ATS Unit providing Service

Introduction

The ATS unit providing service for an airspace is not part of the minimum AIP data set but required in ENR 2.1 ENR 2.1 FIR, UIR, TMA AND CTA:

2) identification of unit providing the service;
3) call sign of aeronautical station serving the unit and language(s) used, specifying the area and conditions, when and where to be used, if applicable;
4) frequencies, and if applicable SATVOICE number, supplemented by indications for specific purposes

and AD 2.17 / Ad 3.16 Air traffic services airspace

4) call sign and language(s) of the ATS unit providing service;

Hence, it is considered conditional data.

The figure below shows the main AIXM 5 classes used for encoding ATS unit providing service, including relevant list of values for some properties.

AIXM 5 does not provide a direct relationship between the Airspace and Unit feature. A Service is provided by a Unit. The Service of a certain type can then be related to an Airspace.

Service is an abstract feature which is specialised into the following classes:

- AirTrafficManagementService
  A kind of service that provides flight planning and flow management operations.
• **SearchRescueService**
  The performance of distress monitoring, communication, coordination and search and rescue functions, initial medical assistance or medical evacuation, through the use of public and private resources, including cooperating aircraft, vessels and other craft and installations.

• **InformationService**
  A kind of service that consists in the provision of aeronautical, meteorological, traffic and related information to aircraft crew and other actors involved in flight operations, in flight or on the ground.

• **AirTrafficControlService**
  A kind of service that provides control and separation services to aircraft in the air.

Although the AIXM model allows it, **AirTrafficManagementService** shall not be used as ATS Unit providing service for airspace, as it is not an ATS unit.

The **Unit** providing the **Service** carries a **name** attribute that shall be used for the identification.

For certain specialisations of services, a relationship to the concerned **AirportHeliport** can be defined. This is applicable for AD 2.17 Air traffic services airspaces.

The **CallSignDetail** class is used to provide information about the operational identifier, by which the provider of the service is called, i.e. the **callSign** and the **language** used.

For the language, the ISO 639-2 shall be used. Note that in AIXM the language code is restricted to lower case and 3 characters.

The frequencies on which the **Service** is provided is encoded by using the **RadioCommunicationChannel.frequencyTransmission** attribute and if applicable also the **RadioCommunicationChannel.frequencyReception** attribute (see also Radio Communication Channel [RCC] for guidelines and rules).

The **RadioCommunicationChannel.rank** attribute can be used indicating the specific purposes of the communication channel, in terms of primary, alternate, emergency, etc.

![AIXM 5.1.1 issue_002_SATVOICE](image)

SATVOICE is not covered by AIXM 5.1.1.

Workaround: Provide a Note for the corresponding **Service** feature.

Status: See CCB AIXM-189

How to identify that a particular **RadioCommunicationChannel** is related to a particular, **CallSignDetail**, see example below

<table>
<thead>
<tr>
<th>Service Designation</th>
<th>CallSign</th>
<th>Channel(s)</th>
<th>Hours of Operation</th>
</tr>
</thead>
<tbody>
<tr>
<td>APP</td>
<td>HEATHROW DIRECTOR</td>
<td>119.725 MHz</td>
<td>120.400 MHz When instructed by ATC.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>127.25 MHz When instructed by ATC.</td>
<td>134.975 MHz When instructed by ATC.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>121.500 MHz Emergency frequency O/R.</td>
<td></td>
</tr>
<tr>
<td>TVR</td>
<td>HEATHROW TOWER</td>
<td>118.000 MHz DOC 25 emi/4,000 ft.</td>
<td>Winter: 0700-2200 or as directed Summer: 0600-2200 or as directed</td>
</tr>
<tr>
<td></td>
<td></td>
<td>118.700 MHz DOC 25 emi/4,000 ft.</td>
<td>118.475 MHz When instructed by ATC.</td>
</tr>
<tr>
<td></td>
<td></td>
<td>121.500 MHz Emergency frequency O/R.</td>
<td></td>
</tr>
<tr>
<td></td>
<td>HEATHROW DELIVERY</td>
<td>121.975 MHz</td>
<td>Ground Movement Planning Departing aircraft are to make initial call to 'Heathrow Delivery' on this frequency during hours of operation. At other times call 'Heathrow Ground' DOC 5 emi/GND.</td>
</tr>
</tbody>
</table>

In the example given above, this should be coded as two separated **Service**, Both provided by the same TWR **Unit**.

**Hours of Service**

This information is required for ATS airspaces usually published in "ENR 2.1 FIR, UIR, TMA AND CTA":

3) call sign of aeronautical station serving the unit and language(s) used, specifying the area and conditions, when and where to be used, if applicable;

In AIXM, this information will be provided via the **Service.availability**. The **ServiceOperationalStatus** class and its properties are used to code the detailed information, including the **operationalStatus** and the **timeInterval**.
An operational status has to be coded, in order to support the AIXM Digital NOTAM Event concept.

### AIP Context

The example below shows the Hours of service of the unit providing the service for the airspace.

![ENR 2.1 FIR, UIR, TMA](image)

### Coding Rules

<table>
<thead>
<tr>
<th>Requirement ID</th>
<th>Data Encoding Rule</th>
<th>Justification</th>
<th>Data Verification Rule (UID)</th>
<th>Remarks</th>
</tr>
</thead>
<tbody>
<tr>
<td>ASE-701</td>
<td>If a <strong>Service</strong> has a <strong>clientAirspace</strong> that is an ATS airspace or a special activity airspace the <strong>Unit name</strong> of the related to the <strong>Service</strong> shall be provided.</td>
<td>PANS AIM</td>
<td>TBD</td>
<td></td>
</tr>
<tr>
<td>ASE-702</td>
<td>If a <strong>Service</strong> has a <strong>clientAirspace</strong> that is an ATS airspace or a special activity airspace the <strong>Service</strong> type shall be provided.</td>
<td>Data consistency</td>
<td>TBD</td>
<td></td>
</tr>
<tr>
<td>ASE-703</td>
<td>If a <strong>Service</strong> has a <strong>clientAirspace</strong> that is an ATS airspace or a special activity airspace the <strong>Service</strong>, call-sign shall be provided.</td>
<td>Data consistency</td>
<td>TBD</td>
<td></td>
</tr>
<tr>
<td>ASE-704</td>
<td>If a <strong>Service</strong> has a <strong>clientAirspace</strong> that is an AD 2.17/AD 3.16 airspace the <strong>Unit airportLocation</strong> of the unit providing the service should be provided.</td>
<td>Data consistency</td>
<td>TBD</td>
<td></td>
</tr>
<tr>
<td>ASE-705</td>
<td>If a <strong>CallSignDetail</strong> call-sign is provided, also a <strong>CallSignDetail</strong> language shall be provided.</td>
<td>AIXM 4.5 / Minimal data rule</td>
<td>AIXM-5.1_RULE-1A33D3</td>
<td></td>
</tr>
<tr>
<td>ASE-706</td>
<td>For the provision of the <strong>CallSignDetail</strong> language Language codes - ISO 639-2 [1] shall be used.</td>
<td>Data harmonisation</td>
<td>TBD</td>
<td></td>
</tr>
<tr>
<td>ASE-707</td>
<td><strong>AirTrafficManagementService</strong> shall not be used as <strong>Service</strong> in case the <strong>clientAirspace</strong> is an ATS airspace or a special activity airspace.</td>
<td>Data harmonisation</td>
<td>TBD</td>
<td></td>
</tr>
<tr>
<td>ASE-708</td>
<td>Each <strong>Service</strong> related to a <strong>Airspace</strong> should have a <strong>radioCommunication</strong> with coded <strong>RadioCommunicationChannel</strong> frequency Transmission and <strong>RadioCommunicationChannel</strong> frequency Reception (if applicable).</td>
<td>Data harmonisation</td>
<td>TBD</td>
<td></td>
</tr>
</tbody>
</table>
Coding Examples

The figure below shows an ATS Unit providing a Tower service within an airspace by using the DONLON CTR as example.

Coding examples can be found in the AIP Data Set - Specimen (DONLON).

<table>
<thead>
<tr>
<th>No.</th>
<th>Description</th>
<th>XPath Expression</th>
</tr>
</thead>
<tbody>
<tr>
<td>ATC-EX-01</td>
<td>AMSWELL ACC providing service for AMSWELL FIR</td>
<td>//aixm:AirspaceTimeSlice[@gml:id='ATC_AMSWELL_ACC']</td>
</tr>
<tr>
<td>UNI-EX-01</td>
<td>DONLON TWR providing Service for DONLON CTR</td>
<td>//aixm:AirTrafficControlServiceTimeSlice[@gml:id='RCC_AMSWELL_ACC_46_89.5KHZ']</td>
</tr>
</tbody>
</table>
UNI-EX-02

Slice[@gml:id =’ATC_DONLON_TWR’] |
@aixm:UnitTimeSlice[@gml:id =’UNI_DONLON_TWR’]

ISV-EX-03
UNI-EX-03
RCC-EX-05
RCC-EX-06
RCC-EX-07

DONLON FIS providing service for DONLON ATZ

//@aixm:InformationServiceTimeSlice[@gml:id =’ISV_DONLON_FIS’] |
//@aixm:UnitTimeSlice[@gml:id =’UNI_DONLON_FIS’] |
//@aixm:RadioCommunicationChannelTimeSlice[@gml:id =’RCC_DONLON_TWR_118.100MHZ’] |
//@aixm:RadioCommunicationChannelTimeSlice[@gml:id =’RCC_DONLON_TWR_117.900MHZ’] |
//@aixm:RadioCommunicationChannelTimeSlice[@gml:id =’RCC_DONLON_FIS_118.300MHZ’]

References
2. Digital NOTAM Event Specification, version 1.0, 08 June 2011