



Agenda Item 2: Communications Development
2.2 Development of air-ground communications by voice and data
link in Piarco FIR

AIR TRAFFIC SERVICES USE OF DATA LINK

(Presented by SITA)

SUMMARY

This paper presents SITA Air Traffic Services data link operational solutions and an implementation status report.

References:

- Report of the Eleventh Air Navigation Conference
Montreal (22 September to 3 October 2003)
- Report of the GREPECAS 12 Meeting

1. Introduction

1.1 The Twelfth Meeting of the CAR/SAM Regional Planning and Implementation Group (GREPECAS), held in Jun/2004, has concluded that the CAR/SAM States/territories/international organizations and users, based on ICAO existing recommendations, to the cost/benefit aspects and considering the existence of technology installed in ground and on board aircraft, should continue with the implementation of the applications feasible to be used with ACARS data and FANS 1/A during the transition towards the implementation of ATN. (Conclusion 12/42 – Final Report)

1.2 The 28th Eastern Caribbean Working Group Meeting discussed the operational applications of Data Link technology for the Aeronautical Terminal Information Service – Data Link (ATIS-D) and Data Link Service of pre-departure clearance (PDC) in Air Traffic Services and the operational benefits derived from the available avionics technology ACARS HF, VDL and Mode S for ATS applications of CPDLC. The Decision 28/11 established that an action plan should be developed by Trinidad and Tobago to describe the strategy for implementation of D-ATIS and PDC services in the Eastern Caribbean international aerodromes.

1.3 SITA is a Data Link Service Provider and provides aircraft with data and voice links to the SITA ground network. AIRCOM is the name of the SITA service and was first implemented in the early 1980's. Nowadays SITA operates more than 800 VHF AIRCOM ground stations installed around the world. In the early 1990's, SITA enhanced AIRCOM by linking up to the

Inmarsat satellites when satellite voice/data systems began being installed in aircraft. Aircraft equipped with Aircraft Communications Addressing and Reporting System (ACARS) avionics can use the SITA AIRCOM service.

1.4 In parallel with the implementation of FANS applications, ATS providers have also implemented the following applications using of the basic ACARS text messaging capability: Oceanic Clearance, Departure Clearance, Automatic Terminal Information Service, Taxi Clearance Delivery, Terminal Weather Information.

1.5 SITA has participated in the ICAO definition of the data link systems designed to support ATS data link applications. This includes the standards for the Aeronautical Telecommunication Network (ATN), Aeronautical Mobile Satellite Service (AMSS) and VHF Digital Link (VDL).

1.6 Air Traffic Service providers are using the AIRCOM Data Link Service to implement the ICAO defined applications called Automatic Dependent Surveillance (ADS) and Controller Pilot Data Link Communications (CPDLC). In addition to the FANS-1/A Service SITA provides, SITA recently launched its ATN service.

1.7 SITA ATS AIRCOM systems enable ATS providers to use datalink communications. SITA ATS AIRCOM systems include: the d-ATIS System (AIRCOMEvatis), DCL System (AIRCOMClever), FANS-ATN ADS/CPDLC Gateway.

(NOTE: DCL is sometimes referred to as PDC, but is different than the PDC implementation such as done in the US, among a few others. The difference is that in the US, the PDCs are sent from the tower system to the airline host. The airline host then takes responsibility for delivery to the aircraft. DCL is directly between the system providing the clearance and the aircraft via datalink.)

1.8 In addition SITA provides a Centralized Flight Management Computer (FMC) Waypoint Reporting System (CFRS) service and will soon be offering a Centralized FANS-1/A ADS system (CADS) service.

1.9 SITA provides AIRCOM Data link services to airlines operating on Caribbean and South America region through an extensive ACARS VHF stations network. In Eastern Caribbean, SITA currently has 19 VHF Remote Ground Stations (RGS). This service is complemented by the SATELITE AIRCOM coverage. In addition the use of SATCOM Voice is currently being evaluated by some ATS providers.

1.10 In addition SITA is currently evaluating deployment of ADS-B services in specific regions of the world.

2. Suggested action

2.1 The meeting is invited to take note of the information, and provide comments accordingly.