Twenty Seventh Meeting of the
Informal South Pacific ATS Co-ordinating Group
(ISPACG/27)

Auckland, New Zealand
27 February – 01 March 2013

Agenda Item 4 – Review Open Action Items (AI 17-11)

AIDC Performance and Activity Update for Brisbane

Presented by Airservices Australia

SUMMARY

This information paper provides an update on AIDC activities in YBBB

1. INTRODUCTION

1.1 With the ever increasing use of AIDC to automate coordination between ATS Units, there is increasing importance to periodically review performance associated with this coordination medium.

1.2 AIDC monitoring also provides the ability to identify possible AIDC interoperability issues between two ATS Units.

2. DISCUSSION

2.1 An analysis was recently conducted of 7 days (9th Jan – 16th Jan 2013) of AIDC messages transmitted and received by YBBB and YMMM. A summary of YBBB performance data and message usage statistics is included in the attachment to this Information Paper.

2.2 A previous analysis of AIDC messaging reported at ISPACG/25 IP10 identified several AIDC-related issues:

- interoperability issues associated with DOF/ indicators in Field 18;
- limitations associated with the number of characters in Field 10; and
- limitations with the size of Field 18 in adjoining ATSU

2.3 A convenient side effect of the implementation of ICAO FPL2012 was that it addressed a number of these issues:

- the DOF/ problem has been resolved, as DOF/ is now a valid ICAO indicator in Field 18, and so it is now supported by Australian Eurocat;
- the Australian Eurocat Field 10 limitation has been resolved;
- the Field 18 limitation of the neighbouring ATS Unit was also resolved due to their updated software.

2.4 However, a number of new interoperability issues were noted during the analysis:

- One ATSU that is adjacent to YMMM started sending block levels in AIDC messages to YMMM. While Australian Eurocat does support block levels in AIDC messages, it is only from ATS Units that have been off-line defined as being block level capable). This is also a convenient reminder to ISPACG states to ensure that appropriate coordination is conducted before amending any coordination data settings
- The same adjoining ATSU also started sending weather deviations in AIDC messages to YMMM. Australian Eurocat does not support weather deviations in AIDC messages

As a result a number of messages being sent from this ATS Unit are being responded to with an LRM.

2.5 LRM analysis

2.5.1 The normal response to a syntactically correct AIDC message is a Logical Acknowledgement Message (LAM). If the received message is syntactically incorrect, the response should be an Logical Rejection Message (LRM).

2.5.2 An LRM analysis can indicate interoperability problems between two ATS Units. Several reasons for LRMs identified from our AIDC logs are included in the Table below:

Summary	No.	Description
Weather deviation	19	FIMM commenced sending weather deviations in AIDC messages to YMMM. Australian Eurocat does not support weather deviations in AIDC messages
Invalid block level	6	FIMM commenced sending block levels in AIDC messages to YMMM. While Australian Eurocat supports block levels in AIDC messages, it is only from off-line defined FIRs
Crossing condition + block level	5	Australian Eurocat does not support a block level combined with supplementary data
Field18 limitation	18	A relatively recently discovered FPL2012 limitation in Australian Eurocat involves the size of Field 18. This

		limitation was corrected in a software upgrade in mid February 2013.
Invalid message sequence	18	This appears to occur as a result of exit/re-entry ("hemstitch") flights
Corrupted ABI sent from FIMM to YMMM	3	On a number of occasions the text "CHECK TEXT. NEW ENDING ADDED" was added to the end of an ABI

2.6 Implementation of the CPL message

2.6.1 YBBB commenced using the CPL message to acquit boundary coordination with NZZO and NFFF in Sept 2012. While the transmission of the CPL message is a manual process for the YBBB controller, it has proven to be an efficient means of conducting boundary coordination, especially in circumstances where the other ATS Unit may not have a flight plan.

2.7 AIDC testing with Makassar

2.7.1 The exchange of AIDC messaging between Brisbane and Makassar was cancelled several years ago due to intermittent delays being experienced with AIDC messages sent to, and received from Makassar. While the delays were not extensive, they were sufficiently often to warrant the cancellation of the use of AIDC.

2.7.2 Following a recent upgrade in Makassar, AIDC testing with Makassar is about to re-commence. No information concerning the possibility of re-implementation of AIDC with Makassar was available at the time of writing this paper.

3. ACTION BY THE MEETING

3.1 The meeting is invited to:

a) Note the information in this Information Paper

References

Guidance Material for End-to-End Safety and Performance Monitoring of Air Traffic Service (ATS) Data link systems in the Asia Pacific Region, Version 4.0 — Feb 2011

ISPACG/25 IP10

Attachment 1

YBBB ==> NZZO			Application response			>180 sec		Operational Response				
	#	# Blk level	LAM	LRM	Response	LAM	LRM	ACP	REJ	CDN	NIL	Round trip
ABI	705	27	705	0	3.5	0	0	-	-	-	-	-
EST	555	22	554	1	1.8	0	0	554	-	-	1	3.3
ACP	517	-	515	0	1.7	0	0	-	-	-	-	-
CDN	75		75	0	1.9	0	0	75	0	0	0	47.2
PAC	0	0	0	0	-	0	0	0	-	-	0	-
CPL	8		8	0	4.9	0	0	8	0	0	0	6.3
TOC	557	-	554	0	1.5	0	0	-	-	-	-	-
AOC	510	-	510	0	1.8	0	0	-	-	-	-	-

YBBB ==> YMMM			Application response			>180 sec		Operational Response				
	#	# Blk level	LAM	LRM	Response	LAM	LRM	ACP	REJ	CDN	NIL	Round trip
ABI	5935	51	5935	0	0.5	0	0	-	-	-	-	-
EST	3216	37	3216	0	0.2	0	0	3168	-	-	48	0.6
ACP	3312	-	3312	0	0.2	0	0	-	-	-	-	-
CDN	0		0	0	-	0	0	0	0	0	0	-
PAC	8	0	8	0	0.6	0	0	6	-	-	2	1.0
CPL	0		0	0	-	0	0	0	0	0	0	-
TOC	3230	-	3230	0	0.2	0	0	-	-	-	-	-
AOC	3280	-	3280	0	0.2	0	0	-	-	-	-	-

YBBB ==> NFFF			Application response			>180 sec		Operational Response				
	#	# Blk level	LAM	LRM	Response	LAM	LRM	ACP	REJ	CDN	NIL	Round trip
ABI	246	14	239	7	1.9	0	0	-	-	-	-	-
EST	206	10	200	6	1.0	0	0	200	-	-	6	1.2
ACP	237	-	236	1	1.0	0	0	-	-	-	-	-
CDN	1		1	0	1.0	0	0	1	0	0	0	10.0
PAC	0	0	0	0	-	0	0	0	-	-	0	-
CPL	6		4	2	2.2	0	0	4	0	0	2	27.8
TOC	208	-	201	0	0.7	0	0	-	-	-	-	-
AOC	254	-	251	0	0.9	0	0	-	-	-	-	-

YBBB ==> KZAK			Application response			>180 sec		Operational Response				
	#	# Blk level	LAM	LRM	Response	LAM	LRM	ACP	REJ	CDN	NIL	Round trip
ABI	3	0	3	0	2.3	0	0	-	-	-	-	-
EST	3	0	3	0	1.7	0	0	3	-	-	0	59.3
ACP	6	-	6	0	1.5	0	0	-	-	-	-	-
CDN	0		0	0	-	0	0	0	0	0	0	-
PAC	0	0	0	0	-	0	0	0	-	-	0	-
CPL	0		0	0	-	0	0	0	0	0	0	-
TOC	2	-	1	0	1.0	0	0	-	-	-	-	-
AOC	1	-	0	0	-	0	0	-	-	-	-	-

Attachment 1

NZZO ==> YBBB			Application response			>180 sec		Operational Response				
	#	# Blk level	LAM	LRM	Response	LAM	LRM	ACP	REJ	CDN	NIL	Round trip
ABI	634	31	615	19	2.1	0	0	-	-	-	-	-
EST	514	26	511	1	0.3	0	0	510	-	-	4	2.7
ACP	637	-	637	0	1.4	0	0	-	-	-	-	-
CDN	3		3	0	1.0	0	0	3	0	0	0	39.7
PAC	2	0	2	0	0.5	0	0	2	-	-	0	3.5
CPL	0		0	0	-	0	0	0	0	0	0	-
TOC	519	-	519	0	0.2	0	0	-	-	-	-	-
AOC	554	-	554	0	0.2	0	0	-	-	-	-	-

NFFF ==> YBBB			Application response			>180 sec		Operational Response				
	#	# Blk level	LAM	LRM	Response	LAM	LRM	ACP	REJ	CDN	NIL	Round trip
ABI	336	14	333	2	0.0	0	0	-	-	-	-	-
EST	252	10	251	1	0.0	0	0	236	-	-	16	1.0
ACP	205	-	205	0	0.2	0	0	-	-	-	-	-
CDN	3		3	0	0.0	0	0	1	0	0	2	19.0
PAC	0	0	0	0	-	0	0	0	-	-	0	-
CPL	0		0	0	-	0	0	0	0	0	0	-
TOC	254	-	254	0	0.0	0	0	-	-	-	-	-
AOC	199	-	199	0	0.0	0	0	-	-	-	-	-

KZAK ==> YBBB			Application response			>180 sec		Operational Response				
	#	# Blk level	LAM	LRM	Response	LAM	LRM	ACP	REJ	CDN	NIL	Round trip
ABI	7	0	7	0	1.3	0	0	-	-	-	-	-
EST	6	0	6	0	0.2	0	0	6	-	-	0	1.7
ACP	3	-	3	0	0.7	0	0	-	-	-	-	-
CDN	0		0	0	-	0	0	0	0	0	0	-
PAC	0	0	0	0	-	0	0	0	-	-	0	-
CPL	0		0	0	-	0	0	0	0	0	0	-
TOC	0	-	0	0	-	0	0	-	-	-	-	-
AOC	1	-	1	0	0.0	0	0	-	-	-	-	-

YMMM ==> YBBB			Application response			>180 sec		Operational Response				
	#	# Blk level	LAM	LRM	Response	LAM	LRM	ACP	REJ	CDN	NIL	Round trip
ABI	6973	52	6973	0	0.5	0	0	-	-	-	-	-
EST	3302	40	3302	0	0.3	0	0	3276	-	-	26	0.6
ACP	3174	-	3174	0	0.2	0	0	-	-	-	-	-
CDN	0		0	0	-	0	0	0	0	0	0	-
PAC	37	0	37	0	0.6	0	0	36	-	-	1	0.9
CPL	0		0	0	-	0	0	0	0	0	0	-
TOC	3351	-	3351	0	0.2	0	0	-	-	-	-	-
AOC	3160	-	3160	0	0.2	0	0	-	-	-	-	-