

Test Case Overview

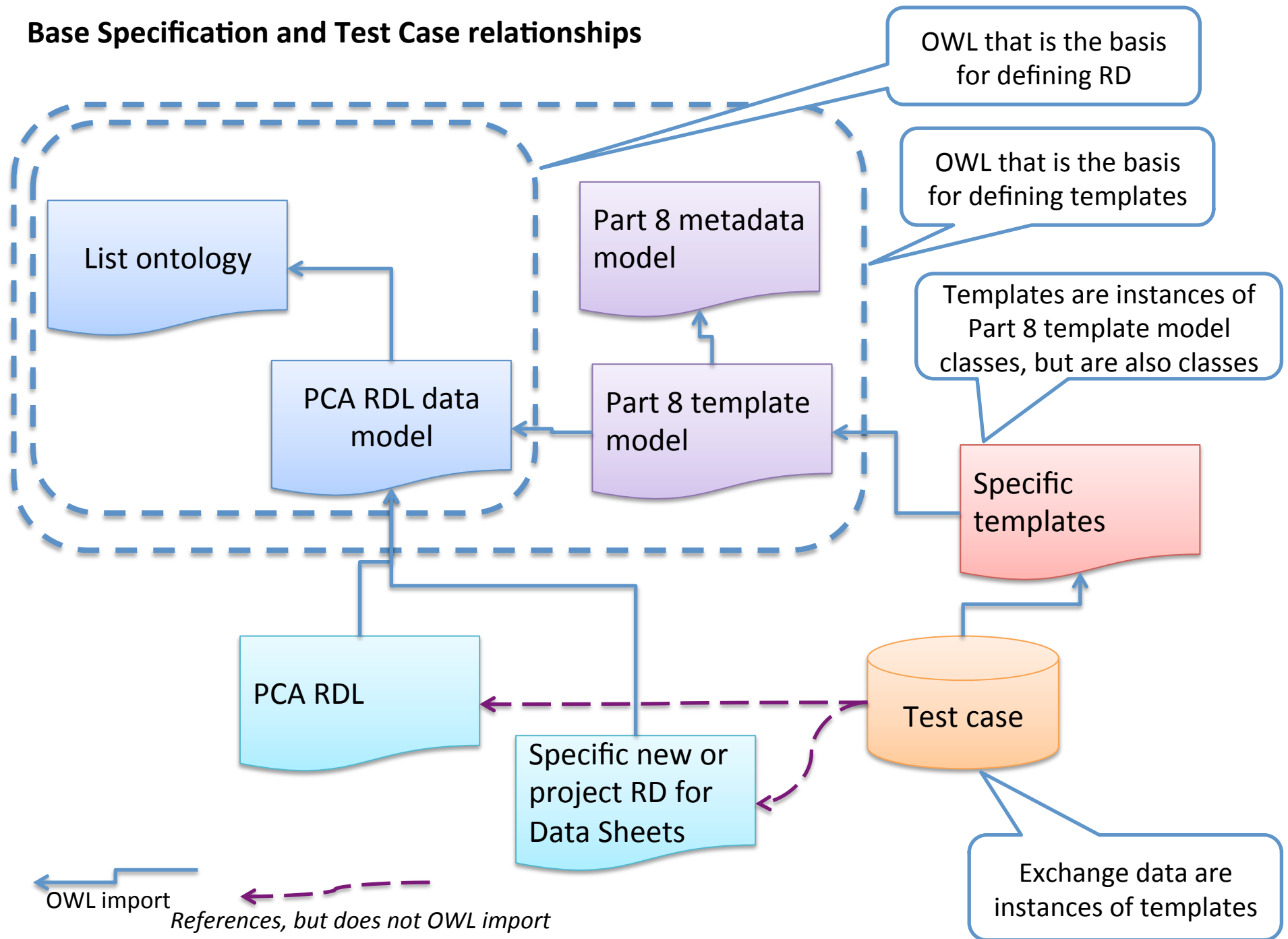
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2015-06-10

For EDRC

- Base specification :
 - PCA RDL data model (dm) and list ontology (list)
 - Part 7/8 template model (p7tpm) and metadata model (meta)
 - Specific templates (tpl)
 - RD for Data Sheets (pcardl,rdlfacade,myrd)
- Test Case, Test Suite
 - EDRC Use Case 1 – granular, complete coverage in 20 test cases
 - EDRC Use Case 2 Annex E example files as a start to be upgraded by EDRC

Base Specification and Test Case relationships



Prefixes for graph URIs used in Test Cases

@prefix dm: <http://rds.posccaesar.org/2008/02/OWL/ISO-15926-2_2003#> .

@prefix list: <<http://www.co-ode.org/ontologies/list.owl#>>

@prefix meta: <<http://standards.iso.org/iso/15926/meta#>> .

@prefix p7tm: <<http://standards.iso.org/iso/15926/tm#>>

@prefix tpl: <<http://data.posccaesar.org/tpl/>> .

@prefix rdlfacade: <<http://rdl.rdlfacade.org/data#>> .

@prefix myrd: <<http://www.mycompany.com/iso15926/edrc/refdata#>> .

@prefix pcardl: <<http://data.posccaesar.org/rdl/>>

Atomic test case breakdown

- Driven from Use Case 1 table of contents

General Information Section

Project Information, Tag Number and Document Data

Job Number

Item Number

Revision Number

Date

Operating Conditions Section

Properties

Normal Capacity

Other Capacity

Property Templates

Capacity Normal

Capacity Other

Capacity Rated

Suction Pressure Max

Suction Pressure Rated

Discharge Pressure

Differential Pressure

Differential Head

NPSHA

Process Variations

Starting Conditions

Service Continuous

Service Intermittent

Starts Per Day

Parallel Operations Required

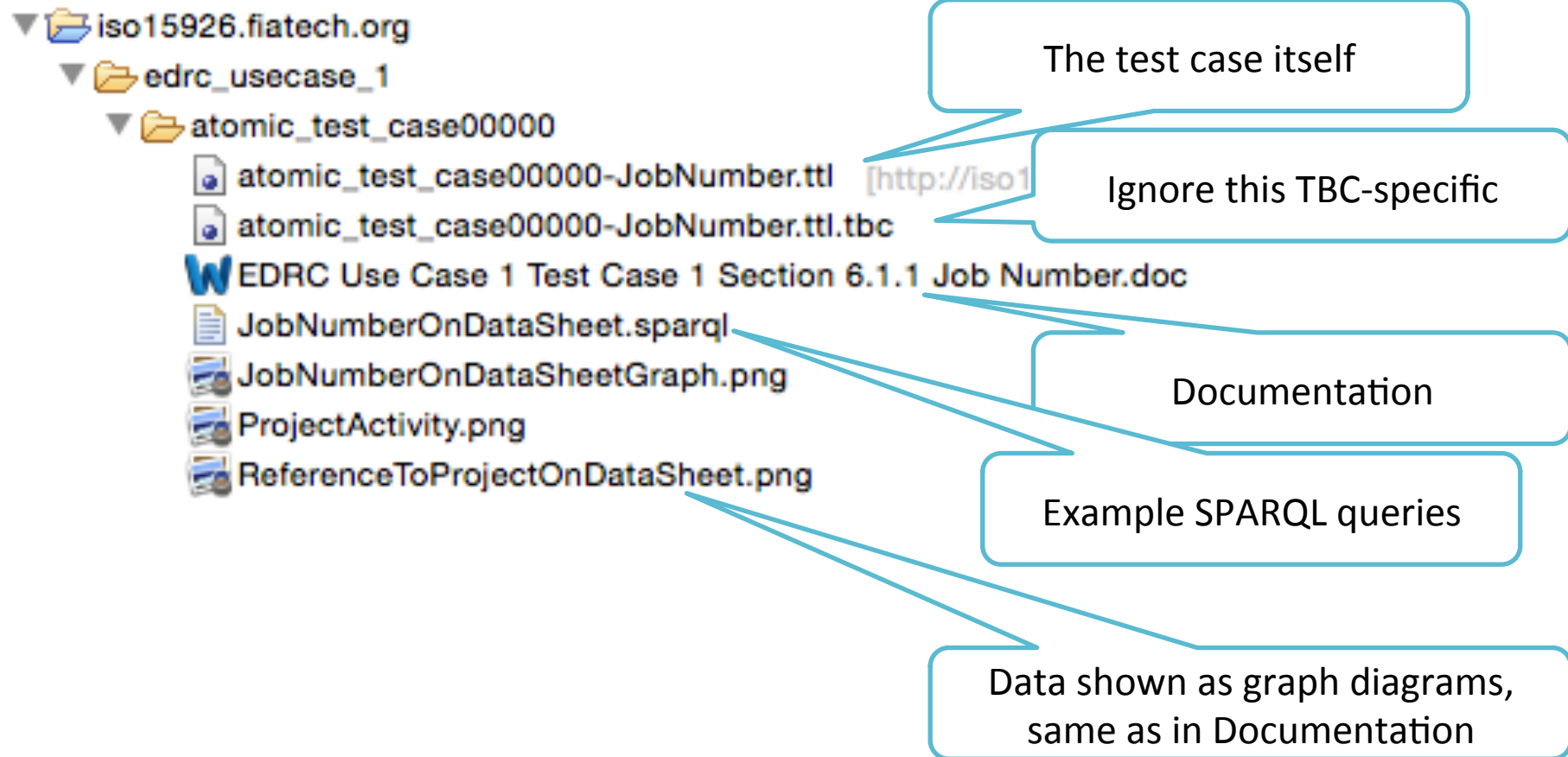
Test Case Format

- An OWL Turtle file containing the test case data
 - A test case may owl:import another test case
- Some OWL Turtle files containing new RD
- A word document with explanation, comment and any questions
- SPARQL query file(s)
- Instance diagram graph figure(s)

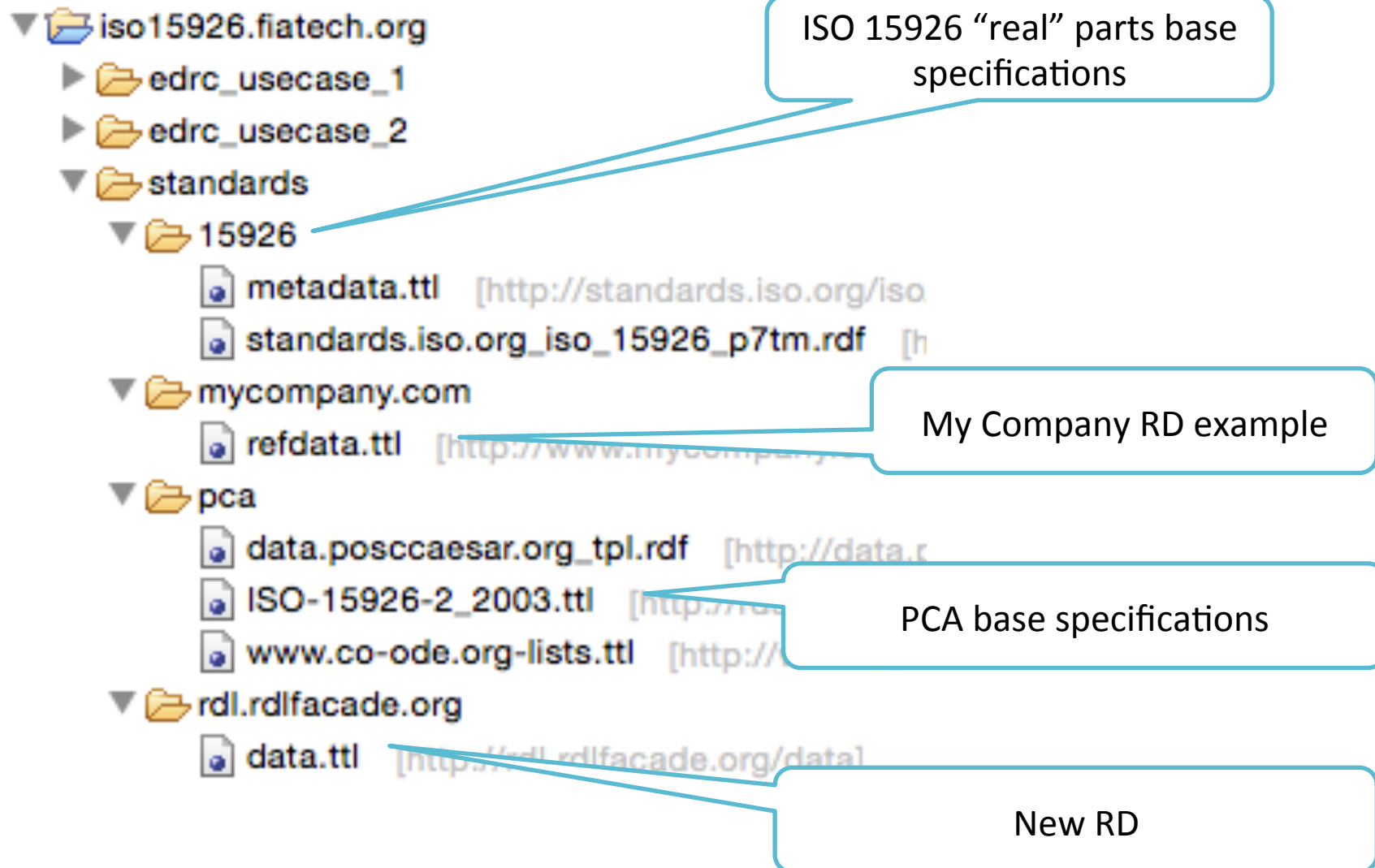
RD for Use Case 1 Test Cases

- Published PCA RDL as found at
 - <http://data.posccaesar.org/rdl/>
- “New” RD required for the test cases that should eventually be in PCA (I think), base URI for now is
 - <http://rdl.rdlfacade.org/data>
- “New” RD company-specific example, base URI is
 - <http://www.mycompany.com/iso15926/edrc/refdata>
- Atomic test case 00004 data is enumerated class, unclear if this is considered RD.

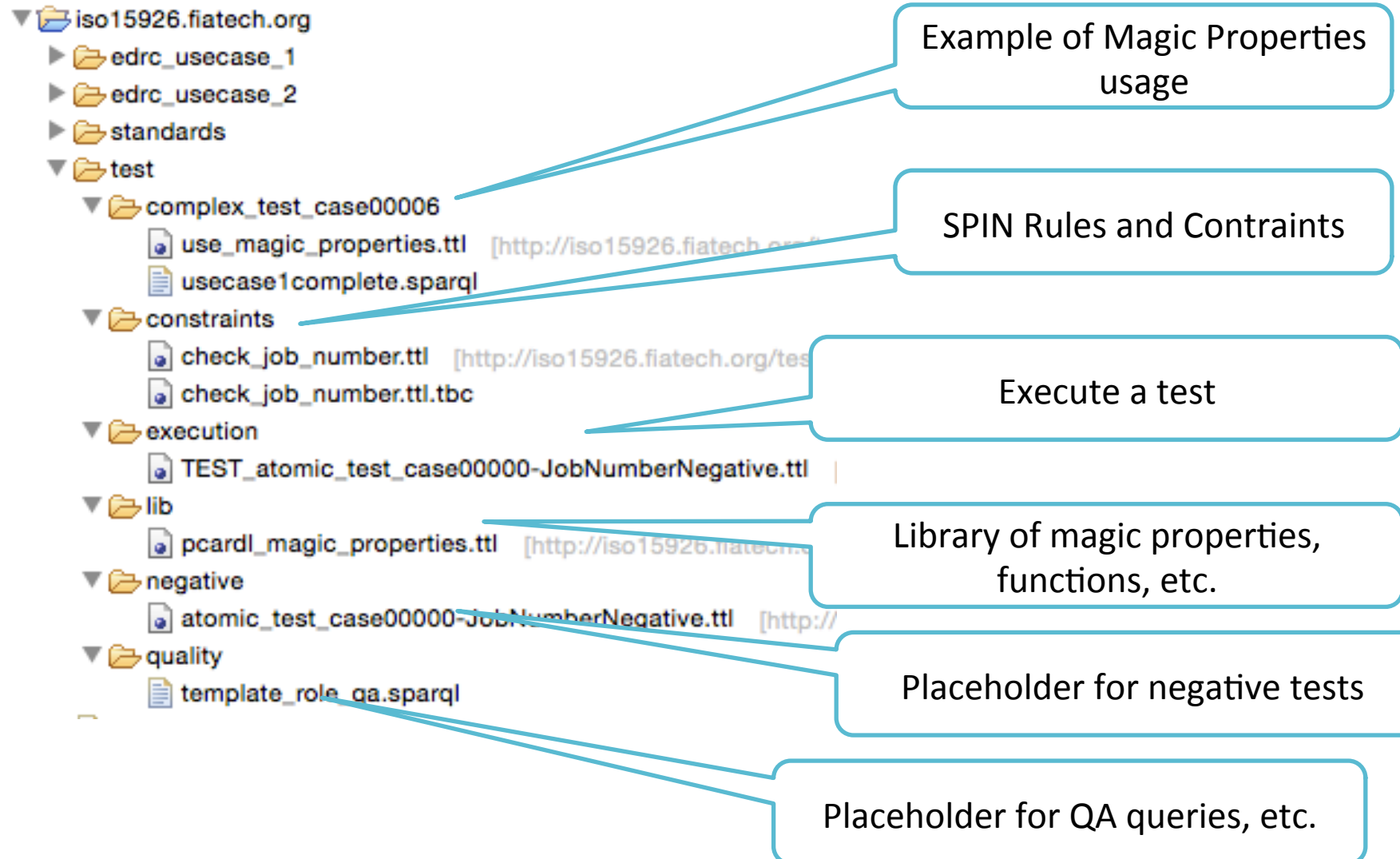
Use Case 1 Test Case(s) Folder Contents : Atomic and Complex



“standards” Folder Contents



“test” Folder Contents



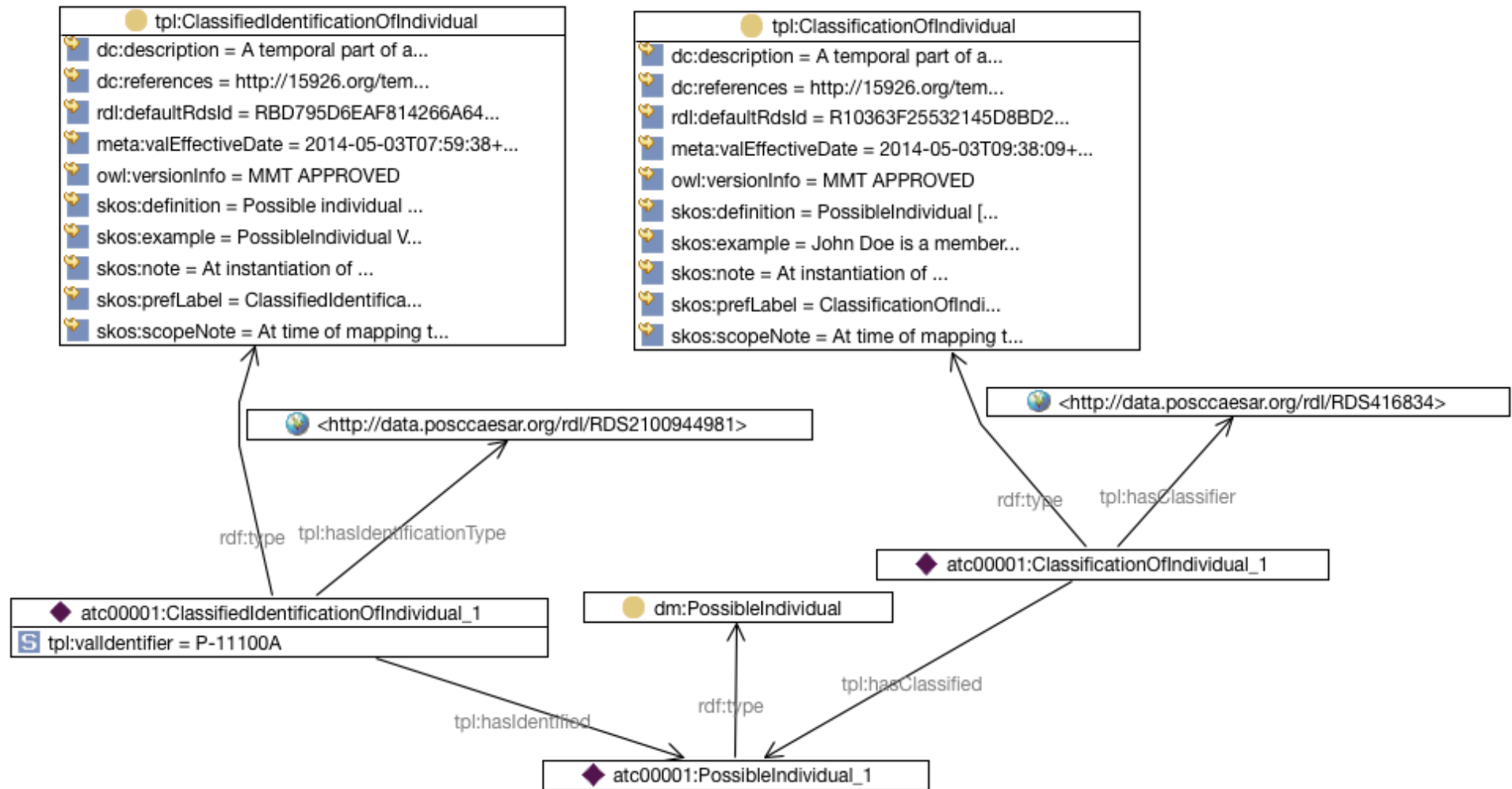
Atomic test case example ttl – Item Number

```
# baseURI: http://iso15926.fiatech.org/edrc_usecase_1/atomic_test_case00001-ItemNumber
# imports: http://data.posccaesar.org/tpl/

@prefix atc00001: <http://iso15926.fiatech.org/edrc_usecase_1/atomic_test_case00001-ItemNumber#> .
@prefix dm: <http://rds.posccaesar.org/2008/02/OWL/ISO-15926-2_2003#> .
@prefix owl: <http://www.w3.org/2002/07/owl#> .
@prefix rdf: <http://www.w3.org/1999/02/22-rdf-syntax-ns#> .
@prefix rdfs: <http://www.w3.org/2000/01/rdf-schema#> .
@prefix tpl: <http://data.posccaesar.org/tpl/> .
@prefix xsd: <http://www.w3.org/2001/XMLSchema#> .

<http://iso15926.fiatech.org/edrc_usecase_1/atomic_test_case00001-ItemNumber>
  rdf:type owl:Ontology ;
  owl:imports tpl: ;
  owl:versionInfo "Created with TopBraid Composer"^^xsd:string ;
  rdfs:comment "EDRC Use Case 1 Section 6.1.2 Item Number"^^xsd:string ;
.
atc00001:ClassificationOfIndividual_1
  rdf:type tpl:ClassificationOfIndividual ;
  tpl:hasClassified atc00001:PossibleIndividual_1 ;
  rdfs:label "Pump is CENTRIFUGAL PUMP"^^xsd:string ;
  rdfs:comment "EDRC Use Case 1 Section 6.1.2 Item Number"^^xsd:string ;
  tpl:hasClassifier <http://data.posccaesar.org/rdl/RDS416834> ;
.
atc00001:ClassifiedIdentificationOfIndividual_1
  rdf:type tpl:ClassifiedIdentificationOfIndividual ;
  tpl:hasIdentificationType <http://data.posccaesar.org/rdl/RDS2100944981> ;
  tpl:hasIdentified atc00001:PossibleIndividual_1 ;
  rdfs:label "Pump P-11100A"^^xsd:string ;
  tpl:valIdentifier "P-11100A"^^xsd:string ;
  rdfs:comment "EDRC Use Case 1 Section 6.1.2 Item Number"^^xsd:string ;
.
atc00001:PossibleIndividual_1
  rdf:type dm:PossibleIndividual ;
  rdfs:comment "EDRC Use Case 1 Section 6.1.2 Item Number"^^xsd:string ;
  rdfs:label "Pump"^^xsd:string ;
.
```

Item Number data as graph diagram



Comments

- The Test case do not “OWL import” RD, but could. There seems to be a view that RD is an external reference and so the Test cases reflect that fact.
 - This lessens the need to have the full RDL available to the tool used to create 15926 data, as some tools will report errors in files if the OWL imported RD were not available.
 - The globe icon shows in the instance diagrams shows non-OWL-imported URIs (see previous slide for example).
- As an aside : There is nothing in the Use Case 1 test cases or templates that could not have been defined using the “real” 15926 7-8 OWL artifacts. Would benefit industry to have the rationale for not doing so better explained.

Availability

- Release 1.0 of test cases delivered, cover all of Use Case 1
 - Download Release 1 original “master” from :
 - <https://github.com/usnistgov/iso15926>
 - D Price corrections are at (and there’s already one) :
 - <https://github.com/dpricetq/iso15926>