*International Civil Aviation Organization*
CAR/SAM PLANNING AND IMPLEMENTATION REGIONAL GROUP (GREPECAS)
**Fifteenth Meeting of the CAR/SAM Planning and Implementation Regional Group (GREPECAS/15)**
**(Rio de Janeiro, Brazil, 13 to 17 October 2008)**

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**Agenda Item 2: Global and inter-regional activities**

**2.1 Inter-regional and intra-regional CNS/ATM activities and coordination**

# AUTOMATED SYSTEMS INTERCONNECTION IN THE CAR/SAM REGIONS

(Presented by Brazil)

**SUMMARY**

This working paper presents the results of tests performed aiming at Maiquetia-ACC (Venezuela) and Amazonic-ACC (Brazil) integration, as part of the activities foreseen in the automated systems interconnection of the CAR/SAM Regions. It shares, as well, information on the future integration between the Amazonic and Lima (Peru) ACCs.

**References**:

- Report on GREPECAS/12 (Havana, Cuba, 7 to 11 June 2004);
- Report on GREPECAS/14 (San José, Costa Rica 16 to 20 April 2007);
- Document of the preliminary SICD (RLA/98/003 Project);
- Document of the CAR/SAM automated systems interconnection Initial Plan (RLA/98/003 Project); and
- Report on ATM/CNS/SG/6 (Santo Domingo, Dominican Republic, 30 June to 4 July 2008).

## 1. Introduction

1.1 CAR/SAM Air Traffic Control Centres shall be integrated in order to carry out adequate procedures for coordinating air traffic and, consequently, reducing the number of aviation incidents.

1.2 The use of automated systems has, as main objective, the automated transmission of flight plan messages and surveillance, so as to avoid using manual procedures to complete the ATC required actions.

## 2. Discussion

2.1 During the GREPECAS/12 it has been decided that Regional Offices should support the States of the CAR/SAM Regions to develop a plan for automated data integration.

2.2 The Automation Working Group of the ATM/CNS Subgroup has elaborated the Interface Control Document (ICD) for applications automation among ATC Bodies of the CAR/SAM Regions. Based on the referred document, the GREPECAS/14 has formulated CONCLUSION 14/43 – Agreements for Automated Systems Interface and CONCLUSION 14/44 – Establishment of an Action Plan for the Interface of ATM Automated Systems.

2.3 The Technical Cooperation Project RLA/98/003 – Transition of ATS Systems of the CAR/SAM Regions, taking into account the conclusions presented by the GREPECAS/12 and 14 Meetings, and with the purpose of supporting the States on the automated systems integration plans, has supported the information gathering carried out by a team of experts, assigned by ICAO, at States belonging to the CAR/SAM Regions.

2.4 It's important to emphasize that one of the most basic requirements for systems automation is that the features of hardware and software installed in the adjacent Control Centres be compatible. Regarding this matter, Project RLA/98/003 has developed an Automated Systems Interface Control Document (SICD) and an automated data integration plan for the adjacent centres of the CAR/SAM Regions, so that to enable the exchange of radar and flight plans data. In the referred document there is a series of physical, electrical interfaces and application protocols found in the CAR/SAM States visited by the team of experts.

2.5 During the ATM/CNS/SG/6 Meeting, the audience took note that for the implementation of automated centres interconnection, the States engaged can jointly adopt bilateral or multilateral solutions.

2.6 The Decision Project CNS/6/8 of the ATM/CNS/SG/6 Meeting provides the remittance of the SICD and the preliminary integration plan to the Automation Working Group of the ATM/CNS Subgroup for them to serve as a reference for automated systems interconnection.

2.7 Considering that Maiquetia (Venezuela) and Amazonic (Brazil) Centres have compatible systems, radar and flight plan data exchange tests have been performed.

2.8 The works followed the subsequent Terms of Reference of the Trials:

- Flight Plan data integration, with the objective of carry out the exchange(hand-off) of Flight Plans data between two automated centres;
- Sharing of radar data for traffic transference with visualization between adjacent ACCs;
- Utilization of the South American Digital Network REDDIG, as a primary means of communication.

2.9 Figure 1 shows the visualization obtained by the Amazonic ACC of runways sent from the Synthesis of Maiquetia ACC.

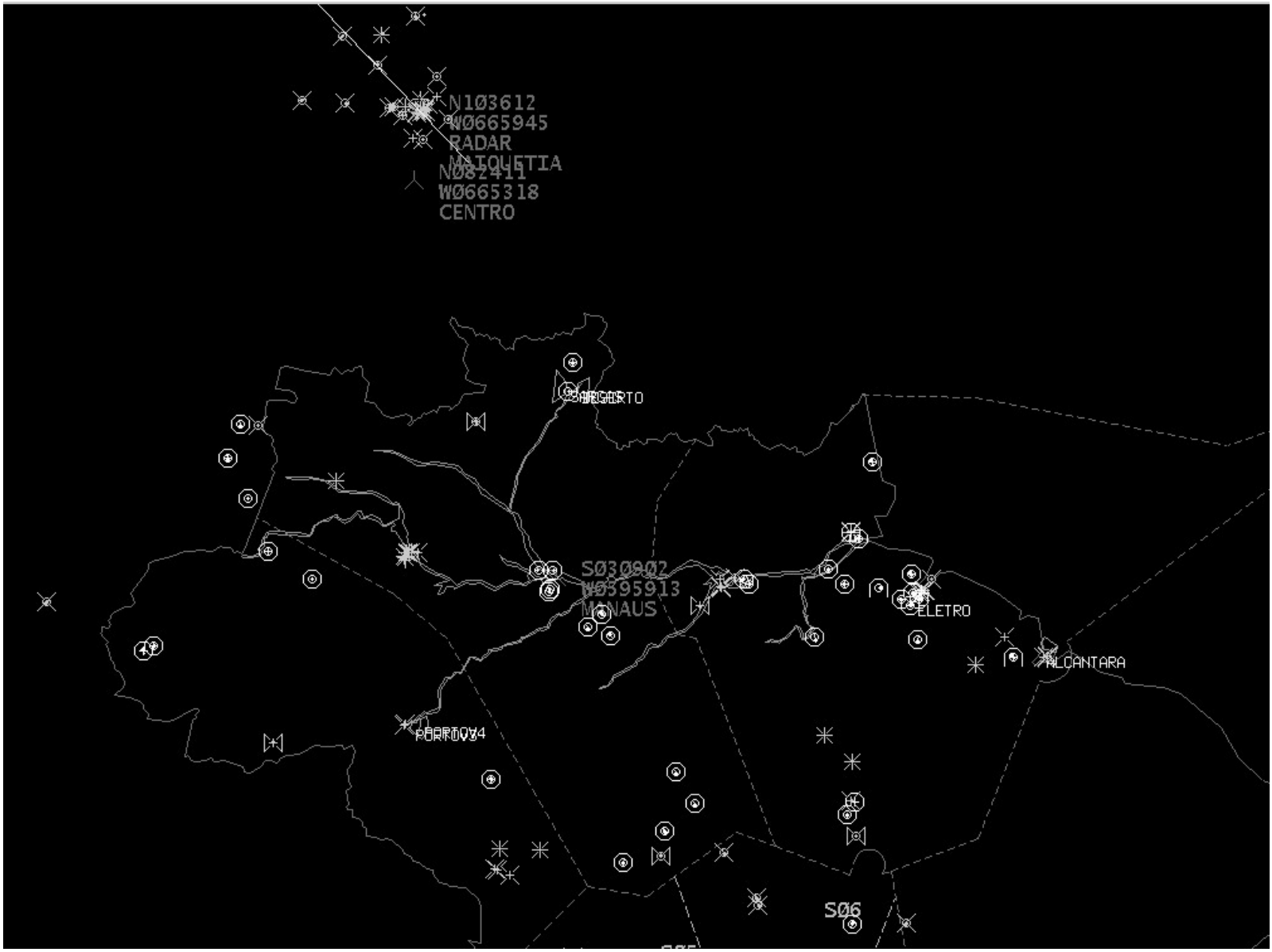


**Figure 1: Integration between the Amazonic-ACC and Maiquetia-ACC.**

2.10 The Peruvian and Brazilian Administrations have shown their interest in integrating their Control Centres, what, technically, can happen considering the compatibility of installed systems, as provided in the SICD.

## 3. Conclusion

3.1 The data exchange test between the Amazonic-ACC and Maiquetia-ACC was successful and can be activated as soon as a Bilateral Operational Agreement between the Aeronautical Authority of Venezuela and the DECEA is signed, so as to make official the duties and responsibilities between the two countries and the control organs, as well as to ultimate an homologation procedure.

3.2 Tests between Brazil and Peru can be performed after communication protocols are made compatible and a Bilateral Agreement is celebrated, so that the messages exchange be activated.

3.3 The performance of preliminary tests between Brazil and Venezuela shows that the REDDIG can be used as a primary means of transmission for the integration of adjacent automated centres.

## 4. Action of the GREPECAS

4.1 The Meeting is invited to know the information provided in this Working Paper.

4.2 The Meeting is invited to encourage Member States to continue with the implementation activities of **CONCLUSION 14/43 – Agreements for ATM Automated Systems Interface** and **CONCLUSION 14/44 – Establishment of an Action Plan for the Interface of ATM Automated Systems**, taking into consideration the Automated Systems Interface Control Document - SICD, the Automated Data Integration Plan among Adjacent Centres and Control of the CAR/SAM Regions and the experience acquired through the tests, already performed, of Radar and Flight Plan data exchange between Maiquetia (Venezuela) and Amazonic (Brazil) Control Centres.

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