

Experience with Digital NOTAM

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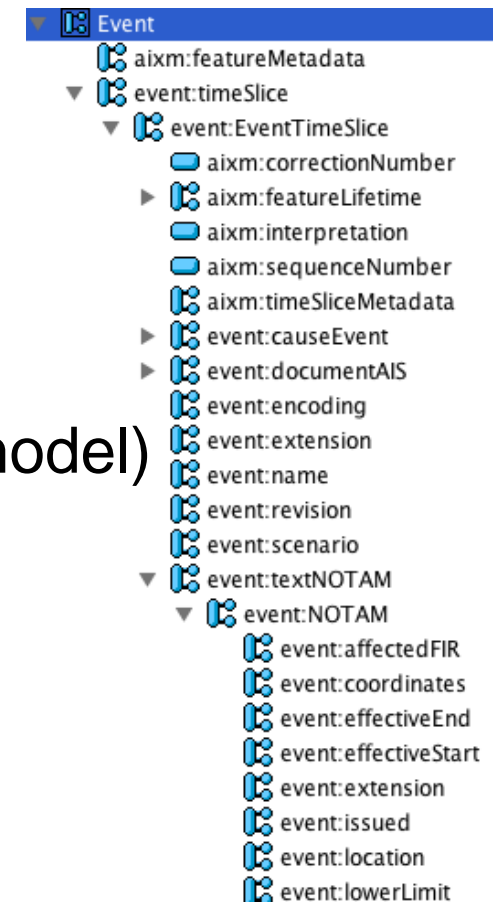


Digital NOTAM in our Products

- Support for Digital NOTAM (v1.0 & v2.0) in
 - GO Loader v1.7.4
 - GO Publisher v3.0
 - ATM Viewer v2.0
- Digital NOTAM Events encoded in XML Schema
- Our products are ‘Schema Aware’
- No changes to support the Event Specification

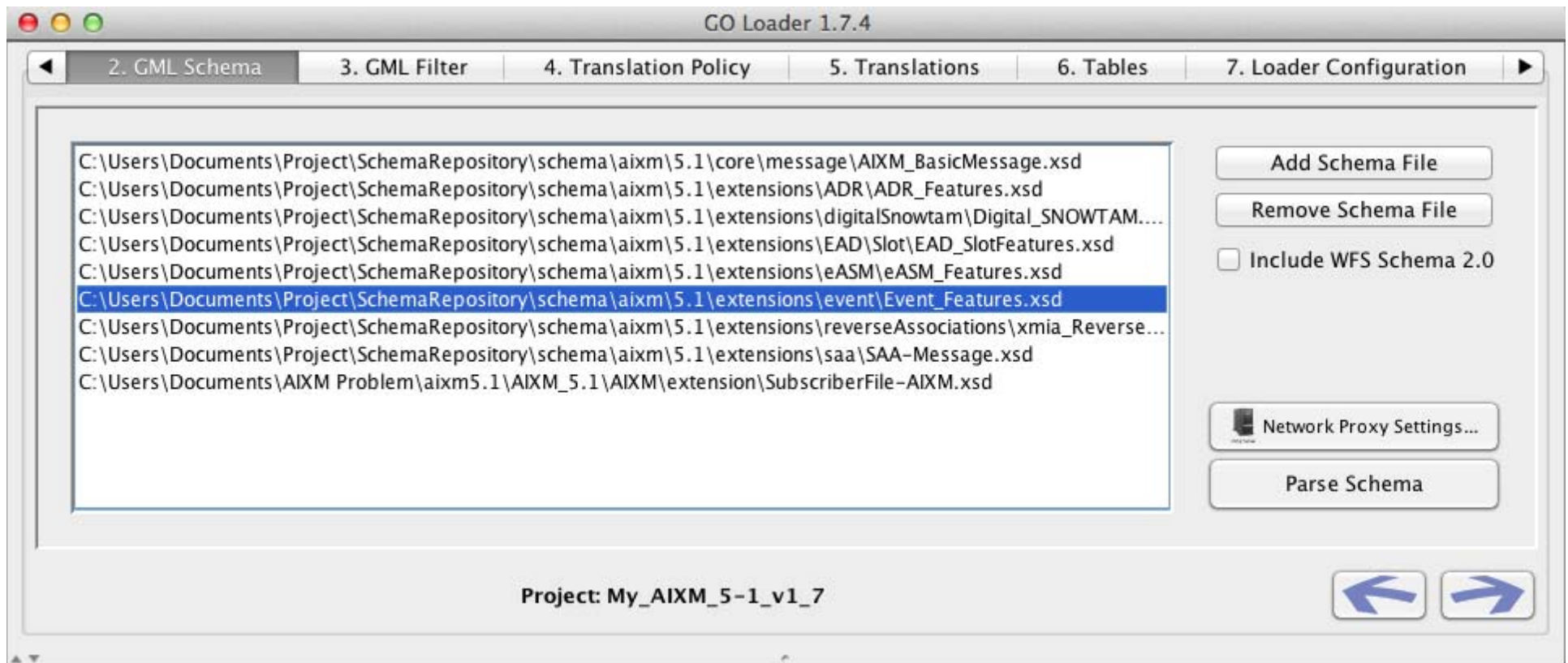
Load Digital NOTAM with GO Loader

- Load Digital NOTAM into enterprise database:
 - Oracle, SQL Server, Postgres
- Schema aware support
 - AIXM, WXXM, FIXM
 - Event Specification v1.0 & v2.0
 - Any extension (or any XML exchange model)
- Supports geometry types for spatial query and analysis of NOTAMs
- Visualise NOTAMs in all major GIS



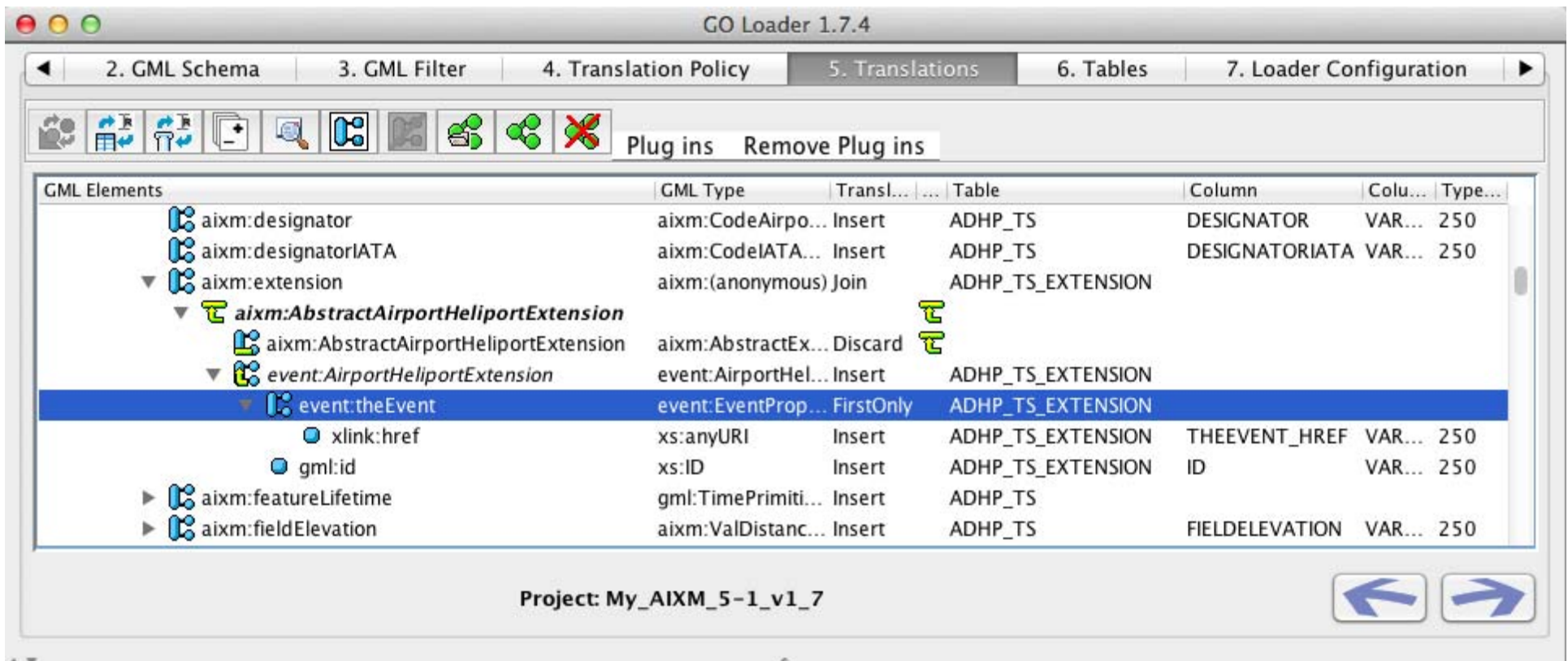
Upload the Event Schema

Receive a NOTAM and load in into your enterprise database along with AIXM



Schema Aware Technology

Schema aware technology means we just parse the schema and the tool adapts



The screenshot shows the 'GO Loader 1.7.4' application window. The '5. Translations' tab is active, displaying a table of GML Elements and their mappings. The table has columns for GML Elements, GML Type, Transl..., Table, Column, and Type... The 'event:theEvent' element is highlighted in blue.

GML Elements	GML Type	Transl...	Table	Column	Colu...	Type...
aixm:designator	aixm:CodeAirpo...	Insert	ADHP_TS	DESIGNATOR	VAR...	250
aixm:designatorIATA	aixm:CodeIATA...	Insert	ADHP_TS	DESIGNATORIATA	VAR...	250
▼ aixm:extension	aixm:(anonymous) Join		ADHP_TS_EXTENSION			
▼ aixm:AbstractAirportHeliportExtension						
aixm:AbstractAirportHeliportExtension	aixm:AbstractEx...	Discard				
▼ event:AirportHeliportExtension	event:AirportHel...	Insert	ADHP_TS_EXTENSION			
▼ event:theEvent	event:EventProp...	FirstOnly	ADHP_TS_EXTENSION			
xlink:href	xs:anyURI	Insert	ADHP_TS_EXTENSION	THEEVENT_HREF	VAR...	250
gml:id	xs:ID	Insert	ADHP_TS_EXTENSION	ID	VAR...	250
▶ aixm:featureLifetime	gml:TimePrimiti...	Insert	ADHP_TS			
▶ aixm:fieldElevation	aixm:ValDistanc...	Insert	ADHP_TS	FIELD ELEVATION	VAR...	250

Project: My_AIXM_5-1_v1_7

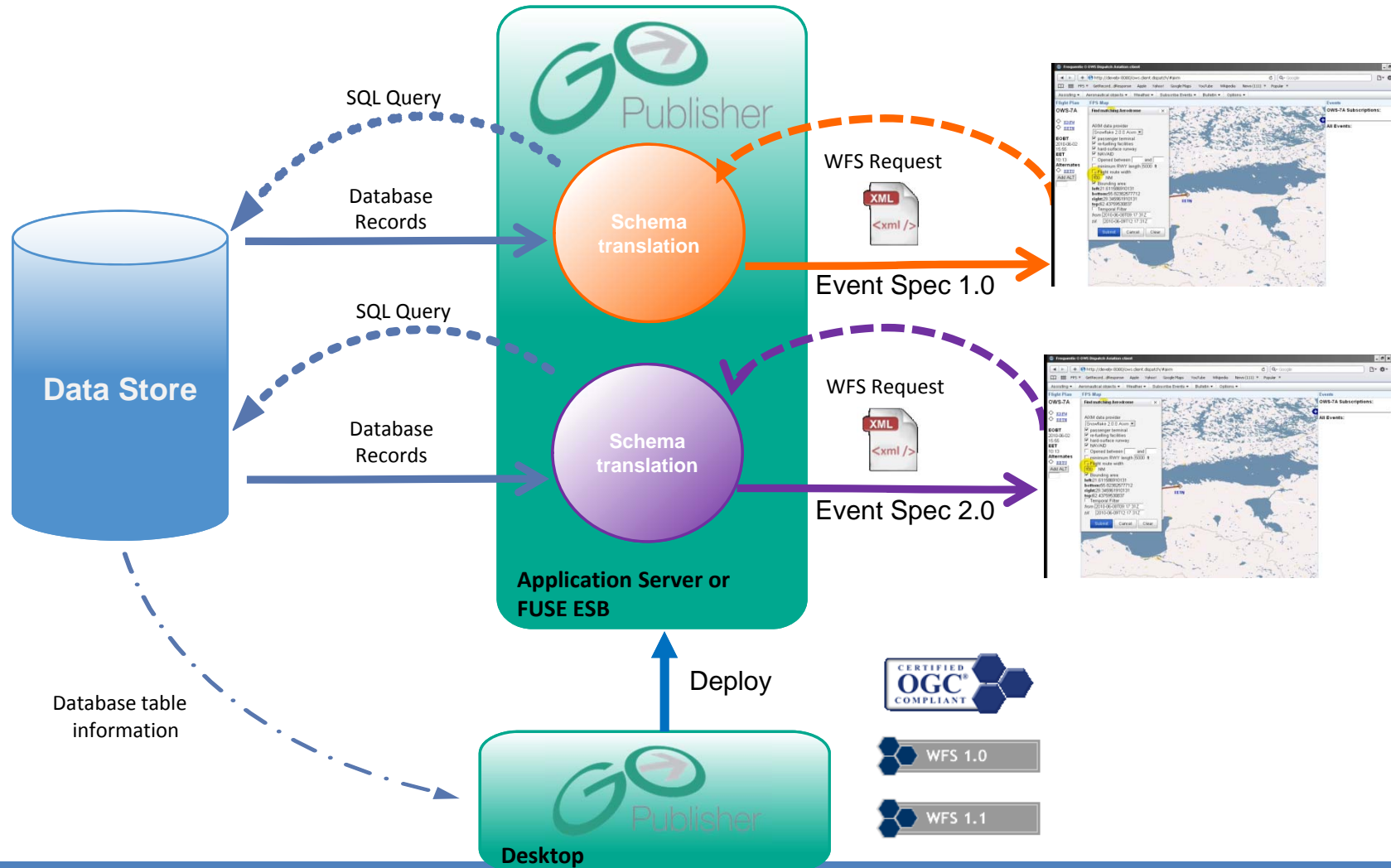
Supports both Event Specification v 1.0 and v2.0. As well as any beta schemas!

GO Loader Demonstration

Publishing Digital NOTAM with GO Publisher

- Publish Digital NOTAM:
 - from any given database model
 - to any version of the Event Specification
- Digital NOTAM over Web Feature Services
- Event processing with GO Publisher Workflow
- Schema aware support
 - AIXM, WXXM, FIXM
 - Event Specification v1.0 & v2.0
 - Any extension (or any XML exchange model)

Different Versions with GO Publisher WFS

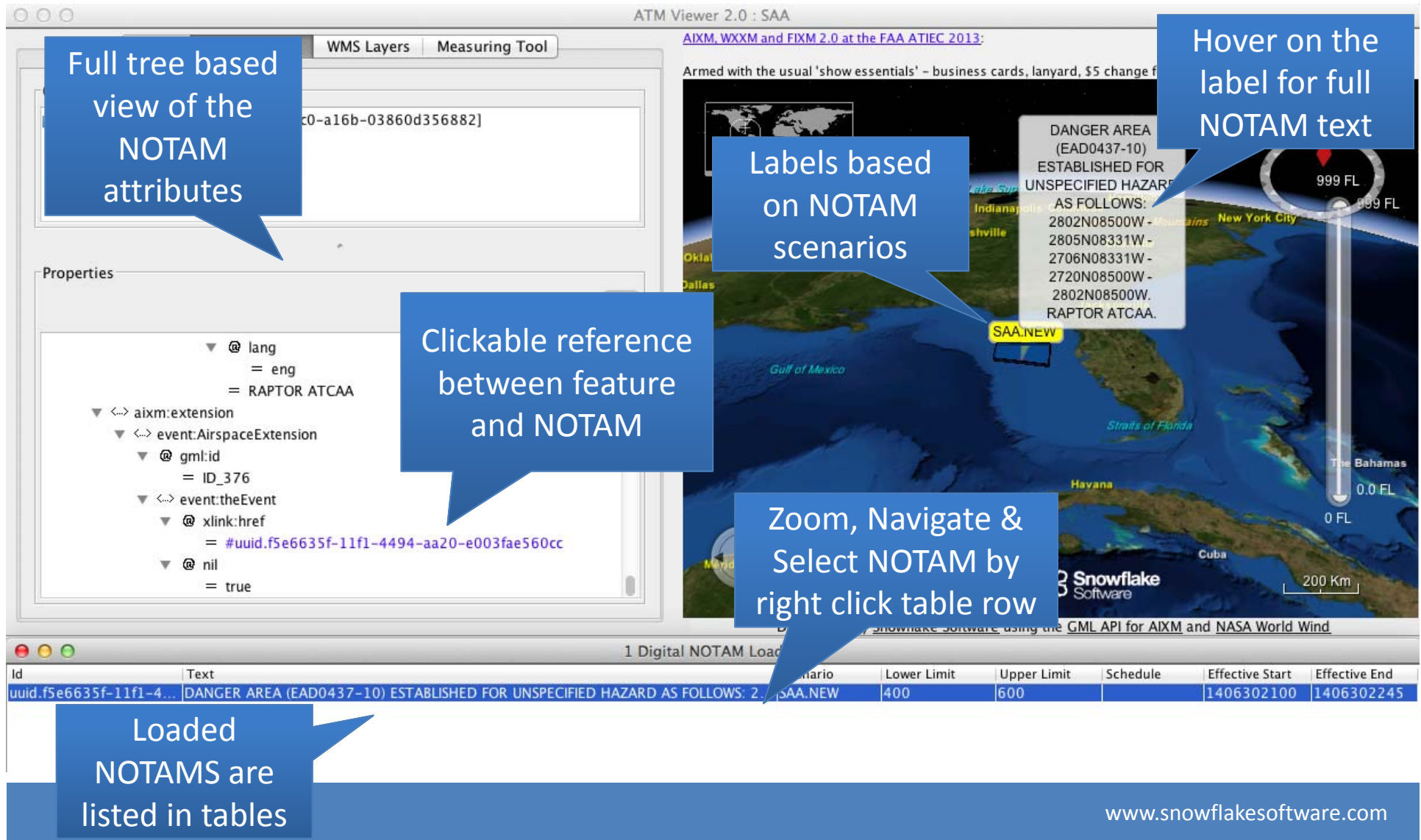


Digital NOTAM in the ATM Viewer v2.0

- Based on NASA WorldWind
- Free to download for commercial purposes
- Supports AIXM, WXXM and FIXM
- Supports Digital NOTAM Event Specification
- v1.0 & v2.0

<http://www.snowflakesoftware.com/atm-viewer>

3D Visualisation



ATM Viewer 2.0 : SAA

WMS Layers Measuring Tool

Full tree based view of the NOTAM attributes

Labels based on NOTAM scenarios

Hover on the label for full NOTAM text

Clickable reference between feature and NOTAM

Zoom, Navigate & Select NOTAM by right click table row

Loaded NOTAMS are listed in tables

DANGER AREA (EAD0437-10) ESTABLISHED FOR UNSPECIFIED HAZARD AS FOLLOWS:
2802N08500W - 2805N08331W - 2706N08331W - 2720N08500W - 2802N08500W.
RAPTOR ATCAA.

999 FL

0.0 FL

0 FL

200 Km

Id	Text	Scenario	Lower Limit	Upper Limit	Schedule	Effective Start	Effective End
uuid.f5e6635f-11f1-4...	DANGER AREA (EAD0437-10) ESTABLISHED FOR UNSPECIFIED HAZARD AS FOLLOWS: 2...	SAA.NEW	400	600		1406302100	1406302245

1 Digital NOTAM Load

www.snowflakesoftware.com

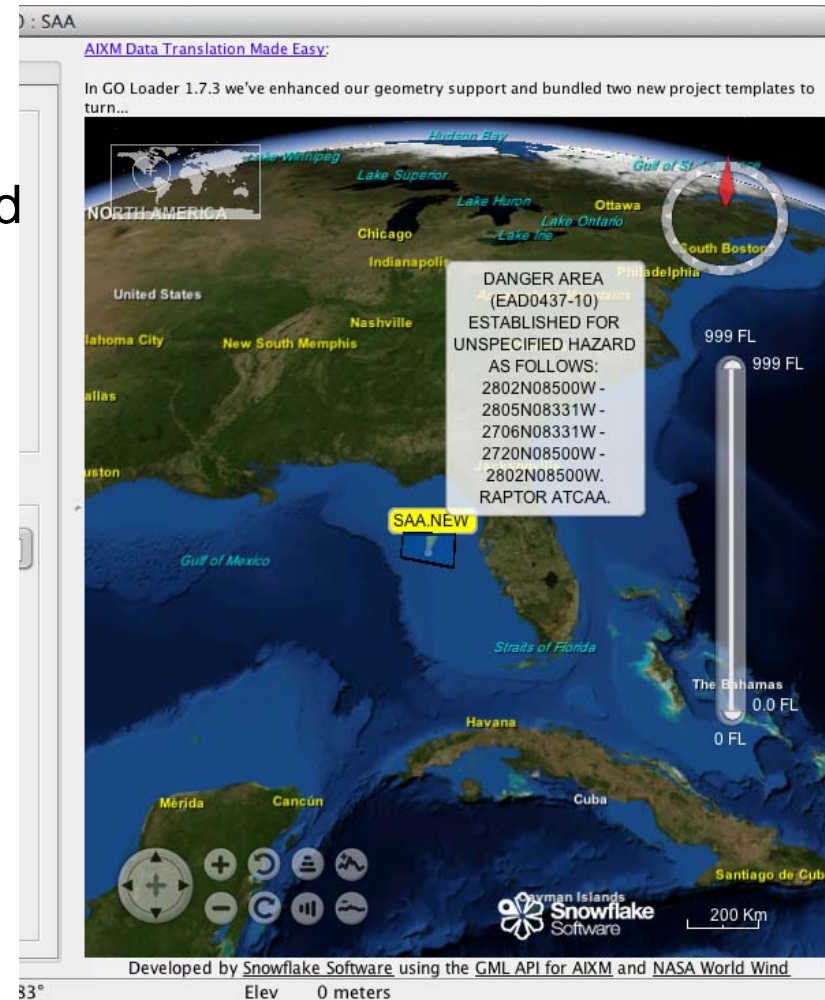
NOTAMs have no geometry!

- NOTAMs don't reference AIXM features
- Location in <event:coordinates> is often not accurate enough and is non-standard
- AIXM features reference NOTAMS via Event extension

```

    ▼ <--> aixm:extension
      ▼ <--> event:AirspaceExtension
        ▼ @ gml:id
          = ID_366
        ▼ <--> event:theEvent
          ▼ @ xlink:href
            = #uuid.f5e6635f-11f1-4494-aa20-e003fae560cc
          ▼ @ nil
            = true
  
```

- To get a graphic display of the NOTAM need to follow xlink from feature to the reference NOTAM and derive NOTAM geometry from the feature

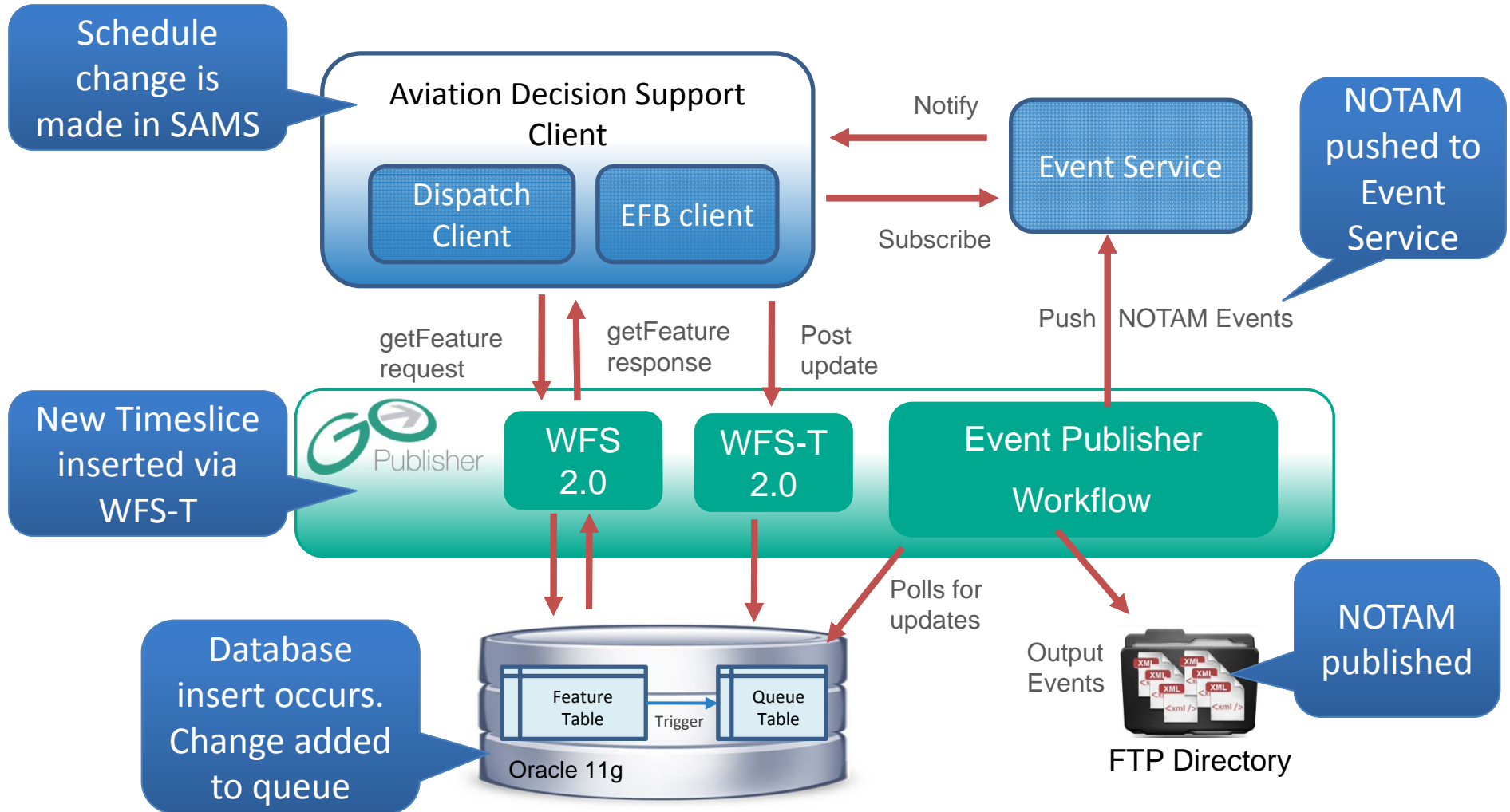


ATM Viewer Demonstration

Project Experiences so far

- Digital SNOWTAM Trials
 - Product trials, installation of GO Publisher WFS
- FAA Federal NOTAM System
 - AIXM publication and loading
- FAA SAA Pilot
 - Publishing Special Activity Area Activation DNOTAMs
- SESAR 13.2.2 Digital NOTAM validation Exercise
 - Testing ATM Viewer with AIXM Digital NOTAM support
- GO Loader v1.7.4
 - Loading DNOTAM using GO Loader Templates
- ATM Viewer v2.0 for AIXM
 - Development of Digital NOTAM Viewer

FAA SAA Pilot Architecture



In Conclusion

- Schema Aware technology means Digital NOTAM is just another model
- Support in our enterprise products for v1.0 & v2.0 of the Event Specification
- No new code or new software release required

Free to download ATM Viewer:

<http://www.snowflakesoftware.com/atm-viewer>

Sign up for Early Access at our stand

