eradicating the identified voice communication deficiencies of that time; which we rectified through the establishment of VSAT Network in line with the Region’s Communication requirements in terms of the ICAO Africa Indian Ocean (**AFI**) plan.

1.2.5. Mr. Barry Kashambo emphasised the importance of collaboration, expressing his contentment on the progress made to date; especially around the developmental upgrades of the Network and collaborative efforts all the stakeholders here.

1.2.6. He also commended the success of the Network in terms of its maturity, reliability and sustainability; including its contribution towards enhancing safety within the Region;

facilitating a better working relationship between Member States; and its capacity to further assist with the implementation of Aviation System Block Upgrades (**ASBU**).

1.2.7. He applauded ATNS and IATA, as Network Service Providers for ensuring a seamless and well-coordinated regional communications Network.

1.2.8. Lastly, Mr, Kashambo urged the meeting to focus on continuity and collaboration.

2. Election of the Chairperson

2.1. Mr. Myeza handed over the meeting to the Facilitator, Mr. Harvey Lekamisy, to allow the Member States to elect the Chair.

2.2. Namibia proposed that South Africa Chair the meeting and Zambia seconded.

2.3. Then, Mr. Myeza was officially elected as the Chair for the 16th SADC VSAT II Supervisory Board meeting and thanked the members for the vote of confidence.

3. Secretariat

3.1. ATNS was confirmed as the Secretariat of the meeting

4. Attendance

4.1. The Chairperson invited all delegates present to introduce themselves.

4.2. The 16th SADC VSAT II Supervisory **Virtual** Board Meeting was attended by the following Thirteen (13) Member States: Angola; Botswana; Burundi (joined on the 2nd day of the meeting); Eswatini; Lesotho; Madagascar; Mauritius; Mozambique; Namibia; Tanzania; Zambia, and Zimbabwe.

4.3. In addition, the SADC VSAT II Network Service Providers (ATNS and IATA); including representatives from ICAO ESAF Regional Office was also represented.

The list of participants is provided at Appendix A to this Summary of Discussions.

5. Apologies/absent

5.1. The meeting noted the absence of the following Member States as no apology was tendered – Democratic Republic of Congo (**DRC**) and Rwanda

6. Adoption of the Agenda and Work Programme

6.1. The agenda was amended as follows:

- Review of Financial Statements (**2019/2020**)
- Management Accounts (**2020/2021**) and,
- Budget (**2021/2022**)

6.2. IATA motion for the adoption of the agenda and was supported by Mauritius.

6.3. The Working Papers and Information papers submitted as per the Agenda Items are accessible on the ATNS Website: <https://atns.com>

7. Discussion of the Agenda Items

7.1. Operation, maintenance and performance of the SADC VSAT II Network

7.1.1. The report captured the operational performance and maintenance of the SADC VSAT II Network for the period April 2019 to March 2021.

7.1.2. It covered the availability of all services provided by the Network, as measured against the agreed Service Level Agreements (**SLAs**). Furthermore, the robustness of the maintenance strategy implemented by ATNS reflected the summary of trends observed throughout the reporting period and the statistics of incident reports received through the ATNS Fault Reporting Centre (**FRC**).

7.1.3. The FRC is located at the Johannesburg ACC and provides a 24-hr remote service for reporting and resolution of faults. The summary of the calls (reported incidents) were also shared for the period April 2019 to March 2021.

7.1.2. Discussion

7.1.2.1. The meeting acknowledged that the successful maintenance of the VSAT Network would not be possible without the continuous commitment and assistance of the SADC Member States and their personnel.

7.1.2.2. The global pandemic posed challenges to the Network, but the skills invested to the States' personnel by ATNS Aviation Training Academy (ATA) proved fruitful in ensuring that the reported faults were dealt with timeously.

7.1.2.3. Timeous on-site response by ATNS personnel remains vital to the successful maintenance of the Network. The COVID-19 protocols imposed by different States in the AFI Region restricted the movements of ATNS personnel to conduct site visits.

7.1.2.4. This function was performed by the States' personnel during the respective countries' lockdowns. Remote preventative activities were coordinated and scheduled between ATNS and State personnel to keep the terminals operational and to restore faults detected.

7.1. 2.4. With the lifting of travel bans and easing of COVID-19 restrictions ATNS personnel were able to travel to some sites which were identified during the latest remote preventative maintenance activities, bringing those terminals to full redundant operations.

7.1.2.2. Assistance required from States

- The issuance of Letters of Invitation (**LOI**), visas, some customs processes and site access permits required by some State authorities.

These factors remain a risk to quick on-site response and availability of spares.

7.1.2.3. Summary of the Network faults reported

- Faults reported faults between April 2019 to March 2020
 - Total: FRC = **179** (refer to the WP)
- Faults reported between April 2020 to March 2021
 - Total: FRC = **118** (refer to the WP)

This reflects the impact of the pandemic on the Network

7.1.2.4. Summary of annual comparative FRC reported is as follows:

Year	2013	2014	2015	2016	2017	2018	2019	2020	2021
Total	136	210	248	162	128	148	163	172	118

7.1.3. Trend analysis

- Identified trends of frequent failure to the following Radio Frequencies Switches (**RFSSs**), Front Power Supplies (**FPSs**) and Radio Frequency Transmitters (**RFTs**).

- Currently these failures have been dealt with through the normal fault and spares management process.
- Should any new developments or trends arise, ATNS will follow the necessary processes to maintain the Network to the previous and current standard.

7.1.4. Interoperability

- 7.1.4.1. Seamless operations, interoperability and interconnectivity between SADC VSAT II Networks in the AFI Region remains crucial and ATNS remains committed to implementing the best practices as recommended by ICAO.
- 7.1.4.2. The NAFISAT and SADC VSAT II Networks are fully integrated to ensure the continuation of a seamless operation by being fully interconnected and interoperable on level one (1).
- 7.1.4.3. At present interconnectivity between AFISNET and SADC VSAT II is achieved on level three (3) through baseband equipment. These connections have been problematic to the point where the Brazzaville AFTN service has failed.
- 7.1.4.4. ATNS and ASECNA have agreed to continue the links through the DATUM 500L series. The multiplexers are now changed to the NETPERFORMER FAD and configuration for these FAD units have been agreed upon. Implementation is underway where the stations connecting to AFISNET will install cabling and configuration to enable connectivity to the DATUM modems.
- 7.1.4.5. Implementation and transition of services will then be coordinated between the affected States and ASECNA.

The availability of these links and services have been recorded as follows:

- The achieved availability of the links is above 99.9%
- The availability of the voice circuits is 97.56%.
- The availability of the AFTN services are deteriorating and are operating below the acceptable levels at 98.5%.

7.1.5. Implementation of AMHS service on the SADC Network

- The Network implemented IP services and the AMHS service implementation (refer WPs):

- Mauritius informed the meeting that AMHS system will be commissioned after the travel restrictions have been lifted and will consult with ATNS for the implementation of the service.

7.1.6. Performance of the Network

Data was collected from April 2019 to March 2021 and is presented to the meeting for information - (refer presentation):

Availability	Period	Target achieved
Network availability	April 2019 to March 2020	Average = 99.97%
Network availability	April 2020 to March 2021	Average = 99.98%
MMC availability	April 2019 to March 2020	Average = 100%
MMC availability	April 2020 to March 2021	Average = 99.99%
AFTN circuit availability	April 2019 to March 2020	Average = 99.50%
AFTN circuit availability	April 2020 to March 2021	Average = 99.42%
ATS/DS circuit availability	April 2019 to March 2020	Average = 99.87%
ATS/DS circuit availability	April 2020 to March 2021	Average = 99.00%
AMHS circuit availability	April 2019 to March 2020	Average = 11.80%
AMHS circuit availability	April 2020 to March 2021	Average = 16.66%

7.1.6.1. Data collected on services (April 2019 to March 2020)

- Number of voice calls recorded since April 2019 to March 2020 = **536, 983**
- Number of Bytes transmitted since April 2019 to March 2020 = **6,246,531,255**

7.1.6.2. Data collected on services (April 2020 to March 2021)

- Number of voice calls recorded since April 2020 to March 2021 = **91, 876**
- Number of Bytes transmitted since April 2020 to March 2021 = **351,755,162**

The impact of the COVID-19 pandemic on the Region's traffic movements is evident as highlighted in the above figures.

7.1.6.3. Summary of the annual comparative availabilities from 2013 - 2021

- Annual Network availability **Average = 99.94%**

- Annual AFTN availability **Average = 99.64%**
- Annual ATS/DS availability **Average = 99.59%**

7.1.6.4. Distribution of statistics

- Statistics are published monthly on the ATNS website for Member States to view.
- Member States receive an e-mail alert that the statistics are available on the website.
- ATNS continues to provide the level 4 statistics as required by ICAO on a monthly basis.

7.1.7. Actions to be taken by meeting

- 7.1.7.1. The meeting is invited to take note of the above information. More information on specifics will be made available upon request.
- 7.1.7.2. States are requested to submit the statistics recorded on the level 4 template to ATNS for the completion of the document to be sent to ICAO.
- 7.1.7.3. Relevant States are requested to assist in timeously supplying Letters of Invitation (**LOI**), and all States are requested to assist in resolving difficulties experienced at the respective customs for the clearing and releasing of equipment and spares as well as the facilitation to access the site during maintenance.
- 7.1.7.4. States are encouraged to implement AMHS services as per the ICAO Aviation System Block Upgrades (**ASBU**) and the Network proposed design.

7.2. Financial Reporting

7.2.1. Annual Financial Report 2019 / 2020

ATNS presented audited annual financial statements for the period ended 31 March 2020, for which an unqualified audit opinion was obtained. These financials were prepared in accordance with the International Financial Reporting Standards (**IFRS**).

The audited financial statements for 2019/ 2020 were noted as presented.

7.2.2. VSAT Financial Report for period ending March 2021

The actual performance for the financial period April 2020 to March 2021 were noted.

The board commended the Service Provider for the prudent financial management.

7.2.3. Budget Proposal 2021/2022

The proposed budget for 2021/22 (Agenda item 7b) was approved with the following:

The tariff will remain constant at **USD 9.60** per Flight Information Regions (**FIR**) crossings.

The Network Providers will continue monitor the Network financial position and should there be any unexpected negative financial impact; a review of the budget will be undertaken; however, the Network Service Provider is confident that the budget as presented including the tariff of USD 9.60 is sustainable.

7.3. Value-added Services

The agenda item on Value-Added Services was a matter arising from the 15 SADC VSAT II Supervisory Board meeting that was held in 2019 in Lesotho. The comprehensive details related to this agenda item was presented under the agenda item which speaks to the Future of the VSAT Network beyond 2022, as a result, there was no stand-alone working paper for this item.

One major resolution of the meeting in Lesotho was the setting up of a Working Group through a nomination process by the Member States. That process unfortunately did not manage to kick-off due to some challenges relating to the required nominations threshold that was prescribed by the resolution, as well as the limitations imposed by the global pandemic.

7.4. Future of SADC VSAT Network Post 2022

The WP presented by ATNS shared some highlights of operations and notable developments (i.e. AMHS roll-out and interoperability with AFISNET) in the last four years and proposes plans aimed at safeguarding the VSAT Networks sustainability and reliability given the current global pandemic. Besides ensuring a future for the Network beyond 2022, these proposals will also steady the Network through the journey to economic recovery.

A roadmap charting the future of the SADC VSAT II Network was presented on two levels; namely **Short to Medium Term and Long term.**

The following interventions were presented in the short to medium term, focusing on the life-extension of the Network:

- Replacement of RFTs

- Upgrade of FAD interfaces
- Replenishment of FAD spares
- Deployment of cybersecurity measures (routers)
- Enhanced SLA with OEMs for LRU repairs

These proposed interventions above are planned for the period **2022 to 2024** and the financial implication is estimated to costs the Network are as follows:

Investment Forecast	2022/2023	2023/2024	2024/2025	
<u>Potential Network Investment (2022-2024): Critical Hardware Replacements</u>				
				Totals
SADC	\$ 42 500	\$ 42 500		\$ 85 000
NAFISAT	\$ 42 500	\$ 42 500		\$ 85 000
				\$ 170 000
<u>Enhanced Maintenance & Support: Improved SLA for LRU repairs</u>				
SADC	\$ 35 000	\$ 36 050	\$ 37 132	\$ 108 182
NAFISAT	\$ 35 000	\$ 36 050	\$ 37 132	\$ 108 182
				\$ 216 363

Furthermore, the Network Service Provider committed to operationalisation of the following modernised services in the medium to long term. Analyses conducted by the Network Service Providers have confirmed that the Network has sufficient capacity to carry the following services.

- Network-wide AMHS
- Voice-over-IP
- Centralized Aeronautical Database (CAD) data distribution
- Surveillance data sharing (Space-based ADS-B)

Clarification was also provided by ATNS that services such as Central Aeronautical Database (**CAD**) and Space-Based ADS-B delivered through separate bilateral agreements with States as these are not part of the Network mandated services. As a result, interested States will bear the direct costs of these services.

The Network long-term roadmap presented an explorative view of the future of the Network with the aim of investigating possible recovery scenarios of the industry and how the Network will adapt and response to these. At a high level, the following aspects are being investigated by the Network Service Provider:

- Satellite communications contingencies – The Network Service Provider is investigating the concept of Common Regional Virtual Private Network (**CRV**) as implemented by the ICAO Asia-Pacific Region (**APAC**) as a back-up to VSAT
- Bandwidth efficiency – The introduction of more data intensive IP applications necessitates research and studies into advanced satellite modem technology which will result in efficient use of scarce satellite resources.
- The proliferation of technologies such as 5G may present both threats and opportunities, and studies have been initiated to ascertain potential impacts on the VSAT Network.
- SADC VSAT II Network Replacement – the replacement of the Network shall be informed by the studies above.

Mauritius shared with the meeting the impact of 5G installation (C-Band) in Reunion on the AFISNET resulting in the frequency being adjusted between Mauritius and Reunion. It was further noted that similar challenges are being experienced in Madagascar with the roll-out of 5G in that country.

The meeting also spoke about the protection of the C-Band spectrum through the registration of the VSAT terminals with International Telecommunication Union (**ITU**) for allocation of the spectrum.

7.4.1. Decisions taken by the meeting:

- 7.5.1.1. The Supervisory Board supported the short to medium term roadmap and a mandate was given to proceed with detail planning of the proposed Network Life extension. The final implementation plan shall be presented for approval by the Supervisory Board at the next meeting in March 2022.
- 7.5.1.2. ATNS to solicit inputs from Member States regarding end-user infrastructure readiness plans to enable proper planning for the modernisation of services.
- 7.5.1.3. A survey questionnaire will be developed by the Network Service Provider to consolidate inputs.

- 7.5.1.4. The Supervisory Board took note of the proposed long-term roadmap goals and provide inputs in the identified areas of study and research
- 7.5.1.5. The Network Service Provider shall ensure that the necessary administrative and contractual framework be in place to legitimise the implementation of the proposed short-to-medium term objectives. Consultation with Member States are to be initiated in this regard. The outcomes of the consultation and administrative processes shall be presented to the Supervisory Board schedule for March 2022.
- 7.5.1.6. Member States are urged to ensure that VSAT terminals are registered with their national telecommunication authorities.

8. Any other business

- 8.1. The meeting noted no other business.

9. Venue of next meeting

- 9.1. The meeting confirmed that the next Supervisory Board meeting will be held in March 2022.

10. Approval of minutes

- 10.1 The minutes of the 16th SADC VSAT II Supervisory Virtual Board meeting were approved motioned by Namibia and seconded by Eswatini.

11. Closing of the meeting

- 11.1. Namibia, on behalf of the Member States thanked ATNS for the management of the meeting and continued support to ensure the stability of the SADC VSAT II Network.
- 11.2. Mr. Myeza also thanked the Member States and the ICAO ESAF representative, including the Regional Director Mr. Kashambo.
- 11.3. The meeting was officially closed at 14:15 (CAT) and 15: 15 (EAT).



Signed by the Chairperson: Mr. Thabani Myeza

Date: 19th of July 2021