

[FO-413] [A SLIVER to DinghyColourType](#) Created: Dec 09, 2012 Updated: Dec 18, 2012 Resolved: Dec 18, 2012

Status:	Resolved
Project:	Flight Object
Component/s:	Schemas.core
Affects Version/s:	1.1
Fix Version/s:	1.1
Security Level:	External (Issues visible to external users.)

Type:	Bug	Priority:	Moderate
Reporter:	Paul Chisholm	Assignee:	Bruce Taylor
Resolution:	Completed		
Labels:	None		
Remaining Estimate:	Not Specified		
Time Spent:	Not Specified		
Original Estimate:	Not Specified		

Description

The allowed dinghy colours are specified by an enumeration. The enumeration does not contain SILVER. At least one operational flight plan has passed through Airservices Australia system with SILVER specified as the dinghy colour.

Comments

Comment by [Bruce Taylor](#) [Dec 18, 2012]

Added SILVER as enumeration value:

```
<xsd:simpleType name="DinghyColourType">
<xsd:annotation>
<xsd:documentation>
Dominant color of dinghy on the aircraft
</xsd:documentation>
</xsd:annotation>
<xsd:restriction base="xsd:string">
<xsd:enumeration value="RED"/>
<xsd:enumeration value="ORANGE"/>
<xsd:enumeration value="YELLOW"/>
```

```
<xsd:enumeration value="GREEN"/>
<xsd:enumeration value="BLUE"/>
<xsd:enumeration value="VIOLET"/>
<xsd:enumeration value="BLACK"/>
<xsd:enumeration value="WHITE"/>
<xsd:enumeration value="GRAY"/>
<!-- FO 413 -->
<xsd:enumeration value="SILVER"/>
<xsd:enumeration value="OTHER"/>
</xsd:restriction>
</xsd:simpleType>
```

[FO-412] [Departure origin in FlightDepartureType should be AerodromeReferenceType](#) Created: Dec 09, 2012 Updated: Dec 18, 2012 Resolved: Dec 18, 2012

Status:	Resolved
Project:	Flight Object
Component/s:	Schemas.core
Affects Version/s:	1.1
Fix Version/s:	None
Security Level:	External (Issues visible to external users.)

Type:	Bug	Priority:	Moderate
Reporter:	Paul Chisholm	Assignee:	Bruce Taylor
Resolution:	Completed		
Labels:	None		
Remaining Estimate:	Not Specified		
Time Spent:	Not Specified		
Original Estimate:	Not Specified		

Description

The 'departureOrigin' element of FlightDepartureType records the actual departure point. It is presently a choice of aerodrome reference or ATS unit. The ATS unit relates to an air filed flight plan (AFIL). However, in this context we are talking about actual departure point. We will never get an actual departure notification for an AFIL flight plan because when first reported the flight is already in the air. Consequently, it is not meaningful to have ATS unit as an option for actual departure point.

Specify 'departureOrigin' element of FlightDepartureType to have type AerodromeReferenceType.

Comments

Comment by [Bruce Taylor](#) [Dec 18, 2012]

Awaiting comment from Dee Llewelyn. The ATS unit was added specifically to support AFIL departure origins.

Comment by [Dee Llewellyn](#) [Dec 18, 2012]

The solution is to make `departureOrigin` be of type `AerodromeReferenceType`

only.

I erroneously entered a comment in ~~FO-398~~ suggesting the airfile info be in both the planned departure info and the actual departure info, thinking that the time associated with an AFIL could be an actual time. (And the actual departure time is in FlightDepartureType.) I now understand that that type is for an actual aerodrome departure. (A little confusing because an FPL has only ONE departure aerodrome, and FIXM has two.) The first point in the airfile will have a time associated with it and we will assume it is an estimated or planned time.

Comment by [Bruce Taylor](#) [Dec 18, 2012]

Changed departureOrigin to AerodromeReferenceType, removed departureOriginType.

```
<xsd:complexType name="FlightDepartureType">
<xsd:annotation>
<xsd:appinfo source="fx:implements">Departure Aerodrome</xsd:appinfo>
<xsd:appinfo source="fx:implements">Departure Time - Actual</xsd:appinfo>
<xsd:documentation>
Record of the actual departure of a flight from its origin aerodrome.
Departure time is defined by the system that creates the departure information.
</xsd:documentation>
</xsd:annotation>
<xsd:complexContent>
<xsd:extension base="base:AbstractFeatureType">
<xsd:sequence>
<xsd:element name="departureTime" type="base:TimeType" minOccurs="1" maxOccurs="1"/>
<!-- FO-412 -->
<xsd:element name="departureOrigin" type="fx:AerodromeReferenceType" minOccurs="1"
maxOccurs="1"/>
</xsd:sequence>
</xsd:extension>
</xsd:complexContent>
</xsd:complexType>
```

Comment by [Bruce Taylor](#) [Dec 18, 2012]

PS: Changed 'departureOrigin' back to 'departureAerodrome':

```
<xsd:element name="departureAerodrome" type="fx:AerodromeReferenceType"
minOccurs="1" maxOccurs="1"/>
```

[FO-411] [Relative point \(bearing&distance\) omitted from AerodromeReferenceType](#)

Created: Dec 08, 2012 Updated: Dec 21, 2012 Resolved: Dec 21, 2012

Status:	Resolved
Project:	Flight Object
Component/s:	Schemas.core
Affects Version/s:	1.1
Fix Version/s:	1.1
Security Level:	External (Issues visible to external users.)

Type:	Bug	Priority:	Critical
Reporter:	Paul Chisholm	Assignee:	Bruce Taylor
Resolution:	Completed		
Labels:	None		
Remaining Estimate:	Not Specified		
Time Spent:	Not Specified		
Original Estimate:	Not Specified		

Description

With the release of snapshot 4 of V1.1 the definition of AerodromeReferenceType was modified. The ability to represent a relative point (bearing&distance) was removed. This needs to be reverted because in most places where AerodromeReferenceType is used, a relative point is allowed.

Example: if a departure point does not have an ICAO code, the value is placed in field 18/DEP, and it may be specified as a bearing&distance.

Comments

Comment by [Bruce Taylor](#) [Dec 18, 2012]

Added 'relative' element and changed body to <choice> structure.

```
<xsd:complexType name="AerodromeReferenceType">
```

```
<xsd:annotation>
```

```
<xsd:documentation>
```

Aerodromes may be identified by:

- their ICAO codes ("KDFW")

- their names ("Dallas Fort Worth")
- their geographic location (latitude and longitude)
- "Unknown" designation ("ZZZZ")

Notice: the attributes shown below are intended as alternatives, not additives. For example, it is a mistake to provide both the code and the geographic location, or airfiled and unknown. If there is a duplication of information, the order of precedence is code, name, location, airfiled, unknown.

```

</xsd:documentation>
</xsd:annotation>
<!-- FO-378 -->
<xsd:choice minOccurs="1" maxOccurs="1">
<!-- FO-385 -->
<xsd:element name="location" type="base:GeographicLocationType" />
<xsd:element name="code" type="fx:AerodromeCodeType" />
<!-- FO-390 -->
<xsd:element name="name" type="fx:AerodromeNameType" />
<!-- FO-411 -->
<xsd:element name="relative" type="base:RelativeLocationType" />
<!-- FO-398: 'airfiled' removed -->
<!-- FO-400: 'unknown' removed -->
</xsd:choice>
</xsd:complexType>

```

Comment by [Dee Llewellyn](#) [Dec 20, 2012]

I would like to propose a change to what I think the current fix for this issue is:

When we spoke of the AerodromeReferenceType before, I thought we agreed that this element could be an airport code OR, if no airport code existed for the airport, then the element is supposed to contain a name (e.g., RinkyDink Airport) and a location (named fix, fix radial distance or lat/log). (This is what is documented in the amendment letter, the text of which I have pulled and pasted below.)

So, what we have not included here in the current solution, is a plain vanilla NamedFix (i.e., Waypoint). I am wondering if AerodromeReferenceType should look something like:

```

Sequence
Code (of type AerodromeCodeType)
Name (of type AerodromeNameType)
Location (of type fx:SignificantPointType)
/Sequence

```

I am not sure how the structure can be a `<xsd:choice>` (as it currently appears that is what the solution is). The amendment letter states that name and location go together (when there is no Code).

Comments need to be updated:

Change the <documentation> to read:

Aerodromes may be identified by: * their ICAO codes ("KDFW") OR * their names ("Dallas Fort Worth") and * their location (point or point/bearing/distance or lat/long.

Pulled from the 2012 amendment letter:

DEP/ Name and location of departure aerodrome, if ZZZZ is inserted in Item 13, or the ATS unit from which supplementary flight plan data can be obtained, if AFIL is inserted in Item 13. For aerodromes not listed in the relevant Aeronautical Information Publication, indicate location as follows:

With 4 figures describing latitude in degrees and tens and units of minutes followed by `N` (North) or `S` (South), followed by 5 figures describing longitude in degrees and tens and units of minutes, followed by `E` (East) or `W` (West). Make up the correct number of figures, where necessary, by insertion of zeros, e.g. 4620N07805W (11 characters).

OR, Bearing and distance from the nearest significant point, as follows:

The identification of the significant point followed by the bearing from the point in the form of 3 figures giving degrees magnetic, followed by the distance from the point in the form of 3 figures expressing nautical miles. In areas of high latitude where it is determined by the appropriate authority that reference to degrees magnetic is impractical, degrees true may be used. Make up the correct number of figures, where necessary, by insertion of zeros, e.g. a point of 180° magnetic at a distance of 40 nautical miles from VOR `DUB` should be expressed as DUB180040.

OR, The first point of the route (name or LAT/LONG) or the marker radio beacon, if the aircraft has not taken off from an aerodrome.

Comment by [Paul Chisholm](#) [Dec 20, 2012]

Dee makes a good point. I agree with her proposed solution. It results in a model that is a bit more liberal than is described in ICAO 4444, but that is in some ways a benefit because flight plan originators do not always follow the ICAO specification strictly.

Comment by [Bruce Taylor](#) [Dec 21, 2012]

Dee's suggestion makes sense, and I've implemented it as follows:

AerodromeReferenceType is now a <choice> of an AerodromeCodeType ("KDFW") or an UnlistedAerodromeReferenceType, which consists of:

- Aerodrome name ("Dallas Fort Worth") REQUIRED
- Significant Point REQUIRED which is one of:
- geographic location (LAT/LONG)
- Fix/waypoint name
- Fix/Radial/Distance specification

I think that this satisfies all the cases, and can be validated through XML.

Because SignificantPointType is now referenced by three schemas (fxAerodrome, fxFlightPlan, fxFlightRoute) I have moved it from fxFlightRoute to baseLocation.

Let me know if this does/doesn't work for you, because I will freeze v1.1 late this afternoon.

<xsd:complexType name="AerodromeReferenceType">

<xsd:annotation>

<xsd:documentation>

Aerodromes may be identified by:

- their ICAO codes ("KDFW") OR
- their names ("Dallas Fort Worth") plus a significant point

</xsd:documentation>

</xsd:annotation>

<xsd:choice>

<xsd:element name="code" type="fx:AerodromeCodeType" />

<xsd:element name="unlisted" type="fx:UnlistedAerodromeReferenceType" />

</xsd:choice>

</xsd:complexType>

<xsd:complexType name="UnlistedAerodromeReferenceType">

<xsd:annotation>

<xsd:documentation>

Identifies an aerodrome that does not possess a listed ICAO code, specifying both its aerodrome name ("Dallas Fort Worth") and a significant point consisting of:

- its geographic location (latitude and longitude) OR
- the first significant point of a flight route OR
- fix/radial/distance from a known waypoint

</xsd:documentation>

</xsd:annotation>

<xsd:sequence>

<xsd:element name="name" type="fx:AerodromeNameType" minOccurs="1" maxOccurs="1" />

<xsd:element name="point" type="base:SignificantPointType" minOccurs="1" maxOccurs="1" />

</xsd:sequence>

</xsd:complexType>

[FO-409] [don't override 'flightRules' in NasFlightSegmentType](#) Created: Dec 04, 2012 Updated: Dec 04, 2012 Resolved: Dec 04, 2012

Status:	Resolved
Project:	Flight Object
Component/s:	Bindings.jaxb , Schemas.nas
Affects Version/s:	1.1
Fix Version/s:	1.1
Security Level:	External (Issues visible to external users.)

Type:	Bug	Priority:	Moderate
Reporter:	Bruce Taylor	Assignee:	Bruce Taylor
Resolution:	Completed		
Labels:	None		
Remaining Estimate:	Not Specified		
Time Spent:	Not Specified		
Original Estimate:	Not Specified		

Description

The flight rules of the original flight segment need to be overridden, because NAS has a more comprehensive set, but use a custom named element, rather than trying to override the 'flightRules' element.

Comments

Comment by [Bruce Taylor](#) [Dec 04, 2012]

removed 'flightRules' from NasFlightSegmentType and added 'nasFlightRules'.
Removed the overriding rule from JAXB configuration.

[FO-408] [Don't override route text in NasFlightRouteType](#) Created: Dec 04, 2012 Updated: Dec 04, 2012 Resolved: Dec 04, 2012

Status:	Resolved
Project:	Flight Object
Component/s:	Bindings.jaxb , Schemas.nas
Affects Version/s:	1.1
Fix Version/s:	1.1
Security Level:	External (Issues visible to external users.)

Type:	Bug	Priority:	Major
Reporter:	Bruce Taylor	Assignee:	Bruce Taylor
Resolution:	Completed		
Labels:	None		
Remaining Estimate:	Not Specified		
Time Spent:	Not Specified		
Original Estimate:	Not Specified		

Description

It isn't necessary to redefine the "text" element of NasFlightRouteType, because the NasRouteTextType extends the core RouteTextType, so can be substituted directly.

Comments

Comment by [Bruce Taylor](#) [Dec 04, 2012]

removed 'route' element from NasFlightPlan: NasFlightRoutes can be used directly.

[FO-407] [NAS flight plan shouldn't override route text or aircraft identification elements](#) Created: Dec 04, 2012 Updated: Dec 05, 2012 Resolved: Dec 05, 2012

Status:	Resolved
Project:	Flight Object
Component/s:	Bindings.jaxb , Schemas.nas
Affects Version/s:	1.1
Fix Version/s:	1.1
Security Level:	External (Issues visible to external users.)

Type:	Bug	Priority:	Moderate
Reporter:	Bruce Taylor	Assignee:	Bruce Taylor
Resolution:	Completed		
Labels:	None		
Remaining Estimate:	Not Specified		
Time Spent:	Not Specified		
Original Estimate:	Not Specified		

Description

The NasFlightPlanType currently overrides the 'route' and 'aircraftIdentification' elements in order to use their NAS counterparts. However, this is unnecessary, because the NAS implementations extend the core implementations, so can be directly substituted.

Remove these elements from the NAS flight plan.

Also, these can now be removed from the JAXB configuration files, because they don't need to be renamed.

Comments

Comment by [Bruce Taylor](#) [Dec 05, 2012]

Removed 'route' and 'aircraftIdentification' from NasFlightPlanType. Nas extensions of core types can be used directly and the fields do not need to be renamed.

Removed renaming from JAXB configuration files.

[FO-406] [Remove redundancy in definition of SelectiveCallingCodeType](#) Created: Nov 28, 2012 Updated: Dec 05, 2012 Resolved: Dec 05, 2012

Status:	Resolved
Project:	Flight Object
Component/s:	Schemas.core
Affects Version/s:	1.0 , 1.1
Fix Version/s:	None
Security Level:	External (Issues visible to external users.)

Type:	Bug	Priority:	Moderate
Reporter:	Paul Chisholm	Assignee:	Alex Proschitsky
Resolution:	Completed		
Labels:	None		
Remaining Estimate:	Not Specified		
Time Spent:	Not Specified		
Original Estimate:	Not Specified		

Description

The type SelectiveCallingCodeType has a pattern of '[A-HJ-MP-S\-\]{4,5}' and a maxLength of 4. The inclusion of 5 in the pattern is wrong. Drop the maxLength facet and make the pattern '[A-HJ-MP-S\-\]{4}'.

Can we clarify why '-' is allowed? In Airservices we do not allow this as a character in field 18/SEL.

Comments

Comment by [Alex Proschitsky](#) [Dec 04, 2012]

Changed the SelectiveCallingCodeType pattern according to the FODD. The "-" symbol is contained in the exmaples in the FODD.

Comment by [Alex Proschitsky](#) [Dec 05, 2012]

re-opening to fix according to the Word version of the FIXM DD

Comment by [Alex Proschitsky](#) [Dec 05, 2012]

Fxed to remove the "-" from SelectiveCallingCodeType

[FO-405] [RouteSegmentType](#) should include [FlightRules](#) at same level as [point](#) Created: Nov 26, 2012 Updated: Nov 30, 2012 Resolved: Nov 30, 2012

Status:	Resolved
Project:	Flight Object
Component/s:	Schemas.core
Affects Version/s:	1.1
Fix Version/s:	1.1
Security Level:	External (Issues visible to external users.)

Type:	Bug	Priority:	Moderate
Reporter:	Dee Llewellyn	Assignee:	Bruce Taylor
Resolution:	Completed		
Labels:	None		
Remaining Estimate:	Not Specified		
Time Spent:	Not Specified		
Original Estimate:	Not Specified		

Description

The flightRules elements in the CruiseSegmentType and ChangeSegmentType should be moved out of those two structures to the same level as the "point".

Explanation: You can have a change in flight rules without having a change in speed/alt or a climb

Comments

Comment by [Bruce Taylor](#) [Nov 30, 2012]

Hoisted flightRules into AbstractRouteSegmentType out of cruise and climb segments.

[FO-404] [AbstractSurvivalItemType should be removed from schema](#) Created: Nov 26, 2012 Updated: Dec 03, 2012 Resolved: Dec 03, 2012

Status:	Resolved
Project:	Flight Object
Component/s:	Schemas.core
Affects Version/s:	1.1
Fix Version/s:	None
Security Level:	External (Issues visible to external users.)

Type:	Bug	Priority:	Minor
Reporter:	Dee Llewellyn	Assignee:	Alex Proschitsky
Resolution:	Completed		
Labels:	None		
Remaining Estimate:	Not Specified		
Time Spent:	Not Specified		
Original Estimate:	Not Specified		

Description

SurvivalCapabilitiesType can be extended if needed as it extends AbstractFeatureType and that seems to be the common pattern defined in FIXM. So there is no need for the AbstractSurvivalItemType.

Comments

Comment by [Alex Proschitsky](#) [Dec 03, 2012]

Removed AbstractSurvivalItemType

[FO-402] Survival equipment codes Created: Nov 25, 2012 Updated: Dec 03, 2012 Resolved: Dec 03, 2012	
Status:	Resolved
Project:	Flight Object
Component/s:	Schemas.core
Affects Version/s:	1.0 , 1.1
Fix Version/s:	None
Security Level:	External (Issues visible to external users.)

Type:	Improvement	Priority:	Moderate
Reporter:	Paul Chisholm	Assignee:	Alex Proschitsky
Resolution:	Duplicate		
Labels:	None		
Remaining Estimate:	Not Specified		
Time Spent:	Not Specified		
Original Estimate:	Not Specified		

Description

LifejacketCodeType and EmergencyRadioCodeType use single letter ICAO codes, while SurvivalEquipmentCodeType uses full words. For consistency the the survival equipment code type items should adopt the iCAO codes.

Comments

Comment by [Alex Proschitsky](#) [Nov 29, 2012]

Duplicate with [FO-355](#)

[FO-401] [Modelling of equipment \(ICAO field 10a\)](#) Created: Nov 25, 2012 Updated: Dec 03, 2012 Resolved: Nov 30, 2012

Status:	Resolved
Project:	Flight Object
Component/s:	Schemas.core
Affects Version/s:	1.0 , 1.1
Fix Version/s:	1.1
Security Level:	External (Issues visible to external users.)

Type:	Bug	Priority:	Major
Reporter:	Paul Chisholm	Assignee:	Bruce Taylor
Resolution:	Completed		
Labels:	None		
Remaining Estimate:	Not Specified		
Time Spent:	Not Specified		
Original Estimate:	Not Specified		

Description

ICAO field 10a has been split into CommunicationCodeType, NavigationCodeType and DataLinkCodeType to differentiate the different kinds of equipment. Both "N" and "S" appear in the COM codes and the NAV codes. "N" should be removed since from a modelling perspective the absence of COM, NAV or Datalink codes implies "N". "S" should be removed, as it does not apply to COM or NAV codes in isolation. One possibility is to make it an attribute of AircraftCapabilitiesType.

Comments

Comment by [Dee Llewellyn](#) [Nov 26, 2012]

If you add the "S" concept at the AircraftCapabilitiesType level, the commentary should make it clear that it applies only to the NavigationCapabilities and CommunicationsCapabilities. (There was never the concept of "S" for surveillance capabilities or survival capabilities.)

Comment by [Bruce Taylor](#) [Nov 30, 2012]

added "standard" attribute to NavigationCapabilitiesType and CommunicationCapabilitiesType to indicate standard equipment,
removed "S" from both lists.

Comment by [Bruce Taylor](#) [Nov 30, 2012]

Also added "none" attribute in same manner and removed "N" enumeration.

Comment by [Bruce Taylor](#) [Dec 03, 2012]

Removed "N" and "S" enumerations, as indicated.

Removed "none" attribute

Moved "Standard" attribute up to AircraftCapabilitiesType.

[FO-400] [Modelling of departure point \(ZZZZ\)](#) Created: Nov 25, 2012 Updated: Nov 30, 2012 Resolved: Nov 30, 2012

Status:	Resolved
Project:	Flight Object
Component/s:	Schemas.core
Affects Version/s:	1.0 , 1.1
Fix Version/s:	1.1
Security Level:	External (Issues visible to external users.)

Type:	Improvement	Priority:	Major
Reporter:	Paul Chisholm	Assignee:	Bruce Taylor
Resolution:	Completed		
Labels:	None		
Remaining Estimate:	Not Specified		
Time Spent:	Not Specified		
Original Estimate:	Not Specified		

Description

The attribute 'unknown' in AerodromeReferenceType is not required. If attribute 'code' is populated then the aerodrome is a known ICAO code, if it is not populated the ICAO code is unknown (ZZZZ in ICAO). In that context the 'unknown' attribute serves no useful purpose, and it would be possible to populate AerodromeReferenceType with both a 'code' and the 'unknown' attribute set, which is not consistent with the ICAO intent.

Comments

Comment by [Dee Llewellyn](#) [Nov 26, 2012]

In the comments for this, it needs to be clear also that the name and location should NOT be present if there is a 4 char ICAO code. It must be clear that this is not data that was pulled from adaptation data or data that in any way elaborates on the 4 char ICAO code.

Comment by [Bruce Taylor](#) [Nov 30, 2012]

Added "unknown" attribute with value ZZZZ

[FO-399] [Modelling of aircraft type](#) Created: Nov 25, 2012 Updated: Nov 30, 2012 Resolved: Nov 30, 2012

Status:	Resolved
Project:	Flight Object
Component/s:	Schemas.core
Affects Version/s:	1.0 , 1.1
Fix Version/s:	1.1
Security Level:	External (Issues visible to external users.)

Type:	Improvement	Priority:	Moderate
Reporter:	Paul Chisholm	Assignee:	Bruce Taylor
Resolution:	Completed		
Labels:	None		
Remaining Estimate:	Not Specified		
Time Spent:	Not Specified		
Original Estimate:	Not Specified		

Description

AircraftCategoryType has a mandatory "model" (ICAO field 9b) and an optional "otherAircraftData" (ICAO field 18/TYP). In ICAO 4444 we can have one or the other, but not both. A better way to model this would be as a choice.

Comments

Comment by [Dee Llewellyn](#) [Nov 26, 2012]

Suggest renaming otherAircraftData to otherModelData as it is not aircraft data that goes here but very specifically it is model data that did not fit into the "model" element.

Comment by [Bruce Taylor](#) [Nov 30, 2012]

changed aggregation to <choice>, renamed otherAircraftData to otherModelData

[FO-398] [Modelling of departure point \(AFIL\)](#) Created: Nov 25, 2012 Updated: Dec 03, 2012 Resolved: Dec 03, 2012

Status:	Resolved
Project:	Flight Object
Component/s:	Schemas.core
Affects Version/s:	1.0 , 1.1
Fix Version/s:	None
Security Level:	External (Issues visible to external users.)

Type:	Improvement	Priority:	Major
Reporter:	Paul Chisholm	Assignee:	Bruce Taylor
Resolution:	Completed		
Labels:	None		
Remaining Estimate:	Not Specified		
Time Spent:	Not Specified		
Original Estimate:	Not Specified		

Description

When AFIL is entered as the departure, field 18/DEP should contain the ATS unit from which supplementary flight plan data can be obtained. This is not a reference to a location at all so the "airfiled" attribute should be removed from AerodromeReferenceType and an "atsUnit" element be added to FlightPlanDepartureType. Then have a choice between "departureAerodrome" or "atsUnit".

Comments

Comment by [Dee Llewellyn](#) [Nov 30, 2012]

The description for this issue addresses the departure element (of FlightPlanDepartureType) in the FlightPlanType. The description covers the "estimated" departure time. It should be noted that the time associated with an Airfile can also be an actual time. It therefore seems that the actual departure information (type FlightDepartureType) should also be altered to contain a choice between the departureAerodrome and the atsUnit.

Comment by [Bruce Taylor](#) [Dec 03, 2012]

- removed "airfiled" from AerodromeReferenceType
- defined "DepartureOriginType" to be choice between aerodrome reference or ATS Unit name
- updated FlightPlanDepartureType and DepartureType to use DepartureOriginType in

place of AerodromeReferenceType.

[FO-397] [Modelling of climb segment type in route](#) Created: Nov 25, 2012 Updated: Dec 03, 2012 Resolved: Dec 03, 2012

Status:	Resolved
Project:	Flight Object
Component/s:	Schemas.core
Affects Version/s:	1.0 , 1.1
Fix Version/s:	None
Security Level:	External (Issues visible to external users.)

Type:	Improvement	Priority:	Moderate
Reporter:	Paul Chisholm	Assignee:	Bruce Taylor
Resolution:	Completed		
Labels:	None		
Remaining Estimate:	Not Specified		
Time Spent:	Not Specified		
Original Estimate:	Not Specified		

Description

In places fixed ICAO strings are modelled as fixed values in the schema. In some ways this seems to be following ICAO too closely. To me the intent is to model the information content of a flight plan rather than repeat ICAO exactly. For ClimbSegmentType we have initialAltitude and finalAltitude where the latter may be an altitude or PLUS. An alternate approach would be to make finalAltitude an AltitudeType and optional - if omitted PLUS is implied. This captures the ICAO intent without caring about the presentation label PLUS and avoids having to introduce ClimbSegmentFinalAltitudeType.

Comments

Comment by [Bruce Taylor](#) [Dec 03, 2012]

After several tries:

- defined a base "PlusAltitudeType" that can be either an altitude or constant "PLUS"
 - changed finalAltitude element type to PlusAltitudeType.
- Not delighted with this solution, but it seems the cleanest way out.

[FO-396] [Specify NAVAID rather than VOR in waypoint type](#) Created: Nov 25, 2012 Updated: Dec 03, 2012 Resolved: Dec 03, 2012

Status:	Resolved
Project:	Flight Object
Component/s:	Schemas.core
Affects Version/s:	1.0 , 1.1
Fix Version/s:	None
Security Level:	External (Issues visible to external users.)

Type:	Improvement	Priority:	Moderate
Reporter:	Paul Chisholm	Assignee:	Bruce Taylor
Resolution:	Completed		
Labels:	None		
Remaining Estimate:	Not Specified		
Time Spent:	Not Specified		
Original Estimate:	Not Specified		

Description

The 'type' attribute of WaypointLocationType has options FIX, VOR, AERODROME, UNKNOWN. A VOR is just one kind of NAVAID. Should this option not be NAVAID rather than VOR.

Comments

Comment by [Dee Llewellyn](#) [Dec 03, 2012]

I suggest removing the attribute, but this is closely tied to [FO-395](#). How much AIXM-like data do we carry in the Flight Object's FP data? If operator has the data and is submitting FP in FIXM format, should the data be collected and carried? Or, should the systems performing route conversion/trajecoty modeling pick this up and apply it to the FO if/when needed?

Comment by [Bruce Taylor](#) [Dec 03, 2012]

I concur with Dee. There is currently no requirement for a waypoint type assignment and, until we understand the use cases better, it is best just to remove it.

[FO-393] [ICAO field 21 \(Radio Failure Information\) not fully modelled](#) Created: Nov 25, 2012 Updated: Nov 30, 2012 Resolved: Nov 30, 2012

Status:	Resolved
Project:	Flight Object
Component/s:	Schemas.core
Affects Version/s:	1.0 , 1.1
Fix Version/s:	1.1
Security Level:	External (Issues visible to external users.)

Type:	Bug	Priority:	Moderate
Reporter:	Paul Chisholm	Assignee:	Bruce Taylor
Resolution:	Completed		
Labels:	None		
Remaining Estimate:	Not Specified		
Time Spent:	Not Specified		
Original Estimate:	Not Specified		

Description

ICAO field 21 (Radio failure information) has 21a (time of last two-way contact) and 21d (time of last reported position). Field 21 information is captured in FlightEmergencyType, but this has only one time value (element `timeStamp`). Need to accommodate both 21a and 21d.

Comments

Comment by [Dee Llewellyn](#) [Nov 26, 2012]

This same comment was made in [FO-392](#) as the two issues are closely related.

In the Data Dictionary, this "position" element is actually a complex element containing a position and the time over the position. This covers both Item 20e as well as Item 21c and 21d.

I suggest that you create a new type that contains both the SignificantPoint and the time over that point. Then, THAT new type, instead of being freeform text, could be used in place of the element you currently have called "position".

In addition, the "timestamp" element (Item 20c and Item 21a) in EmergencyContactType should be renamed to indicate that it in fact is the last time of contact.

Comment by [Bruce Taylor](#) [Nov 30, 2012]

| See ~~FO 392~~ resolution
Also changed timestamp element to lastContactTime

[FO-392] [Correct type of position in FlightEmergencyType](#) Created: Nov 25, 2012 Updated: Nov 29, 2012 Resolved: Nov 29, 2012

Status:	Resolved
Project:	Flight Object
Component/s:	Schemas.core
Affects Version/s:	1.0 , 1.1
Fix Version/s:	None
Security Level:	External (Issues visible to external users.)

Type:	Bug	Priority:	Moderate
Reporter:	Paul Chisholm	Assignee:	Alex Proschitsky
Resolution:	Completed		
Labels:	None		
Remaining Estimate:	Not Specified		
Time Spent:	Not Specified		
Original Estimate:	Not Specified		

Description

The element 'position' in EmergencyContactType is FreeTextType; it should be SignificantPointType.

Comments

Comment by [Dee Llewellyn](#) [Nov 26, 2012]

In the Data Dictionary, this "position" element is actually a complex element containing a position and the time over the position. This covers both Item 20e as well as Item 21c and 21d.

I suggest that you create a new type that contains both the SignificantPoint and the time over that point. Then, THAT new type, instead of being freeform text, could be used in place of the element you currently have called "position".

In addition, the "timestamp" element (Item 20c and Item 21a) in EmergencyContactType should be renamed to indicate that it in fact is the last time of contact.

Comment by [Alex Proschitsky](#) [Nov 29, 2012]

Created a new type LastPositionReportType that contains a position and time at position.
Renamed timestamp element to lastContactTime.

[FO-391] [Order of items in AircraftPerformanceCategoryType](#) Created: Nov 25, 2012 Updated: Nov 29, 2012 Resolved: Nov 29, 2012

Status:	Resolved
Project:	Flight Object
Component/s:	Schemas.core
Affects Version/s:	1.0 , 1.1
Fix Version/s:	None
Security Level:	External (Issues visible to external users.)

Type:	Improvement	Priority:	Minor
Reporter:	Paul Chisholm	Assignee:	Alex Proschitsky
Resolution:	Completed		
Labels:	None		
Remaining Estimate:	Not Specified		
Time Spent:	Not Specified		
Original Estimate:	Not Specified		

Description

The order of the items in AircraftPerformanceCategoryType is H E D C A B. This should either be H E D C B A or A B C D E H.

Comments

Comment by [Alex Proschitsky](#) [Nov 29, 2012]

Changed the order of the items in AircraftPerformanceCategoryType to A B C D E H.

[FO-390] [Order of items in SurveillanceCapabilityCodeType](#) Created: Nov 25, 2012 Updated:
Dec 04, 2012 Resolved: Dec 04, 2012

Status:	Resolved
Project:	Flight Object
Component/s:	Schemas.core
Affects Version/s:	1.0 , 1.1
Fix Version/s:	None
Security Level:	External (Issues visible to external users.)

Type:	Improvement	Priority:	Minor
Reporter:	Paul Chisholm	Assignee:	Alex Proschitsky
Resolution:	Won't Fix		
Labels:	None		
Remaining Estimate:	Not Specified		
Time Spent:	Not Specified		
Original Estimate:	Not Specified		

Description

The order of items in SurveillanceCapabilityCodeType does not follow any logical order. Re-order as per ICAO 4444.

Comments

Comment by [Alex Proschitsky](#) [Dec 04, 2012]

The order of items in SurveillanceCapability was changed earlier according to the ~~FO-358~~, item #3. The order in the ~~FO-406~~ is conflicting with ~~FO-358~~.

[FO-389] [Route text inadequate to represent ICAO definition](#) Created: Nov 25, 2012 Updated: Dec 03, 2012 Resolved: Dec 03, 2012

Status:	Resolved
Project:	Flight Object
Component/s:	Schemas.core
Affects Version/s:	1.0 , 1.1
Fix Version/s:	1.1
Security Level:	External (Issues visible to external users.)

Type:	Bug	Priority:	Blocker
Reporter:	Paul Chisholm	Assignee:	Bruce Taylor
Resolution:	Completed		
Labels:	None		
Remaining Estimate:	Not Specified		
Time Spent:	Not Specified		
Original Estimate:	Not Specified		

Description

The pattern for the definition of route text (RouteTextType) is '[A-Z0-9]+'. This does not accommodate ICAO route text since the character '/' is not allowed. Change the pattern to '[A-Z0-9/]+'.

Comments

Comment by [Paul Chisholm](#) [Nov 25, 2012]

If the intent is to accommodate NAS route text then '/' needs to be added to the pattern.

Comment by [Bruce Taylor](#) [Nov 30, 2012]

NAS route string patterns will be overridden in the extension type.

Comment by [Dee Llewellyn](#) [Nov 30, 2012]

There are two things here

- 1) The original problem from Paul is a problem no matter what. It is a problem in core. The "/" character is a valid character in the ICAO route string and so must be allowed in RouteTextType. So, you cannot close this issue without a fix.
- 2) Paul's second comment about the "." might not be a problem because the NAS route string will somehow override the ICAO core route string.

Comment by [Bruce Taylor](#) [Dec 03, 2012]

Added "/" to route string pattern.
As Dee points out, the NAS route will override this.

[FO-388] [More correctly reflect an airway name](#) Created: Nov 25, 2012 Updated: Nov 30, 2012 Resolved: Nov 30, 2012

Status:	Resolved
Project:	Flight Object
Component/s:	Schemas.core
Affects Version/s:	1.0 , 1.1
Fix Version/s:	1.1
Security Level:	External (Issues visible to external users.)

Type:	Improvement	Priority:	Minor
Reporter:	Paul Chisholm	Assignee:	Bruce Taylor
Resolution:	Completed		
Labels:	None		
Remaining Estimate:	Not Specified		
Time Spent:	Not Specified		
Original Estimate:	Not Specified		

Description

The pattern for an airways is defined to be '[A-Z0-9]+' - one or more alphanumerics. A more accurate pattern is '[A-Z][A-Z0-9]{1,6}' - two to seven alphanumerics beginning with a letter.

Comments

Comment by [Bruce Taylor](#) [Nov 30, 2012]

Changed pattern as suggested

[FO-387] [Allow for "plain" route segment type](#) Created: Nov 08, 2012 Updated: Nov 30, 2012 Resolved: Nov 30, 2012

Status:	Resolved
Project:	Flight Object
Component/s:	Schemas.core
Affects Version/s:	1.1
Fix Version/s:	1.1
Security Level:	External (Issues visible to external users.)

Type:	Bug	Priority:	Major
Reporter:	Bruce Taylor	Assignee:	Bruce Taylor
Resolution:	Completed		
Labels:	None		
Remaining Estimate:	Not Specified		
Time Spent:	Not Specified		
Original Estimate:	Not Specified		

Description

In the FlightRoute schema there is AbstractRouteSegmentType with the two concrete instances CruiseSegmentType and ClimbSegmentType. However, I need to be able to create a segment type that is neither cruise nor climb, it just contains an airway and a point. I can't do this at present because I want something with the fields in AbstractRouteSegmentType but which is concrete.

Comments

Comment by [Paul Chisholm](#) [Nov 25, 2012]

In addition, there should be an optional 'flightRules' element as in the cruise and climb segment types.

Comment by [Bruce Taylor](#) [Nov 30, 2012]

Added BasicSegmentType that simply extends AbstractSegmentType without additional decoration.

[FO-386] [Restore takeoff alternate aerodrome element](#) Created: Nov 08, 2012 Updated: Nov 30, 2012 Resolved: Nov 30, 2012

Status:	Resolved
Project:	Flight Object
Component/s:	Schemas.core
Affects Version/s:	1.1
Fix Version/s:	1.1
Security Level:	External (Issues visible to external users.)

Type:	Bug	Priority:	Critical
Reporter:	Bruce Taylor	Assignee:	Bruce Taylor
Resolution:	Completed		
Labels:	None		
Remaining Estimate:	Not Specified		
Time Spent:	Not Specified		
Original Estimate:	Not Specified		

Description

The take off alternate which corresponds to ICAO field 18/TALT seems to have disappeared. This was under origin/alternateAerodrome in V1.

Comments

Comment by [Bruce Taylor](#) [Nov 08, 2012]

Added alternateDepartureAerodrome element(s):
<xsd:complexType name="FlightPlanDepartureType">
<xsd:annotation>
<xsd:documentation>
Information about planned departure aerodrome and time
</xsd:documentation>
<xsd:appinfo source="fx:implements">Departure Time - Estimated</xsd:appinfo>
</xsd:annotation>
<xsd:sequence>
<xsd:element name="estimatedDepartureTime" type="base:TimeType" minOccurs="1" maxOccurs="1" />
<xsd:element name="departureAerodrome" type="fx:AerodromeReferenceType" minOccurs="1" maxOccurs="1"/>

| <!-- ~~FO-386~~ -->
<xsd:element name="alternateDepartureAerodrome" type="fx:AerodromeReferenceType"
minOccurs="0" maxOccurs="unbounded" />
</xsd:sequence>
</xsd:complexType>

[FO-385] [AerodromeReferenceType has two lat/longs, and should include SignificantPointType](#) Created: Nov 08, 2012 Updated: Nov 30, 2012 Resolved: Nov 30, 2012

Status:	Resolved
Project:	Flight Object
Component/s:	Schemas.core
Affects Version/s:	1.1
Fix Version/s:	1.1
Security Level:	External (Issues visible to external users.)

Type:	Bug	Priority:	Major
Reporter:	Bruce Taylor	Assignee:	Bruce Taylor
Resolution:	Completed		
Labels:	None		
Remaining Estimate:	Not Specified		
Time Spent:	Not Specified		
Original Estimate:	Not Specified		

Description

The most recent update to AerodromeReferenceType added GeographicLocationType as an optional element, to obtain a lat/long.

- this should be SignificantPointType instead, to include fix and FRD.
- remove the lat and long attributes subsumed by the new element.

Comments

Comment by [Bruce Taylor](#) [Nov 30, 2012]

```
<xsd:complexType name="AerodromeReferenceType">
<xsd:annotation>
<xsd:documentation>
Aerodromes may be identified by:
```

- their ICAO codes ("KDFW")
- their names ("Dallas Fort Worth")
- their geographic location (latitude and longitude)
- "Airfiled" designation ("AFIL")

- "Unknown" designation ("ZZZZ")

Notice: the attributes shown below are intended as alternatives, not additives. For example, it is a mistake to provide both the code and the geographic location, or airfiled and unknown. If there is a duplication of information, the order of precedence is code, name, location, airfiled, unknown.

```
</xsd:documentation>
```

```
</xsd:annotation>
```

```
<!-- FO-378 -->
```

```
<xsd:sequence>
```

```
<!-- FO-385 -->
```

```
<xsd:element name="location" type="base:GeographicLocationType" minOccurs="0" maxOccurs="1"/>
```

```
</xsd:sequence>
```

```
<xsd:attribute name="code" type="fx:AerodromeCodeType" use="optional"/>
```

```
<!-- FO-390 -->
```

```
<xsd:attribute name="name" type="fx:AerodromeNameType" use="optional"/>
```

```
<xsd:attribute name="airfiled" type="xsd:string" fixed="AFIL" use="optional"/>
```

```
<xsd:attribute name="unknown" type="xsd:string" fixed="ZZZZ" use="optional"/>
```

```
</xsd:complexType>
```

[FO-384] [Remove flight event structure](#) Created: Nov 07, 2012 Updated: Nov 30, 2012 Resolved: Nov 30, 2012

Status:	Resolved
Project:	Flight Object
Component/s:	Schemas.core
Affects Version/s:	1.1
Fix Version/s:	1.1
Security Level:	External (Issues visible to external users.)

Type:	Bug	Priority:	Major
Reporter:	Bruce Taylor	Assignee:	Bruce Taylor
Resolution:	Completed		
Labels:	None		
Remaining Estimate:	Not Specified		
Time Spent:	Not Specified		
Original Estimate:	Not Specified		

Description

It has been decided that we don't have enough information to decide on whether and how to record historical flight events in v1.1 so:

- delete AbstractFlightEventType
- remove flightEvents from FlightType
- convert FlightEmergencyType to top level type
- add emergency element to FlightType

Comments

Comment by [Bruce Taylor](#) [Nov 30, 2012]

Done as in Description

[FO-383] [Document XSD deprecation process](#) Created: Nov 07, 2012 Updated: Nov 30, 2012 Resolved:
Nov 30, 2012

Status:	Resolved
Project:	Flight Object
Component/s:	Documentation.guide
Affects Version/s:	1.1
Fix Version/s:	1.1
Security Level:	External (Issues visible to external users.)

Type:	Documentation	Priority:	Major
Reporter:	Bruce Taylor	Assignee:	Bruce Taylor
Resolution:	Completed		
Labels:	None		
Remaining Estimate:	Not Specified		
Time Spent:	Not Specified		
Original Estimate:	Not Specified		

Description

Need to document how unused or changed elements get deprecated and removed.

Comments

Comment by [Bruce Taylor](#) [Nov 30, 2012]

Added section on schema evolution, including deprecation.

[FO-382] [Document XmlBeans and JAXB bindings in Developer's Guide](#) Created: Nov 07, 2012 Updated: Dec 05, 2012 Resolved: Dec 05, 2012

Status:	Resolved
Project:	Flight Object
Component/s:	Documentation.guide
Affects Version/s:	1.1
Fix Version/s:	1.1
Security Level:	External (Issues visible to external users.)

Type:	Documentation	Priority:	Major
Reporter:	Bruce Taylor	Assignee:	Bruce Taylor
Resolution:	Completed		
Labels:	None		
Remaining Estimate:	Not Specified		
Time Spent:	Not Specified		
Original Estimate:	Not Specified		

Description

Need to document how bindings get built.

Comments

Comment by [Bruce Taylor](#) [Dec 05, 2012]

Chapters 6.4 and 6.5.

[FO-381] [DeltaMessageType should not include a reference GUMI](#) Created: Nov 06, 2012 Updated: Nov 07, 2012 Resolved: Nov 07, 2012

Status:	Resolved
Project:	Flight Object
Component/s:	Schemas.core
Affects Version/s:	1.1
Fix Version/s:	1.1
Security Level:	External (Issues visible to external users.)

Type:	Bug	Priority:	Minor
Reporter:	Dee Llewellyn	Assignee:	Bruce Taylor
Resolution:	Duplicate		
Labels:	None		
Remaining Estimate:	Not Specified		
Time Spent:	Not Specified		
Original Estimate:	Not Specified		

Description

In msdgDelta.xsd, in DeltaMessageType,

remove the referenceMessage element.

Explanation: The reference for the message should be a GUMI and that GUMI is included in the FlightDeltaMessageType in fxMessages.xsd.

Comments

Comment by [Bruce Taylor](#) [Nov 07, 2012]

Duplicate ~~FO-380~~

[FO-380] [DeltaMessage should have reference GUF, not GUMI](#) Created: Nov 06, 2012 Updated: Nov 07, 2012 Resolved: Nov 07, 2012

Status:	Resolved
Project:	Flight Object
Component/s:	Schemas.core
Affects Version/s:	1.1
Fix Version/s:	1.1
Security Level:	External (Issues visible to external users.)

Type:	Bug	Priority:	Major
Reporter:	Bruce Taylor	Assignee:	Bruce Taylor
Resolution:	Completed		
Labels:	None		
Remaining Estimate:	Not Specified		
Time Spent:	Not Specified		
Original Estimate:	Not Specified		

Description

DeltaMessageType contains a reference field that identifies the flight being described. This should be a GUF, not a GUMI.

Comments

Comment by [Bruce Taylor](#) [Nov 07, 2012]

Removed the GUMI reference from the basic DeltaMessage type. Extensions of this type should include references to their base flight, or other reference object.

[FO-379] [Latitude range should be up to 90, not 180](#) Created: Nov 02, 2012 Updated: Nov 07, 2012 Resolved: Nov 07, 2012

Status:	Resolved
Project:	Flight Object
Component/s:	Schemas.core
Affects Version/s:	1.1
Fix Version/s:	1.1
Security Level:	External (Issues visible to external users.)

Type:	Bug	Priority:	Moderate
Reporter:	Dee Llewellyn	Assignee:	Bruce Taylor
Resolution:	Completed		
Labels:	None		
Remaining Estimate:	Not Specified		
Time Spent:	Not Specified		
Original Estimate:	Not Specified		

Description

In baseLocation.xsd, change LatitudeType min and max values form 180 to 90.

Comments

Comment by [Bruce Taylor](#) [Nov 07, 2012]

Changed legal range of latitude to (-90.0, 90.0) inclusive.

[FO-378] [AerodromeGeographicType should be removed from schema](#) Created: Nov 02, 2012 Updated: Nov 07, 2012 Resolved: Nov 07, 2012

Status:	Resolved
Project:	Flight Object
Component/s:	Schemas.core
Affects Version/s:	1.1
Fix Version/s:	1.1
Security Level:	External (Issues visible to external users.)

Type:	Improvement	Priority:	Minor
Reporter:	Dee Llewellyn	Assignee:	Bruce Taylor
Resolution:	Completed		
Labels:	None		
Remaining Estimate:	Not Specified		
Time Spent:	Not Specified		
Original Estimate:	Not Specified		

Description

AerodromeGeographicType should be removed from fxAerodrome.xsd.

If a lat/long type is required to describe a point, it should be of type base:GeographicLocationType.

Comment from Paul Chisholm:

AerodromeGeographicType has pattern `[\\.-0-9]{2,6}[EW][\\.-0-9]{2,6}[NS]`. This is somewhat different from the presentation of lat/longs in ICAO 4444. Indeed, it is a long/lat (rather than lat/long) representation (perhaps a format used by the FAA?). This seems to be overly geared to one particular representation. Would it not be better to represent the lat and the long as a float (+ve N, -ve S, +ve E, -ve W). In fact, I later noticed that latitude/longitude is represented as floats in type GeographicLocationType of the baseLocation schema. Why then have AerodromeGeographicType, surely for consistency GeographicLocationType should be used.

Comments

Comment by [Bruce Taylor](#) [Nov 07, 2012]

Added "location" element as a base:GeographicLocationType:

| <!-- ~~FO-345~~ -->
<xsd:complexType name="AerodromeReferenceType">
<xsd:annotation>
<xsd:documentation>

Aerodromes may be identified by:

- their ICAO codes ("KDFW")
- their names ("Dallas Fort Worth")
- their geographic location (latitude and longitude)
- "Airfiled" designation ("AFIL")
- "Unknown" designation ("ZZZZ")

Notice: the attributes shown below are intended as alternatives, not additives. For example, it is a mistake to provide both the code and the geographic location, or airfiled and unknown. If there is a duplication of information, the order of precedence is code, lat/long, airfiled, name, unknown.

</xsd:documentation>

</xsd:annotation>

| <!-- ~~FO-378~~ -->

<xsd:sequence>

<xsd:element name="location" type="base:GeographicLocationType" minOccurs="0" maxOccurs="1"/>

</xsd:sequence>

<xsd:attribute name="code" type="fx:AerodromeCodeType" use="optional"/>

<xsd:attribute name="lat" type="base:LatitudeType" use="optional"/>

<xsd:attribute name="long" type="base:LongitudeType" use="optional"/>

<xsd:attribute name="name" type="fx:AerodromeNameType" use="optional"/>

<xsd:attribute name="airfiled" type="xsd:string" fixed="AFIL" use="optional"/>

<xsd:attribute name="unknown" type="xsd:string" fixed="ZZZZ" use="optional"/>

</xsd:complexType>

[FO-376] [Core schemas should not contain messages](#) Created: Oct 24, 2012 Updated: Oct 25, 2012 Resolved: Oct 25, 2012

Status:	Resolved
Project:	Flight Object
Component/s:	Schemas.core
Affects Version/s:	1.1
Fix Version/s:	None
Security Level:	External (Issues visible to external users.)

Type:	Bug	Priority:	Major
Reporter:	Bruce Taylor	Assignee:	Bruce Taylor
Resolution:	Completed		
Labels:	None		
Remaining Estimate:	Not Specified		
Time Spent:	Not Specified		
Original Estimate:	Not Specified		

Description

Since FIXM messages are not yet part of the core, they should not be referenced from inside the core schemas.

[FO-375] [Aerodrome code pattern is incorrect](#) Created: Oct 24, 2012 Updated: Dec 05, 2012 Resolved: Dec 05, 2012

Status:	Resolved
Project:	Flight Object
Component/s:	Schemas.core
Affects Version/s:	1.1
Fix Version/s:	1.1
Security Level:	External (Issues visible to external users.)

Type:	Bug	Priority:	Critical
Reporter:	Bruce Taylor	Assignee:	Bruce Taylor
Resolution:	Completed		
Labels:	None		
Remaining Estimate:	Not Specified		
Time Spent:	Not Specified		
Original Estimate:	Not Specified		

Description

The aerodrome code can be between three characters ("DFW") and five characters ("KDFW1"). The current restriction for AerodromeCodeType allows only four characters. Also, the pattern is unnecessarily complex and should be simplified.

Comments

Comment by [Bruce Taylor](#) [Nov 01, 2012]

```
<!-- FO-375 -->
<xsd:simpleType name="AerodromeCodeType">
  <xsd:annotation>
    <xsd:documentation>
      ICAO Airport Code
    </xsd:documentation>
  </xsd:annotation>
  <xsd:restriction base="xsd:string">
    <xsd:pattern value="[A-Z]{3,4}[0-9]?"/>
  </xsd:restriction>
</xsd:simpleType>
```

Comment by [Bruce Taylor](#) [Nov 01, 2012]

See previous comment.

Comment by [Dee Llewellyn](#) [Nov 03, 2012]

I question why the ICAO airport code is not 4 alpha characters.

I pulled this straight from the ICAO documentation:

Departure aerodrome
4 LETTERS, being
the ICAO four-letter location indicator allocated to the departure aerodrome

I don't have a copy of doc 7910 but I found and skimmed this pdf file and saw nothing but 4 char letter codes.

<http://legacy.icao.int/anb/aig/Taxonomy/R4CDLocationIndicatorsbystate.pdf>

Please give an example of a valid 5 char ICAO airport code.

In the NAS, one can use a three char airport code. This is not an international standard and a NAs plan represented in FIXM would have its airports located in the NAs route string. I am not sure what a NAS Flight Plan should do to populate the core required departure and destination airport fields. Perhaps they need to be redefined in the NAS extension plan to be three or 4 characters. Then, as you have told me before, if the nas element has the same element name as the core element then you could just substitute the NAS element for the core element. We need to discuss this. Allowing this 3 character type in core is not a great answer.

Comment by [Dee Llewellyn](#) [Nov 25, 2012]

Please see/implement comment added 11/1.

Comment by [Bruce Taylor](#) [Dec 05, 2012]

Changed ICAO Aerodrome pattern to 4 characters. NasAerodromeReferenceType overrides the ICAO type and can be 3 or 4 characters so, in the NAS context, it can be used in place of the ICAO type.

[FO-374] [Delete MultiTime, MultiDuration, MultiTimeSpan](#) Created: Oct 23, 2012 Updated: Nov 01, 2012 Resolved: Nov 01, 2012

Status:	Resolved
Project:	Flight Object
Component/s:	Documentation.guide , Schemas.core
Affects Version/s:	1.1
Fix Version/s:	1.1
Security Level:	External (Issues visible to external users.)

Type:	Bug	Priority:	Major
Reporter:	Bruce Taylor	Assignee:	Bruce Taylor
Resolution:	Completed		
Labels:	None		
Remaining Estimate:	Not Specified		
Time Spent:	Not Specified		
Original Estimate:	Not Specified		

Description

The MultiTime concept hasn't proved useful and is confusing to programmers. Get rid of it.

Comments

Comment by [Bruce Taylor](#) [Oct 23, 2012]

Removed MultiTime, MultiDuration, MultiTimeSpan from baseTime.xsd.

Comment by [Bruce Taylor](#) [Nov 01, 2012]

Resolved as indicated in final comment.

[FO-373] [Clarify use of AircraftType and AircraftTypeType](#) Created: Oct 22, 2012 Updated: Nov 03, 2012 Resolved: Nov 01, 2012

Status:	Resolved
Project:	Flight Object
Component/s:	Schemas.core
Affects Version/s:	1.1
Fix Version/s:	1.1
Security Level:	External (Issues visible to external users.)

Type:	Bug	Priority:	Major
Reporter:	Bruce Taylor	Assignee:	Bruce Taylor
Resolution:	Completed		
Labels:	None		
Remaining Estimate:	Not Specified		
Time Spent:	Not Specified		
Original Estimate:	Not Specified		

Description

Currently, FlightPlanType contains a field aircraftType = AircraftTypeType and there exists a type AircraftType. This near-clash of names has caused a lot of confusion. Rename to clarify intent.

Comments

Comment by [Bruce Taylor](#) [Oct 22, 2012]

Renamed AircraftType to AircraftDescriptionType and AircraftTypeType to AircraftCategoryType
Changed element names to correspond.

Updated JAXB bindings to correspond.

Comment by [Bruce Taylor](#) [Nov 01, 2012]

Also removed AircraftModelType, changed "model" element to AircraftModelIcaoType. Use otherAircraftData for non-ICAO model types.

Comment by [Bruce Taylor](#) [Nov 01, 2012]

Resolved as indicated in final comment.

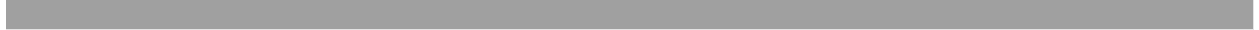
Comment by [Dee Llewellyn](#) [Nov 03, 2012]

Three things:

It is assumed that the simpleType AircraftModelOtherType is now removed since it was just used in the AircraftModelType.

It was suggested by Paul Chisholm to make the AircraftTypeType (or what I think is now called AircraftCategoryType) into a choice between model and otherAircraftData. Either you have the 2-4 char model or you have ICAO Item 18 TYP/. You don't have both.

Suggest renaming otherAircraftData to otherModelData as it is not aircraft data that goes here but very specifically it is model data that did not fit into the "model" element.



[FO-372] [Move arrival and departure events to Flight level](#) Created: Oct 22, 2012 Updated: Nov 01, 2012 Resolved: Nov 01, 2012

Status:	Resolved
Project:	Flight Object
Component/s:	Schemas.core
Affects Version/s:	1.1
Fix Version/s:	1.1
Security Level:	External (Issues visible to external users.)

Type:	Bug	Priority:	Critical
Reporter:	Bruce Taylor	Assignee:	Bruce Taylor
Resolution:	Completed		
Labels:	None		
Remaining Estimate:	Not Specified		
Time Spent:	Not Specified		
Original Estimate:	Not Specified		

Description

The huge preponderance of argument has finally convinced me: arrival and departure might be events in a flight's history, but they are qualitatively different from other events, because every completed flight is guaranteed to have an arrival and departure event. And, since virtually every application will be using information in the arrival and departure features, requiring that applications search for them in the FlightEvents list will inconvenience a lot of programmers. So, I will take arrival and departure out of the FlightEvent structure and move them into dedicated elements in the Flight type.

Comments

Comment by [Bruce Taylor](#) [Oct 23, 2012]

Changed FlightDepartureType and FlightArrivalType to inherit from AbstractFeatureType
added actualArrival and actualDeparture to FlightType

Comment by [Bruce Taylor](#) [Nov 01, 2012]

Resolved as indicated in final comment.

[FO-371] [Remove FlightPlanStateType and flightPlanState](#) Created: Oct 22, 2012 Updated: Nov 01, 2012 Resolved: Nov 01, 2012

Status:	Resolved
Project:	Flight Object
Component/s:	Schemas.core
Affects Version/s:	1.1
Fix Version/s:	1.1
Security Level:	External (Issues visible to external users.)

Type:	Bug	Priority:	Critical
Reporter:	Bruce Taylor	Assignee:	Bruce Taylor
Resolution:	Completed		
Labels:	None		
Remaining Estimate:	Not Specified		
Time Spent:	Not Specified		
Original Estimate:	Not Specified		

Description

This attribute was originally provided to mark the single flight plan, of all those filed, that was chosen for the flight. It is proposed to delete this attribute in v1.1 because (a) the active flight plan is now explicitly represented in the Flight object, and (b) readers confuse the flight **plan** state with the **flight** state: a whole different and much more complex concept.

Comments

Comment by [Bruce Taylor](#) [Oct 23, 2012]

Deleted FlightPlanStateType and flightPlanState attribute.

Comment by [Bruce Taylor](#) [Nov 01, 2012]

Resolved as indicated in final comment.

[FO-370] [Recast Flight Capabilities as XSD lists](#) Created: Oct 22, 2012 Updated: Nov 01, 2012 Resolved: Nov 01, 2012

Status:	Resolved
Project:	Flight Object
Component/s:	Schemas.core
Affects Version/s:	1.1
Fix Version/s:	1.1
Security Level:	External (Issues visible to external users.)

Type:	Bug	Priority:	Critical
Reporter:	Bruce Taylor	Assignee:	Bruce Taylor
Resolution:	Completed		
Labels:	None		
Remaining Estimate:	Not Specified		
Time Spent:	Not Specified		
Original Estimate:	Not Specified		

Description

The FIXM v1.0 implementation of code lists (for example, the voluminous aircraft capability lists) is particularly verbose. Two alternatives have been suggested: (a) using the XSD <list> structure and (b) moving the code value into an attribute to eliminate the closing tag. Most of the commenters favor (b) because it eliminates a parsing step from the applications, but on this issue I'm going to buck the trend and move to a <list> structure. Reasons:

- The XSD notation is simple and straightforward
 - The expanded XML is **MUCH** smaller than the equivalent code list
 - Both JAXB and XmlBeans binding packages parse the list and return the items as XML objects
 - For applications that do not use JAXB or XmlBeans, the parsing step is trivial
- I'm happy to debate this with anyone who cares strongly.

Comments

Comment by [Bruce Taylor](#) [Oct 23, 2012]

For all the following code types, created a ...CodeListType as a <list> of the primitive codes, changed the list elements from "unbounded" to singleton instances of the ...CodeListType:

fxAircraftCommunicationCapability.xsd:

- CommunicationCodeType
- DataLinkCodeType

fxAircraftNavigationCapability.xsd

- NavigationCodeType
*PerformanceBasedCodeType

fxAircraftSurveillanceCapability.xsd

- SurveillanceCapabilityCodeType

fxAircraftSurvivalCapability.xsd

- SurvivalEquipmentCodeType
- EmergencyRadioCodeType
LifejacketCodeType

Comment by [Bruce Taylor](#) [Nov 01, 2012]

Resolved as indicated in final comment.

[FO-369] [Capability codes should be expressed in a simple list structure](#) Created: Oct 18, 2012 Updated: Nov 30, 2012

Status:	Resolved
Project:	Flight Object
Component/s:	Schemas.core
Affects Version/s:	1.1
Fix Version/s:	None
Security Level:	External (Issues visible to external users.)

Type:	Improvement	Priority:	Moderate
Reporter:	Bruce Taylor	Assignee:	Bruce Taylor
Resolution:	Unresolved		
Labels:	None		
Remaining Estimate:	Not Specified		
Time Spent:	Not Specified		
Original Estimate:	Not Specified		

Description

Folks -

If we had an active CCB, this is the sort of question that I would refer for adjudication. As it is, I would like to get a consensus, or at least a discussion, before proceeding.

----- THE BACKGROUND -----

You can read the existing discussion on the FIXM discussion board at <http://www.fixm.aero/node/60>, but I will summarize:

The flight capabilities section of the ICAO flight plan contains a lengthy set of 1 or 2 character capability codes. These are represented in the v1.0 schema as a repeating element of type `SurvivalCapabilityType`, `NavigationCapabilityType`, or `CommunicationCapabilityType`. The resulting XML looks something like this:

```
<fx:communicationCode>E1</fx:communicationCode>
<fx:communicationCode>V</fx:communicationCode>
<fx:communicationCode>P6</fx:communicationCode>
```

Paul Chisholm points out that this is a very low content-to-container ratio, and we could represent the same information in a `<list>` structure as follows:

```
<fx:communicationCodes>E1 V P6</fx:communicationCodes>
```

Thomas Eschenhagen suggests a third alternative using code lists:

```
<fx:communicationCodeList count=3">  
<fx:communicationCode code="E1"/>  
<fx:communicationCode code="V"/>  
<fx:communicationCode code="P6"/>  
</fx:communicationCodeList>
```

----- THE QUESTION FOR ADJUDICATION -----

There is no question that either of the alternative formulations is superior to the existing v1.0 structure, and either would be an improvement in XML size. The question is whether we should make this change for v1.1, when the existing (sub-optimal) solution is technically correct and already in use.

Con: There are already applications (Harris, Air Services Australia) that use FIXM v1.0 that would have to change to use v1.1.

Pro: We should make a change like this as early as possibly, so that we don't inconvenience even more applications.

Alternate:

A possible compromise is to mark the existing lists deprecated, introduce different, optimized elements for v1.1, and remove the old elements in version 2.0.

Thoughts?

Comments

Comment by [Bruce Taylor](#) [Oct 18, 2012]

Submitted to discussion through email.

Comment by [Bruce Taylor](#) [Nov 30, 2012]

Will use <list> structure for repetitions of enums and other simple types.

[FO-368] [FlightPlanType](#) 'estimatedArrivalTime' should be optional. Created: Oct 17, 2012 Updated: Nov 01, 2012 Resolved: Nov 01, 2012

Status:	Resolved
Project:	Flight Object
Component/s:	Schemas.core
Affects Version/s:	1.1
Fix Version/s:	1.1
Security Level:	External (Issues visible to external users.)

Type:	Bug	Priority:	Moderate
Reporter:	Dee Llewellyn	Assignee:	Bruce Taylor
Resolution:	Completed		
Labels:	None		
Remaining Estimate:	Not Specified		
Time Spent:	Not Specified		
Original Estimate:	Not Specified		

Description

In fxFlightPlan.xsd,

In FlightPlanType, the estimatedArrivalTime must be optional.

Explanation: This is the element that we added at the last minute for v1.0. It is not officially in the ICAO 4444. It is certainly not a required element.

Comments

Comment by [Bruce Taylor](#) [Oct 18, 2012]

```
<xsd:element name="estimatedArrivalTime" type="base:TimeType" minOccurs="0"
maxOccurs="1"/>
```

Comment by [Bruce Taylor](#) [Nov 01, 2012]

Resolved as indicated in final comment.

[FO-367] [FlightPlanRequestType](#)'s altitude should allow for "VFR"

Created: Oct 17, 2012 Updated: Nov 01, 2012 Resolved: Nov 01, 2012

Status:	Resolved
Project:	Flight Object
Component/s:	Schemas.core
Affects Version/s:	1.1
Fix Version/s:	1.1
Security Level:	External (Issues visible to external users.)

Type:	Bug	Priority:	Moderate
Reporter:	Dee Llewellyn	Assignee:	Bruce Taylor
Resolution:	Completed		
Labels:	None		
Remaining Estimate:	Not Specified		
Time Spent:	Not Specified		
Original Estimate:	Not Specified		

Description

In fxFlightPlan.xsd,

In FlightPlanRequestType, the altitude element entered in an ICAO FPL can be VFR just as it can be of type base:AltitudeType.

See comment from Paul Chisholm.

⚠ Element request/altitude of FlightPlanType corresponds to ICAO field 15b (initial cruising level). ICAO allows a value of VFR in field 15b. There is nothing equivalent in the FIXM. Since request/altitude is optional, is the intent that request/altitude be omitted to imply VFR. If so, said fact should be made explicit. Otherwise, how is VFR represented?

Comments

Comment by [Bruce Taylor](#) [Oct 18, 2012]

Added an extended altitude type with "vfr" attribute, used it in FlightPlanRequestType:

```
<xsd:complexType name="FlightPlanRequestType">
<xsd:annotation>
<xsd:appinfo source="fx:implements">Flight Rules</xsd:appinfo>
```

```

<xsd:appinfo source="fx:implements">Cruising Altitude - Requested</xsd:appinfo>
<xsd:appinfo source="fx:implements">Cruising Speed</xsd:appinfo>
<xsd:documentation>
Requested flight parameters: altitude, air speed, flight rules.
</xsd:documentation>
</xsd:annotation>
<xsd:sequence>
<xsd:element name="altitude" type="fx:RequestAltitudeType" minOccurs="0"
maxOccurs="1"/>
<xsd:element name="airspeed" type="base:AirspeedType" minOccurs="0" maxOccurs="1"/>
<xsd:element name="flightRules" type="fx:FlightRulesType" minOccurs="0" maxOccurs="1"/>
</xsd:sequence>
</xsd:complexType>

<xsd:complexType name="RequestAltitudeType">
<xsd:annotation>
<xsd:documentation>
The requested altitude, including "VFR" value
</xsd:documentation>
</xsd:annotation>
<xsd:simpleContent>
<xsd:extension base="base:AltitudeType">
<xsd:attribute name="vfr" use="optional" fixed="VFR"></xsd:attribute>
</xsd:extension>
</xsd:simpleContent>
</xsd:complexType>

```

Comment by [Dee Llewellyn](#) [Oct 22, 2012]

You asked whether the "VFR" is a common substitute to the numeric altitde in multiple altitude elements. The answer is yes. So, perhaps the VFR should be allowed in the base altitudeType. So, not only can the VFR be used in the FlightPlanRequestType, it can also be used in the fxFlightRoute's CruiseSegmentType altitude as well as the ClimbSegmentType's altitudes.

Comment by [Bruce Taylor](#) [Nov 01, 2012]

Resolved as indicated in final comment.

[FO-366] [ClimbSegmentType](#) â€‘ The second altitude must allow for â€œPLUSâ€‘. Created: Oct 15, 2012 Updated: Nov 01, 2012 Resolved: Nov 01, 2012

Status:	Resolved
Project:	Flight Object
Component/s:	Schemas.core
Affects Version/s:	1.1
Fix Version/s:	1.1
Security Level:	External (Issues visible to external users.)

Type:	Bug	Priority:	Moderate
Reporter:	Dee Llewellyn	Assignee:	Bruce Taylor
Resolution:	Completed		
Labels:	None		
Remaining Estimate:	Not Specified		
Time Spent:	Not Specified		
Original Estimate:	Not Specified		

Description

In fxFlightRoute.xsd,

In ClimbSegmentType, the finalAltitude needs to be of either base:AltitudeType or the string â€œPLUSâ€‘.

Comment from Paul Chisholm:

5. In ICAO 4444 a cruise climb route segment can have two levels, or a single level followed by 'PLUS'. I cant see how this is handled by the FIXM ClimbSegmentType.

Comments

Comment by [Bruce Taylor](#) [Oct 18, 2012]

Added a ClimbSegmentFinalAltitudeType, containing a "plus" attribute, used it in ClimbSegmentType:

```
<xsd:complexType name="ClimbSegmentType">
<xsd:annotation>
<xsd:appinfo source="fx:implements">Change Cruise Climb</xsd:appinfo>
<xsd:appinfo source="fx:implements">Change Flight Rules</xsd:appinfo>
```

```

<xsd:documentation>
Specifies the air speed, and flight rules in force during a segment, together with
altitude change between entry to the segment and exit from the segment.
</xsd:documentation>
</xsd:annotation>
<xsd:sequence>
<xsd:element name="airspeed" type="base:AirspeedType" minOccurs="1" maxOccurs="1"/>
<xsd:element name="initialAltitude" type="base:AltitudeType" minOccurs="1"
maxOccurs="1"/>
| <!-- FO-366 -->
<xsd:element name="finalAltitude" type="fx:ClimbSegmentFinalAltitudeType" minOccurs="1"
maxOccurs="1"/>
<xsd:element name="flightRules" type="fx:FlightRulesType" minOccurs="0" maxOccurs="1"/>
</xsd:sequence>
</xsd:complexType>

| <!-- FO-366 -->
<xsd:complexType name="ClimbSegmentFinalAltitudeType">
<xsd:annotation>
<xsd:documentation>
The climb segment's final altitude, including "PLUS" indicator
</xsd:documentation>
</xsd:annotation>
<xsd:simpleContent>
<xsd:extension base="base:AltitudeType">
<xsd:attribute name="plus" use="optional" fixed="PLUS"></xsd:attribute>
</xsd:extension>
</xsd:simpleContent>
</xsd:complexType>

```

Comment by [Bruce Taylor](#) [Nov 01, 2012]

Resolved as indicated in final comment.

[FO-365] [FlightPlanType](#) " Airport/time pairs should be tightly coupled. Created: Oct 15, 2012 Updated: Nov 01, 2012 Resolved: Nov 01, 2012

Status:	Resolved
Project:	Flight Object
Component/s:	Schemas.core
Affects Version/s:	1.1
Fix Version/s:	1.1
Security Level:	External (Issues visible to external users.)

Type:	Improvement	Priority:	Minor
Reporter:	Dee Llewellyn	Assignee:	Bruce Taylor
Resolution:	Completed		
Labels:	None		
Remaining Estimate:	Not Specified		
Time Spent:	Not Specified		
Original Estimate:	Not Specified		

Description

Suggest grouping origin and estimatedDepartureTime into one subgroup.
Suggest grouping destination and estimatedArrivalTime into one subgroup.

Comment from Paul Chisholm:

3. In FlightPlanType there are top-level elements for origin and departureTime, and for destination and arrivalTime. Has any thought been given to grouping the location/time pairs in a structured sub-element. In many ways this would seem to provide better structure and would relate associated elements. Note that in FlightDepartureType and FlightArrivalType the location and time are grouped together, so it would make sense to do it in FlightPlanType as well.

Comments

Comment by [Bruce Taylor](#) [Oct 18, 2012]

1. deprecated flightPlanType/origin, flightPlanType/destination, flightPlanType/estimatedArrivalTime, flightPlanType/estimatedDepartureTime
2. created fx:FlightPlanDepartureType with origin and estimatedDepartureTime
3. created fx:FlightPlanArrivalType with destination and estimatedArrivalTime
4. added flightPlanType/departure = fx:FlightPlanDepartureType
5. added flightPlanType/arrival = fx:FlightPlanArrivalType

Comment by [Bruce Taylor](#) [Nov 01, 2012]

Resolved as indicated in final comment.

[FO-364] [FlightPlanType](#) â€™ The specialHandling element should be a list of SpecialHandlingReasonType. Created: Oct 15, 2012 Updated: Nov 01, 2012 Resolved: Nov 01, 2012

Status:	Resolved
Project:	Flight Object
Component/s:	Schemas.core
Affects Version/s:	1.1
Fix Version/s:	1.1
Security Level:	External (Issues visible to external users.)

Type:	Bug	Priority:	Moderate
Reporter:	Dee Llewellyn	Assignee:	Bruce Taylor
Resolution:	Completed		
Labels:	None		
Remaining Estimate:	Not Specified		
Time Spent:	Not Specified		
Original Estimate:	Not Specified		

Description

The specialHandling element should be a list of SpecialHandlingReasonType codes, not just one.

Comment from Paul Chisholm:

1. The 'specialHandling' element corresponds to ICAO field 18/STS. ICAO 4444 is not clear whether exactly one or multiple STS entries can be included. The advice I have from the operational guys in Airservices is that multiple STS should be allowed. All our systems that are being updated for 2012 flight plans will support multiple STS values.

Comments

Comment by [Bruce Taylor](#) [Oct 18, 2012]

1. Deprecated FlightPlanType/specialHandling
2. Created SpecialHandlingReasonListType: <list> of SpecialHandlingReasonTypes
3. Added FlightPlanType/specialHandlingList = SpecialHandlingReasonListType

Comment by [Bruce Taylor](#) [Nov 01, 2012]

Resolved as indicated in final comment.

[FO-363] [CommunicationCapabilitiesType](#) â€‘ There should be freeform entry text for data link capabilities. Created: Oct 08, 2012 Updated: Oct 30, 2012 Resolved: Oct 30, 2012

Status:	Resolved
Project:	Flight Object
Component/s:	Schemas.core
Affects Version/s:	1.1
Fix Version/s:	1.1
Security Level:	External (Issues visible to external users.)

Type:	Bug	Priority:	Moderate
Reporter:	Dee Llewellyn	Assignee:	Alex Proschitsky
Resolution:	Completed		
Labels:	None		
Remaining Estimate:	Not Specified		
Time Spent:	Not Specified		
Original Estimate:	Not Specified		

Description

In fxAircraftCommunicationCapability.xsd,

In CommunicationCapabilitiesType, add an entry similar to the otherCommunicationCapabilities element called `otherDataLinkCapabilites`.

Comment from Paul Chisholm:

â€‘ ICAO field 18/DAT is other data capabilities. There should be an element under FlightPlanType/aircraftType/capabilities/communication to capture this, called otherDataLinkCapabilities.

Comments

Comment by [Bruce Taylor](#) [Oct 23, 2012]

Added otherDataLinkCapabilities to CommunicationCapabilitiesType.

Comment by [Alex Proschitsky](#) [Oct 30, 2012]

Added otherDataLinkCapabilities

[FO-362] [CommunicationCapabilitiesType](#) – The entries for [CommunicationCodeType](#) and [DataLinkCodeType](#) should exactly match those of the FIXM DD. Created: Oct 08, 2012 Updated: Oct 30, 2012 Resolved: Oct 30, 2012

Status:	Resolved
Project:	Flight Object
Component/s:	Schemas.core
Affects Version/s:	1.1
Fix Version/s:	1.1
Security Level:	External (Issues visible to external users.)

Type:	Bug	Priority:	Moderate
Reporter:	Dee Llewellyn	Assignee:	Alex Proschitsky
Resolution:	Completed		
Labels:	None		
Remaining Estimate:	Not Specified		
Time Spent:	Not Specified		
Original Estimate:	Not Specified		

Description

In fxAircraftCommunicationCapability.xsd,

DataLinkCodeType values should match the Data Link Communication Capabilities FDE in the FIXM DD – no more, no less. (J1-J7)

CommunicationCodeType should match Communications Capabilities FDE in the FIXM DD.

- 1) The Standard entry doc should list only VHF RTF, not VOR and ILS.
- 2) Remove the W entry. (It’s in the Navigation schema.)
- 3) Remove the Z entry. (These are no longer used.)

Comment from Paul Chisholm:

– ICAO field 10a (communication/navigation/approach aid equipment and capabilities) is represented in FIXM by four elements under aircraftType/capabilities. They are communication/communicationCode, communication/dataLinkCode, navigation/navigationCode and navigation/approachCode. Some of the mapping from ICAO 4444 to FIXM is not clear:

- o H appears in both communicationCode and dataLinkCode
- o V appears in both communicationCode and dataLinkCode
- o W appears in both communicationCode and navigationCode
- o M appears in dataLinkCode but there is no M in ICAO 10a (there is M1/M2/M3 which appear

in communicationCode)
o J1-J7 (CPDLC) appear in ICAO 10a, but are not present in FIXM

Comments

Comment by [Bruce Taylor](#) [Oct 23, 2012]

Changed DataLinkCodeType enumerations to J1-J7 as requested, but don't know what to do about Paul Chisholm's comment: do H, V, W, M have a place in this data item?

Comment by [Alex Proschitsky](#) [Oct 30, 2012]

adjusted CommunicationCodeType and DataLinkCodeType to match FIXM DD

[FO-361] [NavigationCapabilitiesType](#) â€™ There should be only one freeform text entry Created: Oct 08, 2012 Updated: Oct 30, 2012 Resolved: Oct 30, 2012

Status:	Resolved
Project:	Flight Object
Component/s:	Schemas.core
Affects Version/s:	1.1
Fix Version/s:	None
Security Level:	External (Issues visible to external users.)

Type:	Bug	Priority:	Minor
Reporter:	Dee Llewellyn	Assignee:	Bruce Taylor
Resolution:	Completed		
Labels:	None		
Remaining Estimate:	Not Specified		
Time Spent:	Not Specified		
Original Estimate:	Not Specified		

Description

In fxAircraftNavigationCapability.xsd,

In NavigationCapabilitiesType, change the maxOccurs limit on otherNavigationCapabilities to 1.

The freeform text entry would be recorded once for the flight plan.

Comments

Comment by [Bruce Taylor](#) [Oct 23, 2012]

Changed maxOccurs of otherNavigationCapabilities to 1.

[FO-360] [PerformanceBasedCodeType](#) â€“ Reorder the enumerated list to match ICAO 4444 documentation Created: Oct 08, 2012 Updated: Oct 30, 2012 Resolved: Oct 30, 2012

Status:	Resolved
Project:	Flight Object
Component/s:	Schemas.core
Affects Version/s:	1.1
Fix Version/s:	1.1
Security Level:	External (Issues visible to external users.)

Type:	Bug	Priority:	Minor
Reporter:	Dee Llewellyn	Assignee:	Alex Proschitsky
Resolution:	Completed		
Labels:	None		
Remaining Estimate:	Not Specified		
Time Spent:	Not Specified		
Original Estimate:	Not Specified		

Description

In fxAircraftNavigationCapability.xsd:

In PerformanceBasedCodeType, reorder enumerated list to match ICAO 4444.

Comment from Paul Chisholm:

â€“ The order of the items in the enumeration PerformanceBasedCodeType does not follow any logical order.

Comments

Comment by [Bruce Taylor](#) [Oct 23, 2012]

Alphabetized PerformanceBasedCodeType enumerations as in ICAO 4444

Comment by [Alex Proschitsky](#) [Oct 30, 2012]

Reordered the enumerated values of PerformanceBasedCodeType

[FO-359] [SurveillanceCapabilitiesType](#) – Remove redundancy for [ModeSCapabilities](#) Created: Oct 08, 2012 Updated: Oct 30, 2012 Resolved: Oct 30, 2012

Status:	Resolved
Project:	Flight Object
Component/s:	Schemas.core
Affects Version/s:	1.1
Fix Version/s:	None
Security Level:	External (Issues visible to external users.)

Type:	Bug	Priority:	Moderate
Reporter:	Dee Llewellyn	Assignee:	Alex Proschitsky
Resolution:	Completed		
Labels:	None		
Remaining Estimate:	Not Specified		
Time Spent:	Not Specified		
Original Estimate:	Not Specified		

Description

In fxAircraftSurveillanceCapability.xsd:

- 1) In SurveillanceCapabilitiesType, remove Element modeSCapabilities.
- 2) Remove ModeSCapabilitiesType
- 3) Remove SurveillanceEquipmentStatusType

Explanation – The information modeled in modeSCapabilites can be gleaned from the list of codes. The data should not appear twice in the FO. In other cases we have attempted to match what has been documented in the ICAO 4444 and the FIXM DD.

Comment from Paul Chisholm:

– FlightPlanType/aircraftType/capabilities/surveillance has duplication. Element modeSCapabilities is equivalent to, but an alternate way to model, the set of items {E,H,I,L,P,S,X}. These seven items should be removed from the definition of SurveillanceCapabilityCodeType to avoid redundancy.

Comments

Comment by [Bruce Taylor](#) [Oct 23, 2012]

Removed ModeSCapabilitiesType and SurveillanceEquipmentStatusType

Comment by [Alex Proschitsky](#) [Oct 30, 2012]

Addressed items 1-3



[FO-358] [SurveillanceCapabilityCodeType - the list of codes should match those documented in the ICAO 4444](#) Created: Oct 08, 2012 Updated: Oct 30, 2012 Resolved: Oct 30, 2012

Status:	Resolved
Project:	Flight Object
Component/s:	Schemas.core
Affects Version/s:	1.1
Fix Version/s:	None
Security Level:	External (Issues visible to external users.)

Type:	Bug	Priority:	Minor
Reporter:	Dee Llewellyn	Assignee:	Alex Proschitsky
Resolution:	Completed		
Labels:	None		
Remaining Estimate:	Not Specified		
Time Spent:	Not Specified		
Original Estimate:	Not Specified		

Description

In fxAircraftSurveillanceCapability.xsd

In SurveillanceCapabilityCodeType

- 1) Remove the STANDARD enumerated value from the list
- 2) Change the description for U2 to read "ADS-B out and in capability using UAT"
- 3) I suggest you reorder the list of values into a logical order as documented in the ICAO4444, that is, A, C, E, H, I, L, P, S, X, B1, B2, U1, U2, V1, V2, D1, G1

Comment from Paul Chisholm:

"SurveillanceCapabilityCodeType corresponds to FIXM Data Dictionary 5.69 and ICAO 4444 field 10b. However, SurveillanceCapabilityCodeType includes STANDARD which does not appear in ICAO 4444 and the data dictionary. STANDARD should probably be removed."

Comments

Comment by [Bruce Taylor](#) [Oct 23, 2012]

Changed SurveillanceCapabilityCodeType as specified.

Comment by [Alex Proschitsky](#) [Oct 30, 2012]

Addressed items 1-3

[FO-357] [FlightPlanEnRouteType - Filed Delay should be optional](#) Created: Oct 08, 2012 Updated: Nov 01, 2012 Resolved: Nov 01, 2012

Status:	Resolved
Project:	Flight Object
Component/s:	Schemas.core
Affects Version/s:	1.1
Fix Version/s:	1.1
Security Level:	External (Issues visible to external users.)

Type:	Bug	Priority:	Moderate
Reporter:	Dee Llewellyn	Assignee:	Bruce Taylor
Resolution:	Completed		
Labels:	None		
Remaining Estimate:	Not Specified		
Time Spent:	Not Specified		
Original Estimate:	Not Specified		

Description

In fxFlightPlan.xsd

Change FlightPlanEnRouteType such that the filedDelay is optional.

Comment from Paul Chisholm:

â€¢ Element enRoute/filedDelay of FlightPlanType has a lower limit of 1. This should be 0.

Comments

Comment by [Bruce Taylor](#) [Oct 18, 2012]

```
<xsd:element name="filedDelay" type="fx:EnRouteFiledDelayType" minOccurs="0"
maxOccurs="unbounded" />
```

Comment by [Bruce Taylor](#) [Nov 01, 2012]

Resolved as indicated in final comment.

[FO-356] [Spelling errors and spelling inconsistencies need to be fixed](#) Created: Oct 08, 2012 Updated: Nov 01, 2012 Resolved: Nov 01, 2012

Status:	Resolved
Project:	Flight Object
Component/s:	Schemas.core
Affects Version/s:	1.1
Fix Version/s:	1.1
Security Level:	External (Issues visible to external users.)

Type:	Bug	Priority:	Minor
Reporter:	Dee Llewellyn	Assignee:	Bruce Taylor
Resolution:	Completed		
Labels:	None		
Remaining Estimate:	Not Specified		
Time Spent:	Not Specified		
Original Estimate:	Not Specified		

Description

In fxAircraft.xsd - Suggest always spelling "color" as "colour" to be consistent with the ICAO 4444 spelling of the word.

In fxAircraftSurvivalCapability.xsd - Correct the spelling of Dinghy in two places:

Comments from Paul Chisholm:

- 1) DinghieCoverType should be DinghyCoverType.
- 2) DinghieColourType should be DinghyColourType.
- 3) Both the spellings 'colour' and 'color' are used in FlightPlanType. The former in aircraftType/capabilities/survival/dinghies/colour(DinghyColourType), the latter in aircraftType/colorAndMarkings.

Comments

Comment by [Bruce Taylor](#) [Oct 18, 2012]

1. deprecated AircraftType/colorAndMarkings
2. added AircraftType/colourAndMarkings
3. deprecated DinghiesColourType and DinghiesCoverType
4. added DinghyColourType extending DinghiesColourType

5. added DinghyCoverType extending DinghiesCoverType

Comment by [Bruce Taylor](#) [Nov 01, 2012]

Resolved as indicated in final comment.



[FO-355] [General comment - Should use the enumerated values \(letters\) enumerated in the ICAO 4444 documentation instead of full words.](#) Created: Oct 08, 2012 Updated: Nov 29, 2012 Resolved: Nov 29, 2012

Status:	Resolved
Project:	Flight Object
Component/s:	Schemas.core
Affects Version/s:	1.1
Fix Version/s:	None
Security Level:	External (Issues visible to external users.)

Type:	Bug	Priority:	Moderate
Reporter:	Dee Llewellyn	Assignee:	Alex Proschitsky
Resolution:	Completed		
Labels:	None		
Remaining Estimate:	Not Specified		
Time Spent:	Not Specified		
Original Estimate:	Not Specified		

Description

I believe I have heard Bruce say that he plans to ensure that all types that contain enumerated values will contain the actual values documented in the ICAO 4444 as far as single letters vs. full words. That said, two examples of the expected changes are as follows:

- 1)In fxAircraft.xsd - Change the words in WakeTurbulenceCategoryType to letters.
- 2)In fxAircraftSurvivalCapability.xsd - Change the words in SurvivalEquipmentCodeType to letters.

Comment from Paul Chisholm:

For LifeJacketType and EmergencyRadioCodeType, the enumeration values are the single letters as per ICAO 4444. For SurvivalEquipmentCodeType rather than the letters, full words are used for the enumeration values. This seems an inconsistent approach.

Comments

Comment by [Alex Proschitsky](#) [Nov 29, 2012]

Changed the words in WakeTurbulenceCategoryType to letters. Changed the the words in

SurvivalEquipmentCodeType to letters.

[FO-354] [SurvivalCapabilitiesType should be consistent in the way it treats elements that are lists of codes](#) Created: Oct 08, 2012 Updated: Nov 01, 2012 Resolved: Nov 01, 2012

Status:	Resolved
Project:	Flight Object
Component/s:	Schemas.core
Affects Version/s:	1.1
Fix Version/s:	1.1
Security Level:	External (Issues visible to external users.)

Type:	Bug	Priority:	Minor
Reporter:	Dee Llewellyn	Assignee:	Bruce Taylor
Resolution:	Completed		
Labels:	None		
Remaining Estimate:	Not Specified		
Time Spent:	Not Specified		
Original Estimate:	Not Specified		

Description

In fxAircraftSurvivalCapability.xsd,

In SurvivalCapabilitiesType:
change

```
<xsd:element name="survivalEquipment" type="fx:SurvivalEquipmentType" minOccurs="0"
maxOccurs="unbounded" />
to be "maxOccurs="1""
```

In SurvivalEquipmentType:
change

```
<xsd:element name="survivalEquipmentCode" type="fx:SurvivalEquipmentCodeType"
minOccurs="0" maxOccurs="1" />
to be "maxOccurs="unbounded""
```

Explanation - Make it consistent with the way this was done for the emergencyRadios element.

Comment from Paul Chisholm:

In SurvivalCapabilitiesType there can be zero or more survivalEquipment elements. The zero..infinity qualification should in fact be applied to the survivalEquipmentCode element (as it is to emergencyRadioCode rather than emergencyRadios).

Comments

Comment by [Bruce Taylor](#) [Oct 23, 2012]

All survival equipment code lists treated equivalently in SurvivalCapabilitiesType:

```
<xsd:element name="emergencyRadioCodes" type="fx:EmergencyRadioCodeListType"
minOccurs="0" maxOccurs="1"/>
<xsd:element name="lifejacketCodes" type="fx:LifejacketCodeListType" minOccurs="0"
maxOccurs="1"/>
<xsd:element name="survivalEquipmentCodes" type="fx:SurvivalEquipmentCodeListType"
minOccurs="0" maxOccurs="1"/>
<xsd:element name="survivalEquipmentRemarks" type="base:FreeTextType" minOccurs="0"
maxOccurs="1"/>
```

Comment by [Bruce Taylor](#) [Nov 01, 2012]

Resolved as indicated in final comment.

[FO-353] [WakeTurbulenceCategoryType should not include B757 enumerated value](#) Created: Oct 08, 2012 Updated: Nov 01, 2012 Resolved: Nov 01, 2012

Status:	Resolved
Project:	Flight Object
Component/s:	Schemas.core
Affects Version/s:	1.1
Fix Version/s:	1.1
Security Level:	External (Issues visible to external users.)

Type:	Bug	Priority:	Minor
Reporter:	Dee Llewellyn	Assignee:	Bruce Taylor
Resolution:	Completed		
Labels:	None		
Remaining Estimate:	Not Specified		
Time Spent:	Not Specified		
Original Estimate:	Not Specified		

Description

In fxAircraft.xsd,

In WakeTurbulenceCategoryType,

Remove the value B757 from the list

Explanation: The list of values should be those included in ICAO 4444.

Comment from Paul Chisholm:

â€¢ WakeTurbulenceCategory has an item B757. This needs to be removed.

Comments

Comment by [Bruce Taylor](#) [Oct 23, 2012]

Removed B757 from WakeTurbulenceCategoryType as described.

But, should it be added to NAS extension?

Comment by [Bruce Taylor](#) [Nov 01, 2012]

fxAircraft.xsd:

[FO-352] [FlightPlanType.flightPlanIdentifier - Commentary needs to be changed to better reflect purpose of element](#) Created: Oct 02, 2012 Updated: Nov 01, 2012 Resolved: Nov 01, 2012

Status:	Resolved
Project:	Flight Object
Component/s:	Schemas.core
Affects Version/s:	1.1
Fix Version/s:	1.1
Security Level:	External (Issues visible to external users.)

Type:	Bug	Priority:	Minor
Reporter:	Dee Llewellyn	Assignee:	Bruce Taylor
Resolution:	Completed		
Labels:	None		
Remaining Estimate:	Not Specified		
Time Spent:	Not Specified		
Original Estimate:	Not Specified		

Description

In fxFlightPlan.xsd

The doc for FlightPlanType currently reads "Flight plans may be identified by their "identifier" attribute, which a unique identifier assigned by the ATSU in which the flight was filed."

Something should be added to this to state that this ID uniquely identifies a specific flight plan within the GUFID identifier. This would be a small integer - e.g., 50, as there would not be more than 50 proposed flight plans for a flight.

(Comment should be updated so that this ID is not confused with some site wide identifier like NAS's SSPID - an ID which uniquely identifies a flight plan within a facility.)

Comments

Comment by [Bruce Taylor](#) [Oct 18, 2012]

In FlightPlanType documentation:

Since a given flight may contain several proposed flight plans, flight plans may be distinguished by their "identifier" attribute. The precise content of this identifier is undefined, but it must

uniquely name a flight plan within the context of its flight. The identifier is often assigned by the ATSU in which the flight was filed.

In FlightPlanIdentifierType documentation:

The flight plan identifier is a string used to uniquely name a flight plan within the scope of its flight.

Comment by [Bruce Taylor](#) [Nov 01, 2012]

Resolved as indicated in final comment.

[FO-351] [LifejacketsType should not include a count of lifejackets](#) Created: Sep 28, 2012 Updated: Nov 01, 2012 Resolved: Nov 01, 2012

Status:	Resolved
Project:	Flight Object
Component/s:	Schemas.core
Affects Version/s:	1.1
Fix Version/s:	1.1
Security Level:	External (Issues visible to external users.)

Type:	Bug	Priority:	Moderate
Reporter:	Dee Llewellyn	Assignee:	Bruce Taylor
Resolution:	Completed		
Labels:	None		
Remaining Estimate:	Not Specified		
Time Spent:	Not Specified		
Original Estimate:	Not Specified		

Description

In fxAircraftSurvivalCapability.xsd, in LifejacketsType,

- 1) Remove the element "count".
- 2) Consider making the minOccurs for element lifejacketCode = 1. (Since element lifejackets is optional, there should not be an instance of lifejacketsType unless there is at least one lifejacket code.)

Explanation: In ICAO 4444 SPL there is not a count of life jackets. Since there is no data element that corresponds to life jacket count in ICAO it should not be present in FIXM (yet).

Comment from Paul Chisholm, ASA

LifejacketsType consists of a count and the life jacket codes. The count is mandatory but the codes are not. Presumably the count is meant to be the number of lifejackets on board. This is problematic when creating a FIXM document from an ICAO SPL because the SPL contains the lifejacket codes but no count. Suggest the count be made optional.

Comments

Comment by [Bruce Taylor](#) [Oct 23, 2012]

Removed LifeJacketsType (containing count and code list), moved code list element up to SurvivalCapabilitiesType.

Comment by [Bruce Taylor](#) [Nov 01, 2012]

Resolved as indicated in final comment.

[FO-350] [AirspeedMeasureType - Enumerated list should include values documented in ICAO 4444](#) Created: Sep 28, 2012 Updated: Dec 05, 2012 Resolved: Dec 05, 2012

Status:	Resolved
Project:	Flight Object
Component/s:	Schemas.core
Affects Version/s:	1.1
Fix Version/s:	1.1
Security Level:	External (Issues visible to external users.)

Type:	Bug	Priority:	Moderate
Reporter:	Dee Llewellyn	Assignee:	Bruce Taylor
Resolution:	Completed		
Labels:	None		
Remaining Estimate:	Not Specified		
Time Spent:	Not Specified		
Original Estimate:	Not Specified		

Description

In baseTypes.xsd, in AirspeedMeasureType,

- 1) Remove the enumerated value for KIAS from the list
- 2) Change the MPH to Knots

Explanation: This element represents the true airspeed for the aircraft. And it should be in the units commonly used in aviation which are the three documented in the ICAO 4444 - 1) kilometres per hour, 2) knots and 3) Mach.

The reason that KIAS (Knots Indicated Air Speed) should not be present in this list is because Indicated airspeed and true airspeed are not the same thing. From wikipedia - The IAS varies considerably from the true airspeed depending upon atmospheric conditions and configuration of the aircraft and even upon how the aircraft is being flown.

The reason that knots should be present instead of mph is because they are not the same as each other and the more common aviation measurement is knots (or nm per hour). 1 knot is approximately 1.151 miles per hour.

Comment from Paul Chisholm, ASA -

⌘ AirspeedMeasureType has an enumeration value KIAS - is this intended to denote Knots?

Comments

Comment by [Bruce Taylor](#) [Oct 18, 2012]

It looks like KIAS does indeed mean 'knots', but there are other similar measures. Should we include all of them, or remove KIAS and substitute "KNOTS?" And, is there no situation when one would measure airspeed in true MPH?

From Wikipedia: http://en.wikipedia.org/wiki/Knot_%28unit%29

Aeronautical terms

Prior to 1969, airworthiness standards for civil aircraft in the United States Federal Aviation Regulations specified that distances were to be in statute miles, and speeds in miles per hour. In 1969 these standards[6] were progressively amended to specify that distances were to be in nautical miles, and speeds in knots.

The following abbreviations are used to distinguish between various measurements of airspeed.[7]

KTAS is "knots true airspeed", the airspeed of an aircraft relative to undisturbed air.

KIAS is "knots indicated airspeed", the speed shown on an aircraft's pitot-static airspeed indicator.

KCAS is "knots calibrated airspeed", the indicated airspeed corrected for position error and instrument error.

KEAS is "knots equivalent airspeed", the calibrated airspeed corrected for adiabatic compressible flow for the particular altitude.

Note that the indicated airspeed is close to the true airspeed only at sea level in standard conditions and at low speeds. At 35,000 ft, an indicated airspeed of 300 kts may correspond to a true airspeed of 500 kts in standard conditions.

Comment by [Dee Llewellyn](#) [Nov 03, 2012]

MPH is never used in aviation.

KIAS is in knots, yes, but it is "indicated airspeed" which I understand is different from true airspeed which is what is in the Flight Plan. That is why I suggest taking out the KIAS. Since you already have KPH in the speed type, I think "Knots" would be appropriate. They are the same type of measurement. Knots seems to be more equivalent to KPH than KTAS does. Perhaps, in the comments for the speed element there should be something that states this is a true airspeed measurement.

Comment by [Dee Llewellyn](#) [Nov 25, 2012]

I think this was assigned to me to answer a question. I answered it and am reassigning to Bruce.

Comment by [Bruce Taylor](#) [Dec 05, 2012]

Removed KIAS and UNKNOWN from enumeration.
Added KNOTS to enumeration.

[FO-349] [Aircraft Performance Category - Values should match PANS OPS doc 8168](#) Created: Sep 28, 2012 Updated: Oct 25, 2012 Resolved: Oct 25, 2012

Status:	Resolved
Project:	Flight Object
Component/s:	DataDictionary.fixm
Affects Version/s:	1.1
Fix Version/s:	2.0
Security Level:	External (Issues visible to external users.)

Type:	Bug	Priority:	Minor
Reporter:	Dee Llewellyn	Assignee:	Rod Little
Resolution:	Fixed		
Labels:	None		
Remaining Estimate:	Not Specified		
Time Spent:	Not Specified		
Original Estimate:	Not Specified		

Description

Aircraft Performance Category FDE,

Remove the enumerated value "OTHER" from the range of values and notes

explanation: Values should exactly match choices documented in PANS OPS doc 8186. Since the element is an optional element, the value "OTHER" is confusing.

Comment from Paul Chisholm, ASA -

â€¢ AircraftPerformanceCategoryType has the five items as specified by ICAO (A,B,C,D,E,H) plus an extra item OTHER. Is there a semantic difference between omitting the performance element (since it is optional) and including it with value OTHER.

Comments

Comment by [Bruce Taylor](#) [Oct 18, 2012]

In general, omitting the item means "no value" but OTHER means, "unexpected value not in enumeration list". From Paul's note, it sounds as if this OTHER enumeration should be eliminated.

1. deprecated AircraftPerformanceCategoryType/OTHER

[FO-348] [AircraftPerformanceCategoryType - Enumerated list of values should exactly match those documented in PANS-OPS 8168](#) Created: Sep 28, 2012 Updated: Nov 01, 2012 Resolved: Nov 01, 2012

Status:	Resolved
Project:	Flight Object
Component/s:	Schemas.core
Affects Version/s:	1.1
Fix Version/s:	1.1
Security Level:	External (Issues visible to external users.)

Type:	Bug	Priority:	Minor
Reporter:	Dee Llewellyn	Assignee:	Bruce Taylor
Resolution:	Completed		
Labels:	None		
Remaining Estimate:	Not Specified		
Time Spent:	Not Specified		
Original Estimate:	Not Specified		

Description

fxAircraft.xsd, in AircraftPerformanceCategoryType,

Remove the enumerated value "OTHER" from the list

explanation: Values should exactly match choices documented in PANS OPS doc 8186

Comment from Paul Chisholm, ASA -

â€¢ AircraftPerformanceCategoryType has the five items as specified by ICAO (A,B,C,D,E,H) plus an extra item OTHER. Is there a semantic difference between omitting the performance element (since it is optional) and including it with value OTHER.

Comments

Comment by [Bruce Taylor](#) [Oct 18, 2012]

Duplicate ~~FO-349~~

Comment by [Dee Llewellyn](#) [Oct 18, 2012]

Not a duplicate - read the component for which the issue was written

Comment by [Bruce Taylor](#) [Oct 18, 2012]

This is not a duplicate as noted: it is against the schemas and needs to be verified.

Comment by [Bruce Taylor](#) [Oct 23, 2012]

Removed OTHER from AircraftPerformancCategoryType enumeration.

Comment by [Bruce Taylor](#) [Nov 01, 2012]

Resolved as indicated in final comment.



[FO-347] [FlightTypeType - Enumerated list of values should exactly equal those documented in ICAO 4444](#) Created: Sep 28, 2012 Updated: Nov 01, 2012 Resolved: Nov 01, 2012

Status:	Resolved
Project:	Flight Object
Component/s:	Schemas.core
Affects Version/s:	1.1
Fix Version/s:	1.1
Security Level:	External (Issues visible to external users.)

Type:	Bug	Priority:	Minor
Reporter:	Dee Llewellyn	Assignee:	Bruce Taylor
Resolution:	Completed		
Labels:	None		
Remaining Estimate:	Not Specified		
Time Spent:	Not Specified		
Original Estimate:	Not Specified		

Description

In fxFlightPlan.xsd, in FlightTypeType

Remove <xsd:enumeration value="TRAINING" />
from the list of enumerated values.

Explanation: For now, the core list of choices should exactly match the ICAO documented choices.

Comment from Paul Chisholm, ASA -

â€¢ FlightTypeType includes the five ICAO items (S,N,G,M,X) plus an additional one called TRAINING. The TRAINING item does not appear in the corresponding FIXM Data Dictionary FDE. What is its source? Given that ICAO FPL format will be around for quite some time, there will need to be a standard business rule that says perhaps "when TRAINING is specified in the FIXM flight plan, insert X in field 8b of the ICAO FPL".

Comments

Comment by [Bruce Taylor](#) [Oct 18, 2012]

Removed TRAINING as enumeration value:

```
<xsd:simpleType name="FlightTypeType">
<xsd:annotation>
<xsd:documentation>
List of possible flight types.
</xsd:documentation>
</xsd:annotation>
<xsd:restriction base="xsd:string">
<xsd:enumeration value="MILITARY"/>
<xsd:enumeration value="GENERAL"/>
<xsd:enumeration value="NON_SCHEDULED"/>
<xsd:enumeration value="SCHEDULED"/>
<xsd:enumeration value="OTHER"/>
</xsd:restriction>
</xsd:simpleType>
```

Comment by [Bruce Taylor](#) [Nov 01, 2012]

Resolved as indicated in final comment.

[FO-346] [Document that date/times used in schemas should be GMT](#) Created: Sep 25, 2012 Updated: Dec 05, 2012 Resolved: Dec 05, 2012

Status:	Resolved
Project:	Flight Object
Component/s:	Documentation.guide
Affects Version/s:	1.1
Fix Version/s:	1.1
Security Level:	External (Issues visible to external users.)

Type:	Documentation	Priority:	Moderate
Reporter:	Marina Brabham	Assignee:	Bruce Taylor
Resolution:	Completed		
Labels:	None		
Remaining Estimate:	Not Specified		
Time Spent:	Not Specified		
Original Estimate:	Not Specified		

Description

The FIXM Developer's Manual should document that xml date/time types, when used, are uniformly GMT times. A good place to document this might be section 3.5.9, "Time Elements" of the FIXM Developer's Guide.

Comments

Comment by [Bruce Taylor](#) [Oct 23, 2012]

Removed MultiTime, MultiDuration, MultiTimeSpan from baseTime.xsd.

Comment by [Paul Chisholm](#) [Nov 25, 2012]

In aviation it is normal practice to refer to UTC rather than GMT.

Comment by [Bruce Taylor](#) [Dec 05, 2012]

Section 3.4.9

[FO-345] [Can't tell how AerodromeReferenceType was created from structure](#)

Created: Sep 25, 2012 Updated: Nov 02, 2012 Resolved: Nov 01, 2012

Status:	Resolved
Project:	Flight Object
Component/s:	Schemas.core
Affects Version/s:	1.1
Fix Version/s:	1.1
Security Level:	External (Issues visible to external users.)

Type:	Bug	Priority:	Moderate
Reporter:	Bruce Taylor	Assignee:	Bruce Taylor
Resolution:	Completed		
Labels:	None		
Remaining Estimate:	Not Specified		
Time Spent:	Not Specified		
Original Estimate:	Not Specified		

Description

AerodromeReferenceType is a union of five simple types. Once we have created an element of this type, how do we identify from which item it originated. Say I have `<aerodrome>ZZZZ</aerodrome>`. I know this is AerodromeUnknownType from my background knowledge, but the internal program model just represents it as a string. I have to write program logic to check for ZZZZ (and AFIL, and code, and name, and geographic). It seems by using the union type we are preventing the XML data binding framework from generating code that automates the work for us. This would be addressed if a choice rather than a union was used.

CommentsComment by [Bruce Taylor](#) [Oct 18, 2012]

The dilemma caused by the union is understood, but using a `<choice>` structure would require making AerodromeReferenceType a complexType, and I'm not willing to incur the extra volume overhead for a problem that can be solved simply in code. The schema documentation makes the differentiation rules clear.

Comment by [Bruce Taylor](#) [Oct 18, 2012]

See preceding comment - the extra XML volume caused by the `<choice>` structure isn't justified by the marginal added clarity provided over the `<union>` structure.

Comment by [Dee Llewellyn](#) [Oct 18, 2012]

This issue was written by Paul Chisholm. I have sent him a suggested solution that resolved several of the comments he posted on the Discussion Board.

Can we hold off on this one until I hear back from him? He has very valid issues. There are several structures missing if you analyze the 2012 amendment letter. My suggested solution covers all of them.

Comment by [Bruce Taylor](#) [Oct 18, 2012]

Awaiting Paul Chisholm's input.

Comment by [Bruce Taylor](#) [Nov 01, 2012]

<!-- ~~FO-345~~ -->

<xsd:complexType name="AerodromeReferenceType">

<xsd:annotation>

<xsd:documentation>

Aerodromes may be identified by:

- their ICAO codes ("KDFW")
- their names ("Dallas Fort Worth")
- their geographic location (latitude and longitude)
- "Airfiled" designation ("AFIL")
- "Unknown" designation ("ZZZZ")

Notice: the attributes shown below are intended as alternatives, not additives. For example, it is a mistake to provide both the code and the geographic location, or airfiled and unknown. If there is a duplication of information, the order of precedence is code, lat/long, airfiled, name, unknown.

</xsd:documentation>

</xsd:annotation>

<xsd:attribute name="code" type="fx:AerodromeCodeType" use="optional"/>

<xsd:attribute name="lat" type="base:LatitudeType" use="optional"/>

<xsd:attribute name="long" type="base:LongitudeType" use="optional"/>

<xsd:attribute name="name" type="fx:AerodromeNameType" use="optional"/>

<xsd:attribute name="airfiled" type="xsd:string" fixed="AFIL" use="optional"/>

<xsd:attribute name="unknown" type="xsd:string" fixed="ZZZZ" use="optional"/>

</xsd:complexType>

Comment by [Dee Llewellyn](#) [Nov 02, 2012]

Bruce, we talked about this and I thought we came up with something different from what is documented as your solution.

Logically, there are 3 choices of what can be entered for a departure aerodrome. These choices should be clearly documented in the schema.

1) ICAO 4 char code only

2) ZZZZ (no identified airport code) and the name and a significant point

3) AFIL and the ATSU that has supplementary data for the flight

I am not so sure there is really a precedence of the 6 elements that can be entered. There are valid and invalid combinations.

The 6 attributes are :

ICAO airport code € 4 char

ZZZZ

Airport name

Significant point (which, of course, includes Lat/Long)

AFIL

ATSU € 4 char

[FO-344] [Route segments should be optional, route string required](#) Created: Sep 25, 2012 Updated: Nov 02, 2012 Resolved: Nov 01, 2012

Status:	Resolved
Project:	Flight Object
Component/s:	Schemas.core
Affects Version/s:	1.1
Fix Version/s:	1.1
Security Level:	External (Issues visible to external users.)

Type:	Bug	Priority:	Moderate
Reporter:	Bruce Taylor	Assignee:	Bruce Taylor
Resolution:	Completed		
Labels:	None		
Remaining Estimate:	Not Specified		
Time Spent:	Not Specified		
Original Estimate:	Not Specified		

Description

FlightRouteType is a sequence of the route text followed by the decoded route. Both are mandatory. In practice we don't want this. Consider a client that provides the capability to create flight plans and submit them as FIXM objects. According to the schema the client must include both the route text and the decoded route. This is too much of an impost on the client. In Airservices, we will expect the client to deliver the decoded route, but we don't expect the client to know how to express the decoded route as ICAO route text. In our opinion the decoded route should be mandatory, and the route text optional, though I have heard other discussions (from FAA sources I think) which says they only want to work with the route text. Of course, the schema is inadequate in that context as well since they don't want to provide the decoded route. Perhaps the solution is to make both optional, and the client supplies either or both (with a business rule, external to the schema, being that at least one of the options be provided).

Comments

Comment by [Dee Llewellyn](#) [Oct 08, 2012]

â€¢ The solution here is not trivial. I think it needs discussion from interested parties. I will put this on the Discussion Board to hopefully see what ANSP systems folks are thinking before we decide what to do on this one.

Comment by [Bruce Taylor](#) [Oct 18, 2012]

This gets complicated, because some ANSPs don't want to see the route string: only the decomposed segments. But we can't make them both optional, because a flight plan isn't valid without a route of some description.

Propose making the route text required, but nillable, so the following would be valid:

```
<activeRoute>  
<text nil="true"/>  
<climbSegment>...  
</activeRoute>
```

Comment by [Bruce Taylor](#) [Nov 01, 2012]

Resolved as indicated in final comment.

Comment by [Dee Llewellyn](#) [Nov 02, 2012]

I am posting the following on the Discussion Board - I hope this is correct.

o Resolution ‘ The text string route is required but nillable. The decoded route structure is optional. This allows the user to populate only the route text string or only the decoded route structure or both. It is assumed that the user will not just nill out the route text string without populating the decoded route structure.

[FO-343] [FlightPlanStateType enumeration values](#) Created: Sep 25, 2012 Updated: Nov 01, 2012 Resolved: Nov 01, 2012

Status:	Resolved
Project:	Flight Object
Component/s:	Schemas.core
Affects Version/s:	1.1
Fix Version/s:	1.1
Security Level:	External (Issues visible to external users.)

Type:	Bug	Priority:	Moderate
Reporter:	Bruce Taylor	Assignee:	Bruce Taylor
Resolution:	Completed		
Labels:	None		
Remaining Estimate:	Not Specified		
Time Spent:	Not Specified		
Original Estimate:	Not Specified		

Description

FlightPlanType.flightPlanState has two states: PROPOSED_PLANNED and PROPOSED_PENDING. What is the intended semantics for these values. The associated documentation in the schema uses the values INACTIVE and ACTIVE. Need to clarify these are in fact the same thing. If so, the documentation should be made consistent with the schema values. If not further explanation is needed to clarify.

Comments

Comment by [Bruce Taylor](#) [Oct 18, 2012]

I propose to change the ICAO states to ACTIVE and INACTIVE, and move the PROPOSED_* values to the NAS extension.

Comment by [Dee Llewellyn](#) [Oct 18, 2012]

While this is being changed, I would like to find out what ASA thinks the final state of a flight should be. There have been questions about this in one of our demos. Do we transition from inactive to active and then active to inactive or should we have a third state in core that indicates the flight has arrived at the gate - no further movement.

Comment by [Bruce Taylor](#) [Nov 01, 2012]

After discussion, it was decided to eliminate the flight plan state altogether, since the

"activeFlightPlan" element uniquely distinguishes the plan.

[FO-339] [fxAircraftNavigationCapability.xsd - The schema lists of codes should EXACTLY match the FIXM DD](#) Created: Aug 24, 2012 Updated: Nov 01, 2012 Resolved: Nov 01, 2012

Status:	Resolved
Project:	Flight Object
Component/s:	Schemas.core
Affects Version/s:	1.1
Fix Version/s:	1.1
Security Level:	External (Issues visible to external users.)

Type:	Bug	Priority:	Moderate
Reporter:	Dee Llewellyn	Assignee:	Bruce Taylor
Resolution:	Completed		
Labels:	None		
Remaining Estimate:	Not Specified		
Time Spent:	Not Specified		
Original Estimate:	Not Specified		

Description

In `fxAircraftNavigationCapability.xsd`

Type `NavigationCodeType` should exactly match the enumerated list in the FIXM DD's Navigation Capabilites - no more, no less.

Type `ApproachAidCodeType` should be removed.

Explanation: All navigation equipment that is within ICAO Item 10a was pulled into one FDE in the FIXM DD.

Comments

Comment by [Bruce Taylor](#) [Sep 18, 2012]

Marina, Dee -

I'm assigning this JIRA issue to Alex Proschitsky for resolution, and he'll no doubt be contacting you for guidance. Any assistance would be much appreciated.

Comment by [Alex Proschitsky](#) [Sep 20, 2012]

Matched navigation capability enumeration to FODD. Removed type ApproachAidCodeType and element

Comment by [Dee Llewellyn](#) [Oct 08, 2012]

Please reopen this issue.

In NavigationCodeType there are two more changes to make to make this match the FIXM DD entries.

- 1) Remove the N enumerated value. It is not in the FIXM DD because it was determined that if there was no nav equipment then the list would be empty.
- 2) For the S enumerated value, add what the S stands for 'Standard NAV/approach aid equipment for the route to be flown is carried and serviceable. This is VOR & ILS unless another set is prescribed by the appropriate ATS authority.' If not all this then at least the part that specifies VOR and ILS. It should not read 'standard communication equipment' as comm equipment is listed elsewhere in the communication file.

Comment by [Alex Proschitsky](#) [Oct 09, 2012]

The N enumerated value is in the FODD in the Range, Example, and Notes sections. Should it be removed from the FODD ?

Comment by [Bruce Taylor](#) [Oct 23, 2012]

Removed N enumeration, changed documentation of S enumeration as suggested.

Comment by [Bruce Taylor](#) [Nov 01, 2012]

Resolved as indicated in final comment.

[FO-337] [nasFlightRoute.xsd - Need to make changes to the Nas Route element.](#)

Created: Aug 22, 2012 Updated: Nov 01, 2012 Resolved: Nov 01, 2012

Status:	Resolved
Project:	Flight Object
Component/s:	Schemas.nas
Affects Version/s:	1.1
Fix Version/s:	None
Security Level:	External (Issues visible to external users.)

Type:	Bug	Priority:	Moderate
Reporter:	Dee Llewellyn	Assignee:	Bruce Taylor
Resolution:	Completed		
Labels:	None		
Remaining Estimate:	Not Specified		
Time Spent:	Not Specified		
Original Estimate:	Not Specified		

Description

There are three suggestions in this Jira issue. They are all in nasFlightRoute.xsd.

1) Remove types NasCruiseSegmentType and NasClimbSegmentType

Explanation: NAS routes do not have the concept of a change at a fix. These two types were created for that concept. In addition, even if NAS ever started using this concept, it would probably not include complex altitudes like AltFixAlt.

2) Create an element of type NasRouteSegmentType or in some other way implement the elements therein.

Explanation: Perhaps the answer here is to stop extending core types and start from scratch for a NAS route. The nas Route needs the following elements:

a) text of type NasRouteTextType

b) segments which include 1) point 2) airway 3) nasFlightRules (VFR, DVFR, IFR), 4) delayAtFix (of course associated with "point") and 5) reEntryCount/reEntrySpecial (of course associated with "airway".)

3) Double check the <documentation> at the top of the file.

Explanation: I think it is incorrect for two reasons 1) It seems to imply some type of abstract type

if it says you can use one type for the other. 2) The types listed there - FlightSegmentType, NasSegmentFlightInfoType and SegmentFlightInfoType don't exist.

Comments

Comment by [Bruce Taylor](#) [Sep 18, 2012]

Marina, Dee -

I'm assigning this JIRA issue to Alex Proschitsky for resolution, and he'll no doubt be contacting you for guidance. Any assistance would be much appreciated.

Comment by [Bruce Taylor](#) [Oct 23, 2012]

Restored old structure of route segments: AbstractRouteSegmentType contains point and airway, then ClimbSegmentType and CruiseSegmentType inherit from it.

Comment by [Bruce Taylor](#) [Oct 23, 2012]

Changed NasRouteSegmentType to extend fx:AbstractRouteSegmentType
Removed NasClimbSegmentType and NasCruiseSegmentType

These changes make the schema documentation correct, but I clarified the wording and some of the types referenced.

Comment by [Bruce Taylor](#) [Oct 23, 2012]

Added NasFlightRulesType with enumeration values IFR, VFR, DVFR

Question: what is DVFR, do we need the core values of IFR_VFR and VFR_IFR?

Comment by [Bruce Taylor](#) [Nov 01, 2012]

nasFlightRoute.xsd

[FO-335] [Unbundle extension schemas from root tree.](#) Created: Aug 21, 2012 Updated: Nov 01, 2012 Resolved: Nov 01, 2012

Status:	Resolved
Project:	Flight Object
Component/s:	Bindings.jaxb , Bindings.xmlbeans , Schemas.core , Schemas.nas
Affects Version/s:	1.0 , 1.1
Fix Version/s:	1.1
Security Level:	External (Issues visible to external users.)

Type:	Bug	Priority:	Critical
Reporter:	Bruce Taylor	Assignee:	Bruce Taylor
Resolution:	Completed		
Labels:	None		
Remaining Estimate:	Not Specified		
Time Spent:	Not Specified		
Original Estimate:	Not Specified		

Description

Remove NAS extension schemas from core tree.

Comments

Comment by [Bruce Taylor](#) [Oct 24, 2012]

The current directory structure of the fixm schemas doesn't represent the core/extension logical structure because the "ext" directories are at the same level as "fx" and "base." Also, messages are not (yet) part of the core. Structure should be:

```
core/  
core/base/  
core/fx/  
ext/  
ext/nas/  
msg/
```

Comment by [Bruce Taylor](#) [Oct 25, 2012]

Changed directory structure as described in above comment, modified schemaLocation paths that refer to core/base and core/fx, modified schema paths in pom.xml, XMLBeans config files, and JAXB config files.



[FO-329] [fxFlightPlan - "acceptedBy" should be "filedBy" to match FIXM DD](#)

Created: Aug 15, 2012 Updated: Nov 07, 2012 Resolved: Aug 21, 2012

Status:	Resolved
Project:	Flight Object
Component/s:	Schemas.core
Affects Version/s:	1.1
Fix Version/s:	1.0
Security Level:	External (Issues visible to external users.)

Type:	Bug	Priority:	-
Reporter:	Dee Llewellyn	Assignee:	Bruce Taylor
Resolution:	Completed		
Labels:	None		
Remaining Estimate:	Not Specified		
Time Spent:	Not Specified		
Original Estimate:	Not Specified		

Description

fxFlightPlan.xsd

in FlightPlanFilingType

There is no "acceptedBy" element in the FIXM DD. There is a "Flight Plan Filer" element though that is not present in the schema. Perhaps the schema should change "acceptedBy" to "filedBy".

CommentsComment by [Bruce Taylor](#) [Aug 15, 2012]

Renamed element as suggested.

Also, noticed that "Flight Plan Filing Type" and "Flight Plan Remarks" were marked as implemented, but did not appear in the structure. New type is:

```
<xsd:complexType name="FlightPlanFilingType">
<xsd:annotation>
<xsd:appinfo source="fx:implements">Flight Plan Accepted</xsd:appinfo>
<xsd:appinfo source="fx:implements">Flight Plan Filer</xsd:appinfo>
```


```

<xsd:appinfo source="fx:implements">Flight Plan Filing Time</xsd:appinfo>
<xsd:appinfo source="fx:implements">Flight Plan Remarks</xsd:appinfo>
<xsd:documentation>
Indicates whether this flight plan is/not accepted for flight, and accepting agency
</xsd:documentation>
</xsd:annotation>
<xsd:sequence>
<xsd:element name="accepted" type="fx:FlightPlanAcceptedType" minOccurs="0"
maxOccurs="1"/>
<xsd:element name="filedBy" type="base:AbstractAgentType" minOccurs="0"
maxOccurs="1"/>
<xsd:element name="filingTime" type="base:TimeType" minOccurs="0" maxOccurs="1"/>
<xsd:element name="flightPlanRemarks" type="base:FreeTextType" minOccurs="0"
maxOccurs="1"/>
</xsd:sequence>
</xsd:complexType>

```

Comment by [Dee Llewellyn](#) [Aug 15, 2012]

FYI - Flight Plan Filing Time was not in the latest version of the FIXM DD.

Keeping the flightPlanRemarks to one occurrence in the FlightPlanType is like playing wack-a-mole. We get rid of one and another one pops up.  There is already a remarks element in the Flight PlanType -

```

<xsd:element name="centerToCenterRemarks" type="base:FreeTextType" minOccurs="0"
maxOccurs="1"/>. This equates to ICAO Item 18 RMK/.

```

"Flight Plan Remarks" are supposed to be removed from the DD. They were a duplicate of Inter-facility Remarks and should not be implemented in FlightPlanFilingType.

Comment by [Bruce Taylor](#) [Aug 15, 2012]

That's a priceless image: Dee with a big mallet waiting for the next remark to pop up...

Please compare the core FlightPlanFilingType (less remark) to the NasFilingType and tell me if we still need the latter and, if so, what elements it adds.

Thanks.

Comment by [Bruce Taylor](#) [Aug 15, 2012]

filingRemarks element removed. This makes it identical to NasFilingType and that makes NasFilingType superfluous.

```

<xsd:complexType name="FlightPlanFilingType">
<xsd:annotation>
<xsd:appinfo source="fx:implements">Flight Plan Accepted</xsd:appinfo>
<xsd:appinfo source="fx:implements">Flight Plan Filer</xsd:appinfo>
<xsd:appinfo source="fx:implements">Flight Plan Filing Time</xsd:appinfo>

```

```
<xsd:documentation>
Indicates whether this flight plan is/not accepted for flight, and accepting agency
</xsd:documentation>
</xsd:annotation>
<xsd:sequence>
<xsd:element name="accepted" type="fx:FlightPlanAcceptedType" minOccurs="0"
maxOccurs="1"/>
<xsd:element name="filedBy" type="base:AbstractAgentType" minOccurs="0"
maxOccurs="1"/>
<xsd:element name="filingTime" type="base:TimeType" minOccurs="0" maxOccurs="1"/>
</xsd:sequence>
</xsd:complexType>
```

Comment by [Dee Llewellyn](#) [Aug 16, 2012]

Right. No NasFlightPlanFilingType is needed anymore in the nasFlightPlan. It can be removed.

[FO-328] [nasAircraft - fix Airborne Equipment Qualifier entries](#) Created: Aug 15, 2012 Updated: Nov 07, 2012 Resolved: Aug 21, 2012

Status:	Resolved
Project:	Flight Object
Component/s:	Schemas.nas
Affects Version/s:	1.1
Fix Version/s:	1.0
Security Level:	External (Issues visible to external users.)

Type:	Bug	Priority:	-
Reporter:	Dee Llewellyn	Assignee:	Bruce Taylor
Resolution:	Completed		
Labels:	None		
Remaining Estimate:	Not Specified		
Time Spent:	Not Specified		
Original Estimate:	Not Specified		

Description

nasAircraft.xsd

in NasAirborneEquipmentQualifierType

change entry for `T` to `NO DME` from `DME` ☐

change entry for `U` to `NO DME` from `DME` ☐

change the `V` entry to `C` ☐

change the entries for `Y`, `C`, `I` to include `RNAV:` ☐

change the entries for E, F, G, R to `ADVANCED RNAV, TRANSPONDER, MODE C:` ☐

change entry for `R` to `ADVANCED RNAV, TRANSPONDER, MODE C: Required Navigational Performance (RNP). The aircraft meets the RNP type prescribed for the route segments, routes and/or area concerned.` ☐

Add `K` - REDUCED VERTICAL SEPARATION MINIMUM (RVSM): F with RVSM

Add ~~â€œLâ€~~ - REDUCED VERTICAL SEPARATION MINIMUM (RVSM): G with RVSM

Add ~~â€œQâ€~~ - REDUCED VERTICAL SEPARATION MINIMUM (RVSM): R with RVSM

Add ~~â€œWâ€~~ - REDUCED VERTICAL SEPARATION MINIMUM (RVSM): RVSM

Comments

Comment by [Bruce Taylor](#) [Aug 15, 2012]

Modified/added entries as suggested. Type is now:

```
<xsd:simpleType name="NasAirborneEquipmentQualifierType">
<xsd:annotation>
<xsd:documentation>
Nas specific extensions to airborne equipment
</xsd:documentation>
</xsd:annotation>
<xsd:restriction base="xsd:string">
<xsd:enumeration value="X">
<xsd:annotation>
<xsd:documentation>
NO DME: No transponder
</xsd:documentation>
</xsd:annotation>
</xsd:enumeration>
<xsd:enumeration value="T">
<xsd:annotation>
<xsd:documentation>
NO DME: Transponder with no mode C
</xsd:documentation>
</xsd:annotation>
</xsd:enumeration>
<xsd:enumeration value="U">
<xsd:annotation>
<xsd:documentation>
NO DME: Transponder with mode C
</xsd:documentation>
</xsd:annotation>
</xsd:enumeration>
<xsd:enumeration value="D">
<xsd:annotation>
<xsd:documentation>
DME: No transponder
</xsd:documentation>
```

```

</xsd:annotation>
</xsd:enumeration>
<xsd:enumeration value="B">
<xsd:annotation>
<xsd:documentation>
DME: Transponder with no mode C
</xsd:documentation>
</xsd:annotation>
</xsd:enumeration>
<xsd:enumeration value="A">
<xsd:annotation>
<xsd:documentation>
DME: Transponder with mode C
</xsd:documentation>
</xsd:annotation>
</xsd:enumeration>
<xsd:enumeration value="M">
<xsd:annotation>
<xsd:documentation>
TACAN ONLY: No transponder
</xsd:documentation>
</xsd:annotation>
</xsd:enumeration>
<xsd:enumeration value="N">
<xsd:annotation>
<xsd:documentation>
TACAN ONLY: Transponder with no mode C
</xsd:documentation>
</xsd:annotation>
</xsd:enumeration>
<xsd:enumeration value="P">
<xsd:annotation>
<xsd:documentation>
TACAN ONLY: Transponder with mode C
</xsd:documentation>
</xsd:annotation>
</xsd:enumeration>
<xsd:enumeration value="Y">
<xsd:annotation>
<xsd:documentation>
LORAN,VORDME,INS,RNAV: No transponder
</xsd:documentation>
</xsd:annotation>
</xsd:enumeration>
<xsd:enumeration value="C">
<xsd:annotation>

```



```

<xsd:documentation>
LORAN,VORDME,INS,RNAV: Transponder with no mode C
</xsd:documentation>
</xsd:annotation>
</xsd:enumeration>
<xsd:enumeration value="I">
<xsd:annotation>
<xsd:documentation>
LORAN,VORDME,INSRNAV: Transponder with mode C
</xsd:documentation>
</xsd:annotation>
</xsd:enumeration>
<xsd:enumeration value="E">
<xsd:annotation>
<xsd:documentation>
ADVANCED RNAV, TRANSPONDER, MODE C: Flight Management System (FMS) with
DMEDME and IRU position updating
</xsd:documentation>
</xsd:annotation>
</xsd:enumeration>
<xsd:enumeration value="F">
<xsd:annotation>
<xsd:documentation>
ADVANCED RNAV, TRANSPONDER, MODE C: FMS with DMEDME position updating
</xsd:documentation>
</xsd:annotation>
</xsd:enumeration>
<xsd:enumeration value="G">
<xsd:annotation>
<xsd:documentation>
ADVANCED RNAV, TRANSPONDER, MODE C: Global Navigation Satellite System
(GNSS), including GPS or Wide Area Augmentation System (WAAS), with enâ€¢route and
terminal capability.
</xsd:documentation>
</xsd:annotation>
</xsd:enumeration>
<xsd:enumeration value="R">
<xsd:annotation>
<xsd:documentation>
ADVANCED RNAV, TRANSPONDER, MODE C: Required Navigational Performance (RNP).
The aircraft meets the RNP type prescribed for the route segments, routes and/or area concerned
</xsd:documentation>
</xsd:annotation>
</xsd:enumeration>
<xsd:enumeration value="J">
<xsd:annotation>

```

```
<xsd:documentation>
REDUCED VERTICAL SEPARATION MINIMUM (RVSM): E with RVSM
</xsd:documentation>
</xsd:annotation>
</xsd:enumeration>
<xsd:enumeration value="K">
<xsd:annotation>
<xsd:documentation>
REDUCED VERTICAL SEPARATION MINIMUM (RVSM): F with RVSM
</xsd:documentation>
</xsd:annotation>
</xsd:enumeration>
<xsd:enumeration value="L">
<xsd:annotation>
<xsd:documentation>
REDUCED VERTICAL SEPARATION MINIMUM (RVSM): G with RVSM
</xsd:documentation>
</xsd:annotation>
</xsd:enumeration>
<xsd:enumeration value="Q">
<xsd:annotation>
<xsd:documentation>
REDUCED VERTICAL SEPARATION MINIMUM (RVSM): R with RVSM
</xsd:documentation>
</xsd:annotation>
</xsd:enumeration>
<xsd:enumeration value="W">
<xsd:annotation>
<xsd:documentation>
REDUCED VERTICAL SEPARATION MINIMUM (RVSM): RVSM
</xsd:documentation>
</xsd:annotation>
</xsd:enumeration>
</xsd:restriction>
</xsd:simpleType>
```

[FO-327] [nasAltitude - Alt Fix Alt format should contain a "Significant Point"](#)

Created: Aug 14, 2012 Updated: Nov 07, 2012 Resolved: Aug 21, 2012

Status:	Resolved
Project:	Flight Object
Component/s:	Schemas.core
Affects Version/s:	1.1
Fix Version/s:	1.0
Security Level:	External (Issues visible to external users.)

Type:	Improvement	Priority:	-
Reporter:	Dee Llewellyn	Assignee:	Bruce Taylor
Resolution:	Completed		
Labels:	None		
Remaining Estimate:	Not Specified		
Time Spent:	Not Specified		
Original Estimate:	Not Specified		

Description

nasAltitude.xsd

in AltFixAltAltitudeType

<xsd:element name="point" type="base:AbstractLocationType"/>
The "point" should be of type "fx:SignificantPointType"

CommentsComment by [Bruce Taylor](#) [Aug 15, 2012]

Changed type as suggested:

```
<xsd:complexType name="AltFixAltAltitudeType">
  <xsd:sequence>
    <xsd:element name="point" type="fx:SignificantPointType"/>
  </xsd:sequence>
  <xsd:attribute name="pre" type="base:BaseAltitudeType"/>
  <xsd:attribute name="post" type="base:BaseAltitudeType"/>
  <xsd:attributeGroup ref="nas:NasAltitudeAttr"/>
</xsd:complexType>
```

</xsd:complexType>

[FO-326] [fxFlightPlan.xsd - FIRs are 4 characters long](#) Created: Aug 14, 2012 Updated: Nov 07, 2012 Resolved: Aug 21, 2012

Status:	Resolved
Project:	Flight Object
Component/s:	Schemas.core
Affects Version/s:	1.1
Fix Version/s:	1.0
Security Level:	External (Issues visible to external users.)

Type:	Improvement	Priority:	-
Reporter:	Dee Llewellyn	Assignee:	Bruce Taylor
Resolution:	Completed		
Labels:	None		
Remaining Estimate:	Not Specified		
Time Spent:	Not Specified		
Original Estimate:	Not Specified		

Description

fxFlightPlan.xsd

in FlightInfoRegionType

the pattern can be limited to 4 chars.

See <http://aoaws.caa.gov.tw/htdocs/projects/aoaws/sigmat/IcaoFirList.txt>

Comments

Comment by [Bruce Taylor](#) [Aug 15, 2012]

Tightened up validation pattern as suggested. Type is now:

```
<xsd:simpleType name="FlightInfoRegionType">
<xsd:annotation>
<xsd:documentation>
A flight Information Region (FIR) is the area of authority of an ATC center.
</xsd:documentation>
</xsd:annotation>
```

```
<xsd:restriction base="xsd:string">  
<xsd:pattern value="[A-Z]{4}"/>  
</xsd:restriction>  
</xsd:simpleType>
```

[FO-325] [fxFlightPlan; ACID is a max of 7 char](#) Created: Aug 14, 2012 Updated: Nov 07, 2012 Resolved: Aug 21, 2012

Status:	Resolved
Project:	Flight Object
Component/s:	Schemas.core
Affects Version/s:	1.1
Fix Version/s:	1.0
Security Level:	External (Issues visible to external users.)

Type:	Improvement	Priority:	-
Reporter:	Dee Llewellyn	Assignee:	Bruce Taylor
Resolution:	Completed		
Labels:	None		
Remaining Estimate:	Not Specified		
Time Spent:	Not Specified		
Original Estimate:	Not Specified		

Description

fxFlightPlan

in AircraftIdentifierType

pattern should set the max number chars at 7.

Comments

Comment by [Bruce Taylor](#) [Aug 15, 2012]

Changed validation pattern as suggested:

Note 1: name of type has changed from AircraftIdentifierType to avoid confusion with AircraftIdentificationType

Note 2. The pattern does, in fact, specify seven characters: an upper case alpha followed by zero or more upper case alphanumerics:

```
<xsd:simpleType name="AcidType">
```

```
<xsd:annotation>
```

```
<xsd:documentation>
```

The flight name - sometimes called "ACID"

```
</xsd:documentation>
</xsd:annotation>
<xsd:restriction base="xsd:string">
  <xsd:pattern value="[A-Z][A-Z0-9]{0,6}" />
</xsd:restriction>
</xsd:simpleType>
```


[FO-324] [fxAircraftSurvivalCapability.xsd - Remove extra element](#) Created: Aug 14, 2012 Updated: Nov 07, 2012 Resolved: Aug 14, 2012

Status:	Resolved
Project:	Flight Object
Component/s:	Schemas.core
Affects Version/s:	1.1
Fix Version/s:	1.0
Security Level:	External (Issues visible to external users.)

Type:	Bug	Priority:	-
Reporter:	Dee Llewellyn	Assignee:	Bruce Taylor
Resolution:	Completed		
Labels:	None		
Remaining Estimate:	Not Specified		
Time Spent:	Not Specified		
Original Estimate:	Not Specified		

Description

fxAircraftSurvivalCapability.xsd

in type SurvivalEquipmentType

remove survivalEquipmentDescription (of FreeTextType)

explanation - It does not map to any ICAO field that has not already been mapped.

Comments

Comment by [Bruce Taylor](#) [Aug 14, 2012]

Removed survivalEquipmentDescription as recommended.

[FO-322] [baseAltitude.xsd - documentation update](#) Created: Aug 13, 2012 Updated: Nov 07, 2012 Resolved: Aug 14, 2012

Status:	Resolved
Project:	Flight Object
Component/s:	Schemas.core
Affects Version/s:	1.1
Fix Version/s:	1.0
Security Level:	External (Issues visible to external users.)

Type:	Bug	Priority:	-
Reporter:	Dee Llewellyn	Assignee:	Bruce Taylor
Resolution:	Completed		
Labels:	None		
Remaining Estimate:	Not Specified		
Time Spent:	Not Specified		
Original Estimate:	Not Specified		

Description

RE: The documentation for Flight Level in baseAltitude.xsd â€ˆâ€œFlightLevelType Simple altitude referencing barometric pressure above 29.2 barsâ€œ.

a. It would be better to say â€œreferencing standard barometric pressureâ€™. â€œSimple altitude referencing barometric pressure above 29.2 barsâ€œ is too restrictive. In parts of Miami ARTCC airspace a pilot changes to flight levels at 6000 feet MSL, as indicated on published charts. 6000 feet is not 29.2 bars. Other countries may use 15,000 feet, 12,000 feet, etc. for changing between MSL and FL within their domestic airspace. Other ATC providers may assign a cleared altitude of 10,000 in FL when an aircraft is departing and 21,000 in MSL when an aircraft is arriving â€ˆâ€œ in the same airspace.

Comments

Comment by [Bruce Taylor](#) [Aug 14, 2012]

Comment removed as part of recent re-work of baseAltitude structure.

[FO-321] [baseAltitude.xsd - The use of AGL is not needed](#) Created: Aug 13, 2012 Updated: Nov 01, 2012 Resolved: Nov 01, 2012

Status:	Resolved
Project:	Flight Object
Component/s:	Schemas.core
Affects Version/s:	1.1
Fix Version/s:	1.1
Security Level:	External (Issues visible to external users.)

Type:	Bug	Priority:	-
Reporter:	Dee Llewellyn	Assignee:	Bruce Taylor
Resolution:	Completed		
Labels:	None		
Remaining Estimate:	Not Specified		
Time Spent:	Not Specified		
Original Estimate:	Not Specified		

Description

The use of AGL - There is no way to indicate AGL in a NAS or ICAO flight plan. Military training routes may have portions of the route defined with AGL altitudes, but again the pilot cannot file AGL. The only other use of AGL is when charting an obstruction. A tall radio tower will be charted with both MSL and AGL altitudes. Including AGL in a Flight Object definition is of no use and leads to confusion. If this was for a charting system or GIS system then AGL would be useful, but not for a Flight Object.

Comments

Comment by [Bruce Taylor](#) [Aug 14, 2012]

Deferred to v1.1

I would like to get wider discussion on this, because I seem to remember that some of the TFDM data from ASDI had altitudes referenced from ground level.

Comment by [Bruce Taylor](#) [Oct 23, 2012]

Eliminated AGL from AltitudeReferenceType, leaving only MSL (mean sea level) and FL (barometric flight level)

Comment by [Bruce Taylor](#) [Nov 01, 2012]

Resolved as indicated in final comment.



[FO-320] [130,000 feet for altitude is too high](#) Created: Aug 13, 2012 Updated: Nov 07, 2012 Resolved: Aug 21, 2012

Status:	Resolved
Project:	Flight Object
Component/s:	Schemas.core
Affects Version/s:	1.1
Fix Version/s:	1.0
Security Level:	External (Issues visible to external users.)

Type:	Bug	Priority:	-
Reporter:	Dee Llewellyn	Assignee:	Bruce Taylor
Resolution:	Completed		
Labels:	None		
Remaining Estimate:	Not Specified		
Time Spent:	Not Specified		
Original Estimate:	Not Specified		

Description

130,000 feet is more than twice the vertical extent of ATC. Why so high?

Comments

Comment by [Bruce Taylor](#) [Aug 14, 2012]

This is the upper bound on aircraft performance (SR-71 territory). I would happily accept a smaller value - suggestions?

Comment by [Dee Llewellyn](#) [Aug 14, 2012]

ATC extends to 60,000 feet. (If military flights go above that they say good-bye to the controller.) The highest number allowed in NAS ATC systems is 999 in hundreds of feet. Perhaps use 100,000 feet.

Comment by [Bruce Taylor](#) [Aug 15, 2012]

New limit accepted as suggested:

```
<xsd:simpleType name="BaseAltitudeType">
<xsd:annotation>
<xsd:documentation>
```

Restricts the value of altitudes to their proper range: 0-100K ft.

Don't instantiate this type directly: use one of its extension types.

```
</xsd:documentation>
```

```
</xsd:annotation>
```

```
<xsd:restriction base="xsd:int">
```

```
<xsd:minInclusive value="0"/>
```

```
<xsd:maxInclusive value="100000"/>
```

```
</xsd:restriction>
```

```
</xsd:simpleType>
```

[FO-311] [NAS speed cannot include metric and must include ground speed \(same way it includes classified\)](#) Created: Aug 08, 2012 Updated: Dec 05, 2012 Resolved: Dec 05, 2012

Status:	Resolved
Project:	Flight Object
Component/s:	None
Affects Version/s:	1.1
Fix Version/s:	1.1
Security Level:	External (Issues visible to external users.)

Type:	Bug	Priority:	-
Reporter:	Dee Llewellyn	Assignee:	Bruce Taylor
Resolution:	Completed		
Labels:	None		
Remaining Estimate:	Not Specified		
Time Spent:	Not Specified		
Original Estimate:	Not Specified		

Issue Links:	Cloners
	cloned to FO-341 Need new NAS extension elements for N... Resolved

Description

In the same way that nasAltitude was created, we need a new NAs speed that cannot inherit metric measurements. It should have the true airspeed in knots, like the base type and it should have the mach speed from base. Then, in addition to these it needs ground speed in knots and classified which is already there in the extension.

From ATM IPOP:

05 SPD

Aircraft Speed

a= (d)(d)dd true airspeed in knots

b= ddd ground speed

c= Mach speed

d= SC speed classified

Comments

Comment by [Dee Llewellyn](#) [Aug 10, 2012]

I need to update this list of what NAS speed should include. It should include only airspeed in knots (field 5a) and Mach (field 5c) and classified speed (field 5d). It should not yet include ground speed as that is not something that can be filed. So, I think the only change that needs to be made here is that the NAS speed needs to be defined in the nasFlightPlan, like you defined altitude in the nasAltitude. That is, you must define a NAS speed that has no metric value. So from the baseTypes file you would take only the knots value and the MACH values. Then, to that you would add the classified speed.

Comment by [Dee Llewellyn](#) [Aug 24, 2012]

How was the schema changed to resolve this? NAS airspeed cannot be in meters.

Comment by [Bruce Taylor](#) [Dec 05, 2012]

Added a NasAirspeedType which has only the NAS units.

Added NasRequestedSpeedType which is a choice of NasAirspeedType or GroundSpeedType.

Changed 'requestedSpeed' to NasRequestedSpeedType.

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