



Mosaic ATM

...from Operations Research to Operations Management...

AIXM and iWXXM Data Generator

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May 17, 2016





The Problem:

How to Test SWIM Messages Before SWIM is Available?

- Building a Business Case for SWIM Involves Demonstration of Use Cases and Potential Benefits
- SWIM Demonstrations Must Be Operationally Realistic, While Also Being Cost-Effective
- The Complexity of the Message Standards Presents Challenges to a Quick, Cost-Effective and Operationally Realistic Demonstration



AIXM/iWXXM Data Generator

- Purpose:
 - To support the ad-hoc generation, testing, and simulation of AIXM and iWXXM messages
 - To support the creation of different types of AIXM and WXXM messages with no required knowledge of the underlying schema
 - To support the “injection” of an AIXM or WXXM message in a real-time environment, dynamically generating time fields based on system clock if needed

AIXM/iWXXM Data Generator Features

The screenshot displays the NCR Data Generator web application. The interface is divided into several sections:

- Form Section:** Contains fields for message configuration. The 'Template' dropdown is set to 'IWXXM_Sigmet_thunderstorm_template.xml'. Other fields include 'designator' (KZNY), 'sequenceNumber' (FOXTROT1), 'originatingType' (MWO), 'originatingDesignator' (KKCI), 'originatingName' (KKCI MWO), 'startTime' (2016-04-26T18:00:00), 'endTime' (2016-04-29T18:00:00), 'issueTime' (2016-04-26T18:00:00), 'airspaceName' (NEW YORK OCEANIC FIR), 'directionOfMotion' (90), 'upperLimit' (350), 'geometry' (41.30 -49.00 41.00 -48.30 39.30 -49.00 40.00 -49.30 41.30 -49.00), and 'speed' (30). A 'Save As...' button and 'Enter Name' field are also present.
- Map Section:** A map of the New York area with various airports labeled, including KSTL, KMIKE, KORDY, KND, KCYG, KPHL, KADW, KMSY, KMEM, KBNA, KCLT, KRDU, KATL, KMCO, KTFPA, and KFFL.
- Preview Window:** A window titled 'SIGMET' showing the generated XML message. The XML content is as follows:

```
<iwxxm:SIGMET xmlns:gml="http://www.opengis.net/gml/3.2" xmlns:iwxxm="http://icao.int/iwxxm/1.0"
xmlns:metce="http://def.wmo.int/metce/2013" xmlns:om="http://www.opengis.net/om/2.0"
xmlns:saf="http://icao.int/saf/1.0" xmlns:sams="http://www.opengis.net/samplingSpatial/2.0"
xmlns:si="http://www.opengis.net/sampling/2.0" xmlns:sink="http://www.w3.org/1999/xlink"
xmlns:xi="http://www.w3.org/2001/XMLSchema-instance" xsi:schemaLocation="http://icao.int/iwxxm/1.0
http://schemas.wmo.int/iwxxm/1.0/iwxxm.xsd http://def.wmo.int/metce/2013 http://schemas.wmo.int/metce
/1.0/metce.xsd" gml:id="sigmet-ts-KZNY-FOXTROT1" status="NORMAL">
<iwxxm:issuingAirTrafficServicesUnit>
<saf:Unit gml:id="ats-KZNY">
<saf:designator>KZNY</saf:designator>
</saf:Unit>
</iwxxm:issuingAirTrafficServicesUnit>
<iwxxm:originatingMetereologicalWatchOffice>
<saf:Unit gml:id="MWO-KKCI">
<saf:name>KKCI MWO</saf:name>
<saf:type>MWO</saf:type>
<saf:designator>KKCI</saf:designator>
</saf:Unit>
</iwxxm:originatingMetereologicalWatchOffice>
<iwxxm:sequenceNumber>FOXTROT1</iwxxm:sequenceNumber>
<iwxxm:validPeriod>
<gml:TimePeriod gml:id="tp-1">
<gml:beginPosition>2016-04-26T18:00:00Z</gml:beginPosition>
<gml:endPosition>2016-04-29T18:00:00Z</gml:endPosition>
</gml:TimePeriod>
</iwxxm:validPeriod>
<iwxxm:phenomenon xlink:href="http://codes.wmo.int/49-2/SigWxPhenomena/EMBD_TS"/>
```

Supports various types of AIXM and WXXM messages, including SIGMET, METAR, TAF, and NOTAM.

AIXM/iWXXM Data Generator Features

File Edit View History Bookmarks Yahoo! Tools Help

NCR Data Generator

fo-dev3:8080/NCRWeb/xmgen.html

YAHOO! Yahoo Search

nav draw poly draw line clear drawings About NCR

AIRMET METAR NOTAM PIREP **SIGMET** TAF AIRPORTCONFIG FIXM CDO CTH

Template: IWXXM_Sigmet_thunderstorm_template.xml

designator: KZNY

sequenceNumber: FOXTROT1

originatingType: MWO

originatingDesignator: KKCI

originatingName: KKCI MWO

startTime: 2016-04-26T18:00:00 USER

endTime: 2016-04-29T18:00:00 USER

issueTime: 2016-04-26T18:00:00 USER

airspaceName: NEW YORK OCEANIC FIR

directionOfMotion: 90

upperLimit: 350

geometry: 41.30 -49.00 41.00 -48.30 39.30 -49.00 40.00 -49.30 41.30 -49.00

speed: 30

Save As...

Enter Name Comma Separated Tags (Optional)

Publish Preview

Name	Template	Values
VA Sig - Scen 10a, 1a	VolcanicAsh.xml	geometry = 35.869140625 138.03
AAIS Scenario SIGMET	ConvectiveSIGMET.xml	movementSpeed = 35, issueTime =
AAIS Scenario - NEW	ConvectiveSIGMET.xml	bottom = 0, geometry = 46.26826
SESAR_SIGMET_preflight...	IWXXM_Sigmet_thunderstor...	issueTime = 2016-04-26T16:00:00
ATL_MTL_Convective Sig...	IWXXM_Sigmet_thunderstor...	endTime = 2016-04-29T18:00:00Z
ATL_MTL_Turbulence_Sig...	IWXXM_Sigmet_turb_templa...	speedOfMotion = 30, issueTime =

Filter By Tag:

SIGMET

```
<iwxxm:SIGMET xmlns:gml="http://www.opengis.net/gml/3.2" xmlns:iwxxm="http://icao.int/iwxxm/1.0"
xmlns:metce="http://def.wmo.int/metce/2013" xmlns:om="http://www.opengis.net/om/2.0"
xmlns:saf="http://icao.int/saf/1.0" xmlns:sams="http://www.opengis.net/samplingSpatial/2.0"
xmlns:sf="http://www.opengis.net/sampling/2.0" xmlns:xlink="http://www.w3.org/1999/xlink"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:schemaLocation="http://icao.int/iwxxm/1.0
http://schemas.wmo.int/iwxxm/1.0/iwxxm.xsd http://def.wmo.int/metce/2013 http://schemas.wmo.int/metce
/1.0/metce.xsd" gml:id="sigmet-ts-KZNY-FOXTROT1" status="NORMAL">
<iwxxm:issuingAirTrafficServicesUnit>
<saf:Unit gml:id="atsu-KZNY">
<saf:designator>KZNY</saf:designator>
</saf:Unit>
</iwxxm:issuingAirTrafficServicesUnit>
<iwxxm:originatingMeteorologicalWatchOffice>
<saf:Unit gml:id="MWO-KKCI">
<saf:name>KKCI MWO</saf:name>
<saf:type>MWO</saf:type>
<saf:designator>KKCI</saf:designator>
</saf:Unit>
</iwxxm:originatingMeteorologicalWatchOffice>
<iwxxm:sequenceNumber>FOXTROT1</iwxxm:sequenceNumber>
<iwxxm:validPeriod>
<gml:TimePeriod gml:id="tp-1">
<gml:beginPosition>2016-04-26T18:00:00Z</gml:beginPosition>
<gml:endPosition>2016-04-29T18:00:00Z</gml:endPosition>
</gml:TimePeriod>
</iwxxm:validPeriod>
<iwxxm:phenomenon xlink:href="http://codes.wmo.int/49-2/SigWxPhenomena/EMBD_TS"/>
```

AIXM/iWXXM Data Generator Features

The user enters the values for each data attribute to be included in the message, with no required knowledge of the schema.

Form Fields:

- Template: IWXXM_Sigmet_thunderstorm_template.xml
- designator: KZNY
- sequenceNumber: FOXTROT1
- originatingType: MWO
- originatingDesignat: KKCI
- originatingName: KKCI MWO
- startTime: 2016-04-26T18:00:00
- endTime: 2016-04-29T18:00:00
- issueTime: 2016-04-26T18:00:00
- airspaceName: NEW YORK OCEANIC FIR
- directionOfMotion: 90
- upperLimit: 350
- geometry: 41.30 -49.00 41.00 -48.30 39.30 -49.00 40.00 -49.30 41.30 -49.00
- speed: 30

Saved Entries Table:

Name	Template	Values
VA Sig - Scen 10a, 1a	VolcanicAsh.xml	geometry = 35.869140625 138.03
AAIS Scenario SIGMET	ConvectiveSIGMET.xml	movementSpeed = 35, issueTime =
AAIS Scenario - NEW	ConvectiveSIGMET.xml	bottom = 0, geometry = 46.26826
SESAR_SIGMET_preflight...	IWXXM_Sigmet_thunderstor...	issueTime = 2016-04-26T16:00:00
ATL_MTL_Convective Sig...	IWXXM_Sigmet_thunderstor...	endTime = 2016-04-29T18:00:00Z
ATL_MTL_Turbulence_Sig...	IWXXM_Sigmet_turb_templa...	speedOfMotion = 30, issueTime =

Generated XML Message:

```
<iwxxm:SIGMET xmlns:gml="http://www.opengis.net/gml/3.2" xmlns:iwxxm="http://icao.int/iwxxm/1.0"
xmlns:metce="http://def.wmo.int/metce/2013" xmlns:om="http://www.opengis.net/om/2.0"
xmlns:saf="http://icao.int/saf/1.0" xmlns:sams="http://www.opengis.net/samplingSpatial/2.0"
xmlns:ssi="http://www.opengis.net/sampling/2.0" xmlns:skink="http://www.w3.org/1999/xlink"
xmlns: xsi:schemaLocation="http://icao.int/iwxxm/1.0
http://schemas.wmo.int/iwxxm/1.0/iwxxm.xsd http://def.wmo.int/metce/2013 http://schemas.wmo.int/metce
/1.0/metce.xsd" gml:id="sigmet-ts-KZNY-FOXTROT1" status="NORMAL">
<iwxxm:issuingAirTrafficServicesUnit>
<saf:Unit gml:id="atsu-KZNY">
<saf:designator>KZNY</saf:designator>
</saf:Unit>
</iwxxm:issuingAirTrafficServicesUnit>
<iwxxm:originatingMeteorologicalWatchOffice>
<saf:Unit gml:id="MWO-KKCI">
<saf:name>KKCI MWO</saf:name>
<saf:type>MWO</saf:type>
<saf:designator>KKCI</saf:designator>
</saf:Unit>
</iwxxm:originatingMeteorologicalWatchOffice>
<iwxxm:sequenceNumber>FOXTROT1</iwxxm:sequenceNumber>
<iwxxm:validPeriod>
<gml:TimePeriod gml:id="tp-1">
<gml:beginPosition>2016-04-26T18:00:00Z</gml:beginPosition>
<gml:endPosition>2016-04-29T18:00:00Z</gml:endPosition>
</gml:TimePeriod>
</iwxxm:validPeriod>
<iwxxm:phenomenon xlink:href="http://codes.wmo.int/49-2/SigWxPhenomena/EMBD_TS"/>
```

AIXM/iWXXM Data Generator Features

The screenshot displays the NCR Data Generator web application. The main form on the left contains the following fields:

- Template: IWXXM_Sigmat_thunderstorm_template.xml
- designator: KZNY
- sequenceNumber: FOXTROT1
- originatingType: MWO
- originatingDesignat: KKCI
- originatingName: KKCI MWO
- startTime: 2016-04-26T18:00:00 (USER)
- endTime: 2016-04-29T18:00:00 (USER)
- issueTime: 2016-04-26T18:00:00 (USER)
- airspaceName: NEW YORK OCEANIC FIR
- directionOfMotion: 90
- upperLimit: 350
- geometry: 41.30 -49.00 41.00 -48.30 39.30 -49.00 40.00 -49.30 41.30 -49.00
- speed: 30

A callout box highlights the time fields, stating: "Time fields support 3 options: User: user sets a static date/time; Clock: dynamically set based on system clock; Offset: dynamically set to a user-specified number of minutes after the previous time field".

The "Saved Entries" table is as follows:

Name	Template	Values
VA Sig - Scen 10a, 1a	VolcanicAsh.xml	geometry = 35.869140625 138.03
AAIS Scenario SIGMET	ConvectiveSIGMET.xml	movementSpeed = 35, issueTime =
AAIS Scenario - NEW	ConvectiveSIGMET.xml	bottom = 0, geometry = 46.26826
SESAR_SIGMET_preflight...	IWXXM_Sigmat_thunderstor...	issueTime = 2016-04-26T16:00:00
ATL_MTL_Convective Sig...	IWXXM_Sigmat_thunderstor...	endTime = 2016-04-29T18:00:00Z
ATL_MTL_Turbulence_Sig...	IWXXM_Sigmat_turb_templa...	speedOfMotion = 30, issueTime =

The XML preview window shows the following output:

```
<iwxxm:SIGMET xmlns:gml="http://www.opengis.net/gml/3.2" xmlns:iwxxm="http://icao.int/iwxxm/1.0"
xmlns:metce="http://def.wmo.int/metce/2013" xmlns:om="http://www.opengis.net/om/2.0"
xmlns:saf="http://icao.int/saf/1.0" xmlns:sams="http://www.opengis.net/samplingSpatial/2.0"
xmlns:sf="http://www.opengis.net/sampling/2.0" xmlns:sink="http://www.w3.org/1999/xlink"
xmlns: xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:schemaLocation="http://icao.int/iwxxm/1.0
http://schemas.wmo.int/iwxxm/1.0/iwxxm.xsd http://def.wmo.int/metce/2013 http://schemas.wmo.int/metce
/1.0/metce.xsd" gml:id="sigmet-ts-KZNY-FOXTROT1" status="NORMAL">
<iwxxm:issuingAirTrafficServicesUnit>
<saf:Unit gml:id="atsu-KZNY">
<saf:designator>KZNY</saf:designator>
</saf:Unit>
</iwxxm:issuingAirTrafficServicesUnit>
<iwxxm:originatingMeteorologicalWatchOffice>
<saf:Unit gml:id="MWO-KKCI">
<saf:name>KKCI MWO</saf:name>
<saf:type>MWO</saf:type>
<saf:designator>KKCI</saf:designator>
</saf:Unit>
</iwxxm:originatingMeteorologicalWatchOffice>
<iwxxm:sequenceNumber>FOXTROT1</iwxxm:sequenceNumber>
<iwxxm:validPeriod>
<gml:TimePeriod gml:id="tp-1">
<gml:beginPosition>2016-04-26T18:00:00Z</gml:beginPosition>
<gml:endPosition>2016-04-29T18:00:00Z</gml:endPosition>
</gml:TimePeriod>
</iwxxm:validPeriod>
<iwxxm:phenomenon xlink:href="http://codes.wmo.int/49-2/SigWxPhenomena/EMBD_TS"/>
```

AIXM/iWXXM Data Generator Features

The screenshot displays the NCR Data Generator web application. The interface is divided into several sections:

- Form Fields:** Fields for entering data such as Template (IWXXM_Sigmat_thunderstorm_template.xml), designator (KZNY), sequenceNumber (FOXTROT1), originatingType (MWO), originatingDesignator (KKCI), start/end/issue times, airspaceName (NEW YORK OCEANIC FIR), directionOfMotion (90), upperLimit (350), geometry (41.30 -49.00 41.00 -48.30 39.30 -49.00 40.00 -49.30 41.30 -49.00), and speed (30).
- Map:** A map of the New York region showing various airports (KMKK, KORD, KMEM, KBI, KMSY, KMCO, KJFA, KJL, KJL) and a highlighted area.
- Save As...:** A section for saving the data, including an "Enter Name" field and "Publish" and "Preview" buttons.
- Saved Entries:** A table listing saved entries with columns for Name, Template, and Values.
- XML Preview:** A window showing the generated XML output, including metadata and the actual data elements.

The XML output is as follows:

```
<http://icao.int/iwxxm/1.0*
ngs.net/om/2.0*
plingSpatial/2.0*
3.org/1999/xlink"
http://icao.int/iwxxm/1.0
http://schemas.wmo.int/iwxxm/1.0/iwxxm.xsd http://def.wmo.int/metc/2013 http://schemas.wmo.int/metc
/1.0/metc.xsd" gmlid="sigmet-ts-KZNY-FOXTROT1" status="NORMAL">
<iwxxm:issuingAirTrafficServicesUnit>
<sfaf:Unit gmlid="atsu-KZNY">
<sfaf:designator>KZNY</sfaf:designator>
</sfaf:Unit>
</iwxxm:issuingAirTrafficServicesUnit>
<sfaf:Unit gmlid="MWO-KKCI">
<sfaf:name>KKCI MWO</sfaf:name>
<sfaf:type>MWO</sfaf:type>
<sfaf:designator>KKCI</sfaf:designator>
</sfaf:Unit>
</iwxxm:originatingMeteorologicalWatchOffice>
<iwxxm:sequenceNumber>FOXTROT1</iwxxm:sequenceNumber>
<iwxxm:validPeriod>
<gml:TimePeriod gmlid="tp-1">
<gml:beginPosition>2016-04-26T18:00:00Z</gml:beginPosition>
<gml:endPosition>2016-04-29T18:00:00Z</gml:endPosition>
</gml:TimePeriod>
</iwxxm:validPeriod>
<iwxxm:phenomenon xlink:href="http://codes.wmo.int/49-2/SigWxPhenomena/EMBD_TS"/>
```

The associated geometry can either be typed into the entry field as a series of lon/lat values or...

AIXM/iWXXM Data Generator Features

The screenshot displays the NCR Data Generator web application. The interface is divided into several sections:

- Form Fields:** Fields for entering data such as Template (IWXXM_Sigmat_thunderstorm_template.xml), designator (KZNY), sequenceNumber (FOXTROT1), originatingType (MWO), originatingDesignator (KKCI), start/end/issue times, airspaceName (NEW YORK OCEANIC FIR), directionOfMotion (90), upperLimit (350), geometry (41.30 -49.00 41.00 -48.30 39.30 -49.00 40.00 -49.30 41.30 -49.00), and speed (30).
- Map:** A map of the New York region showing various airports (KZNY, KJFK, KATF, KMDW, KSTL, KMEM, KMSY, KJFK, KATF, KMDW) and a yellow polygon representing the geometry of the thunderstorm.
- XML Preview:** A preview window showing the generated XML output, including the geometry entry field.

The XML output is as follows:

```
<http://icao.int/iwxxm/1.0*
ngs.net/om/2.0*
plingSpatial/2.0*
3.org/1999/xlink
="http://icao.int/iwxxm/1.0
http://schemas.wmo.int/iwxxm/1.0/iwxxm.xsd http://def.wmo.int/metc/2013 http://schemas.wmo.int/metc
/1.0/metc.xsd" gmlid="sigmet-ts-KZNY-FOXTROT1" status="NORMAL">
<iwxxm:issuingAirTrafficServicesUnit>
<safe:Unit gmlid="ats-KZNY">
<safe:designator>KZNY</safe:designator>
</safe:Unit>
</iwxxm:issuingAirTrafficServicesUnit>
<iwxxm:originatingMeteorologicalWatchOffice>
<safe:Unit gmlid="MWO-KKCI">
<safe:name>KKCI MWO</safe:name>
<safe:type>MWO</safe:type>
<safe:designator>KKCI</safe:designator>
</safe:Unit>
</iwxxm:originatingMeteorologicalWatchOffice>
<iwxxm:sequenceNumber>FOXTROT1</iwxxm:sequenceNumber>
<iwxxm:validPeriod>
<gml:TimePeriod gmlid="tp-1">
<gml:beginPosition>2016-04-26T18:00:00Z</gml:beginPosition>
<gml:endPosition>2016-04-29T18:00:00Z</gml:endPosition>
</gml:TimePeriod>
</iwxxm:validPeriod>
<iwxxm:phenomenon xlink:href="http://codes.wmo.int/49-2/SigWxPhenomena/EMBD_TS"/>
```

the associated geometry can be drawn on the map, automatically populating the geometry entry field.

AIXM/iWXXM Data Generator Features

The screenshot displays the NCR Data Generator web application. The interface is divided into several sections:

- Form Fields:** Fields for entering message details such as Template (IWXXM_Sigmat_thunderstorm_template.xml), designator (KZNY), sequenceNumber (FOXTROT1), originatingType (MWO), and various time and geometry parameters.
- Map:** A map of the New York area showing various airports (e.g., KJFK, LGA, EWR) and a highlighted area for the SIGMET.
- Saved Entries Table:** A table listing saved messages with columns for Name, Template, and Values.
- Callout Box:** A text box stating: "Once the data attributes for a message are entered, the message can be saved and easily loaded and issued at a later time."
- Code Editor:** A window showing the generated XML message structure, including elements like `<gmt:beginPosition>`, `<gmt:endPosition>`, and `<iwxxm:phenomenon xlink:href="http://codes.wmo.int/49-2/SigWxPhenomena/EMBD_TS"/>`.

Name	Template	Values
VA Sig - Scen 10a, 1a	VolcanicAsh.xml	geometry = 35.869140625 138.03
AAIS Scenario SIGMET	ConvectiveSIGMET.xml	movementSpeed = 35, issueTime =
AAIS Scenario - NEW	ConvectiveSIGMET.xml	bottom = 0, geometry = 46.26826
SESAR_SIGMET_preflight...	IWXXM_Sigmat_thunderstor...	issueTime = 2016-04-26T16:00:00
ATL_MTL_Convective Sig...	IWXXM_Sigmat_thunderstor...	endTime = 2016-04-29T18:00:00Z
ATL_MTL_Turbulence_Sig...	IWXXM_Sigmat_turb_templa...	speedOfMotion = 30, issueTime =

```
<gmt:beginPosition>2016-04-26T18:00:00Z</gmt:beginPosition>
<gmt:endPosition>2016-04-29T18:00:00Z</gmt:endPosition>
</gmt:TimePeriod>
</iwxxm:validPeriod>
<iwxxm:phenomenon xlink:href="http://codes.wmo.int/49-2/SigWxPhenomena/EMBD_TS"/>
```

AIXM/iWXXM Data Generator Features

The AIXM- or WXXM-formatted message is automatically generated by the DG. The user can review the message by selecting the preview button...

Form Fields:

- Template: IWXXM_Sigmet_thunderstorm_template.xml
- designator: KZNY
- sequenceNumber: FOXTROT1
- originatingType: MWO
- originatingDesignator: KKCI
- originatingName: KKCI MWO
- startTime: 2016-04-26T18:00:00
- endTime: 2016-04-29T18:00:00
- issueTime: 2016-04-26T18:00:00
- airspaceName: NEW YORK OCEANIC FIR
- directionOfMotion: 90
- upperLimit: 350
- geometry: 41.30 -49.00 41.00 -48.30 39.30 -49.00 40.00 -49.30 41.30 -49.00
- speed: 30

Buttons: Save As..., Publish, Preview

Saved Entries Table:

Name	Template	Values
VA Sig - Scen 10a, 1a	VolcanicAsh.xml	geometry = 35.869140625 138.03
AAIS Scenario SIGMET	ConvectiveSIGMET.xml	movementSpeed = 35, issueTime =
AAIS Scenario - NEW	ConvectiveSIGMET.xml	bottom = 0, geometry = 46.26826
SESAR_SIGMET_preflight...	IWXXM_Sigmet_thunderstor...	issueTime = 2016-04-26T16:00:00
ATL_MTL_Convective Sig...	IWXXM_Sigmet_thunderstor...	endTime = 2016-04-29T18:00:00Z
ATL_MTL_Turbulence_Sig...	IWXXM_Sigmet_turb_templa...	speedOfMotion = 30, issueTime =

Preview Window (SIGMET):

```
<iwxxm:SIGMET xmlns:gml="http://www.opengis.net/gml/3.2" xmlns:iwxxm="http://icao.int/iwxxm/1.0"
xmlns:metce="http://def.wmo.int/metce/2013" xmlns:om="http://www.opengis.net/om/2.0"
xmlns:saf="http://icao.int/saf/1.0" xmlns:sams="http://www.opengis.net/samplingspatial/2.0"
xmlns:ssf="http://www.opengis.net/sampling/2.0" xmlns:xlink="http://www.w3.org/1999/xlink"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:schemaLocation="http://icao.int/iwxxm/1.0
http://schemas.wmo.int/iwxxm/1.0/iwxxm.xsd http://def.wmo.int/metce/2013 http://schemas.wmo.int/metce
/1.0/metce.xsd" gml:id="sigmet-ts-KZNY-FOXTROT1" status="NORMAL">
<iwxxm:issuingAirTrafficServicesUnit>
<saf:Unit gml:id="ats-KZNY">
<saf:designator>KZNY</saf:designator>
</saf:Unit>
</iwxxm:issuingAirTrafficServicesUnit>
<iwxxm:originatingMeteorologicalWatchOffice>
<saf:Unit gml:id="MWO-KKCI">
<saf:name>KKCI MWO</saf:name>
<saf:type>MWO</saf:type>
<saf:designator>KKCI</saf:designator>
</saf:Unit>
</iwxxm:originatingMeteorologicalWatchOffice>
<iwxxm:sequenceNumber>FOXTROT1</iwxxm:sequenceNumber>
<iwxxm:validPeriod>
<gml:TimePeriod gml:id="tp-1">
<gml:beginPosition>2016-04-26T18:00:00Z</gml:beginPosition>
<gml:endPosition>2016-04-29T18:00:00Z</gml:endPosition>
</gml:TimePeriod>
</iwxxm:validPeriod>
<iwxxm:phenomenon xlink:href="http://codes.wmo.int/49-2/SigWxPhenomena/EMBD_TS"/>
```

AIXM/iWXXM Data Generator Features

The screenshot displays the NCR Data Generator web application. The interface is divided into several sections:

- Form Section:** Contains fields for message configuration, including Template (IWXXM_Sigmet_thunderstorm_template.xml), designator (KZNY), sequenceNumber (FOXTROT1), originatingType (MWO), originatingDesignat (KKCI), and start/end times.
- Map Section:** A map of the New York area with various airport codes (KATL, KMEM, KSTL, etc.) overlaid. A callout box points to the map with the text: "and then the message will be generated and displayed."
- Preview Window:** A window titled "SIGMET" showing the generated XML message. The XML content is as follows:

```
<iwxxm:SIGMET xmlns:gml="http://www.opengis.net/gml/3.2" xmlns:iwxxm="http://icao.int/iwxxm/1.0"
xmlns:metce="http://def.wmo.int/metce/2013" xmlns:om="http://www.opengis.net/om/2.0"
xmlns:saf="http://icao.int/saf/1.0" xmlns:sams="http://www.opengis.net/samplingspatial/2.0"
xmlns:sf="http://www.opengis.net/sampling/2.0" xmlns:slink="http://www.w3.org/1999/xlink"
xmlns:xi="http://www.w3.org/2001/XMLSchema-instance" xsi:schemaLocation="http://icao.int/iwxxm/1.0
http://schemas.wmo.int/iwxxm/1.0/iwxxm.xsd http://def.wmo.int/metce/2013 http://schemas.wmo.int/metce
/1.0/metce.xsd" gmlid="sigmet-ts-KZNY-FOXTROT1" status="NORMAL">
<iwxxm:issuingAirTrafficServicesUnit>
<saf:Unit gmlid="atsu-KZNY">
<saf:designator>KZNY</saf:designator>
</saf:Unit>
</iwxxm:issuingAirTrafficServicesUnit>
<iwxxm:originatingMetereologicalWatchOffice>
<saf:Unit gmlid="MWO-KKCI">
<saf:name>KKCI MWO</saf:name>
<saf:type>MWO</saf:type>
<saf:designator>KKCI</saf:designator>
</saf:Unit>
</iwxxm:originatingMetereologicalWatchOffice>
<iwxxm:sequenceNumber>FOXTROT1</iwxxm:sequenceNumber>
<iwxxm:validPeriod>
<gml:TimePeriod gmlid="tp-1">
<gml:beginPosition>2016-04-26T18:00:00Z</gml:beginPosition>
<gml:endPosition>2016-04-29T18:00:00Z</gml:endPosition>
</gml:TimePeriod>
</iwxxm:validPeriod>
<iwxxm:phenomenon xlink:href="http://codes.wmo.int/49-2/SigWxPhenomena/EMBD_TS"/>
```

AIXM/iWXXM Data Generator Features

The "Publish" button will send the AIXM or WXXM message to any end point, specified in the system's configuration parameters.

Form Fields:

- Template: IWXXM_Sigmet_thunderstorm_template.xml
- designator: KZNY
- sequenceNumber: FOXTROT1
- originatingType: MWO
- originatingDesignat: KKCI
- originatingName: KKCI MWO
- startTime: 2016-04-26T18:00:00
- endTime: 2016-04-29T18:00:00
- issueTime: 2016-04-26T18:00:00
- airspaceName: NEW YORK OCEANIC FIR
- directionOfMotion: 90
- upperLimit: 350
- geometry: 41.30 -49.00 41.00 -48.30 39.30 -49.00 40.00 -49.30 41.30 -49.00
- speed: 30

Buttons: Save As..., Publish, Preview

Saved Entries Table:

Name	Template	Values
VA Sig - Scen 10a, 1a	VolcanicAsh.xml	geometry = 35.869140625 138.03
AAIS Scenario SIGMET	ConvectiveSIGMET.xml	movementSpeed = 35, issueTime =
AAIS Scenario - NEW	ConvectiveSIGMET.xml	bottom = 0, geometry = 46.26826
SESAR_SIGMET_preflight...	IWXXM_Sigmet_thunderstor...	issueTime = 2016-04-26T16:00:00
ATL_MTL_Convective Sig...	IWXXM_Sigmet_thunderstor...	endTime = 2016-04-29T18:00:00Z
ATL_MTL_Turbulence_Sig...	IWXXM_Sigmet_turb_templa...	speedOfMotion = 30, issueTime =

Generated XML (SIGMET):

```
<iwxxm:SIGMET xmlns:gml="http://www.opengis.net/gml/3.2" xmlns:iwxxm="http://icao.int/iwxxm/1.0"
xmlns:metce="http://def.wmo.int/metce/2013" xmlns:om="http://www.opengis.net/om/2.0"
xmlns:saf="http://icao.int/saf/1.0" xmlns:sams="http://www.opengis.net/samplingSpatial/2.0"
xmlns:sf="http://www.opengis.net/sampling/2.0" xmlns:xlink="http://www.w3.org/1999/xlink"
xmlns:xsi="http://www.w3.org/2001/XMLSchema-instance" xsi:schemaLocation="http://icao.int/iwxxm/1.0
http://schemas.wmo.int/iwxxm/1.0/iwxxm.xsd http://def.wmo.int/metce/2013 http://schemas.wmo.int/metce
/1.0/metce.xsd" gml:id="sigmet-ts-KZNY-FOXTROT1" status="NORMAL">
<iwxxm:issuingAirTrafficServicesUnit>
<saf:Unit gml:id="atsu-KZNY">
<saf:designator>KZNY</saf:designator>
</saf:Unit>
</iwxxm:issuingAirTrafficServicesUnit>
<iwxxm:originatingMeteorologicalWatchOffice>
<saf:Unit gml:id="MWO-KKCI">
<saf:name>KKCI MWO</saf:name>
<saf:type>MWO</saf:type>
<saf:designator>KKCI</saf:designator>
</saf:Unit>
</iwxxm:originatingMeteorologicalWatchOffice>
<iwxxm:sequenceNumber>FOXTROT1</iwxxm:sequenceNumber>
<iwxxm:validPeriod>
<gml:TimePeriod gml:id="tp-1">
<gml:beginPosition>2016-04-26T18:00:00Z</gml:beginPosition>
<gml:endPosition>2016-04-29T18:00:00Z</gml:endPosition>
</gml:TimePeriod>
</iwxxm:validPeriod>
<iwxxm:phenomenon xlink:href="http://codes.wmo.int/49-2/SigWxPhenomena/EMBD_TS"/>
```



AIXM/iWXXM Data Generator

➤ Software:

- Web-based client, requiring no client-side installation of software. Only a browser required.
- Templates can be added with no required software modifications with some understanding of the schemas.
- Messages are published via ActiveMQ to a topic specified in the system configuration.