NGA Implementation of AIXM

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NGA's Mission

NGA provides high quality aeronautical information for the safety of navigation layer in the geospatial intelligence model. NGA products support the Navigation information needs in support of DoD flight crews and national decision-makers.

– Our Primary Responsibility:

Safety of Navigation Data

Our Unique Position

- NGA is an Aeronautical Data Supplier
  - No Aeronautical Data Origination
  - Adhere to International Standards for Aeronautical Data
  - Develop Aeronautical Products that support our customers' requirements

AIXM Implementation

- Create an AIXM Ingest Tool
  - Ingest Aeronautical State data
  - Harmonize with other State data
- Maintain one conflated database for all Aeronautical Navigation Information

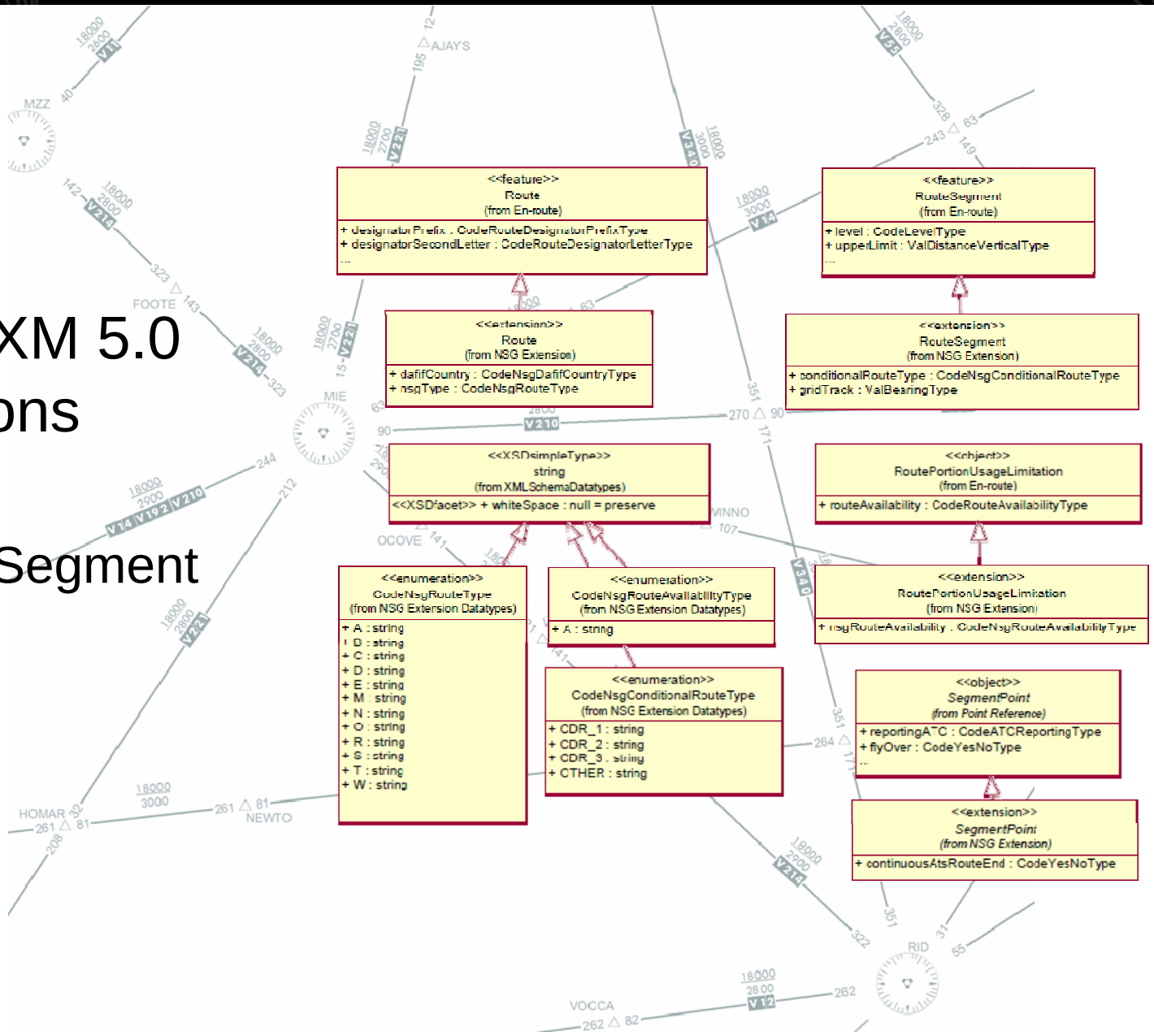
AIXM Implementation

- Create Web Feature Service Utilities
  - Profile AIXM to meet User needs
  - Take Advantage of AIXM's Extensibility
  - Leverage RTCA & OGC Standards
  - Build Service Architecture based on Standards

AIXM Implementation

- Profiling and Extending AIXM
  - Create Utilities Phase 1
  - Utilize DOD Data Requirements
    - Profile AIXM 5.0
      - Map NGA “Stuff” to AIXM’s “Stuff”
    - Extend AIXM 5.0 IAW AIXM Supporting Documents

- NSG AIXM 5.0 Extensions
  - Route
  - RouteSegment

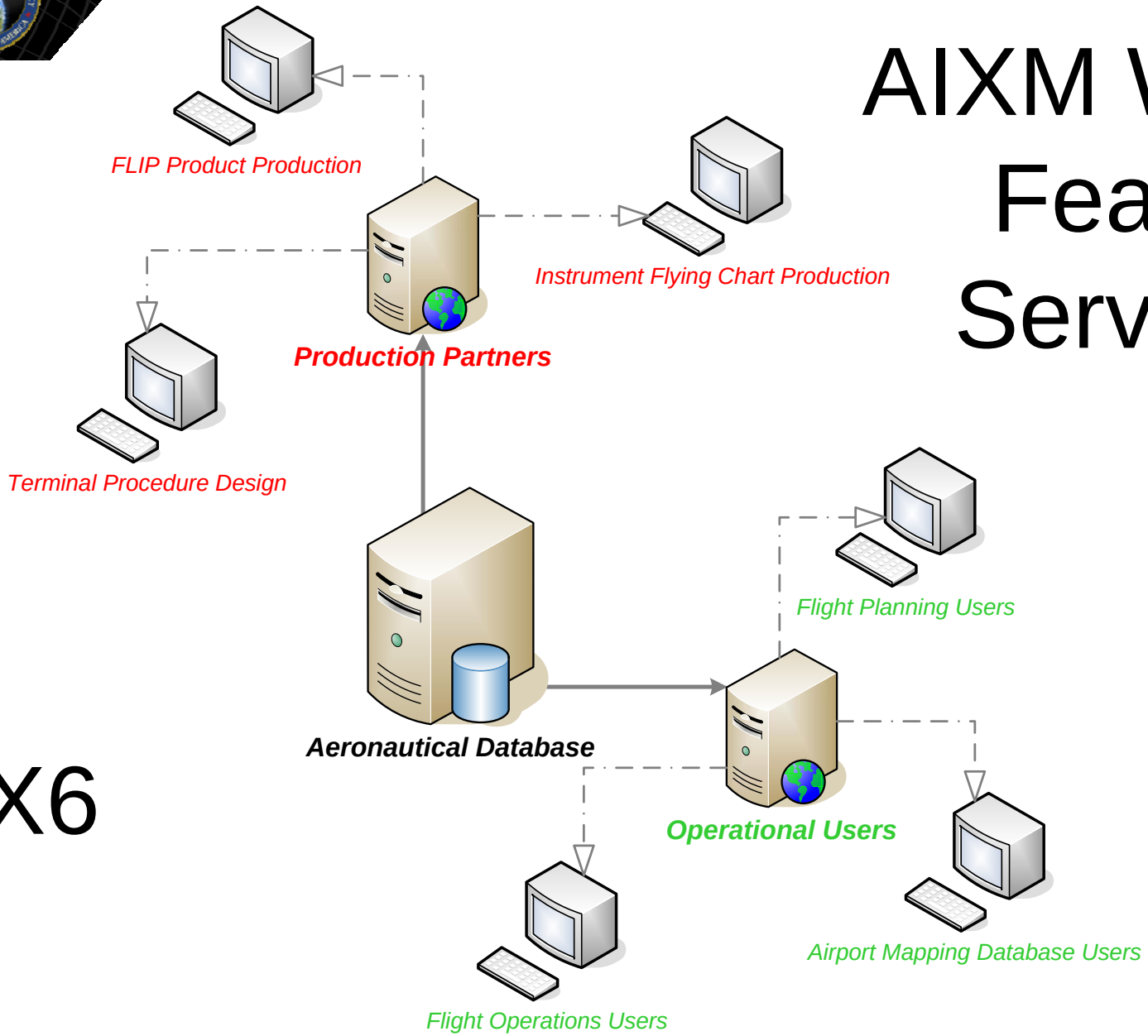


AIXM Implementation

- Develop Standards based Web Feature Services
  - Create Utilities Phase 2

– Utilize AIXM Profile as Backbone
  - Create Services for Multiple Users
    – Different Services, Different Operations

AIXM Web Feature Services



X6

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    <gmd:role>
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http://www.opengis.net/gml" xmlns:ogc="http://www.opengis.net/ogc" xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:schemaLocation="http://www.opengis.net/wfs
http://schemas.opengis.net/wfs/1.1.0/WFS-basic.xsd">
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    <ogc:Filter>
      <ogc:And>
        <ogc:PropertyIsEqualTo>
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        </ogc:PropertyIsEqualTo>
        <ogc:PropertyIsEqualTo>
          <ogc:PropertyName>icao_code</ogc:PropertyName>
          <ogc:Literal>TL</ogc:Literal>
        </ogc:PropertyIsEqualTo>
      </ogc:And>
    </ogc:Filter>
  </wfs:Query>
</wfs:GetFeature>
```

- IPDS Service
  - AirportHeliport feature
  - Query: St. Louis Lambert International Airport (KSTL)

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  <aixm:City>
    <aixm:name>ST LOUIS</aixm:name>
  </aixm:City>
</aixm:servedCity>
<aixm:ARP>
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  </aixm:ElevatedPoint>
</aixm:ARP>
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      </aixm:LinguisticNote>
    </aixm:translatedNote>
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```

AIXM Implementation

- Disseminate Aeronautical Data to Users
  - Operational Users
  - Production Partners
- Better User Access to data
  - Ability to query, not have to “eat the world”
  - Leverage OGC Filter Standards

AIXM Implementation

- Conclusions
  - Standards based Consumption
  - Timely delivery of Data
  - Standards based Data Structure
  - Extensibility

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