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

DISCUSSION PAPER

ANI/WG/3 — DP/06
05/04/16

Third NAM/CAR Air Navigation Implementation Working Group Meeting (ANI/WG/3)
Mexico City, Mexico, 4 to 6 April 2016

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

AERONAUTICAL MESSAGE HANDLING SYSTEM (AMHS) TASK FORCE REPORT

(Presented by AMHS Task Force Rapporteur)

EXECUTIVE SUMMARY	
This Discussion Paper presents the results for the Aeronautical Message Handling System (AMHS) Task Force Coordination Meeting during the ANI/WG/3.	
Strategic Objectives:	• Safety • Air Navigation Capacity and Efficiency • Environmental Protection
References:	• Second NAM/CAR Air Navigation Implementation Working Group Meeting (ANI/WG/2), Punta Arenas, Costa Rica, 2015 • AMHS Task Force Teleconferences and email exchange

1. Introduction

1.1 The AMHS Implementation Task Force met during the ANI/WG/3 Meeting held in Mexico City, Mexico on 4-6 April 2016. The purpose of this Task Force Meeting was to update accordingly the Matrix for Implementation of AMHS in the CAR Region as well as discuss other issues related to implementation of AMHS.

1.2 Members from Trinidad Tobago, Dominican Republic, COCESNA, Jamaica, Mexico, Haiti, and FAA participated in the Meeting and email updates from Curacao.

2. Discussion

2.1 The Task Force agreed that since the last ANI/WG/2 Meeting held in Punta Arenas, Costa Rica on 1-4 June 2015, and after the successful transition from MEVA II to MEVA III in the Central Caribbean, transition process has improved.

2.2 The Task Force updated the existing CAR Region Implementation Matrix with information provided by Members attending the Meeting, and urges the Member States to continue

updating Matrix as accurate and soon as possible in order to better schedule testing and implementation. The updated version of the AMHS Regional Implementation Matrix is shown in the **Appendix** to this paper.

2.3 The IPv4 addressing scheme for the Caribbean was amended and approved as Version 1.1 and States have been conducting interoperability testing such as Cuba, Trinidad and Tobago and St Marteen. The Meeting recalled that Trinidad and Tobago will only be using the IPv4 version 1.1 between Piarco and San Juan.

2.4 Information was provided regarding the Factory Acceptance Testing (FAT) during the MEVA III deployment, Cuba worked with the United States to assure the suitability of the system for AMHS traffic. Using a 64kbps synchronous serial connection between Havana and Atlanta, AMHS messages were continually exchanged for an extended period of several hours without issue.

2.5 The Meeting also noted that with the increased activity in AMHS interoperability testing following MEVA III implementation, topics have been identified which might be addressed by ***Go Teams*** in preparation for future States' implementation activities, such topic are:

1. Router equipment should be deployed to support IP links between States and provide a gateway to a private LAN hosting AMHS MTA (and other) equipment. Expertise identifying this equipment and designing a private LAN is sometimes required.

2. States are expected to provide MTA host IP addresses conforming to the ICAO IP addressing scheme. A single IP address identifying redundant AMHS MTA equipment is desirable. Expertise for the configuration of Network Address Translation (NAT) and associated router configurations is sometimes needed.

3. AMHS interoperability testing of often necessary using the same equipment currently providing operational AFTN traffic. In this case, extreme care must be taken to ensure that AMHS test messages do not 'leak' into the operational AFTN network. Careful review of test scenarios and address routing configuration is needed.

4. Prior to AMHS cutover, it is often desirable to duplicate operational AFTN traffic in a parallel non-operational AMHS traffic stream. This provides an environment for operator training and other pre-operational development activities. Investigation of this capability and/or other stepwise traffic transitions is required.

2.6 The Meeting also discuss the establishment of a new working group formed by Members from Brasil, Dominican Republic, United States and the programme D coordinators for the CAR/SAM Region to explore AMHS potentials and take advantage of its operational use. The Meeting accepted the task identified under DECISION 3/6 - ESTABLISHMENT OF A WORKING GROUP TO OBTAIN BETTER AMHS OPERATIONAL USE. This working group will work through virtual meetings and will prepare strategy to ensure AMHS operational use, and provided to the Region as soon as possible. The Representative from Brasil needs to be identified. In the meantime, Dominican Republic and US/FAA agreed to start preliminary work for the proposed test plan. First coordination meeting will take place the week of 18 April 2016.

2.7 Finally the Meeting also emphasized the importance of the upcoming ATN Application Workshop scheduled for 18-21 April 2016 in St Maarten, where AMHS matters are to be discussed and agreements to be made to expedite the AMHS implementation. Members should take this opportunity to exchange information in order to advance in the implementation of AMHS.

3. Suggested Action

3.1 Based on the above mention information AMHS Task Force is recommending the following Conclusion

DRAFT
CONCLUSION
ANI/WG/03/XX AMHS IMPLEMENTATION PROCESS IN THE CAR REGION

That, CAR Region Members should

a) update accordingly the CAR Region Implementation Matrix by **December 2016**;

b) take advantage of the NAM/CAR/SAM Air Traffic Services (ATS) Data Link Implementation Workshop (18-21 April 2016, Sint Maarten) to exchange information and advance the implementation; and

c) carry on with the additional task of testing the transmission of XML data through AMHS system.

— — — — — — — — — — —

Update: May 2015	CAR Region AMHS Implementation Matrix												
Administration	STATUS	System Description					System implementation milestones				(COM CHART) Connection with	POC	Remarks
		Location of Facility	AMHS Facility Type	AMHS Vendor	Current Facility Type	Current Vendor	AMHS System Procurement Date	AMHS System Implementation Date	AMHS Interoperability Test	AMHS Service Cutover			
Aruba	Under Study	Aruba									United States	Joselito Andrade	**5-2015** In the process of changing AFTN PAD. No projected date for AMHS
Bahamas		Nassau					1Q2011 mtg FAA Feb11	Jun 2011	Jun2011 begin testing		United States	Hillard Walker	Q2 2011: will engage an Isode Integrator to provide an AMHS **5-2015 No recent updates**
Cayman Islands	Establishment of Testing Circuit	Grand Cayman	MTA + UA	Frequentis	AFTN switch	Frequentis	end 1Q2011	4Q 2014	2Q2015	TBD	United States	Wayne DaCosta	**5-2015 System implemented but not operational. Interoperability testing in process** **4-16 Testing has been suspended until further notificatin from Cayman**
Dominican Republic	Implemented	Santo Domingo	AMHS - MTA/UAs	Ubitech	AFTN Switch		already	Jan2011	May 2012	Sep 2012	United States	Fernando Casso	Originally implemented on MEVA II. Succesfully transitioned to MEVA III
Cuba	Interoperability Testing in process	La Habana	AMHS - MTA/UAs	ISODE/ In-house	AFTN Switch	Own system	N/A	TBD	2014Q4 - 2015Q2	-Sept 2015	United States	Carlos Jimenez y Layla Rodriguez, Carmen de Armas	**5 2015Parts of the Interoperability Testing was performed over a test circuit on MEVA II; Testing resumed once the test cicuit was migrated to MEVA III**
Haiti	Under Study	Port-au-Prince	TBD	TBD	AFTN User	DSA	10/15	03/16	05/16	09/16	United States	Emmanuel Jacques	**06/15 - Current vendor needs to be verify. Updated system implementation milestone.**
COCESNA	System Implemented- ready for testing	Tegucigalpa	AMHS Gateway	ISODE/ In-house	AFTN Switch	COCESNA	N/A	TBD	TBD	TBD	Belize - MTA	Mayda Avila Oscar Villela	**5-15 Testing with FAA on hold pending notification from COCESNA**
								TBD	TBD	TBD	Guatemala - MTA		
								1Q 2013	1Q 2013	1Q 2013	Managua - MTA		
								TBD	1Q 2013	TBD	Mexico - MTA		
								TBD	TBD	TBD	San Jose - MTA		
								1Q 2013	1Q 2013	1Q 2013	San Pedro Sula - MTA		
								TBD	TBD	TBD	San Salvador - MTA		
								1Q2011	Jun 2012	Sep 2012	United States		
Jamaica	System Implemented - ready for testing	Kingston	AMHS G/W	TBD	AFTN Switch	TBD	Q2-2012		Aug 2012	Oct 2012	United States	Derrick Grant	5-15 No updates 4-16 Updating ATN system, Completion projected for end of 2017.
Mexico	Coordination initiated	Mexico									Centro-America United States		5 2015 Initiated coordination with SENEAM 4-16 No updates provided at this time.
Curacao	Scheduled for testing	Curacao	AMHS MTA	Ubitech	AMHS System	Ubitech	May 2012	Jul 2012	Sept 2015	FeB 2016	Caracas- MTA	Jean Baptiste Getrouw	5-15 no updates
Trinidad and Tobago	Implemented- for testing	Port-of-Spain	AMHS ~~MTA~~/UAs/Gateway	Comsoft	AFTN Switch	Comsoft	Apr 2012	Sep 2012	Sep 12	Sep 12	Anguilla	Veronica Ramdath Randy Gomez	5-15 Interoperabiity testing in process
									Sep 12	Sep 12	Antigua		6-1-15 Testing to continue after MEVA III implementation. FAA to start coordination with T&T the week of 8 June 2015. End-to-end Testing will be coordinated in segment. 4-16 Interoperability testing in progress. 80% completed
									Sep 12	Sep 12	Barbados-UA		
									Oct 2012		Caracas- MTA		
									Sep 12	Sep 12	Dominica - UA		
									Sep 12	Sep 12	Fort-de-France- UA		
									Sep 12	Sep 12	Georgetown-UA		
									Sep 12	Sep 12	Grenada-UA		
									Sep 12	Sep 12	Montserrat-UA		

Update: May 2015	CAR Region AMHS Implementation Matrix												
Administration	STATUS	System Description					System implementation milestones				(COM CHART) Connection with	POC	Remarks
		Location of Facility	AMHS Facility Type	AMHS Vendor	Current Facility Type	Current Vendor	AMHS System Procurement Date	AMHS System Implementation Date	AMHS Interoperability Test	AMHS Service Cutover			
									Sep 12	Sep 12	Pointe-a-Pitre- MTA		
									Sep 12	Sep 12	Saint Kitts and Nevis-UA		
									Sep 12	Sep 12	Saint Lucia-UA		
									Sep 12	Sep 12	Saint Vincent-UA		
	In Interoperability								2015Q2	TBD	United States		
Turks and Caicos	Scheduled for testing	Providenciales	MTA	Stonefield Sys	AFTN Term	Stonefield Sys	1Q 2012	2Q 2012	Feb 2013	Mar 2013	United States	Emmanuel Rigby John T. Smith	**5 2015 No updates**
Sint Maarten	Coordination Initiated		AMHS MTA	IDS	AFTN Switch		2014Q1		2015Q3	TBD	United States	Lloyd Hinds	Project to resume after implementation of MEVA III
United States		Atlanta	AMHS G/W	U.S.A.	AFTN Switch	U.S.A.	now	now			Aruba Brazil Caracas Cayman Centro America Curazao Grand Turk La Habana Kingston Lima Mexico Nassau-S Panama Port-au-Prince Port-of-Spain Saint Maarten Santa Domingo Tortola	Dulce Roses	5-15 see notes