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

INFORMATION PAPER

ANI/WG/2 — IP/15
22/05/15

Second NAM/CAR Air Navigation Implementation Working Group Meeting (ANI/WG/2)
Puntarenas, Costa Rica, 1 to 4 June 2015

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

MEVA III Network Implementation Overview

(Presented by MEVA TMG Coordinator)

EXECUTIVE SUMMARY	
This working paper presents an overview of the recently implemented MEVA III Network and how this implementation almost complete the Communication related target of the RPBANIP	
Strategic Objectives:	• Safety • Air Navigation Capacity and Efficiency • Environmental Protection
References:	• MEVA III Implementation • NAM/CAR Regional Performance Based Air Navigation Implementation Plan (RPBANIP) Version 3.1

1. Introduction

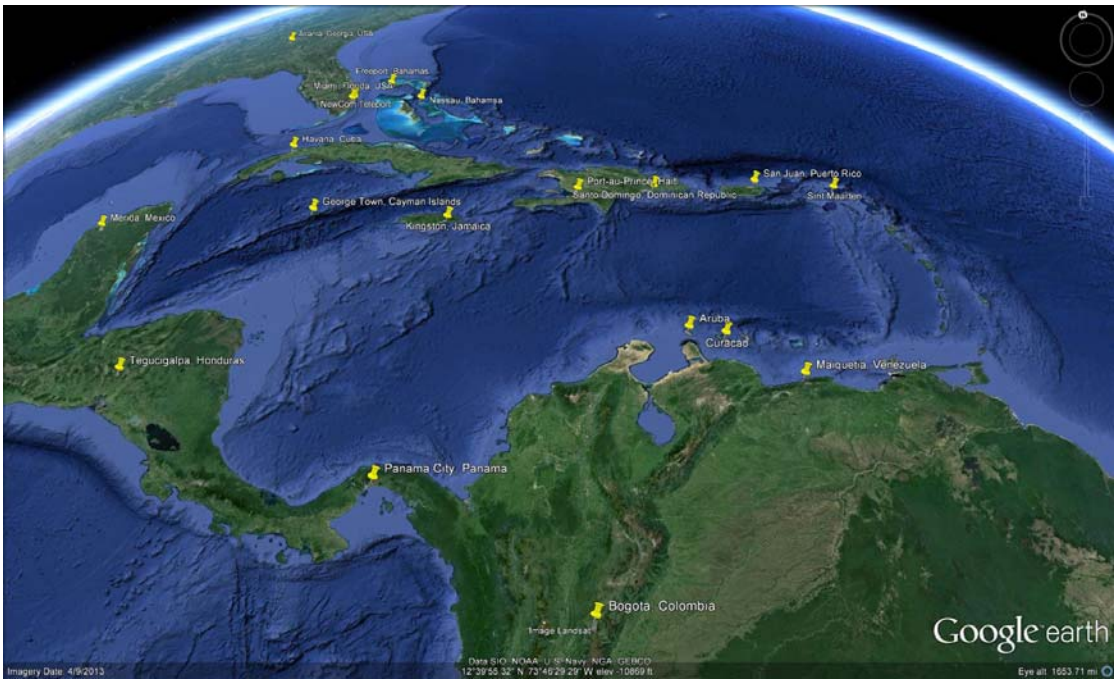
1.1 The MEVA II Network was reaching the end of its useful life and needed to be replaced before equipment obsolescence started to create operational and safety issues.

1.2 In June 2013, the ICAO TCB office in Montreal, on behalf of the MEVA Technical Management Group (TMG), issued a Request for Proposal (RFP) for a MEVA III Network. This new network replaced the existing MEVA II Network service contract that expired 31 March 2015. MEVA TMG representatives from the participating MEVA member states and organizations, based on a set of technical and financial criteria selected COMSOFT Satellite Services GmbH as the new Service. As agreed in the MEVA III Document of Agreement, each MEVA member signed a contract with the winning vendor, based on the member-specific MEVA III services and support.

1.3 Following a Planning Phase, COMSOFT Satellite Services began, in January 2015, to implement the MEVA III network. MEVA III transition was successfully completed on 31 March 2015 with nodes located at the following sites:

1.4 Following a Planning Phase, COMSOFT Satellite Services began, in January 2015, to implement the MEVA III network. MEVA III transition was successfully completed on 31 March 2015 with nodes located at the following sites:

- Miami, Florida, United States
- Atlanta, Georgia, United States
- Nassau, Bahamas
- Freeport, Bahamas
- COCESNA (Tegucigalpa, Honduras)
- Grand Cayman, Cayman Islands
- San Juan, Puerto Rico
- Panama City, Panama
- Phillipsburg, St. Maarten
- Havana, Cuba
- Willemstad, Curacao
- Port-au-Prince, Haiti
- Oranjestad, Aruba
- Kingston, Jamaica
- Merida, Mexico (in process)
- Santo Domingo, Dom. Rep.



1.5 Additionally, MEVA III equipment was deployed at the REDDIG sites:

- Caracas, Venezuela
- Bogota, Colombia

1.6 Under the targets of the NAM/CAR Regional Performance based Air Navigation Implementation Plan (RPBANIP), two communication targets of the ASBU module B0-25/FICE: *Increased Interoperability, Efficiency and Capacity through Ground-Ground Integration*:

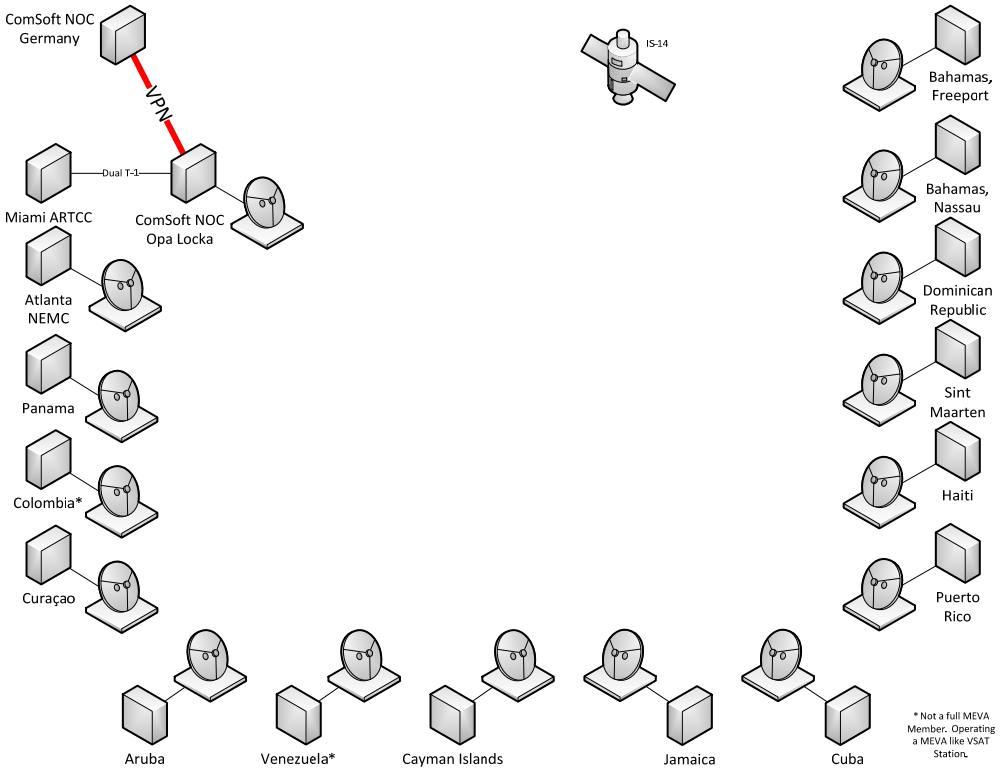
Element	Target
MEVA III IP Network Implementation	100% implementation of MEVA III IP Network by MEVA Member States by August 2015
ATN Router Structure Implementation	70% of ATN router structure implemented by June 2016

2. Implementation

2.1 The aeronautical telecommunication services carried over the MEVA III network include:

- ATC voice telecommunication services between Area Control Centers (ACCs)
- Messaging services (Flight plans, NOTAMs, AIDC, etc...)
- Radar data sharing services
- Remote radio connectivity services

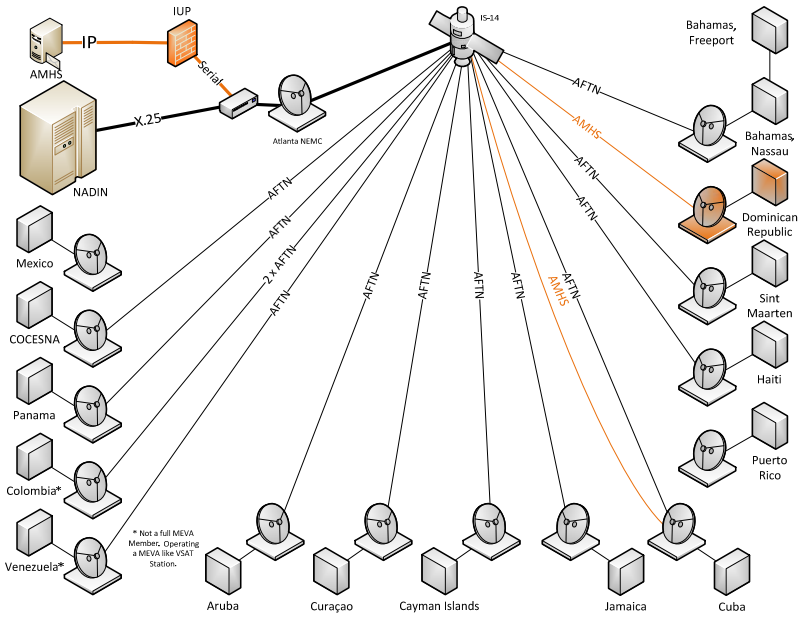
2.3 MEVA III network operations are controlled by reference terminals located in Opa Locka (FL) and Atlanta (GA). These terminals operate in synchronization with each other. As such the failure of a reference terminal does not introduce a loss of service since the other immediately takes over burst timing and other control functions. This redundancy is extended to the Network Operation Center (NOC). The primary NOC is collocated with one of the reference terminal in Opa Locka, while the secondary NOC is located in Germany. Both NOC offer the same level of 24/7/365 services.



2.4 The Network is capable of fully-meshed voice communication. Any node can call any other node provided such call is allowed by the MEVA Dialling Plan. Beside voice lines a number of shout lines are implemented allowing Air Traffic Controllers to immediately talk to their counterparts without dialling.

2.5 The MEVA III network is capable of fully-meshed IP services. This feature provides a framework to allow the Central Caribbean region's migration from serial point-to-point (e.g. X.25) aeronautical messaging toward IP-based messaging services.

2.6 MEVA III is interconnected with the REDDIG network thus providing aeronautical telecommunication services to the South American Region. For the MEVA/REDDIG interconnection, the MEVA III Service Provider implemented a Cisco router configured as a X.25 packet assembler/disassembler (PAD). The router has 2 serial interfaces. The first interface is configured to accept asynchronous AFTN traffic from the CAAs, while the second card is configured to send the traffic as synchronous X.25 using the MEVA III Frame Relay Assembler/Disassembler (FRAD).



2.7 Due to the above the RPBANIP target for MEVA III Implementation is almost completed just remaining the implementation of the Mexico, Merida Node. Also the MEVA III Network is the core infrastructure for implementation the ATN Router structure, so the different ATN users may start using the MEVA III Network for their regional/ local ATN connections and interoperability.

3. Conclusion

3.1 The MEVA III Network is much more bandwidth efficient while being easier to maintain and manage. This will allow the CAAs of the C-CAR region to transition older systems, such as AFTN, to newer IP based systems, and to implement new services, such as radar sharing and remote radios, while maintaining cost at the sustainable level.

— END —