



International Civil Aviation Organization

CAR/SAM REGIONAL PLANNING AND IMPLEMENTATION GROUP (GREPECAS)

**Sixth Meeting of the CNS Committee of the GREPECAS ATM/CNS Subgroup
(CNS/COMM/6)**

Santo Domingo, Dominican Republic, 30 June to 4 July

CNS/COMM/6-IP/05

20/06/08

Agenda Item 1 Communication System Development

1.2 Follow up to the implementation/planning of air-ground data links

Agenda Item 3: Surveillance Systems Development

PROGRESS ON GLOBAL DATA LINK HARMONISATION STRATEGY

(Presented by the Secretariat)

SUMMARY

This information paper presents a summary of the outcome of the Data Link Steering Group (DLSG) on harmonisation of the data link implementation as well as an update on data link harmonisation activities in the ICAO APAN, EUR, NAM and NAT Regions.

1. Introduction

1.1 The European Air Navigation Planning Group (EANPG) and the North Atlantic Systems Planning Group (NAT SPG) had identified the need for convergence of data link applications between the European (EUR) and North Atlantic (NAT) Regions and had therefore requested the ICAO EUR/NAT Office to establish a joint EUR/NAT Data Link Steering Group (DLSG) to develop a harmonised data link service (EANPG Conclusion 46/21 and NAT SPG Conclusion 40/7 refer).

1.2 The DLSG's main objectives were to halt divergence and define a path for a future converged data link solution. Of particular concern was to investigate issues that prevented the accommodation of Aeronautical Telecommunication Network (ATN) equipped aircraft in the Future Air Navigation System (FANS) environment. However, on the later stages, DLSG terms of reference were expanded to cover the revision of the ICAO Doc9694 Part III, related to Automated Dependent Surveillance-Contract (ADS-C) application. The DLSG work was of particular importance in light of the ongoing data link deployment in the ICAO EUR and NAT Regions.

1.3 The 3rd DLSG Meeting in March 2007, (DLSG/3) produced 3 major deliverables:

- a) a table listing the identified operational/technical and institutional/business-case issues preventing the ATN accommodation in a FANS environment and proposed solutions to overcome it;
- b) a draft changes to the *Manual of Air Traffic Services Data Link Applications (ICAO Doc9694, Part III. ADS-C)*; and
- c) a data link harmonisation strategy.

2. Harmonised data link service

2.1 In furthering the issue of a data link harmonisation strategy the DLSG recalled that two ATS data link communications systems were currently deployed (FANS 1/A and ATN Link 2000+) with similar but non-interoperable functionalities.

2.2 In order to achieve convergence, two resolutions were agreed by the DLSG. The first was the need to ensure independent evolution of the data link network layer from the high level application (eg ADS-C or CPDLC) by mutually segregating them. This would allow both the ATN and ACARS communication services easier and faster migration to a common (i.e. converged) solution.

2.3 The second resolution would be convergence in applications that could be progressed in two steps. The first step would be to cease evolving along diverging paths and secondly, create convergence steps. Also, measures needed to be put in place in order to avoid further partial evolutions that were substantiated by local needs that did not take into account global harmonisation requirements.

2.4 The DLSG evaluated the ways to establish a mechanism for coordinating convergence issues with the ICAO regional groups working on data link implementation, with regional implementation groups, with ICAO panels, and with RTCA Special Committees and EUROCAE Working Groups. It recognised that the process would not only necessitate ICAO involvement but would need to also include non-ICAO entities. It was noted that, to a large extent, State participation in these forums should ensure that the DLSG position was brought to the various tables and duly considered.

2.5 On the basis of the above, the DLSG developed the Data Link Harmonisation Strategy for adoption by the EANPG and the NAT SPG. The strategy, endorsed by the EANPG (Conclusion EANPG 49/19) and NAT SPG (Conclusion 43/1), was circulated to the States and International Organisations in the ICAO EUR and NAT Regions and to the ICAO Planning and Implementation Regional Groups (PIRGs).

2.6 The EANPG and NAT SPG concurred that the data link implementation plans should converge to one transparent system across all regions and the data link harmonisation strategy for the development of the harmonised and interoperable regional and global air navigation system. The PIRGs also emphasised the importance service providers' involvement in the DLSG work in order to ensure that all positions were taken into consideration, especially as the scope of this work was expanding to a more global one.

2.7 The replies received in response to the ICAO EUR/NAT State Letter showed that States agreed in general with the proposed data link harmonisation strategy. The responses from States also emphasised that the RTCA/Eurocae documents cited in the harmonisation strategy did not provide sufficient data communication service capabilities to support the longer term initiatives. In this respect, it was considered that a common operational and technical definition for both CPDLC and ADS-C would be the correct approach towards harmonisation. Such a definition should be based on a requirement determination process.

2.8 APANPIRG/18 noted that the strategy for data-link harmonization and issues and resolutions associated with providing data-link services to ATN equipped aircraft in an FANS-1/A environment was being developed in ICAO Europe and North Atlantic Region. The overall idea is to produce a next generation CPDLC and ADS that allow migration of both FANS 1/A and ATN to a single standard. The meeting supported the strategy for data link harmonization to create a single next step rather than additional and divergent interim steps.

2.9 During the Second Trans-Regional Airspace and Supporting ATM Systems Steering Group (TRASAS) Meeting it was noted that in the Asia/Pacific Region FANS 1/A requirements have been implemented in accordance with the decisions of APANPIRG. The Meeting concluded that for the implementation of the ADS-C and CPDLC common guidance material packages are considered essential.

Regional and other implementation groups should harmonise and adopt common guidance material, rather than each region develops and promulgates their specific procedures with respect for common functions. The meeting agreed on Data Link Strategy Harmonisation for Asia/Pacific Region as follows:

TRASAS Conclusion 2/1 – Data Link Harmonisation Strategy for Asia/Pacific Region

That the APANPIRG be invited to consider amending the Strategy for Implementation of the Air-Ground Data Link in the Asia/Pacific Region to include the Data Link Harmonisation Strategy endorsed by EANPG and NATSPG
