MR/8 — WP/02
International Civil Aviation Organization **REVISED** - 11/05/10
North American, Central American and Caribbean Office (NACC)
Eighth MEVA REDDIG Coordination Meeting (MR/8)
Lima, Peru, 17 to 18 May 2010

Agenda Item 1: Performance of MEVA II and REDDIG networks

MEVA II NETWORK PERFORMANCE

(Presented by the Secretariat)

SUMMARY

This paper presents a summary of the relevant activities and results on the performance of the MEVA II Network and the on-going actions for its expansion and the implementation of new requirements.

References:

- MEVA TMG/21 Meeting Report
- MR/7 Meeting Report
- CAR/SAM Air Navigation Plan, Doc. 8733;
- NAM/CAR Regional Performance-Based Air Navigation Implementation Plan (NAM/CAR RPBANIP)

ICAO Strategic Objective(s):	*This working paper is related to Strategic Objectives: A – Safety* *D – Efficiency*

1. Introduction

1.1 The MEVA VSAT Telecommunication Network was implemented in 1996, as a regional collaboration Project among the States and Territories in the Central Caribbean with the goal of providing AFS voice and data communications between its members. Its name MEVA, standing for its name in Spanish: "Mejoras al Enlace de Voz del ATS" (Improvements to ATS Voice Link). Together with the implementation of the network, a technical group named the MEVA Technical Management Group (TMG), was formed to deal with the network technical and operational matters and composed of MEVA member experts and the MEVA Service Provider. The MEVA TMG meets periodically to assess the network performance and discuss and agree network operational/ technical issues and optimization.

1.2 By November 2006, the MEVA Network was upgraded with state-of-the-art COTS equipment and more network versatility and capability, lower operational recurrent costs, and a new Service Provider. This upgrade, named as MEVA II Project, was carried out by the MEVA TMG and ICAO assistance.

1.3 Up-to-date the MEVA II Network service has satisfied the agreed service levels and requirements as established in the MEVA II Service Level of Agreement (SLA), maintaining a overall 99.9% of availability in most of the MEVA nodes.

1.4 The MEVA TMG has participated in the all the MEVA REDDIG Interconnection Coordination Meetings, being the last one held in June 2009 in Mexico City. The 21st MEVA TMG meeting was held in the ICAO NACC Regional Office from 19 to 20 April 2010.

2. 21st MEVA TMG Meeting results

2009 Operation and Performance evaluation

2.1 On **Appendix A** to this paper, more detailed information is shown about the MEVA II Network performance until March 2010.

2.2 Based on the 2009 failure report graphics, it was noted that the major failure reports are related with the equipment, and under the equipment the MEMOTEC is the equipment that generates the most failures. Also the meeting took note of the increase in bandwidth use, the total number of voice calls generated and data transmitted during 2009. Considering the 2009 network statistics and the MEVA Members' inputs, the meeting concluded that the performance of the MEVA Network was satisfactory and recognized the stable and efficient network performance and operation of the MEVA II Network with the following relevant figures (up to the first quarter of 2010) and the 2010 on-going tasks:

- 2009
  - a) 33 trouble tickets in 2009.
  - b) Met required availability of 99.9% in 2009.
  - c) Completed annual preventive maintenance visits.
  - d) Miami Memotec was reset to resolve multiple voice shout down circuits.

- 2010
  - a) voice and data bandwidth usage is being compiled and posted monthly on the MEVA II site.
  - b) Network Voice/Data availability: 99.9%.
  - c) Failure tickets and pending to resolve: 7/0.
  - d) MEVAII / REDDIG interconnection sites installed.
  - e) Preventing maintenance schedules.
  - f) New MEVAII/REDDIG nodes of Venezuela and Colombia will be included in the website.

2.3 As a follow-up to the previous years of operation of the MEVA II Network, the following was highlighted:

i. network availability improvement
ii. less number of failures
iii. increase in bandwidth use
iv. information available through the new MEVA II website.

2.4 A review of the existing operational requirements with the implementation of the MEVA II Network was conducted following the CAR/SAM Air Navigation Plan (Doc 8733), concluding in the complete implementation of these requirements, remaining only the new requirements formulated with the MEVA II/ REDDIG interconnection. Also it was reviewed the use of the MEVA II Network in accomplishing the Performance objectives established in the NAM/CAR RPBANIP.

2.5 One of the recent relevant events concerning the MEVA Network was the one experienced in Haiti with the January 2010 earthquake. Due to the adequate installation and the building hosting the in-door equipment, the MEVA node was the only telecommunication service available which was then use, not only for the normal air-traffic operations, but for the initial coordination of the aeronautical help to Haiti.

Technical Improvements

2.6 New MEVA Network Operation Centre (NOC) Services, English and Spanish, will be provided by Harris Corporation from their NOC located in Melbourne, Florida, United States. Existing MEVA NOC is in Manassas. The transition to the new NOC would be implemented through a 45 days transition plan.

2.7 The adoption of MEVA II technical contingency procedures, which includes the definition of contingency means to support the MEVA II Members in case of MEVA system failures and the agreements for sharing resources under this situation.

2.8 Result of the discussion on the Memotec 960e operation, spare parts, future nodes requirements and replacement process, the following actions were informed by the MEVA II Service Provider:

a) They will continue working with Memotec equipment since the MEMOTEC manufacturer has committed that service support will continue to be provided. Memotec projects that July 2015, will be the end-of-service date for the MEMOTEC Multiplexor model 960e.
b) They had contracted a extended service agreement with MEMOTEC for trouble solving and support.
c) They had purchased enough equipment parts for all current MEVA stations and new nodes to be implemented (three nodes).
d) States that purchased spare parts can replace the existing equipment by sending it back to them for repair.
e) Currently there are enough spares parts to support the operation of the Network for at least two years.
f) Evaluation of possible replacement for MEMOTEC 960e is an ongoing task.

2.9 Regarding the ViaSat Equipment - Linkway modem - similar conclusions to the Memotec equipment were made, as informed by the MEVA II Service Provider:

a) The equipment will not be replaced as long as the Linkway manufacturer, ViaSat, continues providing support. The ViaSat end-of-service date for the Linkway is still to be determined by ViaSat.
b) The purchase of enough parts, similarly to the MEMOTEC parts situation, to provide support and expansion for at least two years.
c) States that purchased spare parts can replace the existing equipment by sending it back to them for repair.
d) Currently there are enough spares parts to support the operation of the Network for at least two years.

MEVA II Website (www.mevaii.net)

2.10 For keeping the MEVA members constantly informed of the status and performance of the MEVA Network, relevant notices for users, the advances of the MEVA TMG agreements, monthly maintenance results and detailed call reports, training and equipment documentation and the exchange of information important for the Network, the MEVA II Website was optimized. **Appendix B** to this WP shows several of the pages of this site.

2.11 It was agreed that under the MEVA II Website, the following additional information was to be included as it becomes available:

a) up-to-date information on the availability of enough spare parts of the Central spare pool (including the MEMOTEC and Linkway equipment).
b) trial results being conducted by MEVA Service Provider on MEMOTEC potential equipment replacement and any relevant news regarding the equipment replacements and manufacturing issues.

Satellite Transition IS-1R to IS-14

2.12 The satellite transition to IS-14 was done at 4:01 UTC on the 15 December 2009. Preparatory information and coordination was exchanged among the MEVA members and the MEVA Service Provider. The transition was a pass-in-the-night activity, requiring no interaction from any sites. No major incidents were reported. In this regard, this conclusion was considered closed.

Expansion of MEVA Network and its services

2.13 The meeting discussed the MEVA Network expansion with the new nodes required and the increase in bandwidth demand to satisfy the operational services as well as the planning for the AMHS Trials:

a) new node implementation in Atlanta, USA collocated with the KATL center. MEVA II AFTN connections currently landed at Miami will be reconfigured to land at the new Atlanta ground station.
b) new node in Cap-Haitien, Haiti.
c) 3rd shout down line between Havana and Miami.
d) New voice and data circuits in Port-of-Prince MEVA Node.
e) Radar/Surveillance Data circuit implementation in Cuba, Jamaica, Haiti, Dominican Republic and COCESNA MEVA Nodes for sharing/exchange of information.
f) Voice and Radar data circuit requirement for Dominican Republic and Netherland Antilles MEVA Nodes.

2.14 In this regard, the MEVA Service Provider informed the meeting of the following:

- There is adequate bandwidth for network expansion.
- No major technical issues for network expansion and new circuits implementation.
- Pricing to all MEVA members on bandwidths for 16K, 32K, and 56K will be provided.

3. Suggested actions

3.1 The meeting is invited to:

a) consider the MEVA II Network performance results and the ongoing technical activities explained in section 2 and its appendices, as well as the provisions taken regarding the network expansion and its services; and

b) identify any relevant issue that may impact the interconnection process of the MEVA II and REDDIG Networks.

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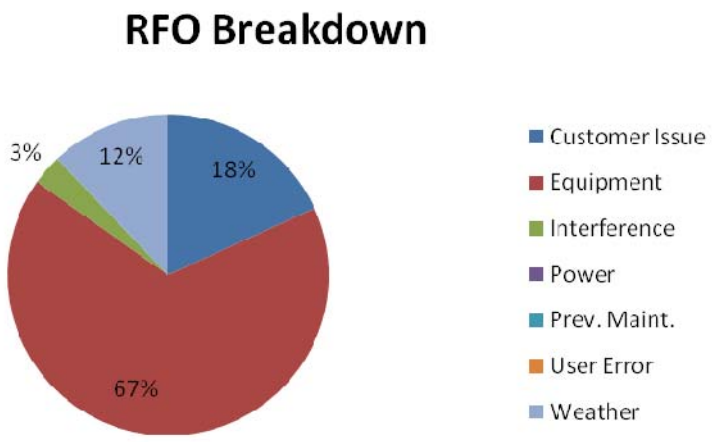
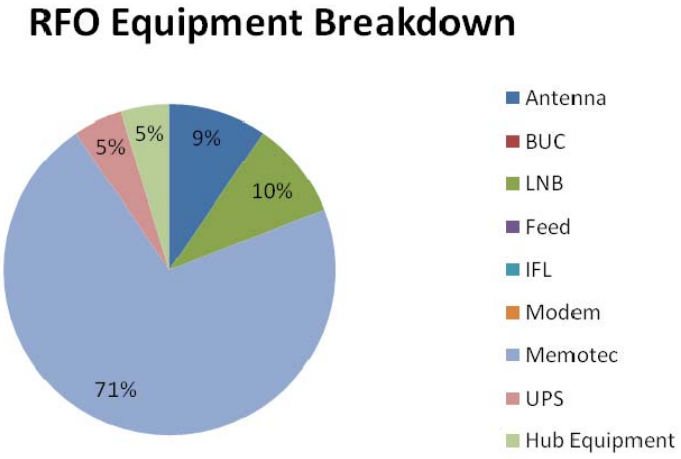
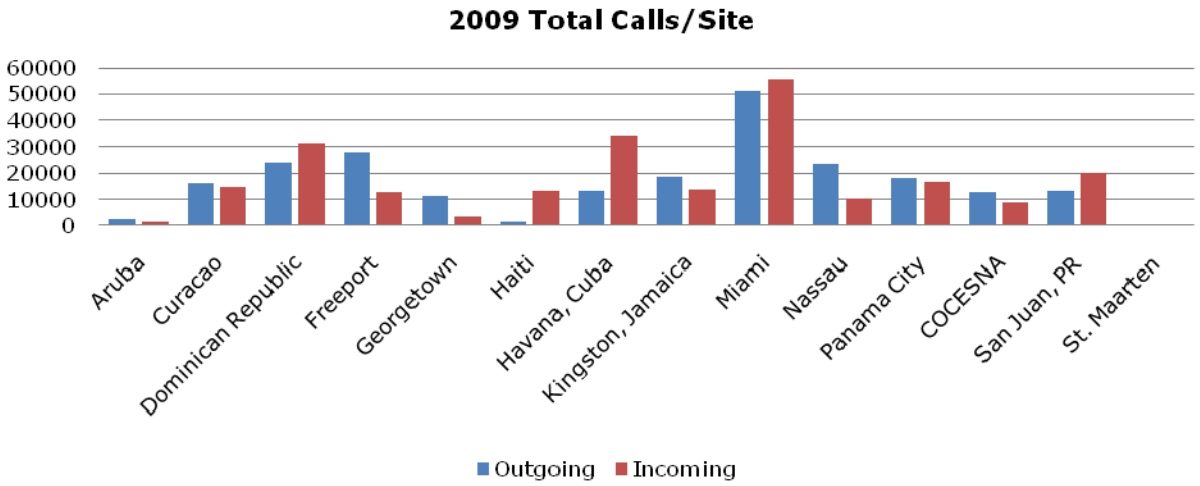
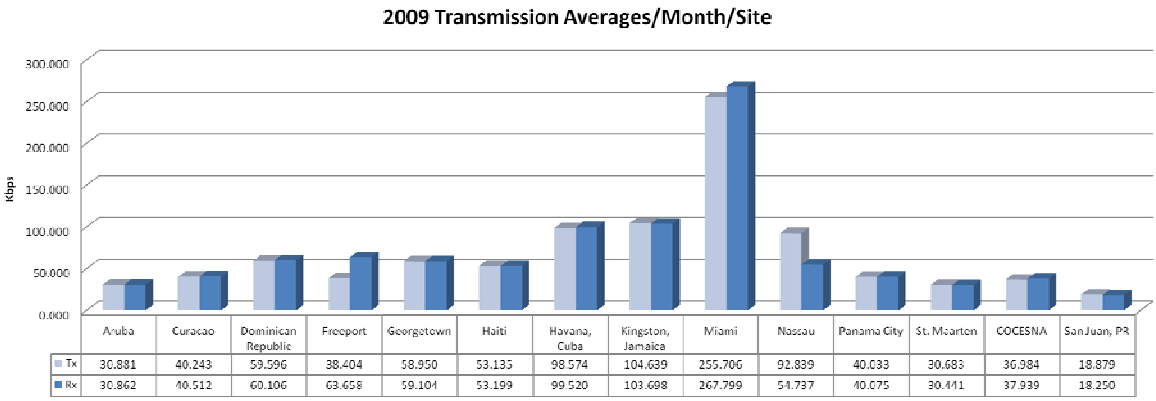
APPENDIX A

MEVA II NETWORK: 2009 FAILURE ANALYSIS





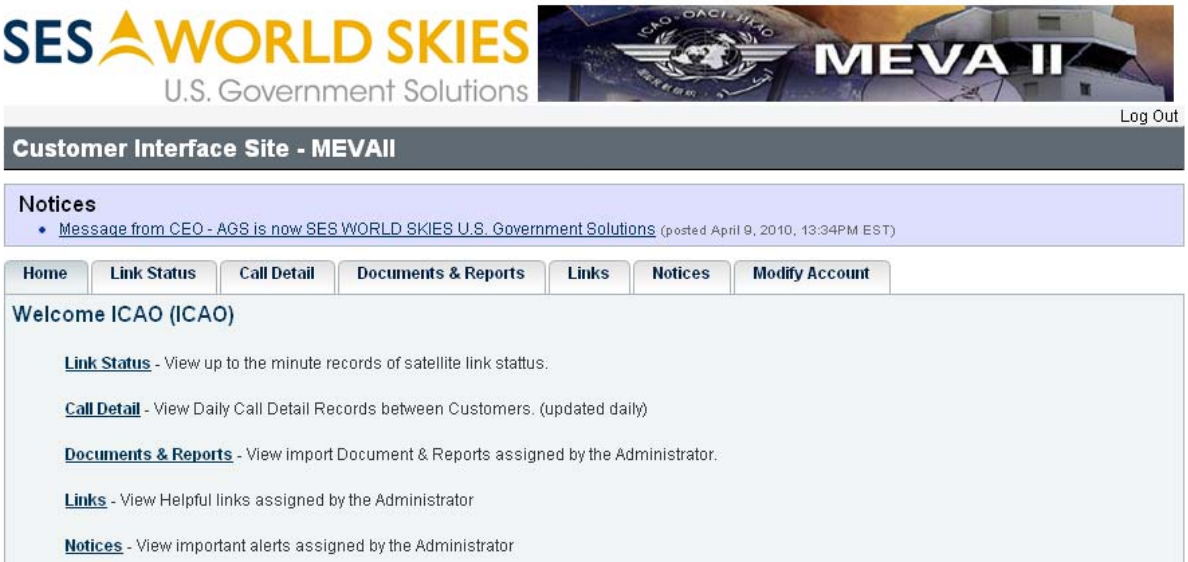




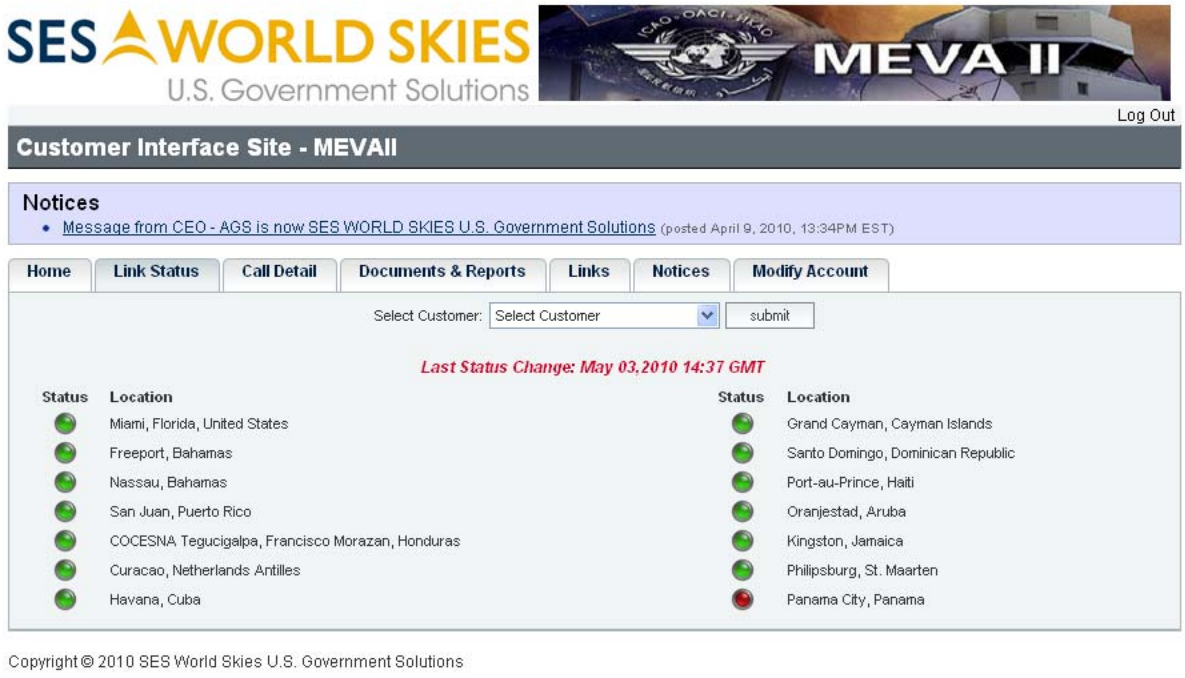
	Aruba	Curacao	Dominican Republic	Freeport	Georgetown	Haiti	Havana, Cuba	Kingston, Jamaica	Miami	Nassau	Panama City	St. Maarten	COCESNA	San Juan, PR
Tx	30.881	40.243	59.596	38.404	58.950	53.135	98.574	104.639	255.706	92.839	40.033	30.683	36.984	18.879
Rx	30.862	40.512	60.106	63.658	59.104	53.199	99.520	103.698	267.799	54.737	40.075	30.441	37.939	18.290

APPENDIX B:

MEVA II WEBSITE pages



Home page



Node Status Webpage

Documents and reports

Call information

- END -