



ICAO

International Civil Aviation Organization
North American, Central American and Caribbean Office

WORKING PAPER

ANI/WG/4 — WP/21
27/06/18

Fourth NAM/CAR Air Navigation Implementation Working Group Meeting (ANI/WG/4)
Miami, United States, 21 – 24 August 2018

- Agenda Item 4:** **Follow-up, Performance Evaluation and Monitoring of the Targets of the NAM/CAR Regional Performance Based Air Navigation Implementation Plan (NAM/CAR RPBANIP)**
- 4.1 Progress reports of the Task Forces of the ANI WG

MEVA COMMUNICATIONS NETWORK CHALLENGES

(Presented by the Secretariat)

EXECUTIVE SUMMARY	
This working paper provides updated information on the MEVA Network status, and the new challenges that need to be faced to satisfy the communication needs of the future aeronautical services of the Region.	
Action:	Suggested actions are presented in Section 3.
<i>Strategic Objectives:</i>	<ul style="list-style-type: none">• Safety• Air Navigation Capacity and Efficiency
<i>References:</i>	<ul style="list-style-type: none">• Thirty Third MEVA Technical Management Group Meeting (MEVA/TMG/33), (Willemstad, Curaçao, 29 - 31 May 2018)

1. Introduction

1.1 Every year during the Meeting of the Technical Group of the MEVA Network, the functioning and availability of such network in terms of its performance is analysed.

1.2 During the last meeting held in Willemstad, Curaçao, 29 - 31 May 2018, a detailed analysis of the MEVA Network performance was conducted, taking into consideration the period May 2017 to April 2018, as a result, the following was concluded:

1.3 Durante la última reunión llevada a cabo en Curazao, en mayo pasado en donde se realizó un análisis detallado del desempeño de la red MEVA tomando en consideración el periodo desde mayo 2017 a abril del 2018, y como resultado de este análisis se concluyó lo siguiente:

- a) During that period, the availability of the network was maintained, with exception of those channels affected by the hurricane season of last year, in the States and Territories of Jamaica, Puerto Rico and Sint Maarten;

- b) the successful implementation of the integration of radar data of COCESNA in Jamaica and;
and
- c) the integration of British Virgin Island as a MEVA Member upon request of the Territory, which was endorsed by all MEVA Members.

1.4 The Meeting analysed the challenges faced by the States for the implementation of new communication channels that satisfy the needs of the new services that require an IP based communications infrastructure and greater bandwidth to the channels currently managed by the MEVA network.

1.5 The MEVA/TMG created an Ad hoc Group as part of MEVA, that will lead a new communications infrastructure and develop a Project proposal, which will be submitted in May 2019 as Phase IV of the MEVA Network. The activities to be conducted are presented in the **Appendix** to this paper.

1.6 In 2017, during the MEVA TMG/32, Curacao requested the possibility of using the MEVA network through AIREON Company, so that they can use the network to provide Curaçao with ADS.B satellite data.

1.7 As part of the analysis carried out by Curacao, the MEVA/TMG in its Meeting 33, endorsed a new procedure, so that the MEVA network can be used by third party as a mean to satisfy the need of aeronautical data for States, complying with the features of the MEVA network of availability and data security at a reasonable cost.

2. Analysis

2.1 It is expected that for 2034, the current aviation operations will be duplicated, this new challenge requires a more complex air traffic control to satisfy the security and efficiency needs demanded by aviation.

2.2 The new communications network should contemplate and face external factors that normally affect Aviation such as information security (cybersecurity), the environment (solar storms, volcanic eruptions and hurricanes), economic resources and other factors.

2.3 The communications infrastructure in the CAR Region will be the mechanism that supports the implementation of new services such as: System Wide Information Management (SWIM) / Aeronautical Information Management (AIM), Air Traffic Flow Management G (ATFM), Search and Rescue (SAR), among others.

2.4 Additionally, the Region requires a new communications network that can provide support even in the infrastructure that is currently operating.

3. Suggested Actions

3.1 The Meeting is invited to:

- a) Take note of the information presented in this paper; and
- b) support the work programme presented in the **Appendix** of this paper.

APPENDIX

Terms of Reference

Project:

Improvements to the ATS Voice Link (MEVA)

Description:

The Project seeks to develop a new digital communication network for the NAM/CAR Regions, contemplated in the ICAO CNS/ATM concept that supports all aeronautical services including the ones that require a high bandwidth, such as ATFM, SWIM/AIM, as well as other communication aeronautical needs for the future.

The Project will be developed as a new phase of the MEVA Network taking as the basic principle that is a private aeronautical network, safe and low-cost for the States that comprise it.

The backbone of the new network could be Satellite and/or Terrestrial

The Project seeks to develop the following tasks:

1. Development of a proposal of an aeronautical private network for aeronautical services that allows the transmission and reception of aeronautical communications of voice and data.
2. That the network incorporates both, regional and local communication needs of current and future requirements for States in a short and medium term, as well as the extra regional interconnection needs.
3. Develop the terms of reference of the proposal for its implementation.
4. Integrate a backup system to the NETWORK MEVA VSAT currently operating.

Alignment of the Project

Safety:

Strengthen the safety in civil aviation of the NAM/CAR Regions, through a proper implementation of technology in accordance with the technical and operational needs and development of States.

Capacity and Efficiency:

Modernise the Regional communications infrastructure, standardize infrastructure, training and implementation procedures.

Security:

Aeronautical private network.
Integrate cybersecurity requirements

General Objective of the Project

Modernization of the MEVA Network considering technological evolution and capacity improvement to meet new and future requirements and alternate aeronautical communications network in charge of providing services to the States that suffered damage as a result of hurricanes in the Caribbean

Support regional communications in a cost-efficient manner, and with high reliability and availability

General Requirements of the Project.

Based on:

1. In the short term, carry out an analysis of the communication needs in the NAM/CAR Regions.
2. Identify the applications/facilities that each State needs to implement in the short term to determine if it is possible to implement a first phase.
3. Identify the regional needs of new services/facilities in the medium term to define the network growth.
4. Identify long-term network growth facilities for its development and improvement in the future.
5. Incorporate the evolution of the network initially IP/V4 to IP/V6 in accordance with the requirements of future communications.
6. Integrate the technical requirements and addressing tables for States.
7. Integrate the communication needs of Industry, including ground-ground, ground-air communications, and future air-air communications.
8. Harmonization and standardization of the network.
9. Integrate the technical requirements of the operational standards of different actors, to ensure their proper functioning.
10. Inclusion of all involved to ensure a successful implementation.
11. Integrate the cybersecurity requirements to the new network.
12. Integrate the necessary services to ensure the availability of communications in case that the MEVA Network is not operational.
13. Integrate the necessary technical/operational procedures.

14. Maintain quality parameters of adequate service

15. Develop its implementation.

Definition of Task Forces

During the MEVA/TMG/33 Meeting, an Ad hoc Group was established comprised by the MEVA Member States: I

1. United States
2. Dominican Republic
3. Trinidad and Tobago
4. “Corporación de Servicios de Servicios de Navegación Aérea” COCESNA
5. ICAO

The Ad hoc group will be led by COCESNA, taking into account their expertise in the development of an IP/V4 network for Central America, integrating the voice and data communication needs of six different countries and their internal and external requirements.

The Ad hoc Group will be responsible for developing the terms of reference for the new network of aeronautical communications, with which the different service providers of communication services, including the current MEVA provider, will be asked for the investment costs and development of the project in each of its phases.

Deliverables of the Project

- Document of MEVA IV Communication Network Terms of Reference

Stakeholders

Stakeholders	<ul style="list-style-type: none">- Member States and Territories of the ICAO NAM/CAR Regions- Airlines- International Civil Aviation Organization (ICAO)
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Risk of the Project

- Not having the necessary approval by States to initiate the activities for the implementation of the Project
- Lack of full participation of States and ANSPs
- Not appropriate definition of the requirements of the project

Management of the Project:

MEVA/TMG Group

Text1	Task Name	Duration	Start	Finish
	DEVELOPMENT OF THE MEVA IV Project	86 days	Mon 04/06/18	Mon 01/10/18
	Identify the aeronautical communication needs of the States..	230 days?	Mon 04/06/18	Fri 19/04/19
1	Project prerequisites	20 days	Mon 04/06/18	Fri 29/06/18
1.1	Define the scope of the project	20 days	Mon 04/06/18	Fri 29/06/18
1.2	Identification of the individual needs of each State.	10 days	Wed 01/08/18	Tue 14/08/18
1.3	Identification of the regional needs	10 days	Wed 15/08/18	Tue 28/08/18
1.4	Identify the applications/facilities to be implemented in a short term	5 days	Wed 15/08/18	Tue 21/08/18
2	Other information	10 days	Mon 30/04/18	Fri 11/05/18
2.1	Integrate the users 'needs	30 days	Wed 22/08/18	Tue 02/10/18
2.2	Expectations of growth of the Region	30 days	Wed 22/08/18	Tue 02/10/18
2.3	Integrate the NAM/CAR Regional Objectives	30 days	Wed 22/08/18	Tue 02/10/18
3	Development of the Terms of Reference of the Project	110 days	Wed 03/10/18	Tue 05/03/19
3.1	Integrate a short term needs document	20 days	Wed 03/10/18	Tue 30/10/18
3.2	Integrate a medium term needs document	20 days	Wed 03/10/18	Tue 30/10/18
3.3	Develop the draft terms of reference of the project	60 days	Wed 31/10/18	Tue 22/01/19
3.4	Review by the stakeholders	30 days	Wed 23/01/19	Tue 05/03/19
4	Integration of long term needs	15 days	Mon 14/05/18	Fri 01/06/18
4.1	Development of a proposal	30 days	Wed 23/01/19	Tue 05/03/19
5	Development of the final proposal	5 days	Wed 06/03/19	Tue 12/03/19
5.1	Development of final document of terms of reference	5 days	Wed 06/03/19	Tue 12/03/19
6	Delivery to Suppliers	30 days	Tue 13/03/18	Mon 23/04/18
6.1	Identify the possible providers	5 days	Wed 13/03/19	Tue 19/03/19
6.2	Require to vendors their technical/operative proposals and costs.	30 days	Wed 20/03/19	Tue 30/04/19
6.3	Conduct an analysis of the proposed information	5 days	Wed 01/05/19	Tue 07/05/19
6.4	Present the outcomes at the MEVA/TMG34	3 days	Wed 08/05/19	Fri 10/05/19