



**ASSEMBLY — 39TH SESSION**

**TECHNICAL COMMISSION**

**Agenda Item 36: Aviation safety and air navigation implementation support**

**MEVA NETWORK: EXAMPLE OF REGIONAL COLLABORATION**

(Presented by Jamaica with the support of Aruba, Bahamas, Cayman Islands, Curacao, Dominican Republic, Haiti, Mexico, Panama, Sint Maarten, United States, and COCESNA on behalf of all Central American States)

**EXECUTIVE SUMMARY**

The MEVA Telecommunication Network is a regional accomplishment to all the CAR States and an example of collaboration under a regional framework assisted by ICAO and permitting the States growth on satisfying the continuous needs from States and the expansion of the CAR States needs with other regions creating a Pan American Network Service.

<i>Strategic Objectives:</i>	This information paper relates to the Safety and Air Navigation Capacity and Efficiency Strategic Objectives.
<i>Financial implications:</i>	N/A
<i>References:</i>	Nil

**1. INTRODUCTION**

1.1 Considering the particular telecommunication infrastructure available in the Pan-American Region (NAM/CAR/SAM) where the coverage and quality in many States is not sufficient nor appropriate for aviation needs and ICAO compliant, the States in the CAR and SAM Regions decided on similar collaborative solutions for meeting their aviation needs through dedicated networks fully compliant with ICAO SARPs and of the highest priority to Aviation.

**2. DISCUSSION**

***MEVA NETWORK OVERVIEW***

2.1 Since 1996, the Caribbean States and territories agreed to implement new technology *to help increase the safety, efficiency, reliability and regularity of operations* through the implementation

of a **common telecommunication network called the *Mejoras al Enlace de Voz del ATS (MEVA) network***. Due to the successful operation and cost effective solution of the MEVA, three different Network upgrades had been made to keep the regional network up-to date in technology and the optimum costs of the operations.

2.2 MEVA integrates **satellite-based voice and data communication services** between ICAO Member States and International Organization air traffic control facilities and civilian airports. These enhancements were put in place to improve the regional reliability of the Aeronautical Fixed Service(AFS) telecommunications service. 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.)- AFTN and AMHS connections
- Radar data sharing services
- Remote radio connectivity services (VHF Radio extensions)

2.3 MEVA is a leased service where Members share the cost on a 50/50 basis. MEVA is managed by the MEVA Members through the MEVA Technical Management Group (TMG). The ICAO NACC Regional Office act as the Network Coordinator.

2.4 This regional network was upgraded in 2015 becoming the MEVA III Network. MEVA III network operations are controlled by strategically located reference terminals located in the United States and Germany. These terminals operate in synchronization with each other and offer 24/7/365 services. The MEVA III Network implementation was successfully completed 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.

2.5 Additionally MEVA III equipment was installed at the REDDIG sites in Caracas, Venezuela and Bogota, Colombia in order to complete the MEVA III and REDDIG interconnection.

### ***Operational benefits***

2.6 Some of the operational benefits received with the MEVA Network implementation are:

- Lower costs (especially relating to operations & maintenance costs) – you pay only for the service required
- based on a service level concept

- Accommodate current and future ATC communications in the given full meshed connectivity
- Highest level of availability and reliability of a satellite network
- Optimum satellite bandwidth efficiency
- Seamless transition from the current network without interruption of critical applications
- Guaranteed maintainability of the network over a period of minimum 10 years
- Seamless, optimized & flexible network design possibilities to meet requirements best
- Differentiated modulation & coding schemes per Carrier
- Long-term hardware support (5-10 years contract) with continuous performance upgrades

2.7 Lessons learnt from the successful implementation of MEVA Network:

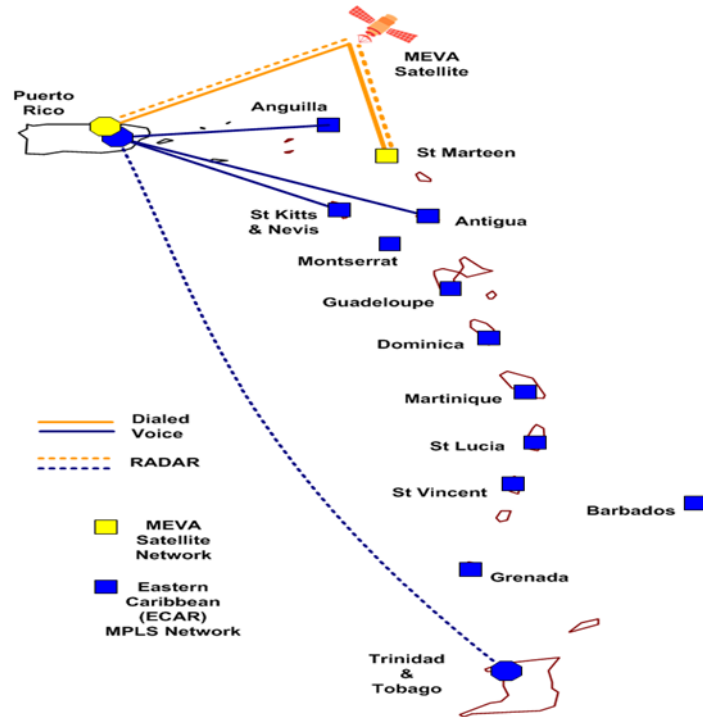
- **Ensure a regional (Multi States) work for Network improvements and modernization (transition)**
- Collective solution and improvement among States and region (ICAO)- MEVA TMG
- Significant operational benefit for States and region
  - Continuous improvements: service performance based
  - Reduce operating costs and low cost for technology upgrades- leased equipment
  - Maintain scalability and interoperability of the network design among States- ATN design
  - Increase efficiency, reliability and availability of network with high quality performance – ICAO requirement

*MEVA Network interconnection with all adjacent sub regional Telecommunication networks*

2.8 South American Network (REDDIG) and MEVA: Both networks are interconnected between them and with other national and sub regional networks achieving a full Pan-American aviation telecommunication service. Network modernizations: MEVA III and REDDIG II networks started its operation in the first quarter of 2015

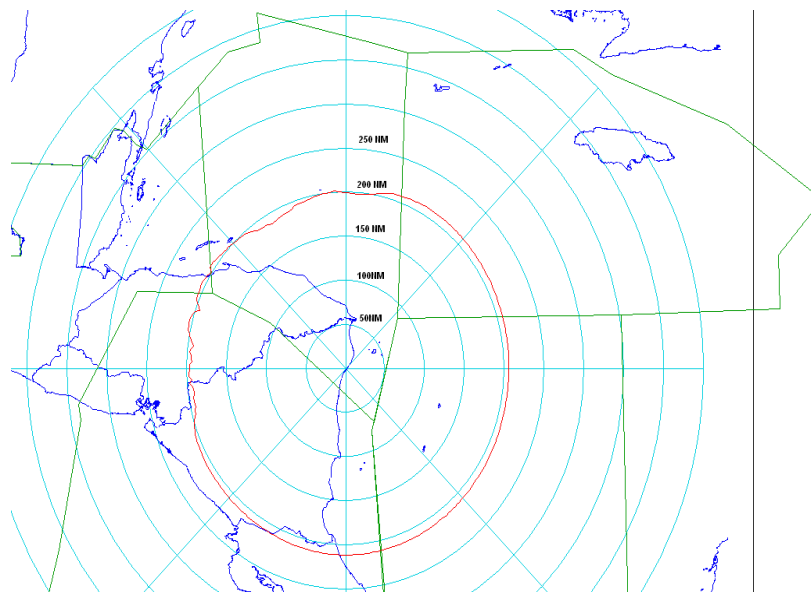
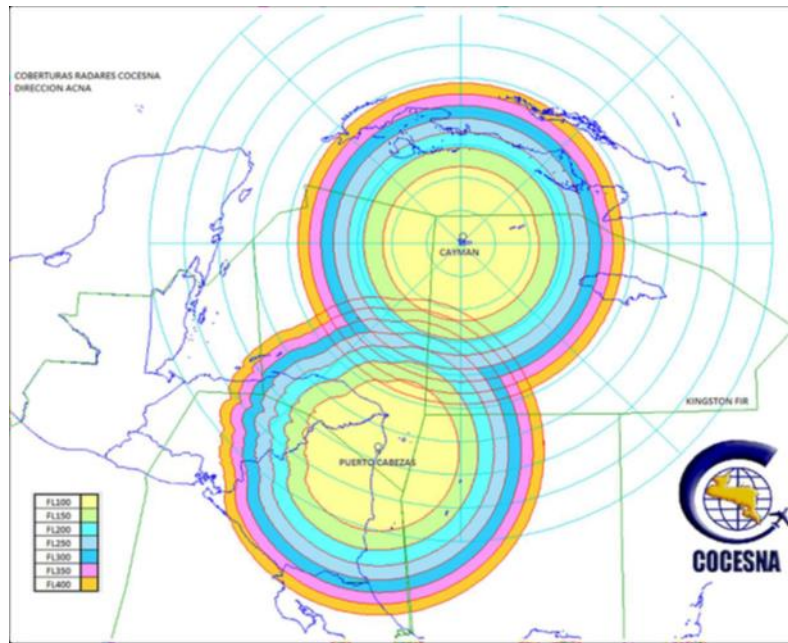
2.9 Eastern Caribbean Network- MEVA: The interconnection was done in San Juan, Puerto Rico between MEVA III station located in Sint Maarten and E/CAR Network station located in PIARCO, Trinidad and Tobago.

2.10 This interconnection allows Sint Maarten to better communicate with Anguilla, Antigua, and St Kitts through the E/CAR Network. Also in process of implementation is the planned radar data exchange between PIARCO, Trinidad and Tobago and Sint Maarten.



### ***MEVA Experience in Jamaica***

2.11 Jamaica and COCESNA are in an advanced stage; Jamaica will use radar data from PZA as well as remote radio connectivity services via MEVA III network. Radar data from the Cayman Islands will also be used this will solve the long standing issue of poor radar and radio coverage in the south west section of the Kingston FIR.



***Radio facility located at PZA in Nicaragua***

2.12 MEVA III Network allows the CAAs of the C/CAR region to continue transitioning older systems to newer IP based systems; implement new services such as radar sharing and remote radios while maintaining cost at the sustainable level.

**3. CONCLUSION**

3.1 The MEVA III Network continues to be a bandwidth efficient Network, easy to maintain as well as manage allowing the CAAs of the C/CAR region to continue transitioning older systems such

to new IP based systems as well as implementing new services such as radar data sharing and remote radios while maintaining cost at a sustainable level.

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