Spatial Data Transformation and GML

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What is a Data Transformation?

- It is a data processing functionality with a primary focus on the ability to manage spatial data.

How is it done?

- It needs input – a mapping table*, data in source data model, target data model, knowledge of both data models.
- Transformation software – FME, snowflake (GoPublisher), ArcGIS for INSPIRE, HALE, application schema plug-in for Geoserver or other.
- It creates an output – data in target data model (INSPIRE).

Why do we need it?

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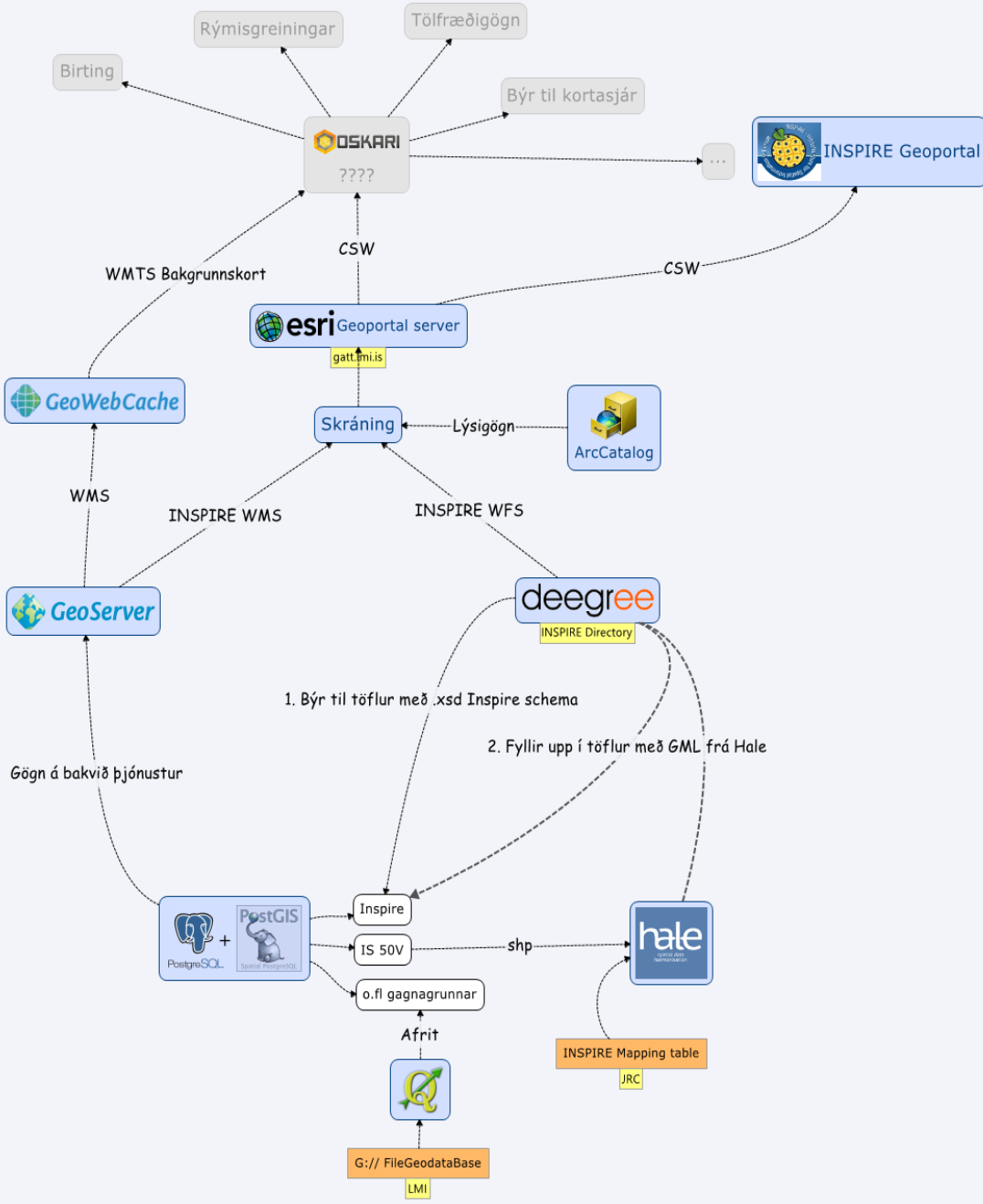
* - optional

Data transformation is part of a much bigger picture…

Data transformation vs. data harmonization

- Transformation is done when changing a dataset from one version to another (i.e. from a national standard* to INSPIRE).

- Harmonization can be done when you have more than one dataset of *different* data models and you need to work with both of them.

- Harmonization can be done by *transforming* one of them to match the data model of the other.

- The key concept is compatible **data models**.

* Unless a national standard is based on INSPIRE

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The Data Transformation consists of…

Locating the data   Mapping it   Transforming it

Configurations			DCI Information	
Transmission Mode	NumOfCWs	RNTI	DCI Format	Resource Allocation Type
TM1	1	C-RNTI	1A	Type 2
		C-RNTI	1	Type 0
		C-RNTI		Type 1
TM2	1	C-RNTI	1A	Type 2
		C-RNTI	1	Type 0
		C-RNTI		Type 1
TM3	1	C-RNTI	1A	Type 2
		C-RNTI	2A	Type 0
		C-RNTI		Type 1
	2	C-RNTI	2A	Type 0
		C-RNTI		Type 1
TM4	1	C-RNTI	1A	Type 2
		C-RNTI	2	Type 0
		C-RNTI		Type 1
	2	C-RNTI	2	Type 0
		C-RNTI		Type 1
TM5	1	C-RNTI	1A	Type 2
		C-RNTI	1D	Type 2
TM6	1	C-RNTI	1A	Type 2
		C-RNTI	1B	Type 2
TM7	1	C-RNTI	1A	Type 2
		C-RNTI	1	Type 0
		C-RNTI		Type 1

Example of transformation (AU lines)

Mapping table

country	-- Name -- country Two-character country	CountryCode* BE* BG* CZ* DK*	1	
beginLifespanVersion	-- Name -- begin lifespan version	DateTime	1	voidable
endLifespanVersion	-- Name -- end lifespan version . Date and	DateTime	0..1	voidable

INSPIRE

ICC	IS	IS	
beginLifes	13.3.2004	Thu Mar 13 00:00:00 GMT 2014	
			unpopulated

EBM

HALE mapping
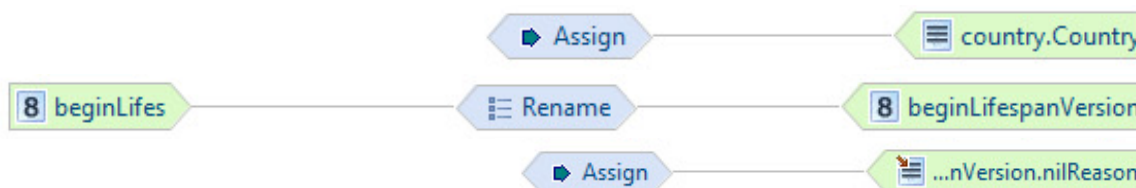
GML

```
<au:beginLifespanVersion>2014-03-13T00:00:00+00:00</au:beginLifespanVersion>
<au:endLifespanVersion nilReason="unpopulated" xsi:nil="true"></au:endLifespanVersion>
<au:country>
    <gmd:Country>IS</gmd:Country>
```

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Example of HALE mapping (PS)

Source data   Target   HALE Mapping

Why HALE?

Questions…