AIXM
Aeronautical Information Exchange Model

Change Control Board

Correct UML model errors with no consequence on XML Schema

Description

There are some errors in the AIXM UML model which can be corrected with no consequence on the XML schema. The errors are attribute names containing space characters, missing association names or role names and missing composition symbols.

Rationale for change

See   https://aixmccb.atlassian.net/browse/AIXM-101,   https://aixmccb.atlassian.net/browse/AIXM-102, https://aixmccb.atlassian.net/browse/AIXM-106, https://aixmccb.atlassian.net/browse/AIXM-151

There is at least one attribute name that has by mistake a space in the UML model and this space does not appear in the XML Schema. Anyhow, this is a discrepancy between the UML model and the XML Schema that should be eliminated.

Some associations between "features" do not have an association name in the AIXM UML model. The script that was used to generate the XML schema from the Rational Rose UML model contained a bug which replaced the role name with a default name, if no association role name is given in the UML model. For AIXM 5.1.1 the UML model will be migrated to Sparx EA and therefore also the script that generates the XML schema will be migrated. With the new Sparx EA scripts, the association role name will be exported correctly. Therefore, the name of the association role shall be changed to align it with the current AIXM 5.1 schema. In addition, a proper association name should be added. Although this has no impact on the schema. the presence of an association name would improve the readability of the model, as it would give a more precise indication of the association purpose/meaning.

In the UML model the association between InformationService and RoutePortion is incorrectly represented. It should be a composition (aggregation by value) because RoutePortion has the stereotype <<object>>. However, the XML Schema is correct. Only the UML model would need to be corrected.

Impact assessment

AIXM 5.1 data providers and data users are not affected by this change, because the corrections in the UML model have no consequence on the XML Schema.

Only AIXM 5.1 databases might be affected, in case they were derived from the AIXM 5.1 UML model. The erroneous attributes and associations shall be checked and updated in these databases.

Note: The bug in the script could affect also extensions, therefore it shall be checked that all relations in the extensions have an association role name.

Change Proposal details

In the UML model:

- class MarkerBeacon, remove the ending space character in the name of the attribute 'auralMorseCode ';
- class SeaplaneLandingArea, change its role name in the relation from MarkingBuoy to read 'theSeaplaneLandingArea' (instead of 'markedSeaplaneLandingArea);
- association between markingBuoy and SeaplaneLandingArea, add an association name "isMarkedOn";
- class VerticalStructure, change its role name in the relation from Obstruction to read 'theVerticalStructure' (instead of 'verticalStructureObstruction');
- association between Obstruction and VerticalStructure, add an assiciation name "isRepresentedBy";
- class InformationService, change it's state to "composition" (aggregation by value) in the association with RoutePortion.

Mapping AIXM 5.1 to AIXM 5.1.1 (forward)

NIL (Not applicable)

Mapping AIXM 5.1.1 to AIXM 5.1 (backward)

NIL (Not applicable)

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