

# XLinks in AIXM

Presented to:

By:

Date:



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# Overview

- **Feature referencing in AIXM**
- **Use of Xlinks**
- **Implications on system design**



# Feature Referencing in AIXMs

- **Features must be able to reference each other to represent AI**
- **References are at the feature level, not at the timeslice level**
  - Compliant with GML standards
- **Core method of reference is using UUID**
  - Avoid local hrefs
- **An XLink standard proposal is available on AIXM Forum**

# Use of XLinks

- **Three types of references**
  - Concrete, local references
    - Reference to another feature with a UUID within the same message
  - Concrete, external references
    - Reference to another feature with a UUID resolvable with a call to a web service
  - Abstract references
    - Reference to a feature with an application-specific identifier



# Concrete Local Reference

```
<aixm:Airspace gml:id="Airspace01">
  <gml:identifier
    codeSpace="urn:us:gov:dot:faa">a82b3fc9-4aa4-4e67-8def-aaealac595j</gml:identifier>
  ...
</aixm:Airspace>
...
<aixm:AirTrafficControlService gml:id="AirTrafficControlService01">
  <aixm:timeSlice>
    <aixm:AirTrafficControlServiceTimeSlice gml:id="AirTrafficControlService01_TS1">
      <gml:validTime>
        <gml:TimePeriod gml:id="AirTrafficControlService01_TS1_TP1">
          <gml:beginPosition>2008-01-01T00:00:00</gml:beginPosition>
          <gml:endPosition indeterminatePosition="unknown"/>
        </gml:TimePeriod>
      </gml:validTime>
      <aixm:interpretation>BASELINE</aixm:interpretation>
      <aixm:type>ACS</aixm:type>
      <aixm:clientAirspace
xlink:href="#xpointer(//aixm:Airspace[gml:identifier=' a82b3fc9-4aa4-4e67-8def-
aaealac595j' and @codeSpace='urn:us:gov:dot:faa' ])" />
      </aixm:AirTrafficControlServiceTimeSlice>
    </aixm:timeSlice>
  </aixm:AirTrafficControlService>
```

Simple Local xlink:href with an XPointer/XPath reference

# Concrete External Reference

```
<aixm:clientAirspace  
xlink:href="http://aim.faa.gov/services/AirspaceService?get=a82b3fc9-4aa4-4e67-8def-  
aaealac595j#xpointer(//Airspace[gml:identifier=' a82b3fc9-4aa4-4e67-8def-aaealac595j' and  
@codeSpace=' urn:us:gov:dot:faa' ])" />
```

Simple Remote xlink:href with an XPointer/XPath reference

# Abstract References

```
<aixm:clientAirspace xlink:href="urn:us:gov:faa:aim:saa:a82b3fc9-4aa4-4e67-8def-  
aaealac595j" />
```

```
<aixm:clientAirspace xlink:href="urn:us:gov:faa:aim:saa:moa:BROWNING" />
```

Application-specific URN using UUIDs or natural keys

# Implications on System Design

- **Management of universal IDs across systems is non-trivial**
  - Must maintain consistency and avoid ID collisions
- **Moves towards eliminating “local” versions of features**
- **Cross-database references must use the UUIDs**

