International Civil Aviation Organization

MIDANPIRG Communication Navigation and Surveillance Sub-Group (CNS SG)

Sixth Meeting
(Tehran, Iran, 09 – 11 September 2014)

Agenda Item 5: Performance Framework for CNS Implementation in the MID Region

DRAFT LoA FOR AIDC/OLDI IMPLEMENTATION

(Presented by Oman)

SUMMARY

This paper addresses the implementation of a Flight Data Exchange facility between two FIR units. Two Draft LoA's are proposed to be reviewed and adopted by the MIDANPIRG CNS-SG.

Action by the meeting is at paragraph 2.

REFERENCES

- AIDC/OLDI Seminar 3-5 March 2014.

1. **INTRODUCTION**

1.1 The OLDI – AIDC Seminar held in Cairo from 3-5 March 2014 addressed this subject thoroughly. Were the following was the synopsis concluded:

  a) OLDI was developed for use in the EUR ICAO Region and has a lot more functions than AIDC, which was developed by ICAO as a worldwide standard to use. OLDI has a lot of Eurocentric functions designed to help in the various functions that they have e.g. Civil/Military coordination, CFMU coordination and flow metering between ATSU Sectors. (Each Sector has a planned and declared Sector capacity, which should not be exceeded on a long term basis).

  b) Experience gained/lessons learned show that operations benefit from a minimal message set, i.e. the "keep it simple" philosophy.

  c) OLDI requires strict adherence to Letters of Agreement with regard to upgrading versions of OLDI, otherwise problems occur.

  d) AIDC is widely implemented elsewhere, including the busy NAT (North Atlantic Region) which covers the North America/European traffic and interfaces with the EUR (OLDI) Region.

  e) ICAO is urging implementation of AIDC for ATSUs who have not implemented any form of automated flight plan data exchange.

f) Modern ATM systems can handle AIDC and OLDI inputs and translate them into the other format as required. (I.e. the message is received in AIDC format and is sent to the next Unit in OLDI format or vice versa).

g) It is indicated that OLDI is better equipped for radar hand-offs; however AIDC has a similar function which could be used, the Transfer Control message.

h) AIDC is equipped to handle Lat/Long waypoints or named en-route points, which allow User Preferred Routes. This is the precursor (start) of ICAO's "Free Flight" concept. There is no equivalent in OLDI.

i) OLDI has a facility for Civil/Military coordination. This assumes that the Military Units have dedicated airspace. This is not in accordance with ICAO's concept of Flexible Use of Airspace. Despite OLDI having this feature, it is not used.

j) There are two versions of AIDC in use – the NAT ICD 1.3 or previous and the APAC ICDv3 or previous. Are there plans to harmonise these into one version and if not, which one should the MID Region use? (APAC is our adjacent ICAO Region.)

2.   ACTION BY THE MEETING

2.1   The meeting is invited to:

a) note the information in this working paper; and

b) review and adopt/indorse the Draft LoA's in **Appendices A and B** on both AIDC and OLDI implementations.

Letter of Agreement
regarding AIDC between
XXXX ACC and XXXX ACC

Approved

_____	_____
Name	Name
Unit	Unit
Date:	Date:

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1 SCOPE

1-1 Purpose

This is a Letter of Agreement between (Organisation) (State) and (Organisation) (State)

The Agreement addresses the implementation of a Flight Data Exchange facility between the FDPS system of (Unit) and the corresponding FDPS system of (Unit). This facility shall be used for the implementation of ICAO standard procedures for ATS Interfacility Data Communications - AIDC.

1-2 Revision History

Version	Date	Signature	Change
1.0			

1-3 References

ICAO	*Provisions and information on the ASN.1 packed encoding rules and AIDC addressing rules are contained in Annex 10, Volume II, Part I, and the* Manual of Technical Provisions for the Aeronautical Telecommunication Network (ATN) *(Doc 9705). Guidance material concerning the operational use of AIDC messages is contained in the* Manual of Air Traffic Services Data Link Applications *(Doc 9694).*
ICD	ASN.1(*Abstract Syntax Notation One*)
ICAO Pans-ATM Doc 4444	ICAO Doc 4444-RAC/501, Rules of the Air and Air Traffic Services, Fifteenth edition - 2007

1-4 Abbreviations

ABI	Advanced Boundary Information
ACP	Acceptance
ACT	Activate
CDN	Coordination
COP	Co-ordination Point
ETO	Estimated Time Over
LAM	Logical Acknowledgement
MAC	Coordination cancellation
PAC	Preliminary coordination

2 GENERAL

The implementation shall comply with ICAO AIDC. Any deviation from mandatory requirements shall be explicitly stated and agreed.

3   AIDC MESSAGES TO BE EXCHANGED

The following messages will be used:

- ABI – Advanced Boundary Information
- ACT – Activate
- LAM – Logical Acknowledgement Message
- Other message groups as required.

4   CO-ORDINATION POINTS (COPs)

AIDC messages shall only be sent for flights crossing the boundary over any of the following agreed COPs:

(Insert Waypoint(s))

5   MESSAGES EXCHANGE PROCEDURE AND TIMING

5-1   ABI

ABI shall be sent xx minutes prior to the calculated ETO COP.

If it is less than xx minutes to ETO COP when flight plan data becomes available the ABI shall be sent immediately. If however the condition to send an ACT is fulfilled then the ABI shall not be sent.

ABI shall not be sent after the sending of ACT.

5-1.1   Revised ABI

A revised ABI shall be sent in the following cases:

- the route has been modified such that the COP in the previous ABI message is no longer valid;
- the aerodrome of destination has been changed;
- the type of aircraft has been changed.

Revised ABI shall not be sent after the sending of ACT.

5-2   ACT

ACT shall be sent xx minutes prior to the calculated ETO COP.

If it is less than xx minutes to ETO COP when flight plan data becomes available the ACT shall be sent immediately.

Only one ACT shall be sent for each flight.

5-3   LAM

Only one LAM shall be sent for each message.

If LAM for ABI is not received, no action is to be taken.

If LAM for ACT has not been received within 15 seconds, ACT sending unit shall initiate verbal co-ordination.

6 AIDC MESSAGES CONTENT

The table below specifies the fields to be included in the AIDC messages:

Field Nr	Field name	ABI	ACT	LAM
3a	Message Type	X	X	X
3b	Message Number	X	X	X
3c	Message Reference	-	-	X
7a	Aircraft Identification	X	X	-
7b	SSR Mode	X*)	X***)	-
7c	SSR Code	X*)	X***)	-
13a	Departure Aerodrome	X	X	-
14a	Boundary Point, COP	X**)	X**)	-
14b	ETO Boundary Point	X	X	-
14c	Cleared Level	X	X	-
16a	Destination Aerodrome	X	X	-
22/8	Flight rules and Type of flight	X	X	-
22/9a	Number of Aircraft	X****)	X****)	-
22/9b	Type of Aircraft	X	X	-
22/9c	Wake Turbulence Category	X	X	-
22/10	Equipment	X	X	-

"X" – shall be included

"- " – shall not be included

*) Only if available.

**) Only agreed COPs are allowed.

***) The field is not used for aircraft without transponder.

****) Only if other then 1.

The field format shall be the ICAO format.

Format and syntax of the individual fields shall comply with PANS ATM 4444 for AIDC.

7 COMMUNICATION

The communication facility for flight data exchange is specified in [ICD_AIDC].

8 INTEGRATION TESTING

A test programme shall be mutually developed.

END

Letter of Agreement
regarding OLDI between
XXXX ACC and XXXX ACC

Approved

_____   _____

Name   Name
Unit   Unit

Date: Date:

Table of contents

1   SCOPE

1-1   Purpose

This is a Letter of Agreement between (Organisation) (State) and (Organisation) (State)

The Agreement addresses the implementation of a Flight Data Exchange facility between the FDPS system of (Unit) and the corresponding FDPS system of (Unit). This facility shall be used for the implementation of Eurocontrol standard procedures for On-Line Data Interchange – OLDI..

1-2   Revision History

Version	Date	Signature	Change
1.0			

1-3   References

Eurocontrol OLDI	Eurocontrol Standard Document for On-line Data Interchange (OLDI) DPS.ET1.ST06-STD-01-01 Edition 2.3 Edition date December 2001
ICD	Interface Control Document for OLDI, Si ATM registration number SI P102.11, version 1.0, dated 22 Jun 2005.

1-4   Abbreviations

ABI	Advanced Boundary Information
ACT	Activate
COP	Co-ordination Point
ETO	Estimated Time Over
LAM	Logical Acknowledgement
OLDI	On-Line Data Interchange

2   GENERAL

The implementation shall comply with Eurocontrol OLDI. Any deviation from mandatory requirements shall be explicitly stated and agreed.

3   OLDI MESSAGES TO BE EXCHANGED

The following messages will be used:

- ABI – Advanced Boundary Information
- ACT – Activate
- LAM – Logical Acknowledgement Message

4 CO-ORDINATION POINTS (COPs)

OLDI messages shall only be sent for flights crossing the boundary over any of the following agreed COPs:

(Insert Waypoint(s))

5 MESSAGES EXCHANGE PROCEDURE AND TIMING

5-1 ABI

ABI shall be sent xx minutes prior to the calculated ETO COP.

If it is less than xx minutes to ETO COP when flight plan data becomes available the ABI shall be sent immediately. If however the condition to send an ACT is fulfilled then the ABI shall not be sent.

ABI shall not be sent after the sending of ACT.

5-1.1 Revised ABI

A revised ABI shall be sent in the following cases:

• the route has been modified such that the COP in the previous ABI message is no longer valid;

• the aerodrome of destination has been changed;

• the type of aircraft has been changed.

Revised ABI shall not be sent after the sending of ACT.

5-2 ACT

ACT shall be sent xx minutes prior to the calculated ETO COP.

If it is less than 25 minutes to ETO COP when flight plan data becomes available the ACT shall be sent immediately.

Only one ACT shall be sent for each flight.

5-3 LAM

Only one LAM shall be sent for each message.

If LAM for ABI is not received, no action is to be taken.

If LAM for ACT has not been received within 15 seconds, ACT sending unit shall initiate verbal co-ordination.

6 OLDI MESSAGES CONTENT

The table below specifies the fields to be included in the OLDI messages:

Field Nr	Field name	ABI	ACT	LAM
3a	Message Type	X	X	X
3b	Message Number	X	X	X
3c	Message Reference	-	-	X

7a	Aircraft Identification	X	X	-
7b	SSR Mode	X*)	X***)	-
7c	SSR Code	X*)	X***)	-
13a	Departure Aerodrome	X	X	-
14a	Boundary Point, COP	X**)	X**)	-
14b	ETO Boundary Point	X	X	-
14c	Cleared Level	X	X	-
16a	Destination Aerodrome	X	X	-
22/8	Flight rules and Type of flight	X	X	-
22/9a	Number of Aircraft	X****)	X****)	-
22/9b	Type of Aircraft	X	X	-
22/9c	Wake Turbulence Category	X	X	-
22/10	Equipment	X	X	-

"X" – shall be included

"- " – shall not be included

*) Only if available.

**) Only agreed COPs are allowed.

***) The field is not used for aircraft without transponder.

****) Only if other then 1.

The field format shall be the ICAO format.

Format and syntax of the individual fields shall comply with Eurocontrol OLDI].

7 COMMUNICATION

The communication facility for flight data exchange is specified in ICD_OLDI.

8 INTEGRATION TESTING

A test programme shall be mutually developed.

END