Conference room NEPTUNE
EUROCONTROL Brussels

Short Meeting Report

Location and Participants

The AIXM CCB Meeting took place from 6 to 8 June 2018 and was hosted by EUROCONTROL in Brussels, Belgium. The list of participants on site is provided below.

Sur name	Name	Company
Klaus	Duecker	DFS
Philippe	Beaudoin	DSNA
Eduard	Porosnicu	EUROCONTROL
Razvan	Guleac	EUROCONTROL (EAD)
Brian	Murphy	FAA
Katrina	Wilson	FAA
Vlad	Acretoaie	Frequentis
Henry	Caceres	GroupEAD
Krzysztof	Czeryba	Jeppesen
Ken	Gochenour	Jeppesen
Robin	Houtmeyers	Luciad
Reinhard	Thanhaeuser	Lufthansa Systems
Aleksandr	Razov	Monitor Soft
Karen	KROPORNICKI	NGA/AIDU

Some CCB members followed the meeting or parts of the meeting using a Webex connection.

Agenda and supporting documents

The Agenda and two presentations made during the meeting are available on the AIXM Web site: http://aixm.aero/document/aixm-ccb-brussels-2018-06-06.

The outcome of discussions on issues and change proposals was recorded as follows:

- In AIXM CCB JIRA for all issues and change proposals that are in draft status;
- In Google Docs for all change proposals that are being drafted and not yet mature for being upload in JIRA: https://drive.google.com/open?id=0BxlGN-YBj-q0RktVVm5oOXptVGM

Discussion Topics

AIXM 5.2 Change Proposals

The change proposals drafted by FAA and already discussed at the last Webex have been updated where necessary and were reviewed during the meeting. Several draft change proposals are now available for a final review in JIRA. They will remain in draft status until the next Webex of the CCB (towards end June). Additional change proposals are expected to be finalised in the meantime.

All the change proposals for which no open issues are recorded before the next Webex will be submitted for formal approval by the CCB members in July. Note - it is important that this first set of change proposals also include the three technical topics agreed in the cross-XM coordination discussions, in particular the rules for the use of "deprecation" (AIXM-222)!

Relation with ICAO AIRM

An ICAO ATM Information Reference Model (AIRM) is being developed under the ICAO IMP. The AIRM covers all the ATM information domains, including AIS, MET and Flight. It is not intended to be used directly for implementations, but as a common reference for the all data exchanges in the ATM domain. In practice, the domain specific exchange models are expected to be mapped to the AIRM. The ICAO SWIM Manual Volume II, currently in development, is expected to indicate how exactly the AIRM should be used.

An analysis of the current mapping status between the draft ICAO AIRM and the AIXM 5.1 was done by FAA and presented to the participants in the CCB meeting. The slides of the presentation are available on the AIXM web site (http://aixm.aero/sites/aixm.aero/files/imce/library/ccb_meetings/aixm_ccb_2018_06/aixm_and_airm_-_faa_analysis.pptx). The following conclusions and action were agreed in the meeting:

- For all the discrepancies that concern AIXM definitions, one unique issue will be raised in JIRA by FAA and a subsequent change proposal will be prepared. It is recognised that there are still many AIXM definitions for classes, properties and lists of values that do not read as a definition or do not use the same terminology as the ICAO SARPS. Therefore, any improvement proposed to the AIXM model in this area is welcome. Such definition improvements, as long as they remain compatible with the data structure of the current model, will not cause any mapping issues between AIXM 5.1.1 and AIXM 5.2;
- The rest of the potential AIXM-AIRM discrepancies identified need to be analysed one by one. Where appropriate, an individual issue will be recorded in JIRA. In order to perform an initial analysis of the discrepancies and to propose a way forward, the table with the results of the FAA analysis is made available in Google Docs (link to be provided to the CCB members directly).
- **Action**: *The AIXM CCB members are invited to review this table and to indicate their opinions directly in the document, for each particular topic*.

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FIXM briefing

A briefing on the current status and the future development and implementation of the Flight Information Exchange Model (FIXM) was presented by Hubert Lepori, on behalf of the FIXM CCB. This is a follow-up of previous presentations from past CCB meetings and similar briefings about AIXM are presented to the FIXM CCB. The slides are available on the AIXM web site.

Two topics of common interest to the AIXM and FIXM CCBs have been identified and are proposed to be followed-up with a joint Webex sessions:

- Drones – including coding of drone flight trajectories, pre-defined routes and airspace reservations (both exclusive use and interdictions to fly)
- Flow data – such as airport slots and other ATFM measures. Static ATFM data (such as flight restrictions) can be coded in AIXM, while more dynamic measures (such as flight departure slots) are not covered by either AIXM or FIXM.

OGC - GML Profile for AIXM

The OGC Discussion Paper 12-028r1 contains both the definition of the GML profile for AIXM and GML coding guidelines for points, line, polygons when used in AIXM. The following way forward was agreed by the meeting participants:

- The OGC document to be reduced in scope to comprise only the definition of the GML profile for aviation (in particular for AIXM) and to be proposed for adoption by the OGC TC as “Best Practice”. The target for this adoption is the meeting that will take place in September in Stuttgart, Germany.
- All the geometry coding guidelines to be included in the general AIXM coding guidelines provided through the AIXM/confluence web site: https://ext.eurocontrol.int/aixm_confluence/display/ACG/Geometry.

JSON and GeoJSON formats for AIXM

See AIXM-300 for details. The conclusion of the discussion was that the use of JSON for coding AIXM data and (as a sub-topic) of GeoJSON could be subject to an OGC partnership to develop a proof-of-concept, with the following objectives:

- how to specify the structure and content of JSON file (using JSON schema) or something similar, using the AIXM/UML model as the basis. The AIXM/UML model would have to be complete - including the TimeSlice concept;
  limitations of GeoJSON (geometry primitives) and how these could be overcome
- how the SBVR rules could be exploited in order to verify a JSON file; particular case - how some rules would have to be re-written when they refer to gml:elements (such as the rules for the profile)
- mapping from AIXM/XML into AIXM/JSON
- maturity of JSON standards, as most things are still drafts --> when would be a reasonable time to expect JSON formal standards, this could also be relevant for certifications.

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AIXM 5.2 planning

Calendar

- 3 batches for the CPs (July, October, December)
    - A publicly available summary of changes and all CP available on the web site for each batch
- All CPs approved early January 2019
- Release candidate in Feb 2019
- Final publication in April 2019

Additional sources of change to be considered

- ICAO Data Sets – model changes?

Release content

- UML
- XML Schema (simple + with annotations – use gml annotations)
    - XSD changes tracking (low priority)
- Summary of changes (CPs and executive summary)
- UML to XSD Rules and Script (for extensions)
- Temporality Concept (version 1.2) – only if there are changes
    - Depending also on when the updated version 1.1 is published
- Feature association and reference (updated)
    - Candidate change – remove 3.4.2
- Conversion scripts 5.1.1 to 5.2 and vice-versa
- UML documentation on Web site
- Primer
    - Seen as an introductory document for operational people
    - Operational implementation guidance- > who should and when consider implementing 5.2 (similar to the rationale for ICAO SARPS amendments)
- Business rules revision for 5.2
    - ICAO Data Sets profiles
    - Digital NOTAM profile
    - Additional rules for detecting the use of deprecated and
    - Remove rules that refer to a deprecated element (such as codingStandard)
    - Additional rules for elements that are new

Next meeting/Webex

a. Next Webex is already scheduled for 26 June
b. Next face-to-face – tentatively planned for Wed-Fri 28-30 November
    i. To be discussed: Mon-Tue 26-27 November Coding Guidelines FG meeting
    ii. Location – Europe, could be hosted by Jeppesen in Poland/Gdansk or Germany/Frankfurt), by DSNA in France/Bordeaux –final decision in September

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Priorities for the next Webex

- Temporality
- Deprecation Change Proposal
- Point make-up CP
- Navaid and Designated Point reporting and use outside the route structure
- Any other CP that is awaiting more comments