



**Twenty Second Meeting of the
Informal South Pacific ATS Co-ordinating Group (ISPACG/22)
FANS Interoperability Team Meeting (FIT/15)**

Papeete, Tahiti, 11-12 March 2008

Agenda Item 6 Enhanced ATSU monitoring

Aircraft Data Link Equipment Database

Presented by Airways New Zealand

SUMMARY

There are a large number of aircraft components and operational settings that can differ on the same aircraft type between the different airline fleets that may cause differences in observed datalink performance. To assist both the CRA (Central Reporting Agency) and the FIT members investigating observed data link performance issues this paper proposes the creation of a common database to make this information readily available.

1. INTRODUCTION

- 1.1 As we implement the RCP (Required Communications Performance) concept, the additional performance monitoring carried out by some ATSP (Air Traffic Service Providers) has identified significant data link performance differences between the same aircraft types at different airlines.
- 1.2 There are a large number of aircraft components, hardware, software, and operational parameters that differ on the same aircraft type between different airline fleets all of which may be candidates for observed performance differences. To assist both the CRA and the FIT members in determining likely candidates for problem resolution this paper proposes the creation of a common global database for each airline and aircraft type containing this information.
- 1.3 The issue of who would maintain this database is not resolved, however the database will be held at the regional CRA and the information will be made available to regional FIT members investigating problem reports.

2. DISCUSSION

- 2.1 The creation of a central database containing information on the hardware, software, and operational settings used for the datalink communication process by different aircraft has been proposed before in the South Pacific but has never been implemented.

- 2.2 The performance monitoring now being implemented by some ATSP to monitor RCP has demonstrated that significant datalink performance differences exist between different aircraft types and between the same types in different airline fleets. This has resulted in a number of problem reports to the CRA.
- 2.3 It is in everyone's best interest to determine why these datalink performance differences exist so that a regime of continuous performance improvement can be initiated across the whole fleet. We suggest that a CRA database containing information on each aircraft type for each airline will greatly assist in determining why we are seeing these performance differences. It is proposed the CRA database information will be released to FIT members on request for the purposes of investigating problem reports.
- 2.4 A number of airlines have expressed reservations about gathering the data and the task involved in maintaining it. Discussion around this theme revealed that the Communication Service Providers (CSP) have the required information because it is provided to them under the terms of their contracts with the airlines. For the CSP to release this aircraft airline specific data to any CRA would require them to obtain agreement from the airlines. If this can be achieved then this may provide the possibility of creating a global database where a common data form is used by the CSP to provide information to any regional CRA. In the interim, while this option is investigated, airlines are providing their own data in the South Pacific.

The attached table in Appendix A is the current ISPACG proposed draft of a standardized data retrieval form. Feedback to date indicates that this would be better suited in an EXCEL form to assist electronic data storage. The de-identified table at Appendix B is an example of the current return from one airline.

3. ACTION BY THE MEETING

- 3.1 The meeting is invited to:
- a) Approve the concept of a CRA database holding information on airline data link equipage.
 - b) Approve the gathering of airline data equipage by the CRA using the table at Appendix A.
 - c) Approve the release of database information from the CRA database to FIT members investigating a notified problem report.
 - d) Approve the exchange of database information from the CRA to like agencies in other regions.

APPENDIX A – CRA Aircraft Datalink Equipment Notification

FANS Central Reporting Agency – Airline Data Link Equipment Notification Form	
Airline	Aircraft Type
Tail Numbers	
ATSU/FMC/AIMS Manufacturer and Software Load #	
ACARS MU Manufacturer and Hardware #	
ACARS MU Software Load #	
SATCOM Equipment Manufacturer and Hardware/Software # (include HPA,SDU, LNA, Antenna as applicable)	
ORT Configuration Details: (include all ORT table entries, including AOC/ATC priority, channel speed etc)	

APPENDIX B – CRA Aircraft Datalink Equipment Notification –Sample

FANS Central Reporting Agency – Airline Data Link Equipment Notification Form	
Airline	Xcccc Airline
Aircraft Type	Boeing B777-300ER
Tail Numbers	XX-XXX,
ATSU/FMC/AIMS Software Load #	Block Point 2006 loaded on Boeing AIMS. Various Part Nos. of AIMS OPC, CPM/COMM OPS, CPM/STD OPS, CPM/GG OPS, and CPM/IOM OPS installed across fleet.
ACARS MU Hardware #	No ACARS MU installed. ACARS function housed in Boeing AIMS CPM/COMM Part No. 4089450-901.
ACARS MU Software Load #	No ACARS MU installed. ACARS function housed in Boeing AIMS CPM/COMM. Various Part Nos. of CPM/COMM OPS installed across fleet.
SATCOM Equipment Hardware/Software # (include HPA,SDU, LNA, Antenna as applicable)	Honeywell SDU Part No. 7516118-27010 HPA Part No. 7516250-20050 RFU Part No. 7516222-901 Antenna Part No. 100-602198-001
ORT Configuration Details: (include all ORT table entries, including AOC/ATC priority, channel speed etc)	Refer to SATCOM USER ORT Part No. 2370-EAD-808BC GENERAL CONFIGURATION SETTINGS: Maintenance Page Access: On Ground Only Airline Code: EAD High Rate Data Transmit Support, Global: Enabled High Rate Data Transmit Support, Spot: Enabled Suppress AES Position Reporting: Disabled POWER SETTINGS: SATELLITE INFORMATION: SAT SAT NAME ----- 00 AOR-W 01 AOR-E 02 POR 03 IOR GES INFORMATION: SAT GES PREF GES NAME -----

00	001	0	GOONHILLY-AW
00	002	9	SOUTHBURY-AW
00	004	8	EIK-AW
00	005	0	AUSSAGUEL-AW
01	101	0	GOONHILLY-AE
01	103	0	AUSSAGUEL-AE
01	104	9	EIK-AE
02	201	0	SENTOSA-P
02	202	9	SANTA PAULA-P
02	203	8	YAMAGUCHI-P
02	205	0	PERTH-P
03	301	9	EIK-I
03	305	0	PERTH-I
03	306	8	YAMAGUCHI-I
03	310	0	SANTOSA-I
CABIN SETTINGS:			
Ground-to-Air Circuit-Mode Data: Allowed			
Ground-to-Air Calls: Not Allowed			
Preferred APHONE Call Routing, SDU 1: Channel 1			
APHONE Outgoing Call Barring Level, SDU 1: 0: None			
Call Barring Security Code, SDU 1: 1234			
APHONE 1: SDU 1, Called Terminal ID: -1			
APHONE 1: SDU 1, Assignment Type: Not Exclusive			
APHONE 2: SDU 1, Called Terminal ID: -1			
APHONE 2: SDU 1, Assignment Type: Not Exclusive			
CABIN TELEPHONE NUMBERS:			
FOR SDU 1:			
	APHONE A		APHONE B
1.	-----		-----
2.	-----		-----
3.	-----		-----
4.	-----		-----
5.	-----		-----
6.	-----		-----
7.	-----		-----
8.	-----		-----
9.	-----		-----
COCKPIT CALL SETTINGS:			
Resources Reserved for Headset: Channel 2			
Call Camp-On Duration: Indefinite			
Camp-On Timeout Action: Cancel			
Ground-to-Air Call Preemption, Priority 2: Preempt			
Ground-to-Air Call Preemption, Priority 3: Preempt			
Preferred Cockpit Call Routing: Channel 2			
Headset Outgoing Call Barring Level: 1: All Barred			
Except Short/Stored			
Headset Transit Call: Disable			

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