

# OWS-7 Aviation Thread AIXM Metadata and Code Lists

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# Metadata Task

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- In OWS-6, verbosity of <MD\_Metadata> was reported as an issue
- In OWS-7, we address:
  - verbosity issue
  - requirements of FAA/EUROCONTROL AIXM metadata profile

# Metadata Task

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General approach: Provide alternatives to inline  
<MD\_Metadata>

1. Add multiple metadata properties :

- having standard ISO 19139 metadata values
- having smaller scope (e.g. CI\_Citation)
- Allowing for either inline content or by-reference (xlink:href)

2. Add custom metadata properties (non-ISO 19139)  
as in *Metadata Profile Doc*

- e.g. cyclic redundancy check, measureClass

# Metadata Task

## Existing TimeSlice Metadata

```
<aixm:timeSliceMetadata>
  <gmd:MD_Metadata>
    <gmd:contact>
      <gmd:CI_ResponsibleParty>
        <gmd:role/>
      </gmd:CI_ResponsibleParty>
    </gmd:contact>
    <gmd:dateStamp>
      <gco:DateTime>2009-01-23T10:10:00</gco:DateTime>
    </gmd:dateStamp>
    <gmd:identificationInfo>
      <gmd:MD_DataIdentification>
        <gmd:citation>
          <gmd:CI_Citation>
            <gmd:title>
              <gco:CharacterString>ESSA runways closed</gco:CharacterString>
            </gmd:title>
            <gmd:date/>
          </gmd:CI_Citation>
        </gmd:citation>
        <gmd:abstract>
          <gco:CharacterString>RWY 08/26, 01L/19R, 01R/19L closed temporarily due to snow
            contamination and bad weather, starting 12 FEB 2009 at
            07:00</gco:CharacterString>
        </gmd:abstract>
        <gmd:language/>
      </gmd:MD_DataIdentification>
    </gmd:identificationInfo>
  </gmd:MD_Metadata>
</aixm:timeSliceMetadata>
```

Add optional separate properties with these values

# Metadata Task

## Instance data for multiple property alternative

```
<metadataContact>
```

```
<gml:CI_ResponsibleParty>
```

```
<gml:role/>
```

```
</gml:CI_ResponsibleParty>
```

```
</metadataContact>
```

```
<issueDateTime>
```

```
<gco:DateTime>2009-01-23T10:10:00</gco:DateTime>
```

```
</issueDateTime>
```

```
<identificationInfo xlink:href="#DI01" xlink:title="MD_DataIdentification">
```

# Metadata Task

## Schema Excerpts for Multiple property alternative

```
<element name="metadataContact" type="aixm:CI_ResponsiblePartyMetadataPropertyType" minOccurs="0">  
  <annotation>  
    <documentation>Source: Appendix C row 25 (http://portal.opengeospatial.org/files/?artifact\_id=37894)</documentation>  
  </annotation>  
</element>
```

```
<complexType name="CI_ResponsiblePartyMetadataPropertyType">  
  <complexContent>  
    <extension base="gml:AbstractMetadataPropertyType">  
      <sequence minOccurs="0">  
        <element ref="gmd:CI_ResponsibleParty"/>  
      </sequence>  
      <attributeGroup ref="gco:ObjectReference"/>  
      <attribute ref="gco:nilReason"/>  
    </extension>  
  </complexContent>  
</complexType>
```

# Code List Task

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- OGC and ISO are using gml:CodeType rather than string enumeration + other:\*
- This separates the authority for the code list and the schema
- Allows code list values to be added over time without changing the schema

# Code List Task

## Current Schema Definition

```
<simpleType name="CodeDesignatedPointBaseType">
  <union>
    <simpleType>
      <restriction base="string">
        <enumeration value="ICAO"/>
        <enumeration value="COORD"/>
        <enumeration value="CNF"/>
        <enumeration value="DESIGNED"/>
        <enumeration value="MTR"/>
        <enumeration value="TERMINAL"/>
        <enumeration value="BRG_DIST"/>
      </restriction>
    </simpleType>
    <simpleType>
      <restriction base="string">
        <pattern value="OTHER:(\w|_){1,58}?"/>
      </restriction>
    </simpleType>
  </union>
</simpleType>
```



# Code List Task

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## Proposed XSD defn using gml:CodeType

```
<complexType name="CodeDesignatedPointType">
  <annotation>
    <documentation>Allowed values as of 2010-05-06 in appinfo element below</documentation>
    <appinfo source="urn:x-aixm:def:code-list:EUR-FAA:5.1:DesignatedPoint">
      <restriction base="string">
        <enumeration value="ICAO"/>
        <enumeration value="COORD"/>
        <enumeration value="CNF"/>
        <enumeration value="DESIGNED"/>
        <enumeration value="MTR"/>
        <enumeration value="TERMINAL"/>
        <enumeration value="BRG_DIST"/>
      </restriction>
    </appinfo>
  </annotation>
  <simpleContent>
    <extension base="gml:CodeType"/>
  </simpleContent>
</complexType>
```

# Code List Task

## Proposed sample instance

```
<DesignatedPointTimeSlice gml:id="timesliceidILURU">
  <gml:validTime>
    ...
  </gml:validTime>
  <interpretation>BASELINE</interpretation>
  <sequenceNumber>1</sequenceNumber>
  <featureLifetime>
    <gml:TimePeriod gml:id="ltILURU92">
      <gml:beginPosition>2009-01-01T00:00:00.000</gml:beginPosition>
      <gml:endPosition indeterminatePosition="unknown"/>
    </gml:TimePeriod>
  </featureLifetime>
  <designator>ILURU</designator>
  <type codeSpace="urn:x-def:code-list:EUR-FAA:5.1:DesignatedPoint">ICAO</type>
  <name>ILURU</name>
  <location>
    <ElevatedPoint srsName="urn:ogc:def:crs:OGC:1.3:CRS84" srsDimension="2" gml:id="pILURU">
      <gml:pos>-41.61333333333334 50.019999999999996</gml:pos>
    </ElevatedPoint>
  </location>
</DesignatedPointTimeSlice>
```

Validate with  
schematron + urn  
resolver against  
online code-list  
register

or

Validate with  
schematron  
against schema  
(appinfo)

# Code List Task

## Incorrect code-list value

```
<DesignatedPointTimeSlice gml:id="timesliceidILURU">
  <gml:validTime>
    ...
  </gml:validTime>
  <interpretation>BASELINE</interpretation>
  <sequenceNumber>1</sequenceNumber>
  <featureLifetime>
    <gml:TimePeriod gml:id="ltILURU92">
      <gml:beginPosition>2009-01-01T00:00:00.000</gml:beginPosition>
      <gml:endPosition indeterminatePosition="unknown"/>
    </gml:TimePeriod>
  </featureLifetime>
  <designator>ILURU</designator>
  <type codeSpace="urn:x-def:code-list:EUR-FAA:5.1:DesignatedPoint">IKAO</type>
  <name>ILURU</name>
  <location>
    <ElevatedPoint srsName="urn:ogc:def:crs:OGC:1.3:CRS84" srsDimension="2" gml:id="pILURU">
      <gml:pos>-41.61333333333334 50.019999999999996</gml:pos>
    </ElevatedPoint>
  </location>
</DesignatedPointTimeSlice>
```

# Code List Task

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## Schematron failed assertion excerpt:

```
<svrl:failed-assert test="doc-available($codelist-entry-uri)" location="...">  
  <svrl:text> Expected value of element: type' to appear in code-list.</svrl:text>  
  <svrl:diagnostic-reference diagnostic="dmsg.code-not-found" xml:lang="en">
```

Code value 'IKAO' not found in referenced code-list (urn:x-def:code-list:EUR-FAA:5.1:DesignatedPoint).

```
</svrl:diagnostic-reference>  
</svrl:failed-assert>
```