



ICAO

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

WORKING PAPER

MEVA/TMG/29 — WP/22
04/12/14

Twenty-ninth MEVA Technical Management Group Meeting (MEVA/TMG/29)
Mexico City, Mexico, 9 to 12 December 2014

Agenda Item 4: MEVA III Implementation Activities
4.2 MEVA III Documentation Review and Approval

MEVA III TESTING

(Presented by the Federal Aviation Administration)

EXECUTIVE SUMMARY	
This working paper discusses MEVA III testing to be performed by the MEVA III Service Provider and an opportunity to performed additional testing.	
Action:	Suggested actions are given in Section 3
<i>Strategic Objectives:</i>	<ul style="list-style-type: none">• Safety• Air Navigation Capacity and Efficiency
<i>References:</i>	MEVA III Network System Design Documents (SDDs)

1. Introduction

1.1 The MEVA III Task Force has been busy reviewing the different parts of the MEVA III SDD, working with COMSOFT to finalize the documentation. Implementation of the MEVA III network is fast approaching and some critical parts of the documentation have not yet been delivered by COMSOFT while comments on other parts have yet to be addressed.

2. Discussion

2.1 The FAA International Program Office has been busy getting the MEVA III Network Project approved by the various groups within the FAA. Recently the MEVA III Network Project was presented to an Architecture Review Board. During this presentation, members of the board raised the concerns that the network will not be properly tested prior to cutover. These concerns were raised because the FAT Procedures were not adequately detailed, and that the SAT and NAT Procedures are not available for review and comments.

2.2 The FAA International Program Office relayed comments on the FAT Procedures to COMSOFT via the MEVA III Task Force, and direct emails to COMSOFT. These comments are:

- a) In general, please, detail a little more (equipment, target metrics, etc..) the test that will be performed;
- b) 2.9 Voice shout-downs:

- Voice quality testing is missing.
 - Technically these calls should not be established. These are always-on voice line so there should be a test showing that the line is immediately available.
 - We need to be able to provide documentary evidence of the voice quality (and then be able to repeat the test at SAT). Suggest we use a voice loopback configuration with some specified voice quality equipment.
- c) 2.10 Switched voice lines:
- Voice quality testing is indicated but can you provided details on how it is performed?
 - We need to be able to provide documentary evidence of the voice quality (and then be able to repeat the test at SAT). Suggest we use a voice loopback configuration with some specified voice quality equipment.
- d) 2.11 Serial Link Test
- Transmit data/messages: Please provide details.
 - We need to be able to provide documentary evidence of the data transmission integrity (and then be able to repeat the test at SAT. Suggest we use a data loopback configuration with some test equipment that can verify that “bits-in” equals “bits-outs” over some period of time, or measure the number of bit errors.
 - The assumption is that HDLC Frames of data (not HDLC flags) are being transmitted over the satellite. Therefore it’s not exactly “bits-in” versus “bits-out” but more “data-in” equals “data-out”.

2.3 Independently of FAA’s comments, the MEVA III Task Force also asked COMSOFT to include an item to test the SNMP/Ethernet Protocol/Port to verify that SNMP data are correct and delivered over the Ethernet port.

2.4 COMSOFT has partially replied to these comments but not in a satisfactory manner. Of concern is also the fact that neither the SAT nor the NAT Procedures were delivered by COMSOFT.

2.5 The MEVA III Network will carry operational data from day one, including AFTN and AMHS messages generated from disparate systems. In order to increase the likelihood that these systems will continue to function as intended the FAA, in agreement with Cuba, proposes to carry out a test to see how the MEVA III network will interface with existing systems.

2.6 Currently, on MEVA II, a test circuit is used to perform AMHS interoperability testing between Cuba and FAA’s Technical Center. This circuit does not carry operational traffic, and therefore can be used to perform testing over MEVA III before the NAT. Once Havana and Atlanta have been installed and passed the SAT, both end of the MEVA II circuit will be disconnected and connected to the MEVA III AMHS ports. A series of message exchange tests will then be performed to validate end-to-end communication. Once this series of test is performed, the circuit will remain “up”, and Cuba and FAA routers on both ends would exchange periodically data that, upon analysis, will show how the link is performing over time.

2.7 In the implementation schedule v5.6, the SAT for the Cuba node is scheduled on 16 February 2015, and the Atlanta SAT on 19 Feb 2015. This test should be performed after the 19 February 2015, at a date and time to be agreed by Cuba, the United States, and COMSOFT. The equipment would then stay connected until the NAT.

3. Suggested Actions

3.1 The Meeting is invited:

- a) to take note of the information contained in this working paper;
- b) to encouraged COMSOFT to respond affirmatively to the FAT comments, and deliver the SAT and NAT as soon as possible; and
- c) to approve the testing described in paragraph 2.5 to 2.7.

— END —