Enabling Information Sharing thru Common Services

OGC SAA Dissemination Pilot

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Agenda

- Background
- SAA Pilot Architecture
- Demonstration
- Summary

Open Geospatial Consortium

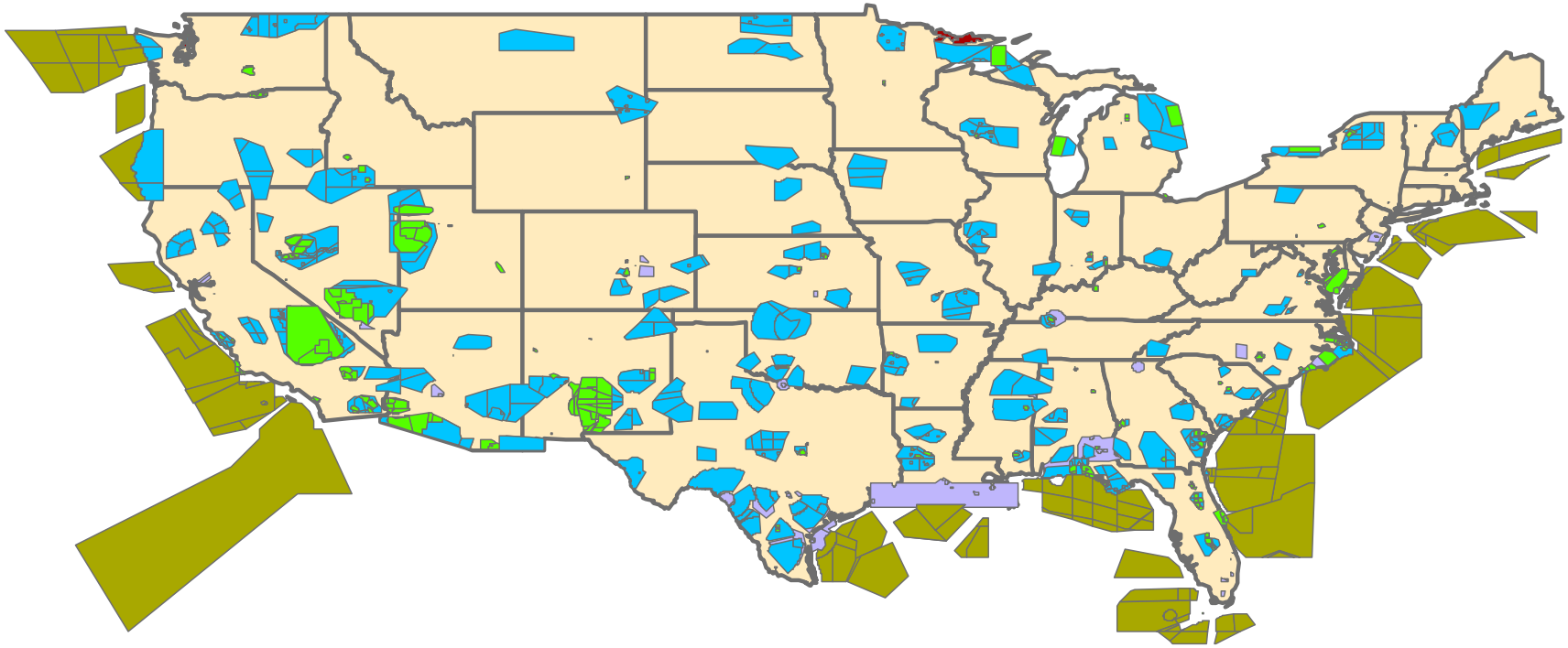
- Not-for-profit, international standards development consortium
- Implementation standards
  - WFS, WMS (SLD/FPS), WPS, Event Service draft
- Interoperability Program
  - SAA Pilot - demonstrate the feasibility of automating the dissemination and portrayal of SAA information via OGC Web Services.

Special Activity Airspace

- Airspace with defined dimensions
- Activities within this airspace may pose a hazard or increased flight risk to non-participants.
- Rules and/or restrictions may be placed upon both participants and/or non-participants with regard to that specific airspace.
- Airspace status is published or broadcast to increase situational awareness for non-participants.
- Establishment of the airspace is coordinated between user and controlling agency.

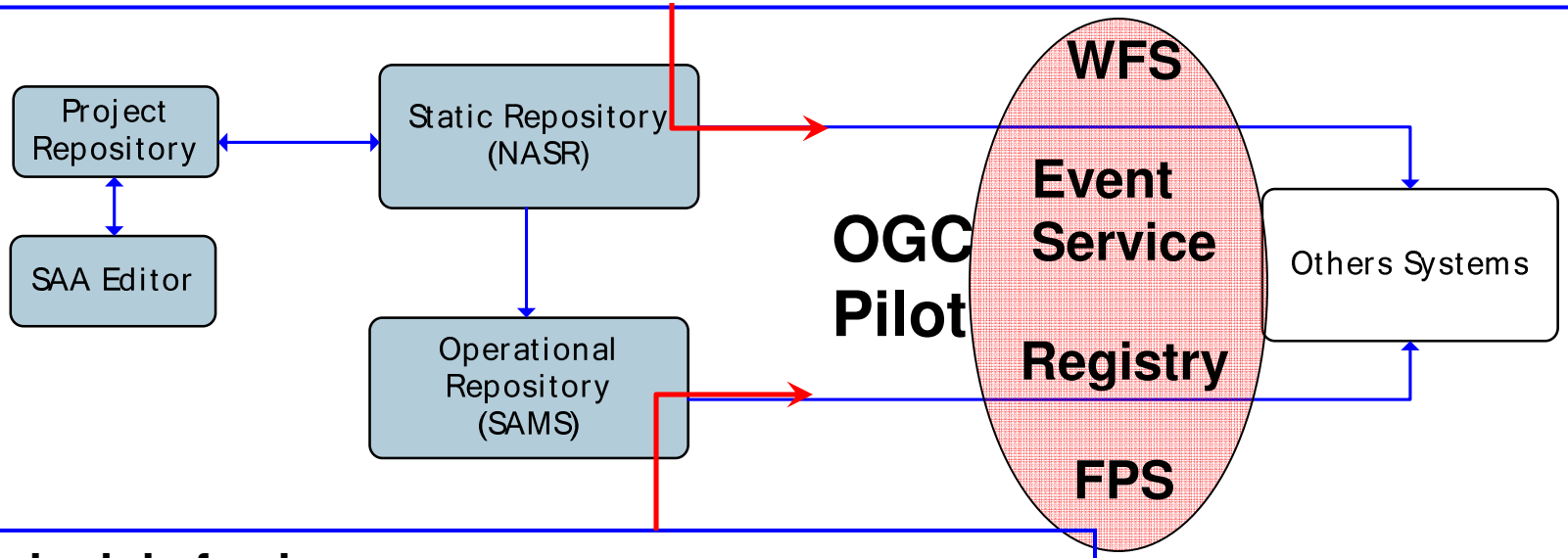
Special Use Airspace

- Military training and other activities



SAA System Architecture

Subscriber File:
- SAA baseline data (Airspace boundaries, Times of Use, military units, etc)
- Published in advance of effective date, provided on 56 day cycle



Schedule feed:
- SAA operational scheduling data
- Published on FAA web page, updated every minute

Web Registry Service

Name	Type	Description
Capabilities document for SAA AIXM 5.1 Demonstrator WFS	ServiceProfile	
Capabilities document for Luciad Web Feature Server	ServiceProfile	
Capabilities document for LuciadFusion SAA Pilot FPS Service	ServiceProfile	
Portrayal details for AIXM 5.1	DataProductPortrayal	An OGC Styled Layer Descriptor (SLD v1.0.0) is attached as a repository-iter
Styling details for Time to SUA activation	DataProductPortrayal	Portrayal details for AIXM 5.1. An OGC Styled Layer Descriptor (SLD v1.0.0)

```
<sld:Name>SUATime2</sld:Name>
<sld:Title>Time to SUA activation</sld:Title>
<sld:Abstract>
  Styles airspaces based on the time left before activation
</sld:Abstract>
<sld:FeatureTypeName>Airspace</sld:FeatureTypeName>
<sld:Rule>
  <sld:Name>Active</sld:Name>
  <sld:Title>Active</sld:Title>
  <sld:Abstract>Airspaces active now</sld:Abstract>
  <ogc:Filter>
    <ogc:PropertyIsEqualTo matchCase="true">
      <ogc:Function name="evaluateDuring">
        <ogc:Literal>
          <ogc:Filter>
            <ogc:PropertyIsEqualTo matchCase="true">
              <ogc:PropertyName>ns1:activation/ns1:AirspaceActivation/ns1:status</ogc:PropertyName>
              <ogc:Literal>ACTIVE</ogc:Literal>
            </ogc:PropertyIsEqualTo>
          </ogc:Filter>
        </ogc:Literal>
```

Feature Type	Symbology	Filter
1. Active: Airspaces active now		evaluateDuring
2. 0h: Airspaces active whithin 0 hours		evaluateDuring
3. 4h: Airspaces active whithin 4 hours		evaluateDuring
4. 8h: Airspaces active whithin 8 hours		evaluateDuring
5. 12h: Airspaces active whithin 12 hours		evaluateDuring
6. 16h: Airspaces active whithin 16 hours		evaluateDuring
7. Airspace		(no filter)

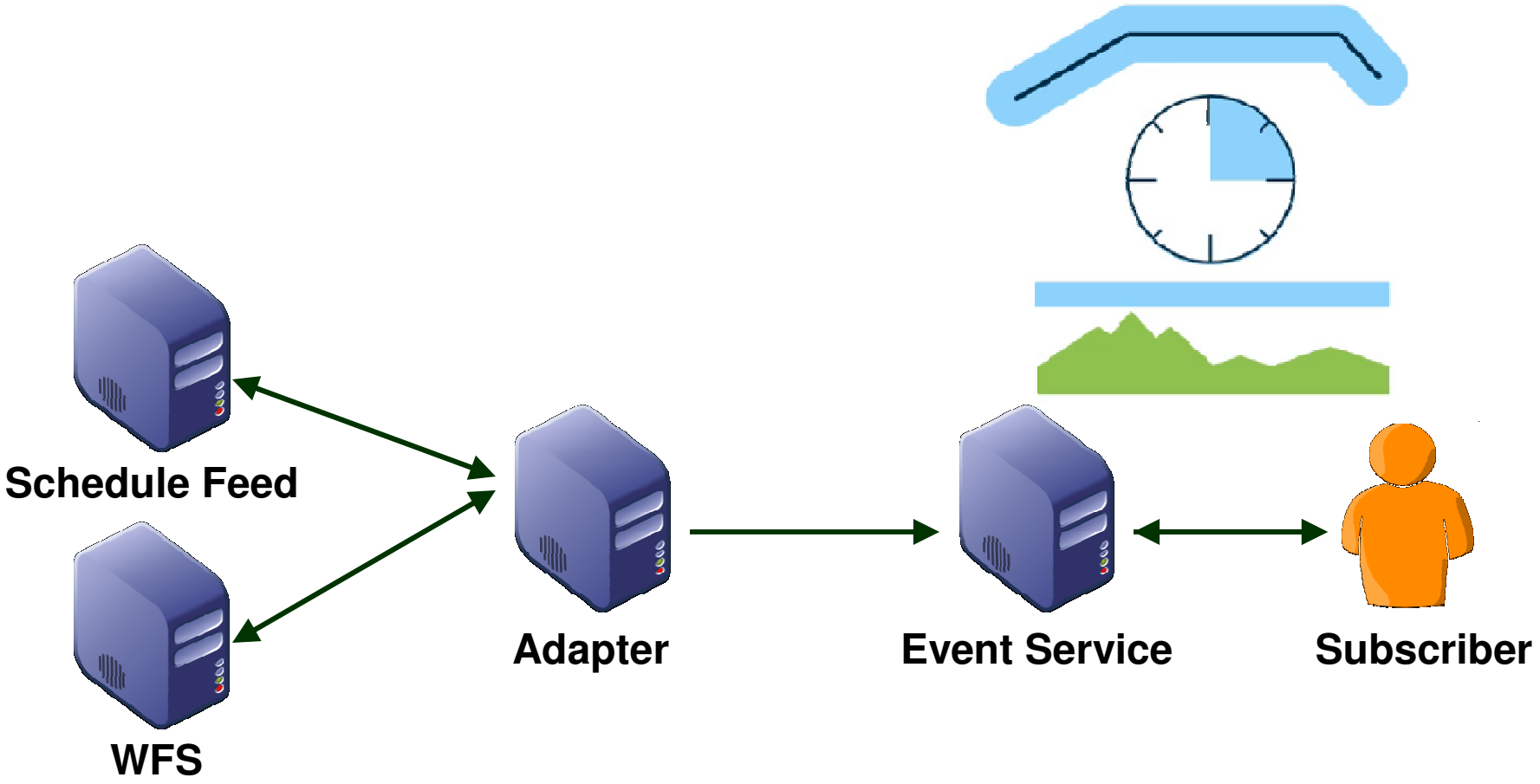
Web Feature Service 2.0

- Queries – FES 2.0
- Full features or select elements

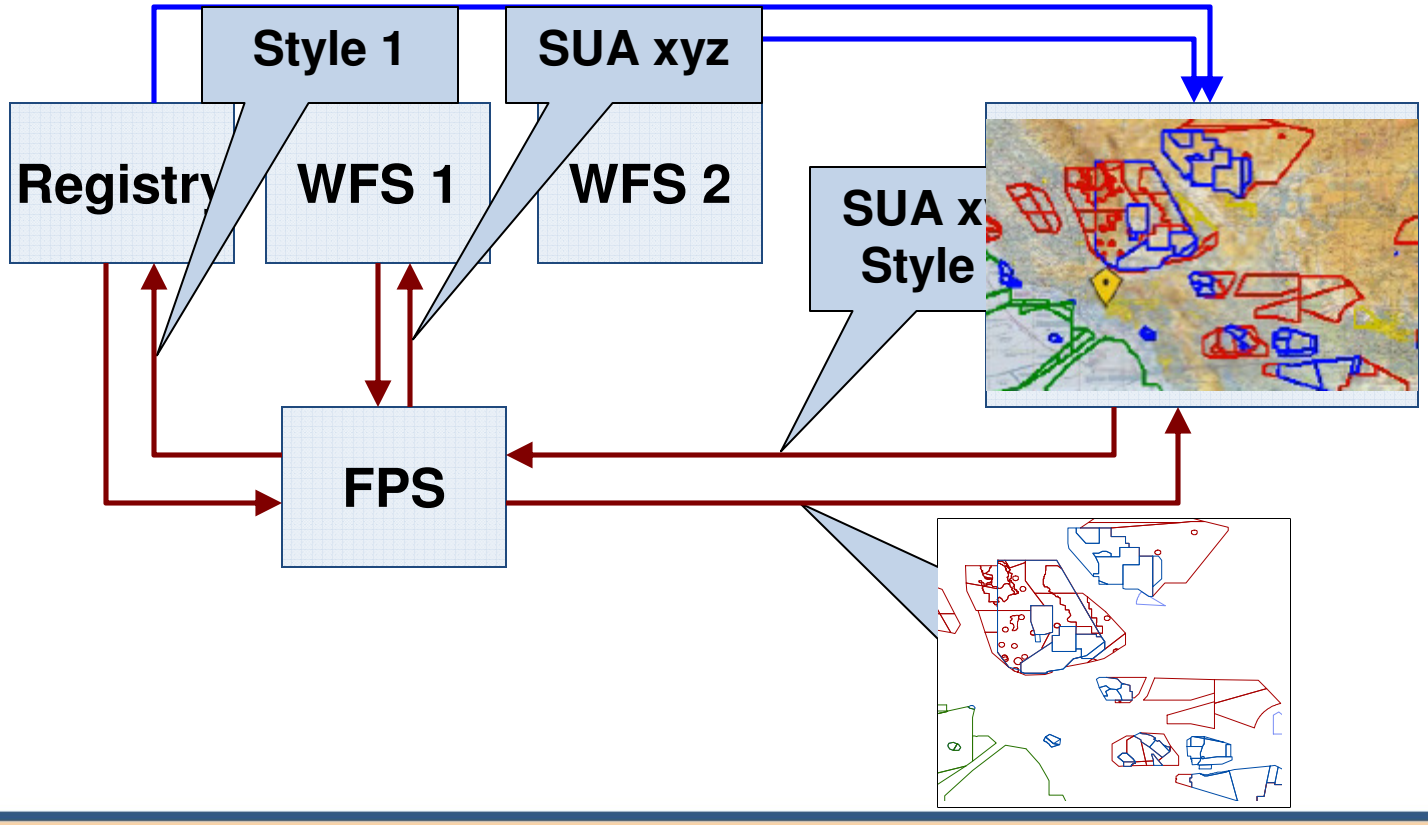
```
valueReference="//aixm:frequencyTransmission“
…
<wfs:Query typeName="aixm:RadioCommunicationChannel" handle="Q01">
<fes:Filter>
<fes:PropertyIsEqualTo>
<fes:ValueReference>//gml:identifier</fes:ValueReference>
   <fes:Literal>9C0D0B68-A8CD-3E45-E044-00212803DA06</fes:Literal>
</fes:PropertyIsEqualTo>
</fes:Filter>
</wfs:Query>
</wfs:GetFeature>

<wfs:member>
<aixm:frequencyTransmission uom="MHZ">134.45</aixm:frequencyTransmission>
</wfs:member>
```

Event Service

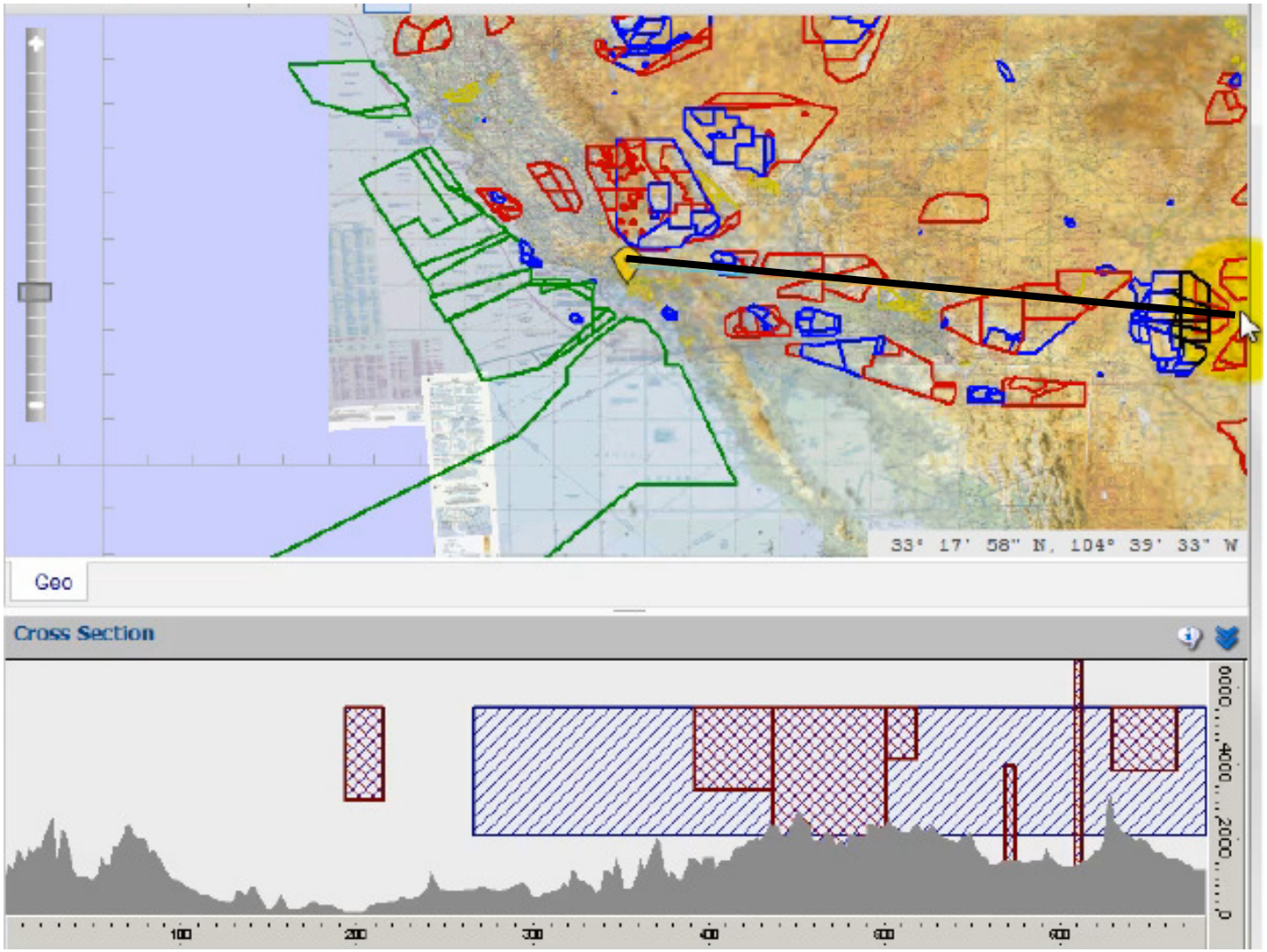


Feature Portrayal Service



Application Client

- GetFeature Info
- WPS



Application Client Videos

- Luciad
- Lufthansa Systems

Summary / Conclusion

- Dissemination, portrayal of SAA data
- OGC standards, AIXM
  - Web Feature Service
  - Feature Portrayal Service (WMS/SLD)
  - Registry
  - Event Service (WS-Notification)
  - Web Processing Service
- Future work
  - Military scheduling
  - Airline flight planning

More Information

- SAA demo site

http://www.opengeospatial.org/pub/www/saa/index.html

- SAA Pilot participants

CNA

Concept Solutions

Envitia

Galdos Systems

Luciad

Lufthansa Systems

Snowflake Software

University of Muenster - IfGI

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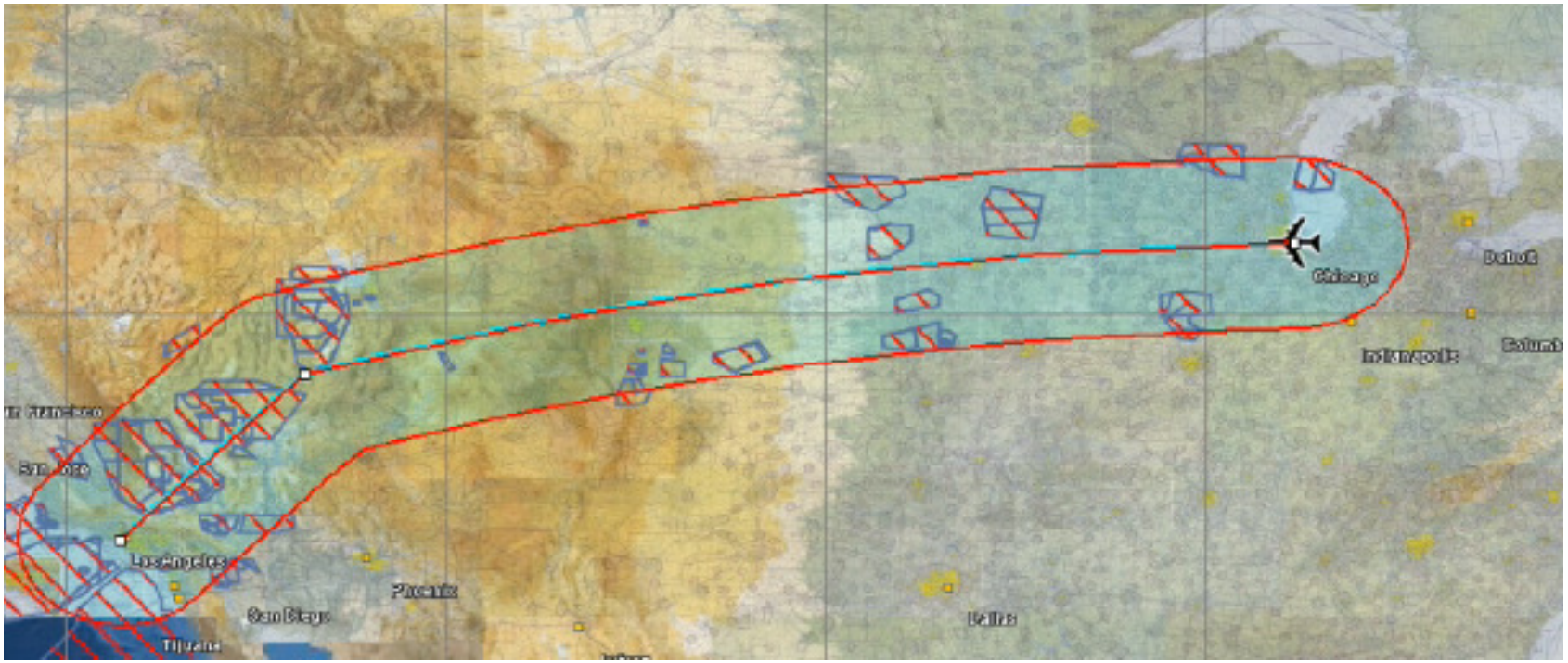
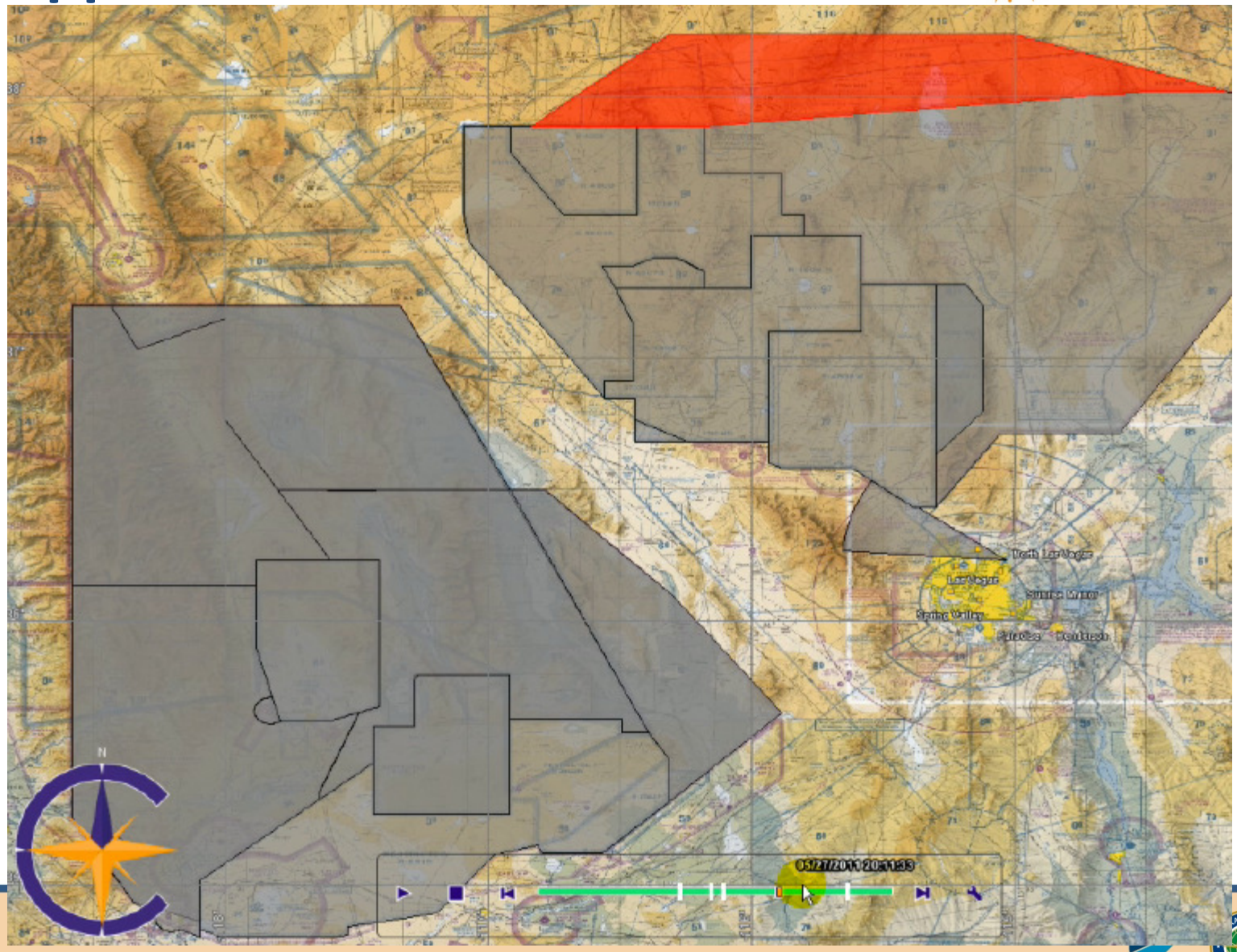
Questions & Answers / Feedback

Extra Slides

Application Client



Application Client