E/CAR/NTG/7 & E/CAR/RD/5 — WP/09
09/10/16

Seventh Eastern Caribbean Network Technical Group (E/CAR/NTG/7) and
Fifth Eastern Caribbean Radar Data Sharing Ad hoc Group (E/CAR/RD/5)
Basseterre, St. Kitts and Nevis, 17 – 18 October 2016

Agenda Item 3:   **E/CAR Aeronautical Fixed Service (AFS) Network Performance and Operation**
         3.2   **Update on E/CAR AFS Network Interconnection to the MEVA Network**

UPDATE ON E/CAR AFS NETWORK INTERCONNECTION TO THE MEVA NETWORK

(Presented by United States/Federal Aviation Administration)

<table>
<tr><td colspan="2" align="center">EXECUTIVE SUMMARY</td></tr>
<tr><td colspan="2">This paper presents information on the combined activities in the Central and Eastern Caribbean conducted by FAA as part of the Caribbean Initiatives. These activities are carried out in order to improve the telecommunication in the area.</td></tr>
<tr><td>Action:</td><td>The suggested actions are presented in Section 3</td></tr>
<tr><td><i>Strategic Objectives:</i></td><td>• Safety
• Air Navigation Capacity and Efficiency</td></tr>
<tr><td><i>References:</i></td><td>• MEVA III TMG/31 Meeting
• Sixth Eastern Caribbean Network Technical Group (E/CAR/NTG/6) and Forth Eastern Caribbean Radar Data Sharing Ad hoc Group (E/CAR/RD/4) Meetings</td></tr>
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1.   **Introduction**

1.1   This Paper presents information on the combined regional activities in the Central and Eastern Caribbean. These activities are carried out through bilateral agreements in order to improve the telecommunication in the area. Such agreements and activities include MEVA III-E/CAR Network interconnection, AMHS Implementation, Radar Data Exchange and mutual cooperation in the Caribbean Initiative Project.

2. Regional Activities

2.1 Caribbean Initiatives

2.1.1 In recent years, stakeholders involved with managing and operating air traffic in the Caribbean have identified a need to address airspace capacity, operational performance and safety in the region. The United States (US) Federal Aviation Administration (FAA) has begun addressing these issues with five (5) Air Traffic Control (ATC) communication improvement projects known within the FAA as the Caribbean Initiatives. These five (5) projects are: three (3) shout services from San Juan (ZSU) Combined Center Radar Approach Control (CERAP) to Beef Island BVI, Curacao, and Piarco; an Automatic Ring Down (ARD) Service from ZSU CERAP to Maiquetia, Venezuela and a shout service from Houston (ZHU) ARTCC to Havana, Cuba.

2.1.2 The FAA and Trinidad and Tobago Civil Aviation Authority (TTCAA) have agreed to the implementation of the hot line as indicated in the Caribbean Initiative. The FAA has ordered an E&M card for the San Juan operational voice switch and identified the extension to be used to support the new shout service. TTCAA has scheduled TSTT technicians to be at the San Juan CERAP during the first week of November 2016 to perform maintenance on the ECAR Network router and will connect the new service at that time.

2.2 Radar Data Exchange

2.2.1 The FAA is supporting the exchange of RADAR between St. Maarten and Trinidad through an interconnection of the ECAR Network to the MEVA III Network at the ZSU CERAP. A proof of concept testing was done earlier in 2016 between San Juan and St. Maarten through the MEVA III Network. The St. Maarten RADAR output is in Asterix formatted datagrams clocked at 64kbps and the MEVA service is a 9.6kbps service. The proof of concept testing showed that the 64kbps output of the RADAR could be sent using the 9.6 MEVA service for transport between MEVA sites in San Juan and St Maarten.The Asterix format could be converted to CD2 format for possible future use at ZSU using Sunhillo Real Time Interface and Conversation Item (RICI) boxes for compression and conversion.

2.2.2 The following diagram depicts the process:
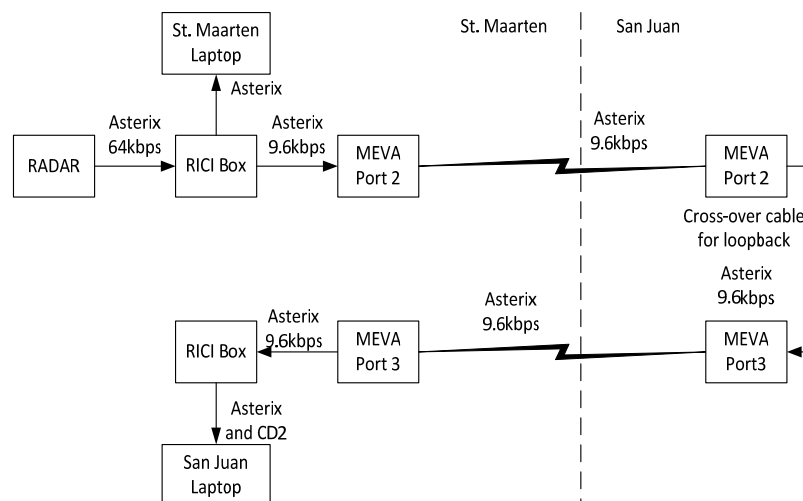
2.2.3   Please note that only one (1) channel of the MEVA satellite duplex circuit was used to transmit RADAR information from St. Maarten to San Juan. This indicates that the other channel of the duplex circuit could be used for returning a separate RADAR stream. This duplex operation exchanging separate RADAR streams was not tested and should be confirmed through further proof of concept testing before attempting to exchange RADAR data operationally.

2.3   AMHS Implementation

2.3.1   In 2013, TTCAA and FAA commenced a project to replace the existing AFTN X.25 connection with an Air Traffic Services Message Handling System (AMHS) IP service utilizing the strategically placed ECAR network router at the San Juan CERAP. The FAA implemented a 64kbps circuit over the FAA Telecommunications Infrastructure (FTI) from the San Juan CERAP to the Atlanta International User Portal (IUP). TTCAA implemented a complimentary circuit from the ECAR router to the Comms Center at Piarco. This circuit, which will eventually become the operational connection, has been used for AMHS application-application interoperability testing between Piarco and the FAA FTI National Test Bed (FNTB) at Atlantic City, NJ using an interconnection from the IUP at Atlanta. Interoperability testing has been completed and TTCAA and the FAA are planning for operational deployment.

3.   Suggested Actions

3.1   The Meeting is invited to take into consideration the regional activities presented in this paper.

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