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

WORKING PAPER

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**
                          4.1   Review of Surveillance Sharing Letter of Agreements (LoAs)/Memoranda of Understanding (MoUs): Trinidad and Tobago, French Civil Aviation, and Barbados

UPDATE OF LETTERS OF AGREEMENTS FOR SHARING SURVEILLANCE DATA

(Presented by the E/CAR/NTG Rapporteur)

EXECUTIVE SUMMARY
This paper reviews the existing Letters of Agreement between Trinidad and Tobago and Barbados and the French Civil Aviation and the need to update same

Action:	The suggested actions are presented in Section 3.
Strategic Objectives:	• Safety • Air Navigation Capacity and Efficiency
References:	• Sixth Eastern Caribbean Network Technical Group (E/CAR/NTG/6) and Fourth Eastern Caribbean Radar Data Sharing Ad hoc Group (E/CAR/RD/4) Meetings.

1.   Introduction

1.1   1.1   At the Twenty-Second Eastern Caribbean (E/CAR) Working Group (E/CWG/22) Meeting (Barbados, August 1998), the Radar Sharing Task Force (RSTF) was established to treat with the establishment of a common seamless radar surveillance in the Region. The activities of the RSTF were eventually transferred to the Communication Navigation Surveillance (CNS) Committee of the E/CWG. Radar data from the combined radars of Martinique and Guadeloupe, was transported via a dedicated International Private Leased Circuit (IPLC) and successfully displayed at the Piarco Area Control Centre (ACC) on 10th June 2009.

1.2   At the Fourth Meeting of the Piarco Flight Information Region (FIR) Policy Group (PIARCO/FIR/PG/4), in response to International Civil Aviation Organization (ICAO) letter dated 6 January 2011 (Ref.: N1-3.10 – EMX0014), on the need for a State or organization to host the radar data server in the E/CAR, Trinidad and Tobago offered to provide the radar data server for the sharing/exchange/remoting of radar data in the E/CAR.

1.3   In this regard, TTCAA purchased additional equipment in order to implement the radar data server, a key component of the radar sharing project in the Region. Through the radar sharing project, Trinidad and Tobago has the ability to merge radar and other surveillance data into the Piarco Multi Radar Tracker (MRT). The radar data, which when combined with other sources of surveillance, increases the effective coverage area. The combined data can also be exported to other interested states.

1.4   The Radar Data Sharing activities were formalized at the E/CAR/WG/33 Meeting in 2012 with Trinidad and Tobago as the Rapporteur of the ad hoc Radar Data Sharing (RD) group under the CNS Committee. The RD group was tasked with implementing radar data sharing within the E/CAR using the available radars at the time, namely; Antigua, Barbados, Guadeloupe, Martinique and Trinidad and Tobago.

1.5   In April 2013 the Barbados radar was integrated into the Piarco Air Traffic Management (ATM) System, but not in the Piarco MRT. After examination and analysis of the Barbados radar data, the Piarco ATM System vendor, Selex ES, concluded that navigated tracks are not included in the input from Barbados which means that the track is deleted any time a new plot is not associated with an established track. Many tracks are deleted after a few scans, and generated again after a few more scans. As a result of this instability, the Barbados radar input has been left in bypass mode. This means that it is possible to see it by selecting bypass from the Controller Working Position (CWP) at Piarco, but it is not contributing to the Piarco MRT.

1.6   At the Fourth Eastern Caribbean Network Technical Group (E/CAR/NTG/4) and Second Eastern Caribbean Radar Data Sharing (E/CAR/RD/2) meetings held in Martinique, June 2013, the French Civil Aviation offered to donate ten (10) IRMA computers to the E/CAR states in order to allow states to gain familiarization with a surveillance environment and for trial purposes. The IRMA computers are equipped with software that can process only the French radars.

1.7   Eleven (11) IRMA computers were installed by the French Civil Aviation from March to November 2015 in Anguilla, Antigua (2), Barbados, Dominica, Grenada, Montserrat, Nevis, St. Kitts, St. Vincent, and Trinidad and Tobago (for monitoring) respectively. The IRMA computers cannot process the formatting of the Piarco radar or the Piarco MRT. Accordingly, the E/CAR/RD group developed a Project Plan which included the procurement of end user systems that will process the Piarco MRT data for the E/CAR States.
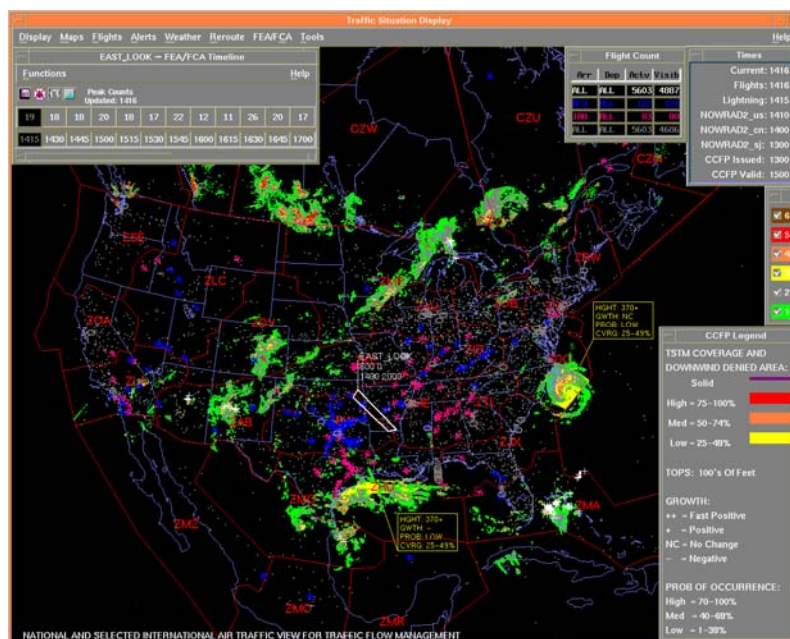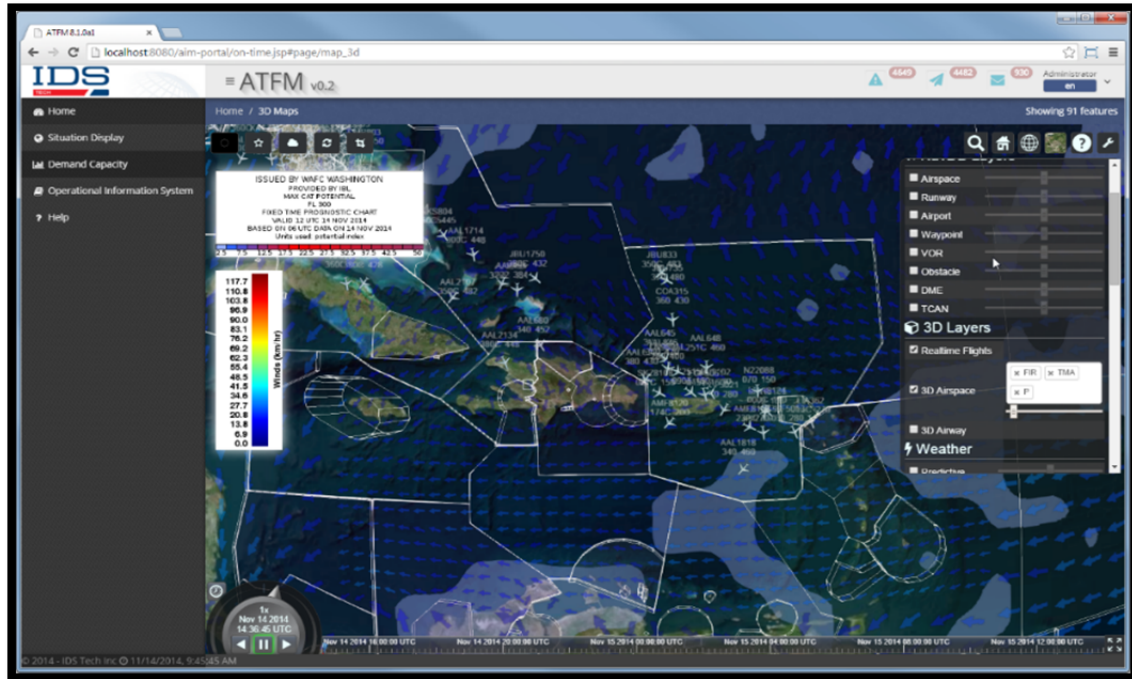
2.   Discussion

2.1   The Letter of Agreement (LOA) signed between Trinidad and Tobago and the Service de la Navigation Aerienne Antilles Guyane (French Civil Aviation) on October 4, 2007 with the most recent update to the Annexes on August 10, 2015 and the LOA signed between Trinidad and Tobago and Barbados on November 17, 2006, dealt with the remoting of radar data from Martinique and Barbados respectively to Trinidad and Tobago.

2.2   Phase 2 of the E/CAR/RD will require that Trinidad and Tobago export the MRT (all surveillance sources) to States. In this regard, an update to the present LOAs is required.

2.3   In order to streamline the implementation activities for specific air navigation matters, the North American/Caribbean (NAM/CAR) Air Navigation Implementation Working Group (ANI/WG), in its first meeting agreed to form an Air Traffic Flow Management (ATFM) Implementation Task force. This Task Force was tasked with completing the implementation of ATFM in accordance with the implementation plan, as well as update and report its progress to the ANI/WG based on its action plan for these works. In this regard, TTCAA is currently working on implementing an ATFM system for the Piarco Flight Information Region (FIR) using a Collaborative Decision Making (CDM) methodology. The main benefits from CDM are realized through sharing data with stakeholders to provide the most up to date information on flight schedules, system constraints, weather forecast and traffic demand. ATFM and CDM are global initiatives by the International Civil Aviation Organization (ICAO) to harmonization Air Traffic Management (ATM).

2.4   The United States (US) Federal Aviation Administration (FAA) has a system called Aircraft Situation Display for Industry (ASDI) which includes radar and flight plan data from the US, Canada, Europe, Mexico, Columbia and Brazil with a one (1) minute updates that is used to create an Aircraft Situation Display (ASD) similar to what is depicted below.

2.5   A bilateral agreement between the United States and Trinidad and Tobago is currently under discussion for flight data exchange in keeping with the objectives of ATFM, utilizing the System Wide Information Management concept. The intention is to incorporate the FAA's ASDI data into the Trinidad and Tobago ATFM system. The FAA has requested the Piarco Multi Radar Tracker (MRT) data which presently comprises the Piarco radar and the French Dacota (Martinique and Guadeloupe radars MRT) in order to combine and display the data on the Aircraft Situation Display (ASD) for the Caribbean.

2.6   In return for the data, the FAA will assign a user ID and password to access the system in order to receive the benefits of seeing the aircraft as they transition from departure through to destination. Access to the ASD will be limited to stakeholders in the Caribbean region including Air Navigation Service Providers (ANSP's), airliners, airports, military, search and rescue operators and weather services.

3.   Suggested Actions

3.1   The Meeting is invited to:

a)   Take note of the pending action to update the LOAs taking into consideration the planned ATFM initiatives; and

b)   agree to any other actions as deemed appropriate.

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