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WORKING PAPER

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**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 4: Surveillance Sharing Activities

4.2 Surveillance sharing update: Antigua and Barbuda, Guyana, Sint Maarten, Trinidad, and Tobago, United States (San Juan), Venezuela

SURVEILLANCE SHARING UPDATE

(Presented by E/CAR/NTG Rapporteur)

EXECUTIVE SUMMARY	
This paper presents an update of the sharing of surveillance data with Sint Maarten, Trinidad and Tobago and United States (San Juan).	
Action:	The suggested actions are presented in Section 3.
<i>Strategic Objectives:</i>	<ul style="list-style-type: none">• Safety• Air Navigation Capacity and Efficiency
<i>References:</i>	<ul style="list-style-type: none">• 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

1. Introduction

1.1 Radar data exchange with Sint Maarten and the United States (San Juan), Trinidad and Tobago and the United States (San Juan) and Sint Marten and Trinidad and Tobago, has been discussed since the first E/CAR Radar Data Sharing Teleconference in 2012.

1.2 Interconnection and Radar sharing activities from Sint Maarten to Trinidad and Tobago, as well as follow up on the TSTT/TTCAA/FAA on-site mission in San Juan (1 to 7 June 2014) and at the MEVA TMG/30 Meeting, confirmed the readiness of the two (2) radar lines for testing with end user equipment.

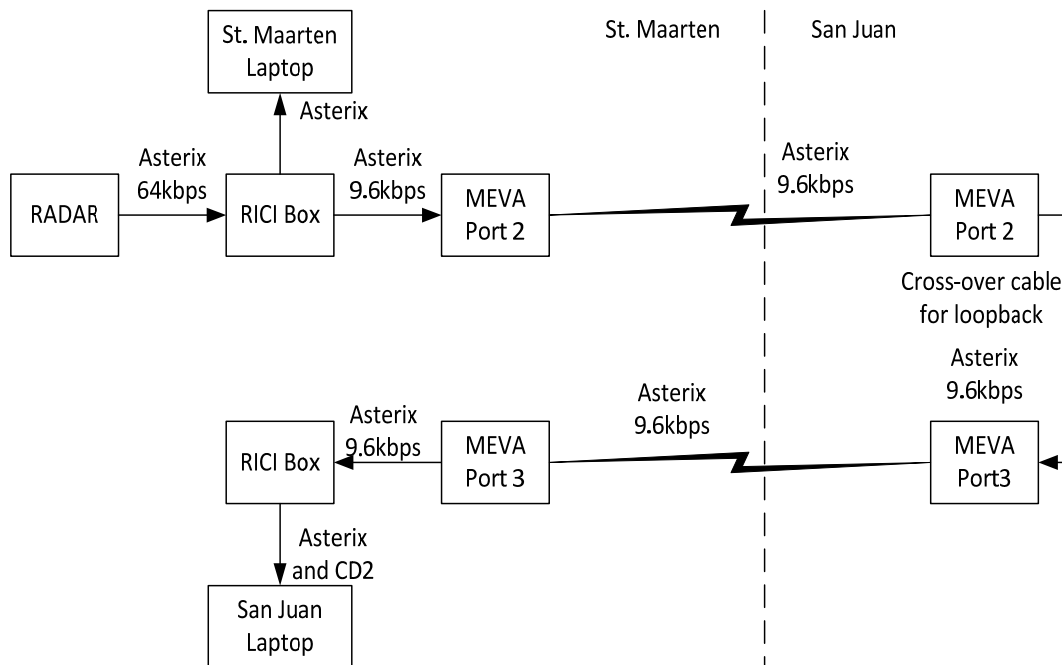
1.3 At the E/CAR/NTG/6 - E/CAR/RD/4, the United States informed that the radar agreement with Sint Maarten is under review by FAA. Trinidad and Tobago and Sint Maarten agreed to work on a Letter of Agreement for the radar exchange.

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2. Discussion

2.1 The FAA is supporting the exchange of RADAR between Sint Maarten and Trinidad through an interconnection of the E/CAR Network to the MEVA III Network at the ZSU CERAP. A proof of concept testing was done earlier in 2016 between San Juan and Sint Maarten through the MEVA III Network (**Appendix A**). The Sint 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 The following diagram depicts the process:



2.3 Only one (1) channel of the MEVA satellite duplex circuit was used to transmit RADAR information from Sint 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.

2.4 A teleconference was held on October 12, 2016 with representatives from the FAA, Trinidad and Tobago and Sint Maarten on the exchange of Radar Data between Piarco and Sint Maarten. To facilitate the exchange requires a cross connect from the E/CAR AFS Network to the MEVA Network in San Juan CERAP. The new connection between Piarco and Sint Maarten which will cross connect in San Juan will only be for Radar Data exchange.

2.5 At the San Juan CERAP, the location of the MEVA node is physically far from the E/CAR router and will require two (2) modems in San Juan. It was agreed that these modems will be ordered/provided by FAA. The E/CAR router in San Juan has already been configured for the pass-through of radar data from Sint Maarten. Both Trinidad and Tobago and FAA have agreed to exchange as-built information. Trinidad and Tobago has agreed to combine the information and provide as-built diagrams once implementation has been completed.

2.6 The FAA has agreed to pay for the MEVA line between Sint Maarten and San Juan. At the present time, there are two (2) vacant 9.6K lines between Sint Maarten and San Juan. Sint Maarten has agreed to use the existing MEVA line and coordinate the exchange of monthly payment with FAA at a later date.

2.7 Data out of Sinn Maarten is 64Kbps and out of MEVA it is 9.6Kbps. A RICI box may be required in St Maarten. Further coordination is required between Trinidad and Tobago and Sint Maarten regarding the equipment that may be needed.

3. Suggested Actions

3.1 The Meeting is invited to:

- a) take note of the progress and status of the radar data exchange activities;
- b) to review and agree on the activities to be carried out; and
- c) take any other action as deemed necessary.