Draft Report of the
First Meeting of the Data Link Facilitation Task Force (DLFTF)
Brussels, 9 February 1999

1. Introduction

The first meeting of the DLFTF was held on 9 February 1999, at EUROCONTROL Headquarters in Brussels. The List of Participants is given in Appendix 1.

Apologies have been received from UPS Airlines and SAS.

The Draft Agenda of the Meeting was as follows:

1. Approval of the Agenda

2. Election of DLFTF Chairman

3. Appointment of Secretary

4. Review of the Terms of Reference

5. Status and planned development of PETAL II extension program:

5.1 European aspects
5.2 US aspects

6. Overview of the LINK2000+ program

7. Short review of the C/AFT Datalink T/F work

8. DLFTF working arrangements in respect of

8.1 Implementation plans in USA and EUR

8.2 A European Datalink CBA following the CAFT model

9. Any other business.

This Agenda (except for a slight change in the order of business) was accepted without changes.

2. Proceedings of the Meeting

The participants were welcomed by Mr. David Strand and Mr. Ruediger Schwenk, chairmen of the NAT/NAM and EUR Regional Co-ordination Group (RCG), respectively. It was recalled that the DLFTF had been created to be a forum for exchanging data link related information in respect of existing and planned programs and to help airlines orient themselves and to promote their participation in the various data link implementation activities.

It was pointed out that the DLFTF was a kind of in-the-field, tactical, quick reaction force to address actual data link implementation issues in the North American/North Atlantic/European area. It was explained that there was no overlap with the IATA Communications Infrastructure Working Group (CIWG), since that body was dealing with more global, strategic questions, having also a wider scope encompassing other communications matters and policy.

The DLFTF was of the opinion that input from the FANS Information Team (FIT) via the CIWG would be a useful source to support its own activities.

In this light, the DLFTF Terms of Reference (given in Appendix 2) were approved without changes.

Election of the Chairman and appointment of the Secretary

The DLFTF unanimously elected Mr. Ben Berends of KLM as its Chairman. Steve Zerkowitz of IATA was appointed as Secretary.

PETAL Presentation

The DLFTF was given a comprehensive presentation on the EUROCONTROL PETAL program by Mr. Rob Mead, the PETAL Program Lead, supplemented by a brief on the ATN aspects of PETAL, by Mr. Brant Blackwell of American Airlines.

There was general agreement that the PETAL program as currently defined in its extended form, was an excellent frame for airlines to enter the data link trials, especially in respect of the ATC data link services. Consequently, the DLFTF formulated the following action:

DLFTF 1/1. That airlines give serious consideration to joining the PETAL II Extension trials.

During the discussions, it was revealed that American Airlines, in addition to the B737s already earmarked for participation in the US CPDLC program, was planning to fit also some of its MD80 series aircraft with VDL M2/ATN equipment for CPDLC and that they would be interested in joining forces with other MD80 series operators. ALITALIA indicated that their MD82 fleet was about halfway through a major avionics upgrade and since they were not currently ACARS equipped, they were interested in going directly for a more advanced data link system.

The DLFTF considered this as an opportunity for closer co-operation and formulated the following action:

DLFTF 1/2. That ALITALIA and American Airlines actively examine the possibilities for common implementation of VDL M2/ATN equipment for CPDLC and AOC purposes on their MD80 series aircraft.

The DLFTF was informed of the recent support expressed by the AEEC Data Link Users' Forum for the common solution agreed by SITA and ARINC for the early alleviation of the ACARS congestion problem. It was noted that this solution (AOA - ACARS over AVLC) was addressing only the ACARS congestion problem and would not satisfy all of the requirements for ATC data link, for which a full ATN implementation would be required. The DLFTF took note of the fact that while the Data Link Users' Forum appeared to favor the phased introduction of VDL M2 and the ATN, it did leave the option open for airlines to go directly to a full ATN implementation.

Link2000+ presentation

Mr. Ben Berends gave an overview of EUROCONTROL's Link2000+ program. It was explained that Link2000+ was a framework program, with the purpose of transitioning the PETAL trials infrastructure towards an operational data link environment. Currently, a Link2000+ Drafting Group, chaired by Mr. Berends, is working on defining the details of the program. This is a very ambitious undertaking, with the definition work expected to finish by the end of 1999. The intention is to secure both air traffic service provider and airline commitment to the program, based on the current PETAL II Baseline 1 (equivalent to the FAA Build 1/a) and the projected Baseline 2 (equivalent to FAA Build 2), representing increasingly comprehensive ATC data link services. Stakeholder commitment will be secured via demonstrating the positive effects on efficiency of using data link services.

The Link2000+ program is anchored in the related strategic objectives expressed in the ATM 2000+ Strategy for Europe, and the European Communications Strategy, the latter of which clearly establishes the requirement for VDL M2 and the ATN as major contributors to increasing capacity.

To reflect its importance and to free it from bureaucratic obstacles, on the insistence of the airlines, the Link2000+ program is being positioned above the usual EUROCONTROL working structure of sub-groups and teams, reporting directly to the responsible senior director within the Agency.

The European Data Link Business Case (using the C/AFT methodology, see later) will also be produced as part of the Link2000+ Program.

The CNS/ATM Focus Team (C/AFT)

The DLFTF was given a brief description of the C/AFT, hosted by Boeing, with special mention of the probabilistic cost-benefit modeling methodology developed in the framework of the C/AFT. The main attraction of the C/AFT is in its providing a forum for airlines, EUROCONTROL, airframers, the FAA and other ATS providers, etc., to openly discuss cost/benefit related work and also to develop ATM performance metrics.

Information on the C/AFT is available at: http://www.boeing.com/commercial/caft/

It was noted that the C/AFT developed probabilistic cost-benefit modeling methodology has now been recognized also by EUROCONTROL as an appropriate approach to cost/benefit analysis.

The DLFTF expressed the wish to learn more about the C/AFT methodology and formulated the following action:

DLFTF 1/3. That the secretary provide the DLFTF members with a concise description of the C/AFT cost-benefit modeling methodology and also an indication of where more detailed information on the same may be found.

In connection with the C/AFT presentation, the DLFTF noted the expectation that it provide assistance with the development of the European Data Link Business Case, using the C/AFT methodology. In this respect airlines and ATS providers were expected to provide essential input data. The activity would yield two distinct results, namely the data link CBA for EUROCONTROL, and specific cases for individual airlines, using their specific data and circumstances. As to the corresponding working arrangements, it was agreed that the Chairman and Secretary develop, together with EUROCONTROL, a work-plan, bringing together EUROCONTROL, Boeing and airline experts, with a report to be provided in due course to the DLFTF. Consequently, the following action has been formulated:

DLFTF 1/4. That the DLFTF undertake to assist EUROCONTROL with the development of the European Data Link Business Case, to be based on the C/AFT methodology, with appropriate input from airlines.

Any other business

The DLFTF noted that there was some concern in respect of the continued close co-ordination with the FAA after the current PETAL Integration Team (PIT) activities migrate to the new Link2000+ program environment. As this co-ordination is viewed as essential for ensuring global interoperability of the data link systems and services, the following action was formulated:

DLFTF 1/5. That the DLFTF promote the continued close co-ordination between the FAA and EUROCONTROL with a view to ensuring the coherent development of seamlessly interoperable data link systems and services.

The DLFTF participants were given a copy of the IATA Memo on the proposed changes to the VDL 2 SARPS, resulting from the recent discussions at the AMCP WG-B. This Memo is in Appendix 3.

Appendix 1

DLFTF 1 - List of Participants

Note: The Report is being distributed to all participants as well as designated members of the DLFTF who were not able to attend plus the usual recipients of DLFTF information.

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Appendix 2

Terms of reference of the Joint NAM-NAT/EUR Data Link Facilitation Task Force (DLFTF)

1. Authority

1.1. The Joint NAM-NAT/EUR Data Link Facilitation Task Force (DLFTF) is created by the Chairmen of the NAM-NAT and EUR RCGs and reports directly to them.

2. Participation and Chairmanship

2.1. The DLFTF shall be composed of delegated persons form each NAM-NAT and EUR RCG airline, with appropriate expertise in the field of data-links and -applications (e.g. ACARS, ATN, VDL-mode-x, FANS-1/A, CPDLC, networking). Appropriate support shall also be provided from the IATA RO-Is concerned.

The Chairman shall be elected from the ranks of the participants.

3. Mission

3.1. The DLFTF shall concentrate its efforts on facilitating airlines' integration into existing and planned data-link trial activities and transition to the operational use of data-links.

4. Tasks

4.1. To achieve its mission, the DLFTF shall:

- Collect and compile information on relevant data-link activities;
- Disseminate this information to interested airlines;
- Discuss the various issues and develop common solutions;
- Facilitate the alignment of airlines' plans to enable participation in the activities on a common basis;
- Generate and agree requirements and co-ordinate these with the project offices running the various activities;
- Work closely with the project offices running the various activities in order to help airlines' integration into those activities;
- Form liaison with the IATA CIWG;
- Provide regular status reports to the NAM-NAT and EUR RCGs; and
- Seek guidance via the RCGs in respect of matters requiring a policy decision.

5. Working method

5.1. The DLFTF shall conduct its work in the most efficient and expeditious manner possible, using electronic communications whenever feasible, with the number of meetings kept to a minimum.

6. Time scales

6.1. The DLFTF shall commence its activities as soon as possible after its creation.

6.2. Taking the time-scales of the various data-link activities into account, it is estimated that the DLFTF should complete its mission not later than end-2001. At that time the two RCGs shall review the progress made and disband the DLFTF if possible.

Background Notes

Simulations conducted in 1996 show that by around 2005, delays in the ATC system may become significant enough that they will lead to a loss of integrity of airline flight schedules, the core product of the industry. These results were recently cited in various documents in both the US and in Europe.

One of the limits on increasing ATC capacity is voice communications, which constitute in excess of 50 % of air traffic controllers' workload. Replacing voice communications to the maximum extent possible with Controller Pilot Data Link Communications (CPDLC) results in a substantial decrease of controller workload, which translates directly to increased capacity and hence a contribution to the reduction of delays.

Several data-link programs are either in progress or under consideration in both the North American and the European regions, with the intent to gain efficiencies required to cope with projected traffic growth and the resulting demand on the ATC system. In the NAT region, the Oceanic Clearance Delivery Program provides oceanic clearances via character based ACARS for the Gander and Shanwick FIRs. In the EUR region, EUROCONTROL's PETAL II (Preliminary EUROCONTROL Test of Air/Ground data Link) trials utilize FANS-1/A and STDMA (VDL Mode 4) technologies. By early 1999, there will be operational trials in the NAT region using the FANS ADS function to transmit routine position reports to Gander OCC. Later in 1999, the PETAL II trials will be expanded to include ATN (VDL Mode 2).

In the meantime, the FAA has announced a plan to implement an ATN compliant ATC data-link system with trials commencing in 2001, while EUROCONTROL is working on the Implementation Plan for ATN in Europe, to be presented for approval to the ICAO European Air Navigation Planning Group by the end of 1999. The latest development concerns the adoption by both the USA and Europe of the CPDLC message set and procedures as developed by EUROCONTROL's ODIAC Sub-group and approved by ICAO.

Appendix 3

To: All IATA Member Airlines and Industry Associates

From: Karel Ledeboer
Senior Director, Operations & Infrastructure

CC: Directors Infrastructure

Date: January 27, 1999 Ref: 20/402/2.02.07

Re: Change to VDL Mode 2 ICAO SARPs

This memo provides advance notice to members of a possible change to the VHF Digital Link Mode 2 ICAO standards affecting all VHF VDL Mode 2 transceivers.

ICAO AMCP/5 discussed the need for a possible change of the ICAO standard for the VDL RF spectrum mask. Test results indicated that a large guard band is required to assure an acceptable level of interference to the present VHF system from the VDL Mode 2. ICAO AMCP WG-B, responsible for establishing the frequency planning criteria, was tasked to study the need to change the spectrum mask.

During WG-B meeting, 19 to 21 January, 1999 the following conclusions were reached:

a) The present protection ratio of –20 dB D/U is not sufficient to provide adequate protection to the present VHF DSB-AM system and to ensure sufficient channels for the full implementation of VDL Mode 2.
b) To provide sufficient capacity for VDL Mode 2 and to ensure improved spectrum utilization with the introduction of VDL Mode 3 a minimum protection ratio of –30 dB D/U is required.
c) To protect the investments already made within the industry, it was agreed to propose the two following dates as follows:

   a) New installation should comply with the new proposed spectrum mask by 1 January 2002,

   and

   b) All installations should comply with the new proposed spectrum mask by 1 January 2005.

WG-B will recommend to AMCP/6, 23rd – 30th April 1999), to change the VDL RF mask SARPs accordingly. Whilst the WG-B recommendation has still to be endorsed by ICAO and ratified by ICAO member States, it is likely that the proposed changes will become effective.

If and when this occurs IATA will notify you. Should you require any further information or wish to add further comments, kindly contact:

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Sincerely yours

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