INSTITUT NATIONAL
DE L'INFORMATION
GÉOGRAPHIQUE
ET FORESTIÈRE

VALIDATION OF INSPIRE DATA

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INTRODUCTION

PLAN

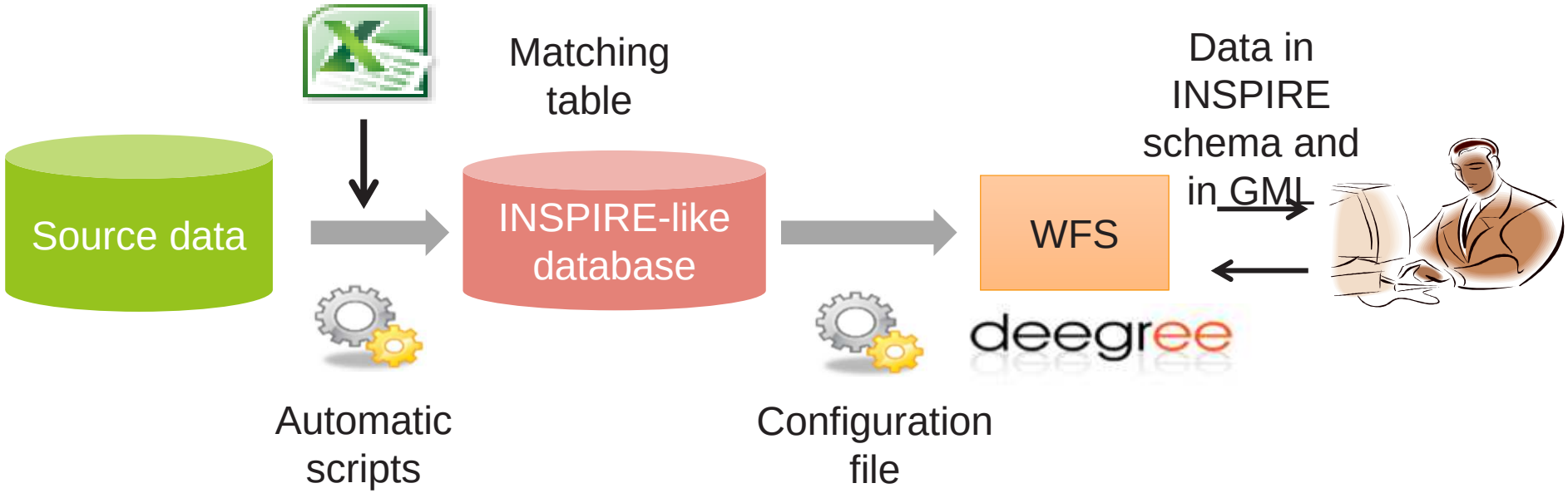
Transformation process

Validation against INSPIRE

Validation against source data

Conclusions

TRANSFORMATION PROCESS



A very common two-steps approach

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VALIDATION AGAINST INSPIRE

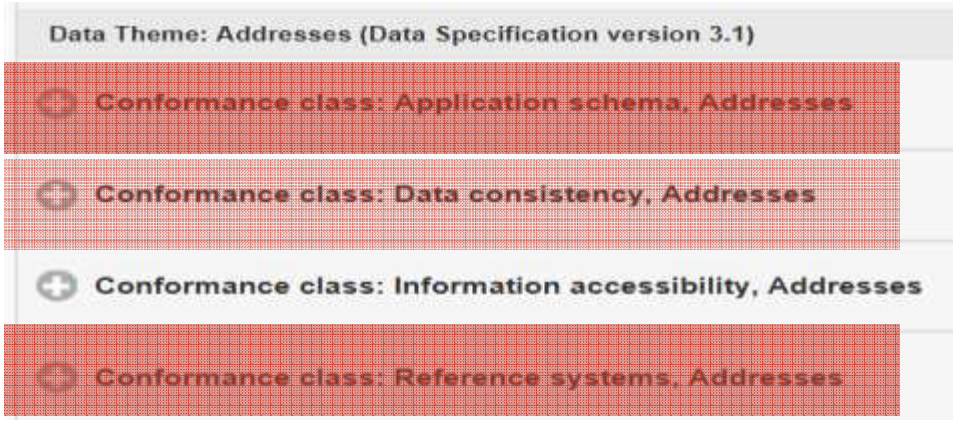
Context

Tool: INSPIRE official validator

- **on-line**

Which tests?

- **Application schema**
- **Reference systems**
- **Data consistency (if automatic)**



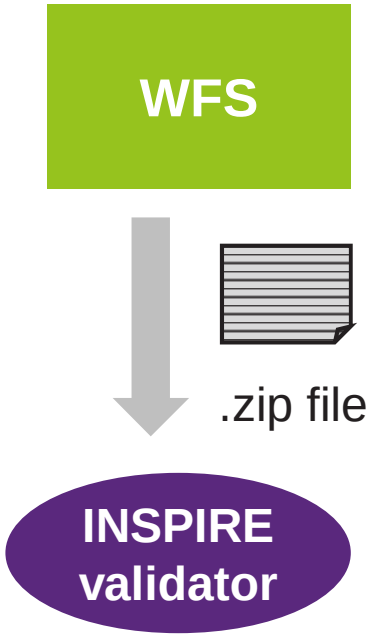
Who is testing?

- **The GeoPortal team (in charge of WFS)**

Methodology

Select sample data

- **General case: all themes except networks**
  - **n first features** of each feature type (around 10)
  - In case of associations, validator is able to find related target features on Internet
- **Specific case: networks (TN, HY)**
  - Rule about nodes that should be end/start of links
  - **Use of bounding box** (to get the links related to the nodes)



Methodology

Run the test

Analyse the results

- **No error => no action**
- **If error**
  - **Understand where it comes from**
  - **Correct it directly or send it to the team in charge of previous step in the transformation process**

Learnings

Nice:

- **Automatic tool**
- **Stable version since 2017**
- **Understandable error message (even if not always simple)**

Not so nice

- **validation time : a few minutes to check around 10 features!**
- **if use of tool on Internet, data has to be published on Internet before validation**

Potential improvements

Use the INSPIRE validator in our local environment

- **we might validate data before publication on Intranet**
- **we might automate the validation process**

- **but tool is not easy to be installed**

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TESTING AGAINST SOURCE DATA

Context and objectives

Objectives

- **Ensure data content quality**
- **Validate our transformation process**

Context

- **Depends on source data and on matching rules**
- **Very specific => home-made solution**

Methodology

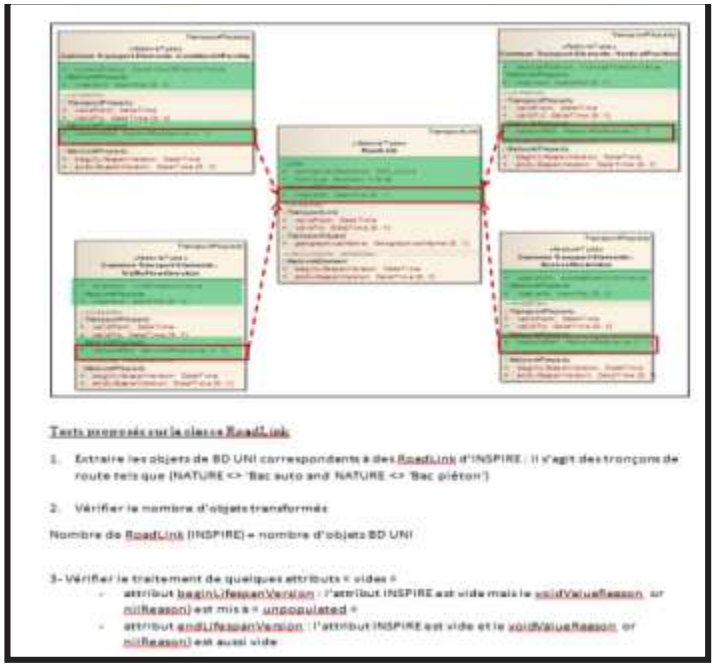
- Testing plan
- Prepare test suite on FME
- **Extract sample data**
- Run the tests
- Send report test for validation or error corrections

Making IGN validator

Methodology: testing plan

Principle:

- **Transform matching table into tests**
- **Done by INSPIRE expert**
- **Not fully exhaustive**



Tests proposés sur la classe RoadLink

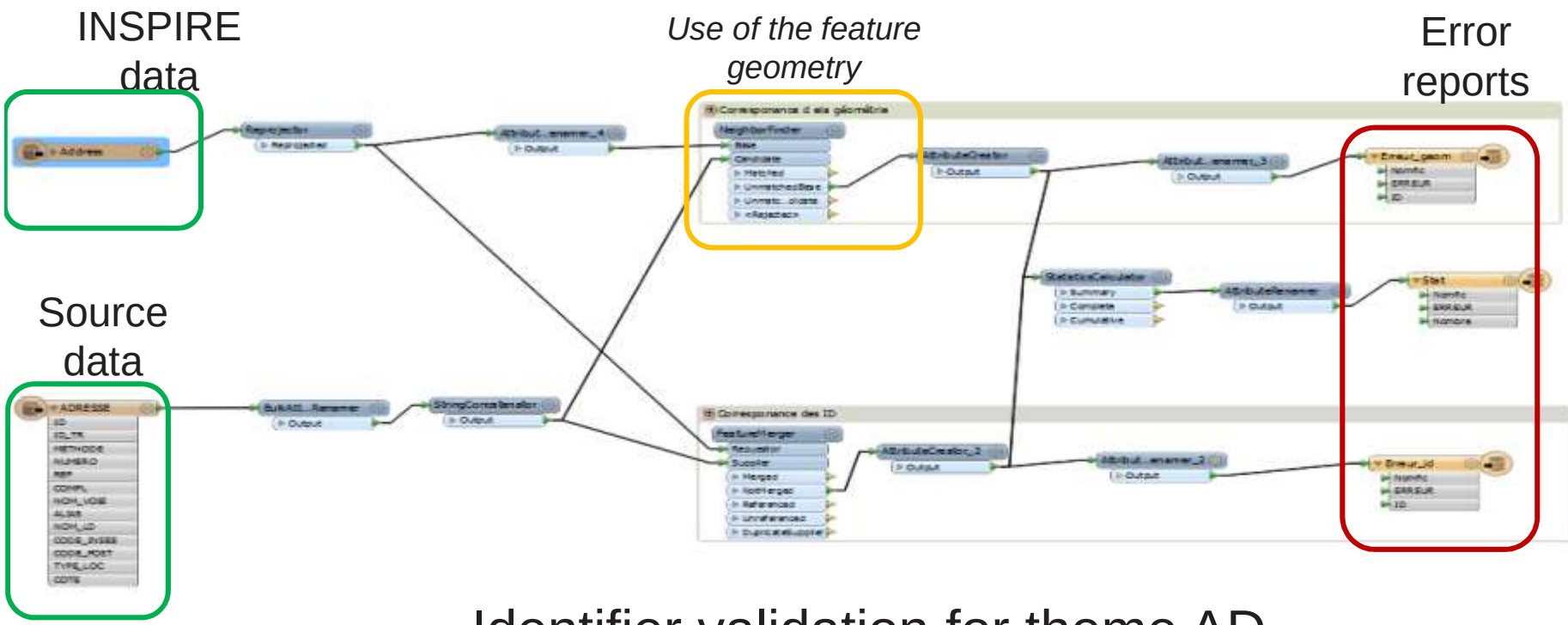
1. Extraire les objets de BD UNI correspondants à des RoadLink d'INSPIRE : il s'agit des tronçons de route tels que (NATURE <> 'Bac auto and NATURE <> 'Bac piéton')
2. Vérifier le nombre d'objets transformés

Nombre de RoadLink (INSPIRE) = nombre d'objets BD UNI

3- Vérifier le traitement de quelques attributs = vides =
- attribut beginLifespanVersion : l'attribut INSPIRE est vide mais le voidValueReason or nilReason) est mis à = unpopulated =
- attribut endLifespanVersion : l'attribut INSPIRE est vide et le voidValueReason or nilReason) est aussi vide

NamedPlace	beginLifespanVersion	"VoidValueReason" = unpopulated	(INDUSCOM, ZONEHABI, EQUADMIL, CULTLOIS, SCIENENS, GESTEAUX, RELIGIE, SANTE, SPORT, TRANSPOR, HYDROGRA, OROGRAPH, ESPACNAT) where 'GRAPHIEP' is not null.		
	endLifespanVersion				
	geometry	Case 1: If "Lien vers SURACTIN" is not null, then SURACTIN.the_geom ; Case 2: If "Lien vers SURACTIN" is null, then the_geom			
	inspireId	see Types complexes			
	leastDetailedViewingResolution	equivalentScale=50000			

Methodology: test suite (FME)



Identifier validation for theme AD

Methodology: extract sample data

Principle:

- **Get representative data with as many cases as possible (e.g. values in code list)**

Method for each theme or sub-theme

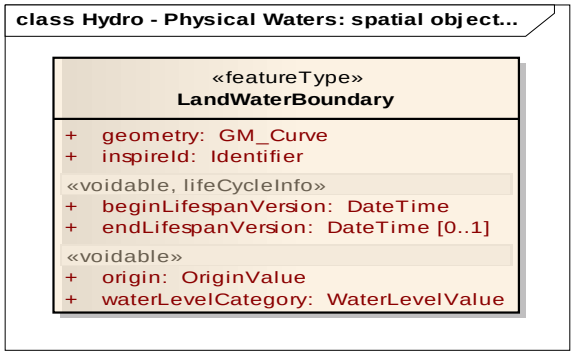
- **Selection in source data**
- **Based on the main feature type (with more instances)**
  - Ex: Tronçon Route (RoadLink) for Road TN
  - => Find an area with around 5 000 instances (limit of WFS request)

Get a bounding box

Methodology: extract sample data

Challenge : extract related INSPIRE data

- **Case 1: isolated feature type (with geometry, no association)**

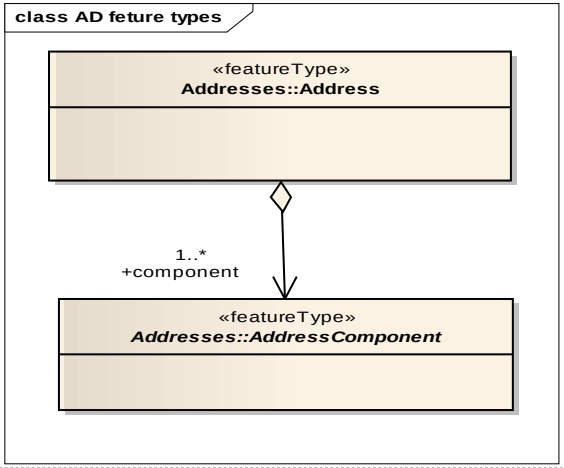


Simple URL request to get relevant features

Methodology: extract sample data

Challenge : extract related INSPIRE data

- **Case 2: feature type with geometry and with associated features**

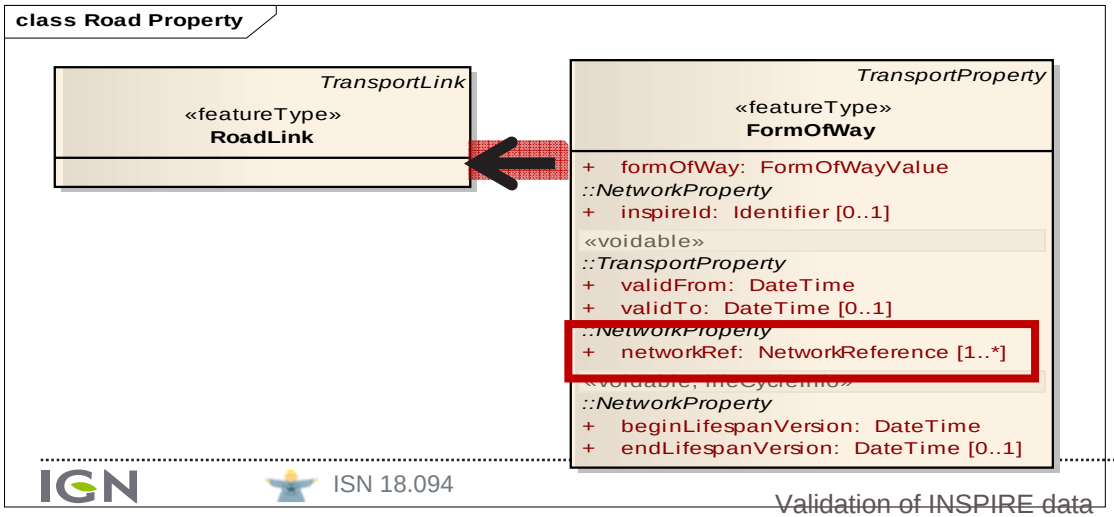


Simple URL request with
ResolveDepth = 1
=> Get features “Address” with their related AddressComponents

Methodology: extract sample data

Challenge : extract related INSPIRE data

- **Case 3.A : feature type without geometry and big number of instances (e.g. most of Transport Properties)**

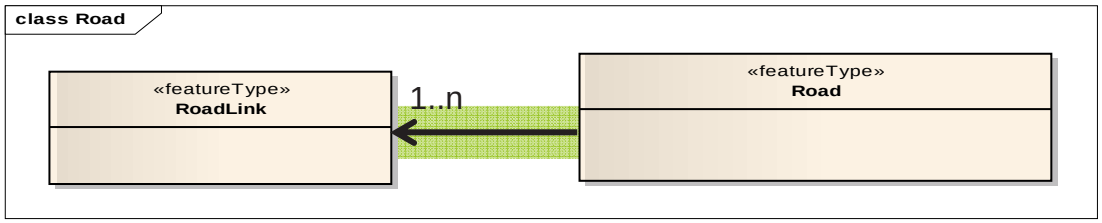


Complex HTML request “scanning” all instances of feature type FormOfway to get those associated to the RoadLinks of sample area => doesn’t work smoothly!

Methodology: extract sample data

Challenge : extract related INSPIRE data

- **Case 3.B : feature type without geometry and limited number of instances (n x 5 000)**



Sequence of simple URL requests
⇒ Get all instances of “Roads” on whole France
⇒ Make relevant selection on FME

Results

For each theme or sub-theme, we have found a few errors

- **feature type forgotten (rare)**
- **transformation errors**
- **errors in the matching table (rare)**
- **“editorial” errors : writing conventions**

Validation against source data : a necessary exercise

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CONCLUSIONS

Main learnings

Data should be validated:

- **Against INSPIRE => conformity**
- **Against source data => content quality**

Validation against INSPIRE is quite easier with the INSPIRE validator than with our previous tool (XML Spy)

Main difficulty is to get INSPIRE data from WFS

- **various strategies to extract relevant sample data in order to perform the tests**