

November 12, 2008

Report of the AOC **Teleconference 42** held on **11 November 2008**

In attendance were:

David Wheatley, British Airways	Doug Mikus, Boeing
Simon Scholey, British Airways	Mike Russo, IA Staff
Steve Stebbins, British Airways	Robert Popo, LH Systems
Beka Teklu, Boeing	Tim Spears, Ultramain

Introduction

Mike Russo moderated a 120-minute teleconference concerning the development of draft eFF schema for Supplement 1 to ARINC Standard 633.

Agenda

Item	Topic
1	Admin/Review of Previous Meeting
2	Strawman 22A of ARINC 631 and Related eFF Schema
3	Close

Admin – Review of Telecon 41 Report

Mike Russo summarized the progress made at telecon. There were no changes to the report.

During the telecon, it was noted that Action Item 164, leak detection, is outstanding, pending an input from Airbus. There were 2 new action items. They are included in the revised action item list (included as Attachment 1 to this report).

The telecon recognized that massive changes have been made to the Supplement 1 eFF schema and so it is significantly different than the original. A comparison of the old and new would not be productive. Further, the specific changes have not been documented meticulously such that a complete record can be easily produced. Beka Teklu accepted a task to develop a high level approach to describing the changes to the eFF schema as an aid to the reader/software programmer. He will provide samples to the next AOC SC meeting.

Review of Changes to eFF Schema

Robert Popov provided a working paper that listed the changes that have been recently recommended for the ARINC 633 Supplement 1 eFF Schema. Robert's paper also included some

proposals of his own for further improvement of the schema. Robert's text working paper is included as Attachment 2 to this report.

During the review of his paper, Robert alternated between his text document and the draft Supplement 1 XML schema. The schema is not included in this report.

The telecon supported most of the changes and proposals made by Robert. The following points note those changes that were not supported or for which support was delayed pending further study (principally by Boeing), and highlights of the changes that were supported.

The text portion of draft Supplement 1 is not yet fully coordinated with the draft Supplement 1 schema.

Under FlightPlanHeader, all elements are optional. The telecon supported the addition of other addresses e.g., e-mail.

Under FuelHeader – PossibleExtraFuel, there is a need to account for the different fuel density of the existing onboard fuel and that of the new fuel that is being uploaded to obtain a new actual fuel weight when fueling is completed. There should be a new calculation following the completion of fueling.

Under New Attribute Airway @type (Robert proposed that new un-enumerated values be stated): AWY, DCT, ATS, SID etc. Once this list is defined in the schema, adding additional entries will become a retrofit/legacy issue. There was support for Robert's recommendation to use non-enumerated values. To ensure proper implementation though, each the exact meaning of each entry will need to be carefully specified.

Under Waypoint Type, consensus was to enable the insertion of a new waypoint in the waypoint sequence. To avoid renumbering the remainder of the waypoints, the telecon recommended that the waypoint identifier be changed from an integer to a floating point entry:

Original Revised

1	1
	1.1
2	2
3	3

Robert noted that Burnoff is entered in 2 separate locations. He proposed that the WeightHeaderGrp entry be deleted as redundant. The telecon felt that this action had been advocated previously, but there was no supporting documentation available. The telecon deferred action pending more detailed research into the history of the duplicate nature of the 2 entries. The issue is to be resolved at the December AOC SC meeting.

Future Activity

The next scheduled AOC SC meeting is scheduled for 3-5 December 2008 in Albuquerque, New Mexico. Ultramain will host the meeting. Due to its proximity to the upcoming December meeting, there will be no telecon in December.

This report was prepared by Mike Russo.

Action Item List AOC Meeting (21- 23 July 2008)

Tables Closed: Action Items		
#	DESCRIPTION	STATUS
27-31	Table 2: Telecon 11-12 Action Items	Closed
32 - 40	Table 3: December Meeting Action Items	Closed
41- 57	Table 4: Telecons 15 - 17 Action Items	Closed
58-67	Table 5: Meeting 25-27 April 2006 Action Items	Closed
68-71	Table 6: Telecons 19 - 20 Action Items	Closed
90	Table 8: Telecon 23 Action Items	Superseded
101-102	Table 10: Telecon 25 Action Items	Closed
103 - 108	Table 11: Telecon 26 Action Items	Closed
109 - 121	Table 12: February 2007 Meeting Action Items	Closed
122 - 124	Table 13: Telecon 27 Action Items	Closed
125	Table 14: Telecon 28 Action Items	Closed
126-127	Table 15: Telecon 29 Action Items	Closed
128-130	Table 16 Telecon 30 Action Items	Closed
152-154	Table 19: Action Items AOC Telecon 32 (August 2007)	Closed
155	Table 20: Action Items AOC Telecon 34	Closed
156	Table 21: Action Items AOC Meeting 11 (March 2008)	Closed

Table 1: Action Items Meeting (August 2005)		
#	DESCRIPTION	STATUS
01-06, 08-14, & 16-26		Closed
07	Frederic Durand and Mike Russo will designate end-to-end or air-ground coverage in paragraph to Section 3.2. The input will assign proposed dates when the security function should become available through the supporting infrastructure.	Closed
15	Frederic Durand and Luc Rochar d will propose a Database Activation Service message and associated processes. Delays in initiating the development effort suggests that a mature definition may need to be incorporated into ARINC 633 with Supplement 1. However, due to the urgency of the availability of this application, work will start as soon as possible. The subcommittee asked that Air France provide further clarification of the mechanism that is needed to provide the benefits they identified in their original request.	Open

Table 7: Action Items Meeting (August 2006)		
#	DESCRIPTION	STATUS
72 – 75, 77, 79 81-83, 85 – 86, 89		Closed 02/20/07
76	Frederic Durand will check for consistency among the eFF schema signature and the ATA e-LogBook signature definition.	Open
78	Ulf Jahr will provide a detailed definition of the proposed enc.xml file for OpenPGP. Pending NIS SC disposition.	Open
80	Mike Russo and Franklyn Young-Martos should investigate with AEEC whether requirements could be tagged in future documents. Frederic Durand will provide tag examples.	Withdrawn Ongoing
84	Steve Acheson et al were asked to propose a list of applications to be considered for standardization for the next AOC SC meeting.	Withdrawn Ongoing
87	Frederic Durand will work with Dirk Zschunke and Andreas Ritter to develop a Loadsheet and Trimsheet schema to include in Chapter 5. Dirk Zschunke will provide basic definitions for NOTOC XML schemas for integration into Chapter 5. Dirk recommended to reference IATA development when available.	Ongoing

Table 9: Action Items Meeting (Nov 2006)		
#	DESCRIPTION	STATUS
91-96, 99, 100-102		Closed
97	Ulf Jahr and Andreas Ritter will create new examples of eFF schema. Frederic Durand has the action to verify the accuracy of the preliminary eFF schema developed by Ulf.	Open
98	Andreas Ritter and Jocelyn Descaillot volunteered to prepare a more specific proposal for the GACS protocol for consideration at the January 2007 Telecon. To be considered by NIS SC.	Open

Table 12: Action Items Meeting (February 2007)		
#	DESCRIPTION	STATUS
109 – 120		Closed
121	Frederic Durand will submit a modified (supplement 1) eFF schema with the new attributes that have been approved by the subcommittee (including the input from Ludovic Lengrand). See also # 141.	Open

Table 17: Action Items AOC Meeting (June 2007)		
#	DESCRIPTION	STATUS
130 - 137		Withdrawn
138	Dave Knerr will provide additional flight plan examples including a re-clearance.	Open
139 – 140, 143, 146		Closed
141	Frederic Durand will make modifications to the FlightPlan schema to reflect the recommendations of June 2007 AOC SC meeting. Expect an input to the Oct 2007 TWG.	Open
142	Dave Knerr will gather additional information concerning the constructs that have been developed within FAA, US Navy, NOAA, and WMO to define elements and attributes applicable to aviation weather products. He will also look into RTCA SC-206 program. Robert Popov reported that a Eurocontrol activity exists, but will not have a weather product definition for at least 2 years. David O'Kelley to inquire as to definitions by WSI.	Open
144	Ulf Jahr will prepare edits to Chapter 10 (Ref. Item 11 of Airbus list of AFR issues) to propose an expanded request service downlink which allows request of specific data for the various elements of the Topic schema.	Open

145	Airlines and eFF vendors are asked to validate the existing flight plan schema and provide flight plan examples for review by the October 2007 TWG. An initial input was supplied by LH Sys. The work is still ongoing.	Ongoing
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Table 18: Action Items AOC/ELPT ad hoc Meeting (June 2007)		
#	DESCRIPTION	STATUS
147-148		Closed
149	Tim Anstey and Steve Yukawa will define some typical message sequence diagrams for a typical flight.	Open
150	Tim Spears will prepare a proposal for the constraints to message sequence relative to technical keys. Tim will submit more detail on XML encoding for discussion at the Dec08 AOC SC meeting.	Open
151	Dirk Zschunke will prepare edits to Chapter 4 to define submit (SUB) and report (REP) messages.	Open

Table 22: Action Items AOC Meeting 12 (July 2008)		
#	DESCRIPTION	STATUS
157	David O'Kelley will research flight plan enroute diversion route information content to be added to the FlightPlan schema.	Open
158	David O'Kelley will research the format of latitude and longitude used in NDBX.	Open
159	Dirk Zschunke Waypoint Identification (id) needs further clarification. Recommend that the attribute be designated as optional or mandatory.	Open
160	David O'Kelley Explain the use of order of Waypoints in arrays to designate the sequence of waypoint as an attribute.	Open
161	Dirk Zschunke volunteered to prepare a draft ATS Flight Plan schema for review.	Open
162	Dirk Zschunke reply to Ulf on XML encoding and version identification.	Open
163	Beka Teklu to provide use cases for sending eFF on ACARS	Open

Table 23: Action Items Telecon 39 (Aug 2008)

#	DESCRIPTION	STATUS
164	The equation used to derive a LeakDetection (Table in Section 5.4.7) currently produces the wrong result. An alternate equation has been proposed. Frederic Durand took an action item to resolve the issue by recommending the removal of the code or repairing it.	Open
165	Beka Teklu took an action to reconfirm that the contents of the CriticalPositionType Condition element (DC, 1X, 2X, DX) in the SuitableAptType Element Definition Table in Section 5.4.10, EROPS, is unique and has a different value than the Condition value in the header. Robert Popov was asked to comment on the text definition of the CriticalPositionType Condition element.	Open
166	The AOC SC proposal to change the definition of Potable Water PSWQ from a 1 to 3 digit percent to a 1 to 4 digit percent in tenths will have an impact on Airbus. Frederic Durand took an action to coordinate the change (confirm) with Airbus software designers.	Open

Table 24: Action Items Telecon 40 (Sept 2008)

#	DESCRIPTION	STATUS
167	Placeholder	Open
168	Placeholder	Open
169	Placeholder	Open

Table 25: Action Items Telecon 41 (Oct 2008)

#	DESCRIPTION	STATUS
170	Frederic Durand coordinate Airbus position on the Mandatory/Optional status of Operational Flight Plan (Section 10.2.4). Also, doublecheck if the new last paragraph is needed. Clarify if required.	Open
171	Frederic Durand will coordinate an Airbus position on the addition of aircraftRegistration to the eFF filename in Table 7 of Section 10.3.2.	Open

Table 26: Action Items Telecon 42 (Nov 2008)

#	DESCRIPTION	STATUS
172	Robert Popov will complete recommended changes to eFF Strawman 22 and issue it as Strawman 22A prior to the December 2008 AOC SC meeting in Albuquerque, NM.	Open
173	The potential for a comprehensive and detailed documentation of schema changes has been eclipsed by the sheer volume of changes. Beka Teklu will develop a sample high level description for eFF schema changes.	Open

M633Header

-
- flightPlanId – better definition needed, because it should be unique E.g.
LH_0631_06MAR07CYYZ061600070130EDDF_OFP3
- linkedFlightPlanId – missing text that this is the flightPlanId of the flight plan that is linked to

M633SupplementaryHeader

- sTD – proposal to change the type from TimeType to DateTimeType
- flightNumber – add optional attributes for IATA Airline Code, Flight number and Suffix
- performanceCorrectionFactor – add example 1.05 = 105% or 5% higher fuel consumption
- directionType has no Type – float expected
- Cruise Procedure to be expanded into SpeedProcedure from type CruiseProcedureType, that allows different SpeedProcedures for Climb, Cruise and Descent

FlightPlanHeader

- Author – to be expanded with phone, SITA, Dispatch Office, Fax, Email
- The distance units (meter and s.o.) are still not in the schema (it was agreed to add them in one of the last meetings)
- NextLegInfo is missing – DEP airport, Dep Runway, Arr airport, Arr Runway, FlightNumber, ZFW, TOF, Taxi, PossibleExtra

FuelHeader

- PossibleExtraFuel and limitationReason for it. Can be calculated with the already defined elements. Do we need it extra nonetheless?
- FlowUnitType needs Enumeration values, Correction has to be optional

FuelHeaderAirportLineType

- weightType -> base=float expected
- Estimated Time -> durationType is the most proper type for this value.
- Adjustments – Additonal Attribute unit is needed to identify the values deviationReasonChange, affectedItem.@adjustment, but due to the big variety of reasons and affected items these units shell be just of sting type.

Alternate Flightplans

- It would be better to add enumeration values for “Status”

WeightHeader

- BurnOff – why do we need it twice? It’s equal to TripFuel in the FuelHeader
- MaxTankCapacity – schema is wrong - proposal is OnWork

```
<xs:element name="MaximumFuelCapacity" minOccurs="0">
  <xs:complexType>
    <xs:sequence>
      <xs:element name="EstimatedCapacity" type="TankCapacityType" minOccurs="0"/>
      <xs:element name="ActualCapacity" type="TankCapacityType" minOccurs="0"/>
      <xs:element name="StructuralLimit" type="TankCapacityType" minOccurs="0"/>
    </xs:sequence>
  </xs:complexType>
</xs:element>

<xs:complexType name="TankCapacityType">
  <xs:sequence>
    <xs:element name="Weight" type="WeightType" minOccurs="0"/>
    <xs:element name="Volume" type="VolumeType" minOccurs="0"/>
    <xs:element name="Density" type="DensityType" minOccurs="0"/>
  </xs:sequence>
</xs:complexType>
```

Waypoints

WaypointType

- @sequenceId -> nonNegativeInteger expected. What happens with the following sequenceIDs if the pilot adds a new waypoint? Should they be increased?
- @waypointId – ARINC Code

- @waypointName – String type expected ? difference to @waypointLongName ?
- @waypointLongName - String type expected ? difference to @waypointName ?
- @deleted – isn't better to be beamed, omitted, skipped ?
- New Attribute Airway.@type with enumeration values: AWY, DCT, ATS, SID, RSID, STAR, RSTAR, NAR, OTS, NOR, AUS, PAC, NER
- New Element SegmentShearRate.AltitudeDifference of AltitudeType
- CoordinateType.Hemisphere – EnumerationValues N,S,W,E
- AirspaceName – String type expected
- Elevation – AltitudeType expected - do we really need this information here ? it's already in the AirportInformation schema?
- RadioFrequency - float expected
- Comment.Para ??? what's this?
- DirectTo.@wptId – Better to use the @sequenceId ?