

# *Introduction to AICM and AIXM* **Organizations and Services**

Presented to: AIXM Class  
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Date: August 2005



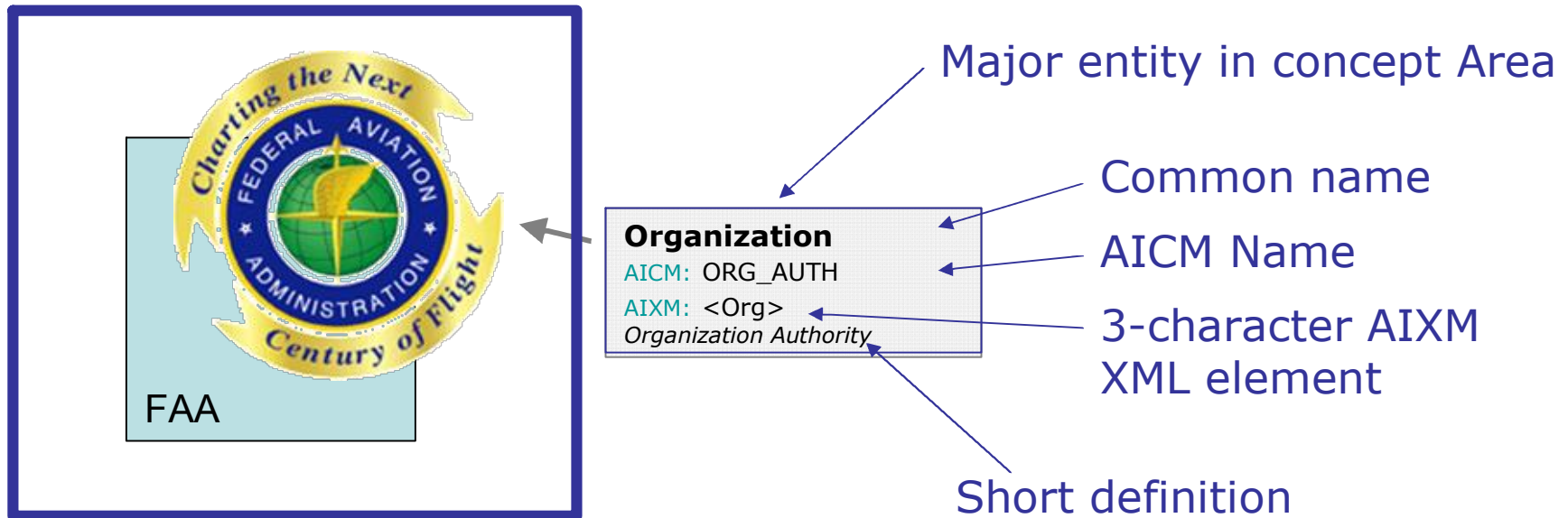
**Federal Aviation  
Administration**



# AICM/AIXM Concept introduction

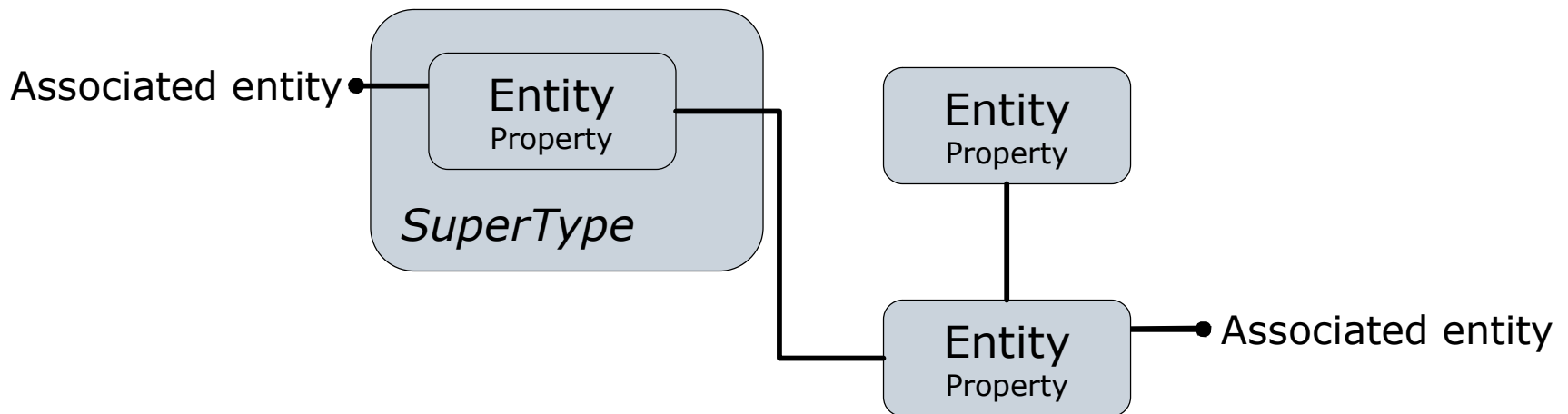
- **Show overall scope and connectivity of the concept area**
- **Provide a concrete example of the AICM/AIXM Concept**
  - Identify some key properties but not all properties of the concept area.
  - Identify some key relationships but not all relationships in the concept area

# Reading the concept area sketch



'Real world' illustration

# Reading the concept area diagram



- **Summary of major concept area elements and connectivity**
- **Not meant to be a rigorous entity-relationship model**

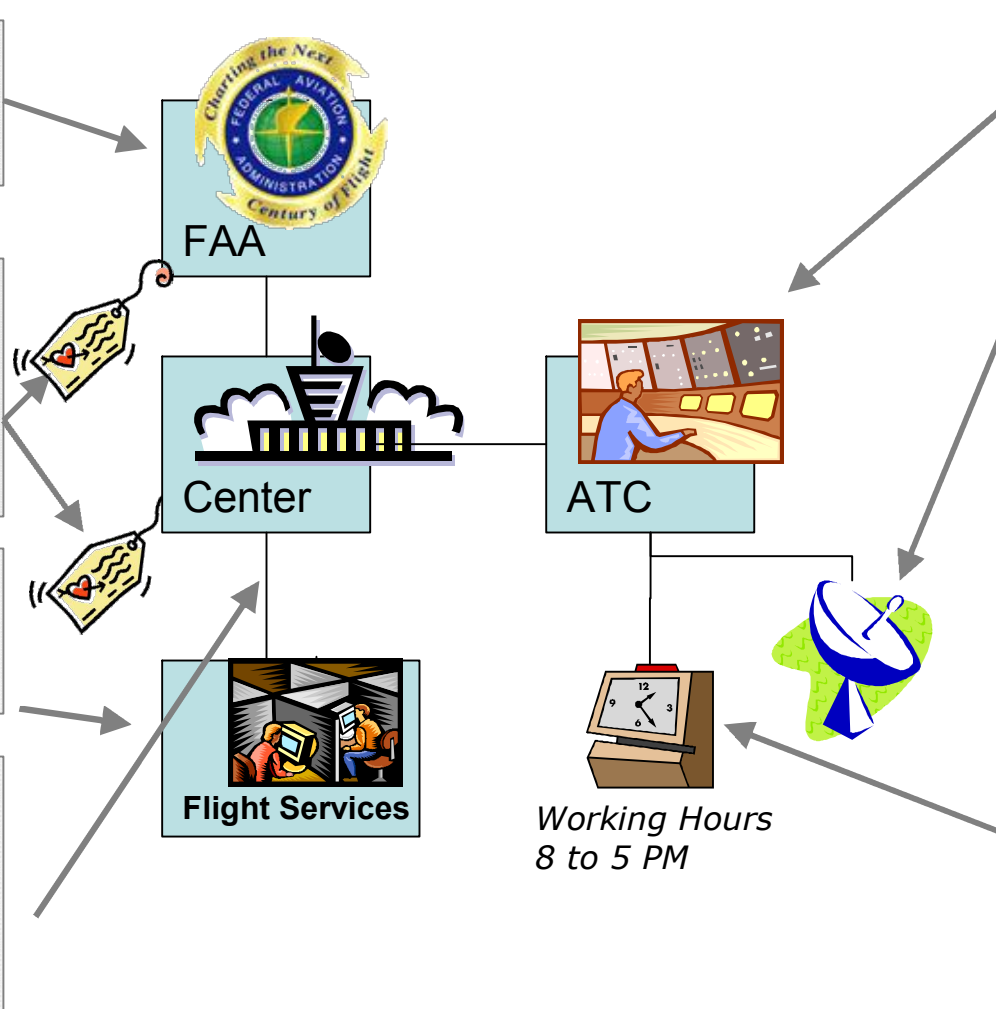
# Services Concept

**Organization**  
 AICM: ORG\_AUTH  
 AIXM: <Org>  
 Organization authority

**Address**  
 AICM: ORG\_AUTH\_ADDRESS  
 UNIT\_ADDRESS  
 AIXM: <Oaa>, <Uas>  
 Address of an organization or unit.

**Unit**  
 AICM: UNIT  
 AIXM: <Uni>  
 Unit within an organization

**Association**  
 AICM: ORG\_AUTH\_ASSOC  
 UNIT\_ASSOC  
 AIXM: <Oas>, <Uac>  
 A parent-child relationship between units or organizations.



**Service**  
 AICM: SERVICE  
 AIXM: <Ser>  
 A service provided by a unit.

**Frequency**  
 AICM: FREQUENCY  
 AIXM: <Fqy>  
 Frequency(ies) on which the service is provided

**Timesheet**  
 AICM: Timetable  
 AIXM: <Ftt>, <Stt>  
 Operating hours for a frequency or service

Working Hours  
 8 to 5 PM

# Organizations and Services

## Definitions – the hardest part

- **Organization Authority**
  - “Model organizations and authorities”
  - ATS organizations (IATA), Aircraft Operators (United), States (Argentina), Groups of States (NATO Members)
- **Unit**
  - “Unit’ that provides services”
  - Approach Control, Military, Tower, ARTCC
- **Service**
  - Services furnished to pilots, flights, aircraft operators, institutions and others
  - Approach, Information, Weather

# Organizations and Services

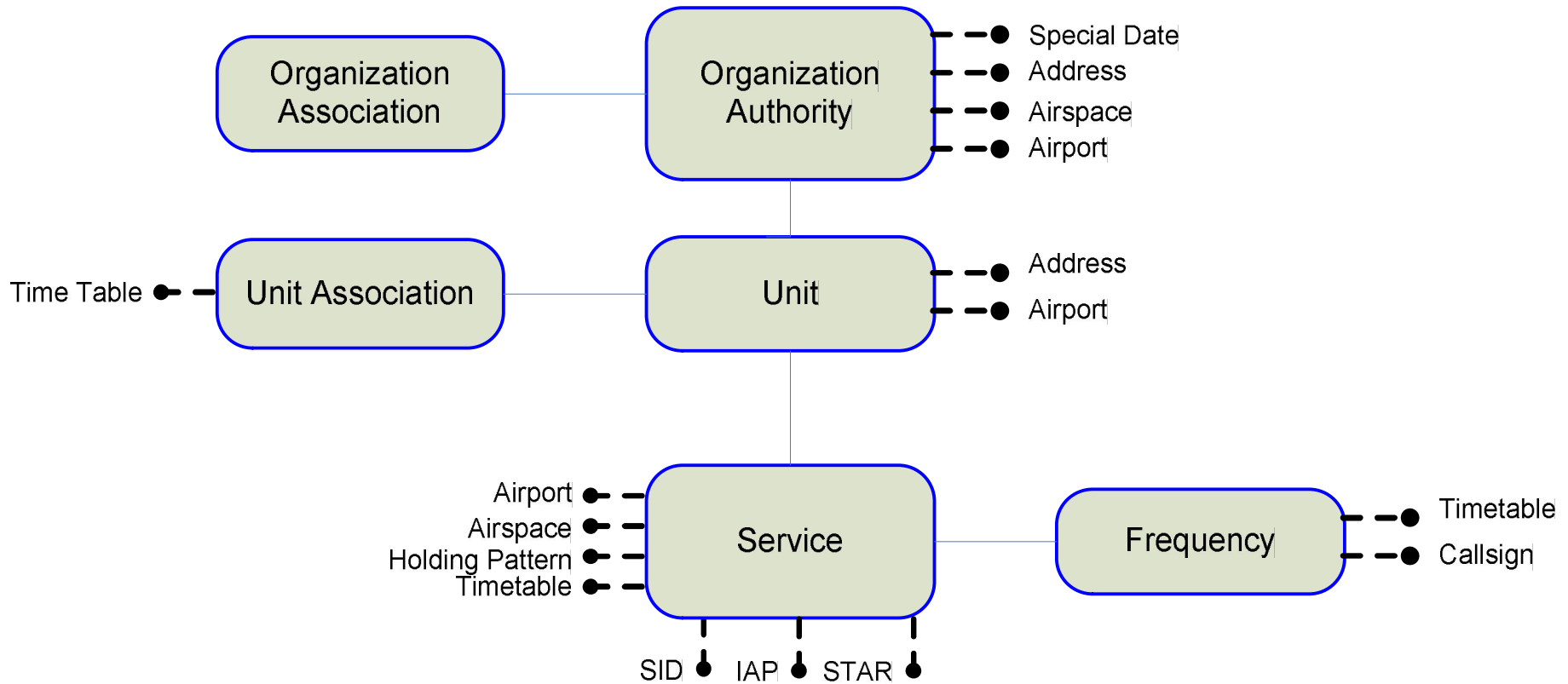
## Definitions – the hardest part

- **So what is the difference between Unit and Organization?**
- **Can an Organization also be a Unit?**



# Organizations and Services

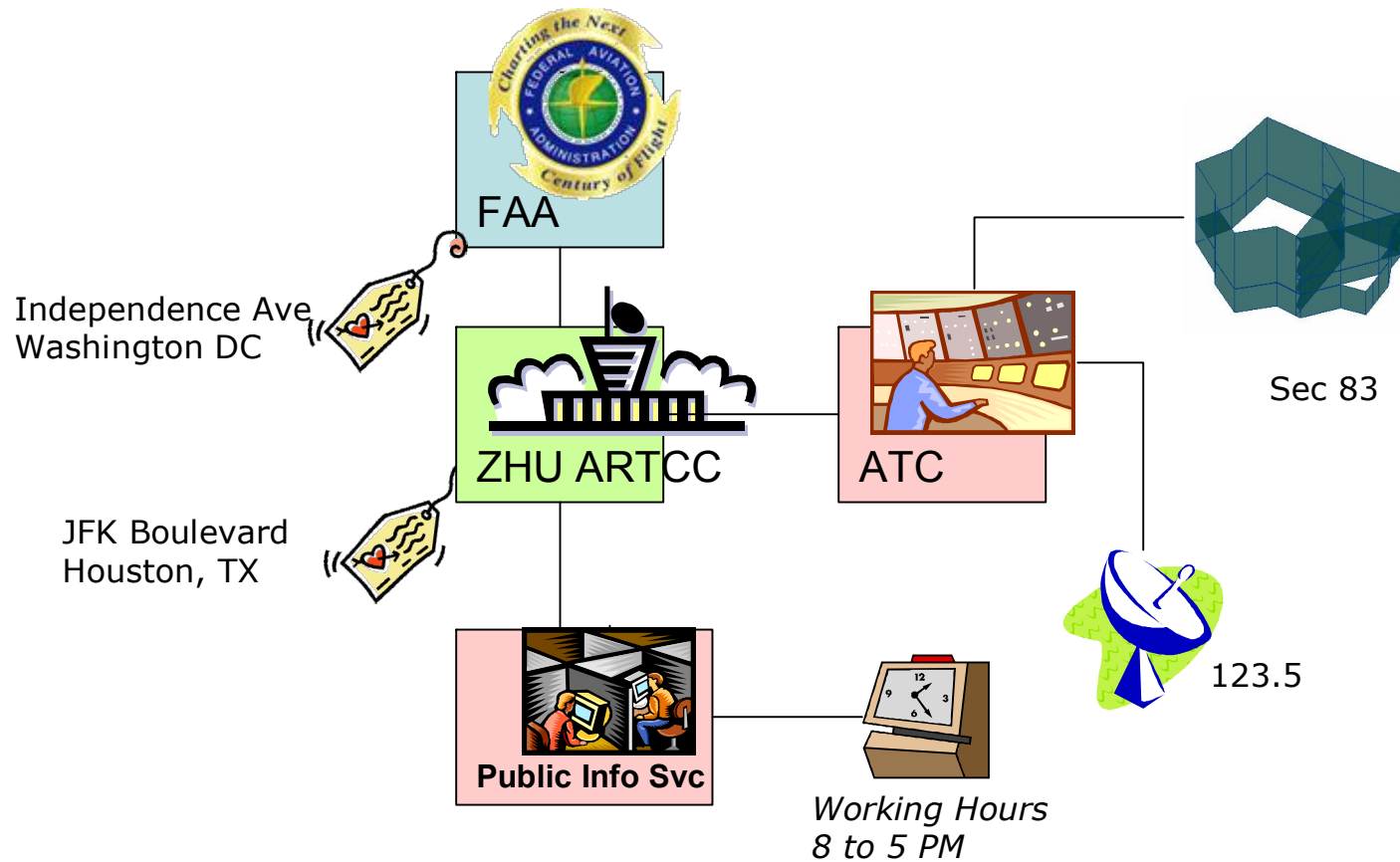
## AICM Data Model





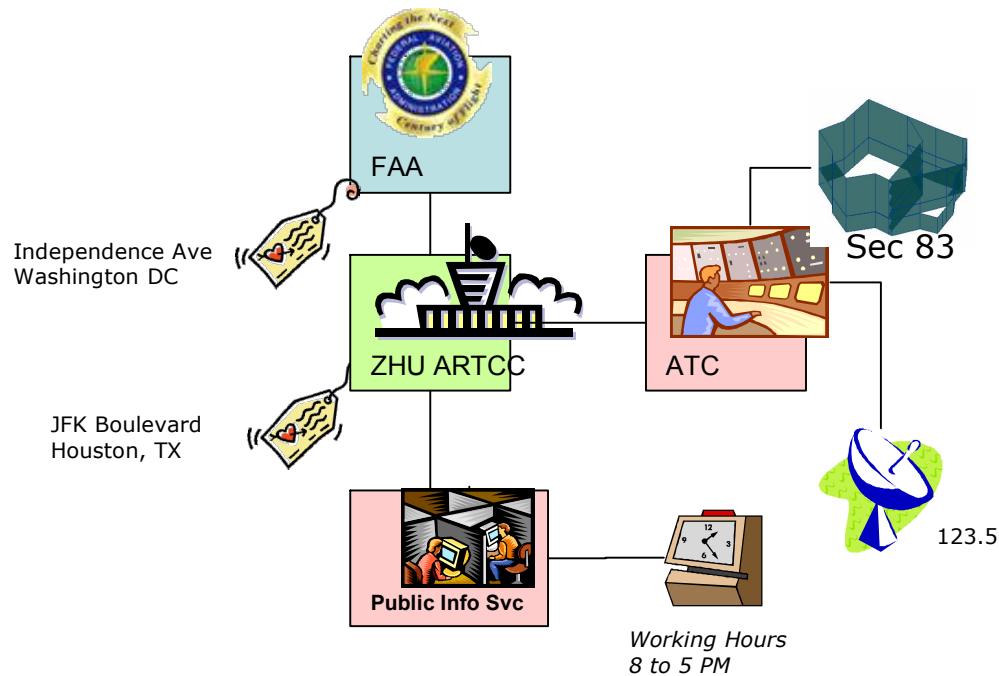
# Organizations and Services

## AICM/AIXM Example



# Organizations and Services

## AICM/AIXM Example



- **Organization**
  - Address
- **Unit**
  - Address
- **Service**
  - Timetable
  - Frequency

# Organizations and Services

## AICM/AIXM Example

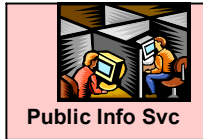
1



2

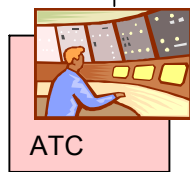


3



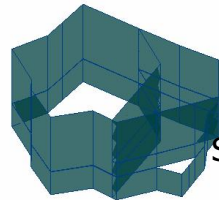
Working Hours  
8 to 5 PM

4



123.5

5



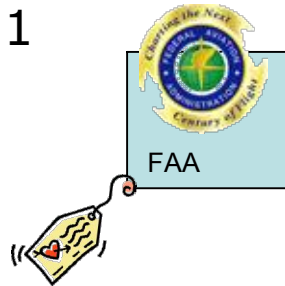
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1	Create the FAA organization with address
2	Create the ZHU ARTCC and associated it with the FAA
3	Create the Information Service
4	Create the ATC Service
5	Assign the service to the airspace

# Organizations and Services

## AICM Example

1



```
<Org>
  <OrgUid>
    <txtName>Fed. Av. Admin.</txtName>
  </OrgUid>
  <codeId>FAA</codeId>
  <codeType>ATS</codeType>
</Org>
<Oaa>
  <OaaUid><OrgUid><txtName>Fed. Av. Admin.</txtName></OrgUid>
  <codeType>POST</codeType>
  <noSeq>1</noSeq>
</OaaUid>
  <txtAddress>Independence Ave, Wash. D.C.</txtAddress>
</Oaa>
```

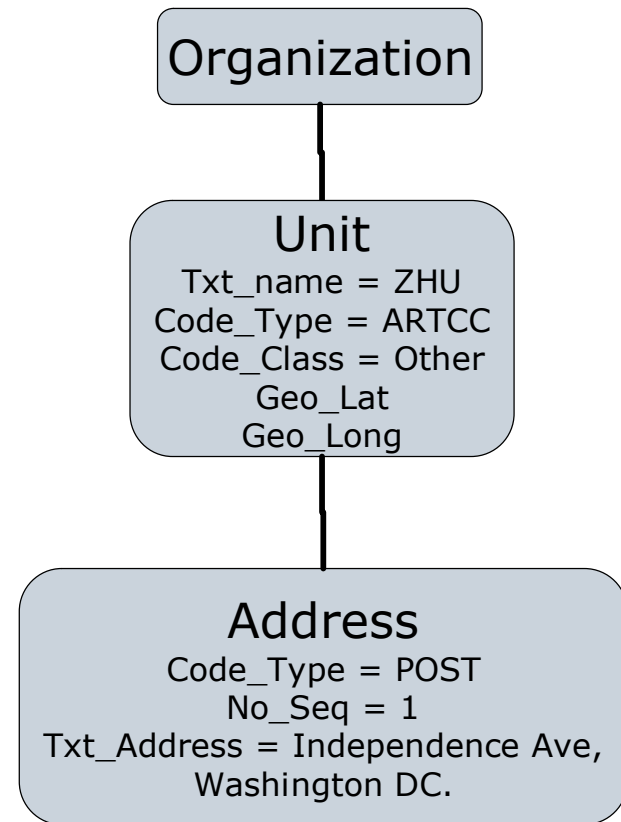
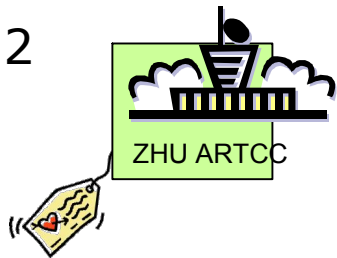
**Organization**  
Txt\_Name = Fed. Av. Admin.  
Code\_ID = FAA  
Code\_Type = ATS

**Address**  
Code\_Type = POST  
No\_Seq = 1  
Txt\_Address = Independence Ave,  
Washington DC.

# Organizations and Services

## AICM Example

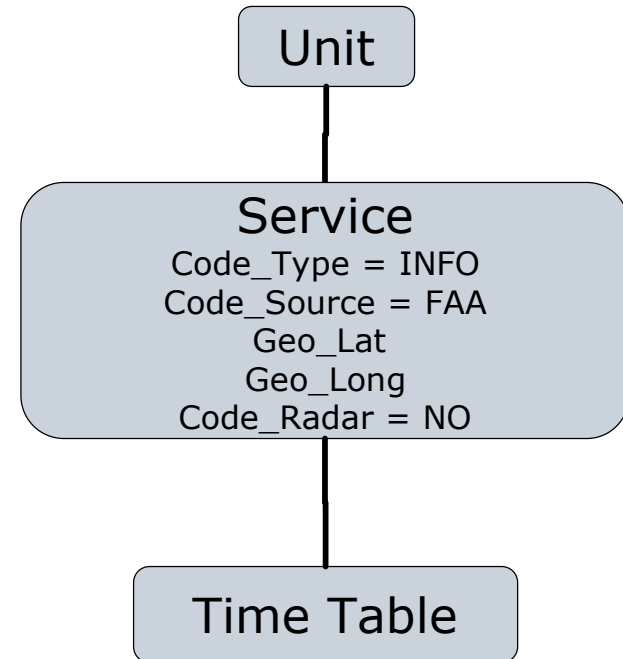
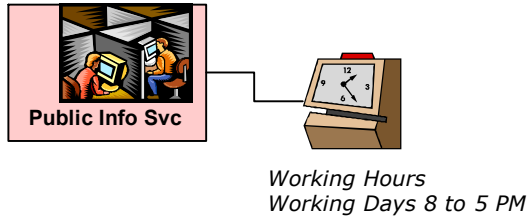
2



# Organizations and Services

## AICM Example

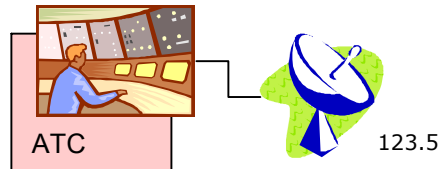
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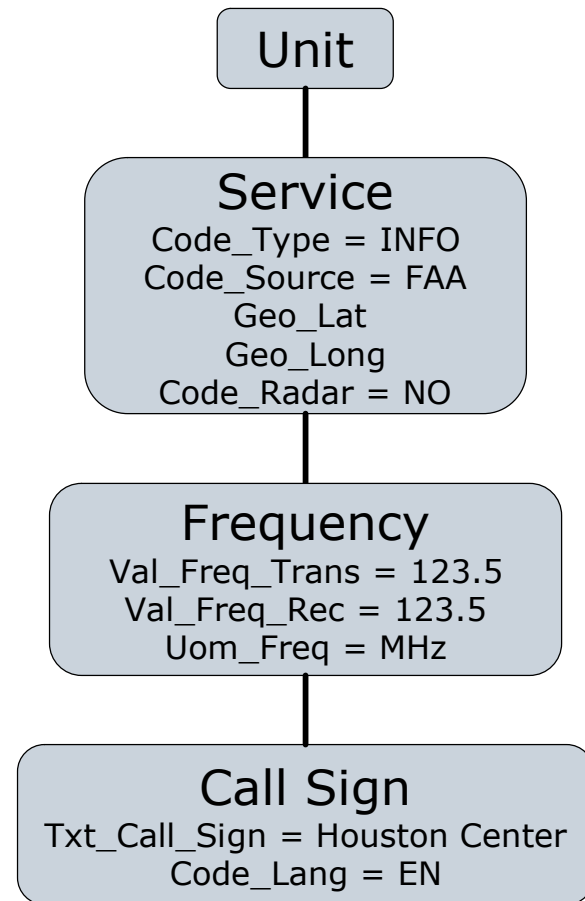
# Organizations and Services

## AICM Example

4



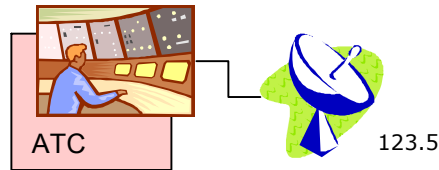
```
<Ser>
  <SerUid>
    <UniUid>
      <txtName>ZHU</txtName>
    </UniUid>
    <codeType>ATC</codeType>
    <noSeq>1</noSeq>
  </SerUid>
  <codeSource>FAA</codeSource>
  <geoLat>22.00N</geoLat>
  <geoLong>142.00W</geoLong>
  <codeRadar>Y</codeRadar>
</Ser>
```



# Organizations and Services

## AICM Example

4



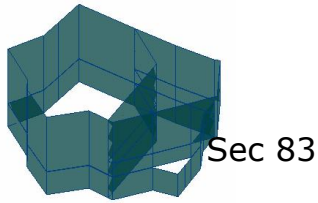
```
<Fqy>
  <FqyUid>
    <SerUid>
      <UniUid>
        <txtName>ZHU</txtName>
      </UniUid>
      <codeType>ATC</codeType>
      <noSeq>1</noSeq>
    </SerUid>
    <valFreqTrans>123.5</valFreqTrans>
  </FqyUid>
  <uomFreq>MHZ</uomFreq>
  <valFreqRec>123.5</valFreqRec>
  <Cdl>
    <txtCallSign>Houston Center</txtCallSign>
    <codeLang>EN</codeLang>
  </Cdl>
</Fqy>
```



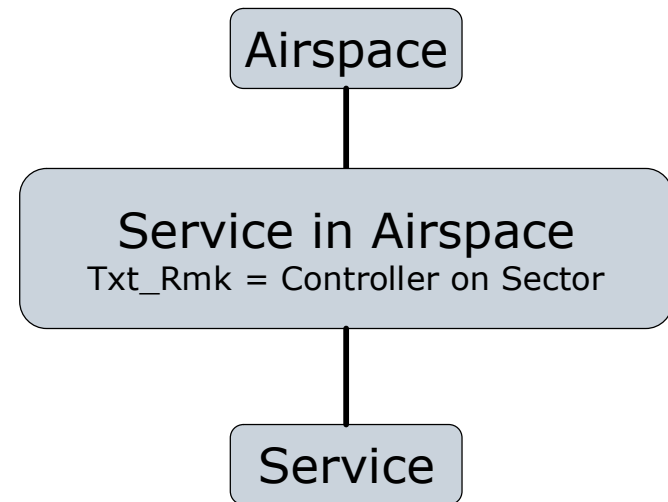
# Organizations and Services

## AICM Example

5



```
<Sae>
  <SaeUid>
    <SerUid>
      <UniUid>
        <txtName>ZHU</txtName>
      </UniUid>
      <codeType>ATC</codeType>
      <noSeq>1</noSeq>
    </SerUid>
    <AseUid>
      <codeType>SECTOR</codeType>
      <codeId>ZHU83</codeId>
    </AseUid>
  </SaeUid>
</Sae>
```



# Organizations and Services

## Summary

- **The Organizations and Services concept area models groups involved in provisioning and consuming airspace system services.**
  - Organizations are used to model large groups that may provide many different aviation functions.
  - Units are divisions responsible for a focused set of services.
  - Services are provided by Units to be consumed by system users
- **Although not discussed complex organization relationships can be modeled with organization and unit associations**
- **Services can be linked to other aeronautical features like airports, airspace, SIDS and STARS**



# Organizations and Services Glossary

## Major AIXM Elements

<b>ORG</b>	<b>ORG_AUTH</b>
<b>OAA</b>	<b>ORG_AUTH_ADDRESS</b>
<b>UNI</b>	<b>UNIT</b>
<b>UAS</b>	<b>UNIT_ADDRESS</b>
<b>SER</b>	<b>SERVICE</b>
<b>FQY</b>	<b>FREQUENCY</b>
<b>SAE</b>	<b>SERVICE_IN_AIRSPACE</b>

