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SensorThings API in INSPIRE (108th OGC Technical Committee)

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SensorThings API in INSPIRE

108th OGC Technical Committee
Stuttgart, Germany
Kathi Schleidt, Sylvain Grellet
11 September 2018

INSPIRE Background I



- Directive 2007/2/EC establishing an Infrastructure for Spatial Information in the European Community
- Covers 34 Spatial Data Themes grouped into 3 Annexes
- OGC based conceptual models created by TWGs, formalized in Implementing Rules (IR), XSD generated from UML published
- Implementing Rules also govern download services
- Finalization date for data from Annex II & III fall 2020
- Current status: >100 000 datasets; ~7,000 institutions (and rising. Note: To date, most available datasets have not been harmonized)

INSPIRE Background II



- Most Themes with spatial focus, classic SDI. Examples:
 - Administrative units
 - Cadastral parcels
 - Land Use & Land Cover
 - Hydrographic Networks
 - Protected sites
 - Elevation
 - Utility and governmental services
 - Environmental monitoring facilities
 - Geology
 - Atmospheric conditions & Meteorological geographical features
 - Oceanographic geographical features

All require
Observational
or
Measurement
Data!!!

SOS in INSPIRE

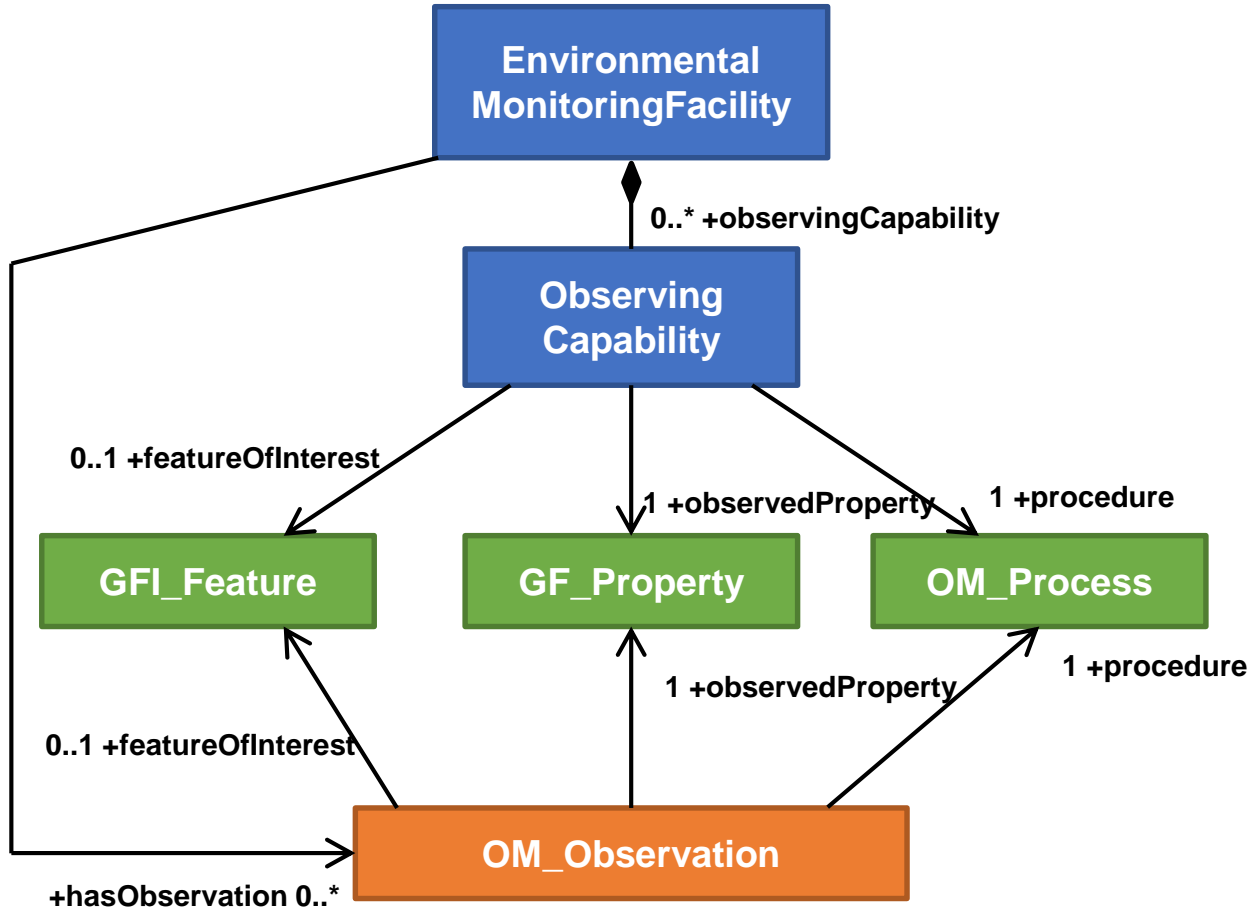


- Question how to serve observational data in INSPIRE
- Theoretically possible via WFS, but not really satisfactory
- Decision reached to analyse suitability of SOS
- 2011 first guidance document for use of O&M in INSPIRE
<https://inspire.ec.europa.eu/id/document/tg/d2.9-o%26m-swe>
- Technical Guidance for implementing download services using the OGC Sensor Observation Service finalized 2016
<https://inspire.ec.europa.eu/tags/sos>

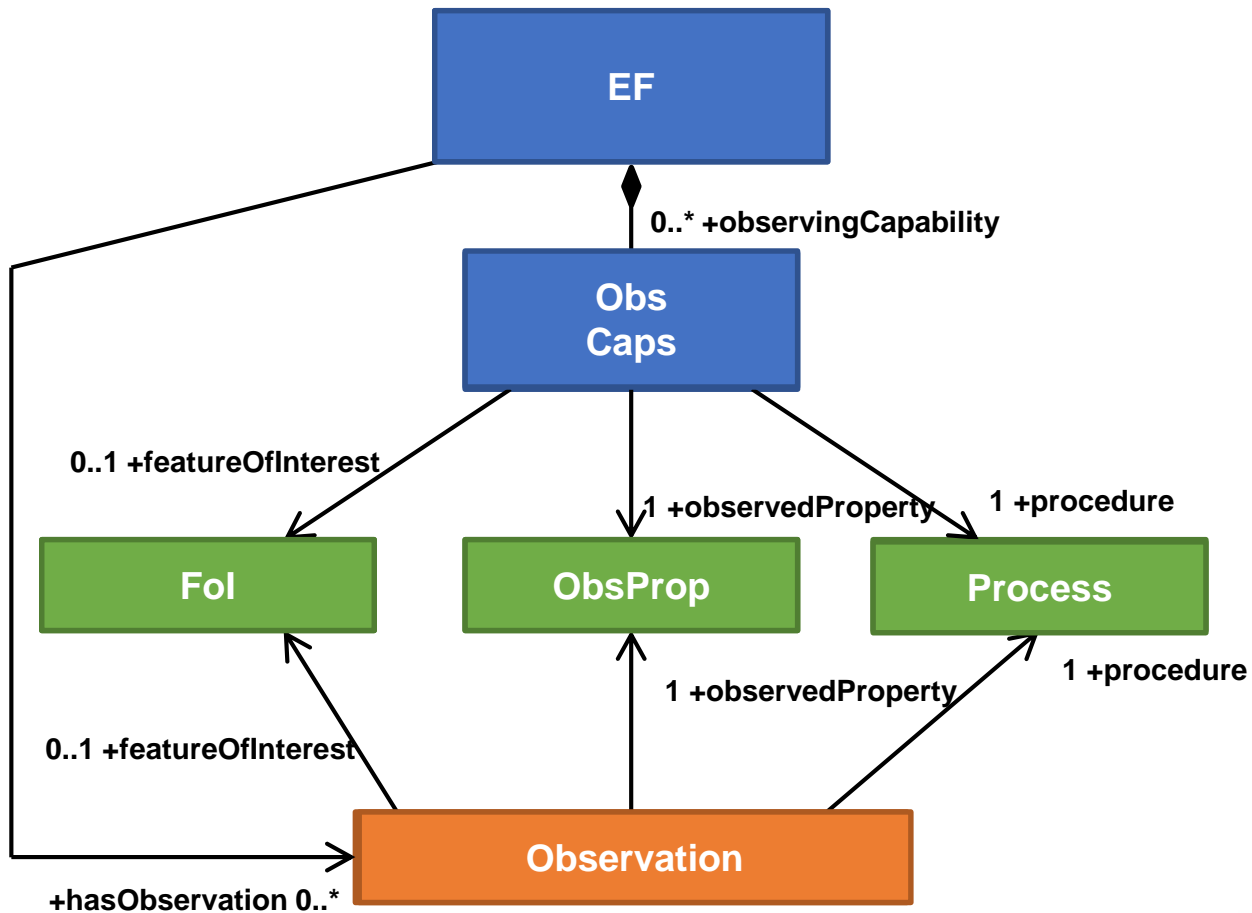
but...

- SOS scares folks!
- What about trying SensorThings API???

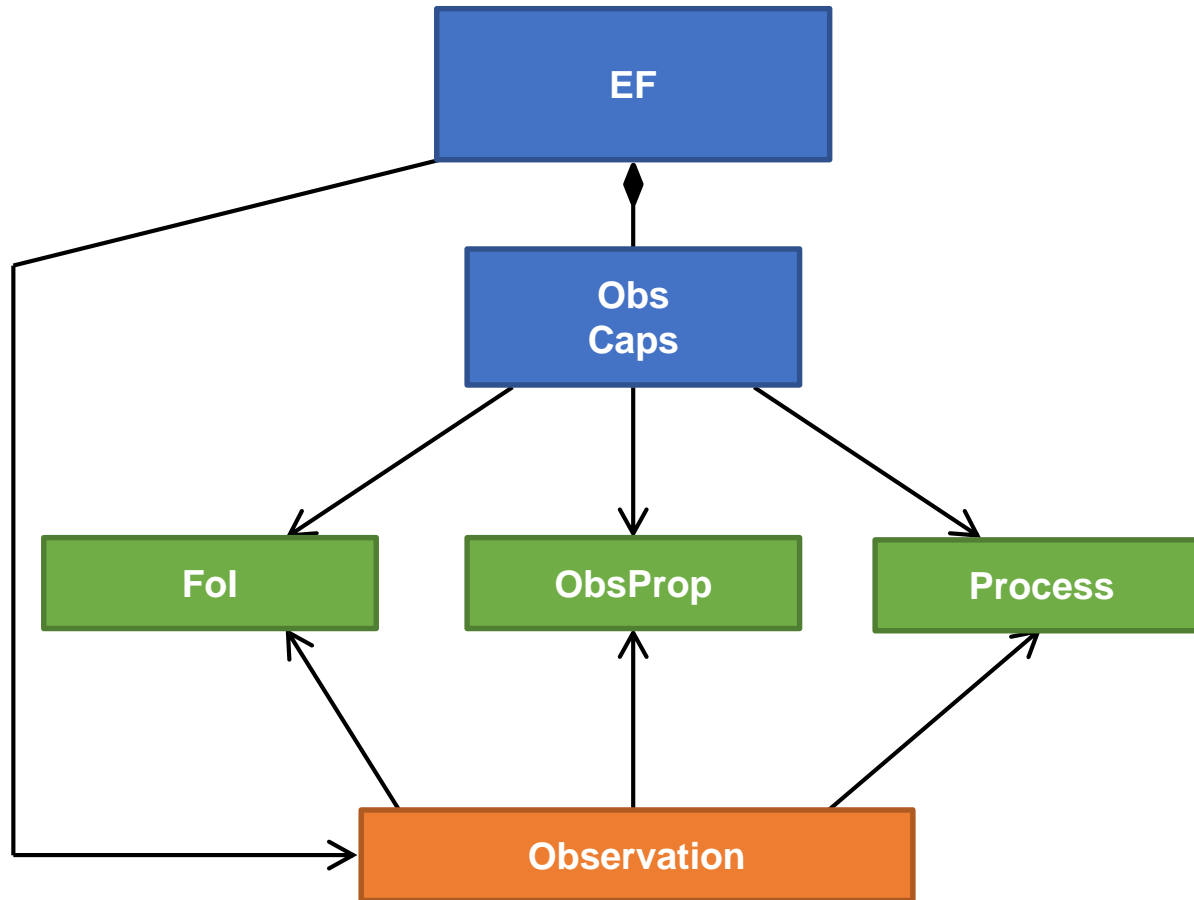
INSPIRE EF



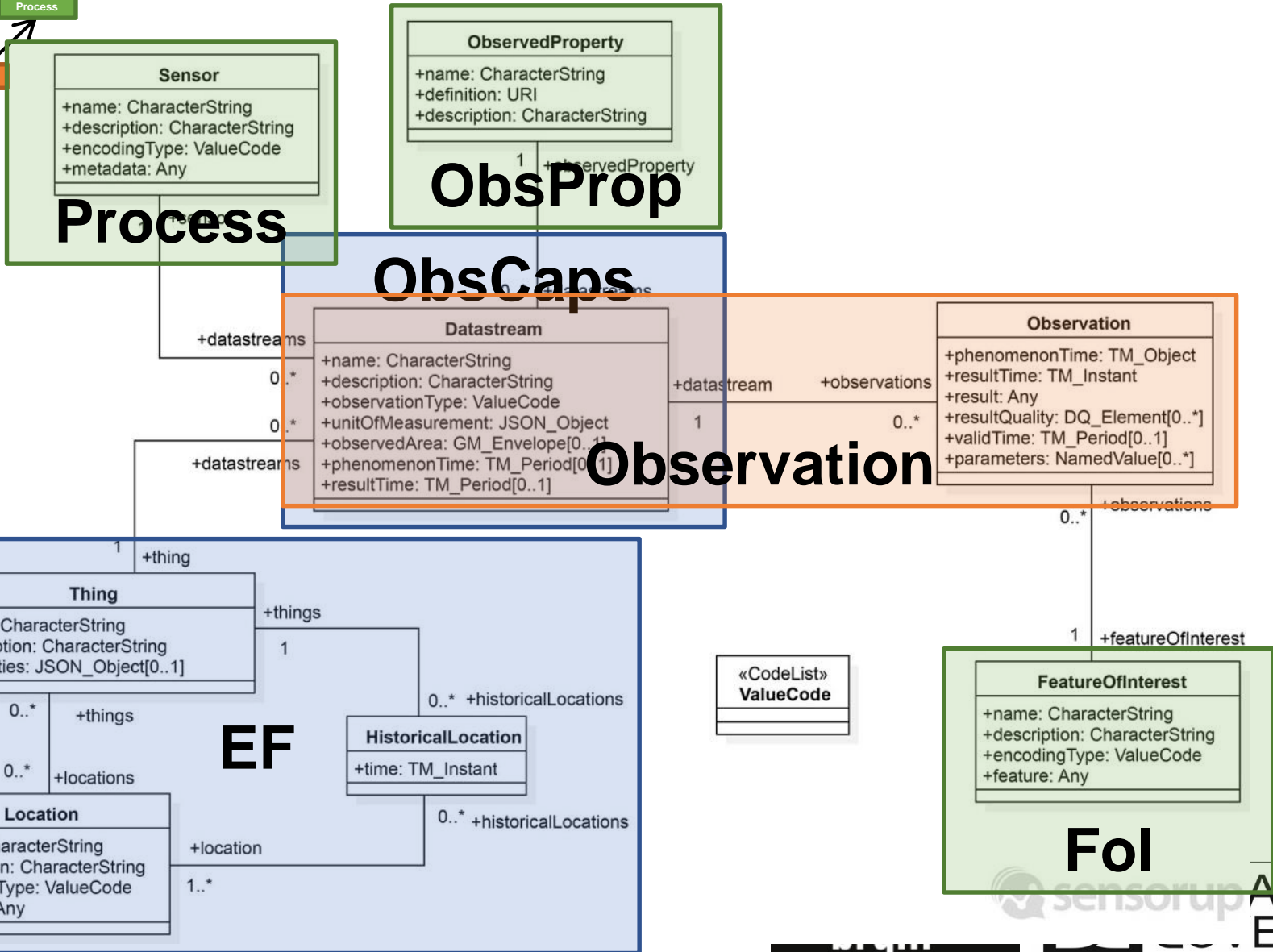
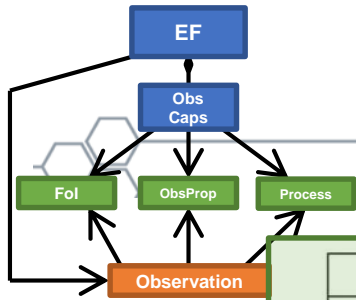
INSPIRE EF



INSPIRE EF



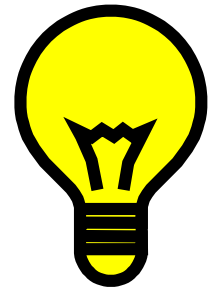
INSPIRE EF



INSPIRE EF Details



- Class level mapping clear, but what to do with the mandatory attributes?
- EF Requirements on Thing:
 - measurement Regime
 - mobile
 - operational Activity Period



Provide JSON Object in Thing properties!

INSPIRE EF Details - Thing



INSPIRE	STA
inspireId	
localId	ID
namespace	PROPERTIES/namespace
name	NAME
mediaMonitored	PROPERTIES/mediaMonitored
measurementRegime	PROPERTIES/measurementRegime
mobile	PROPERTIES/mobile
operationalActivityPeriod	
beginPosition	PROPERTIES/beginTime
endPosition	PROPERTIES/endTime

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EF Requirem

- observing T
- process Ty
- result Natu
- online Resc
- featureOfIn
- observedPi
- procedure

But – no prop



OGC®



INSPIRE EF Details - Datastream



INSPIRE	STA
Id	ID
observing Time	
beginPosition	PHENOMENON_TIME START
endPosition	PHENOMENON_TIME END
process Type	PROPERTIES/processType
result Nature	PROPERTIES/resultNature
online Resource	PROPERTIES/onlineResource
featureOfInterest	FEATURE ID – from Observations
observedProperty	OBS_PROPERTY_ID
procedure	SENSOR_ID

Conclusions



- SensorThings API is well suited for provision of measurement data under INSPIRE
- This does require an extension, adding properties element to other classes
 - This has been proposed for the 1.1 Version of STA
- Some issues pertaining to the INSPIRE download services Implementing Rules still open, but should be fairly simple to align (just as has been done for SOS, WFS, WCS...)
- So much simpler to deploy and configure
- And even simpler to utilize data!
- http://service.datacove.eu:8080/SensorThingsServer-1.0_BRGM/v1.0