MULTISENSOR LINKED OPEN DATA

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DBPEDIA MEETING, 2016-09-15, LEIPZIG, GERMANY

2D presentation: O for overview, H for help.

Made in plain text with reveal.js, org-reveal, org-mode, emacs, rdfpuml.

Or use normal continuous HTML

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FP7 MULTISENSOR

Partners:

CERTH (GR)	coordinator, image/video annot
UPF (ES)	NLP, FrameNet summarization,
Barcelona Media (ES)	annotation
LinguaTec (DE)	NER, translation
EVERIS (ES)	system integration
Ontotext (BG)	semantics, storage, reasoning
Deutsche Welle Innovation (DE)	UC1 Journalism
pressrelations (DE)	UC2 Press Monitoring
PIMEC (ES)	UC3 Decision Support

Goals:

- content distillation of heterogeneous multimedia and multilingual data;
- sentiment and context analysis of content and social interactions;
- semantic integration of heterogeneous multimedia and multilingual data;
- semantic reasoning and intelligent decision support;
- multilingual and multimodal summarization and presentation of the information to the user.

SCOPE

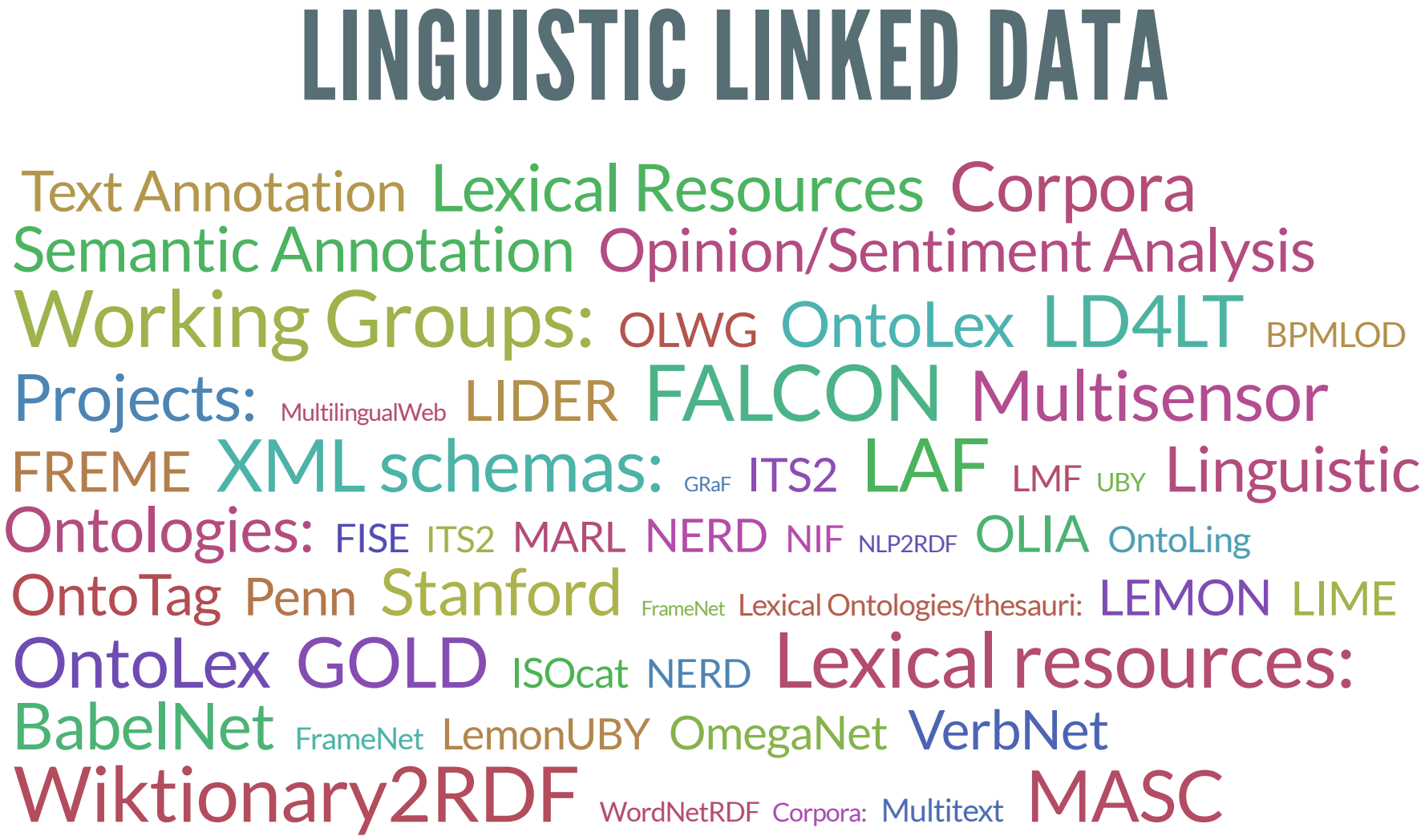
Analyze and extract data from mass- and social media documents, including text, images and video, across several languages.

Uses a number of ontologies for representing that data:

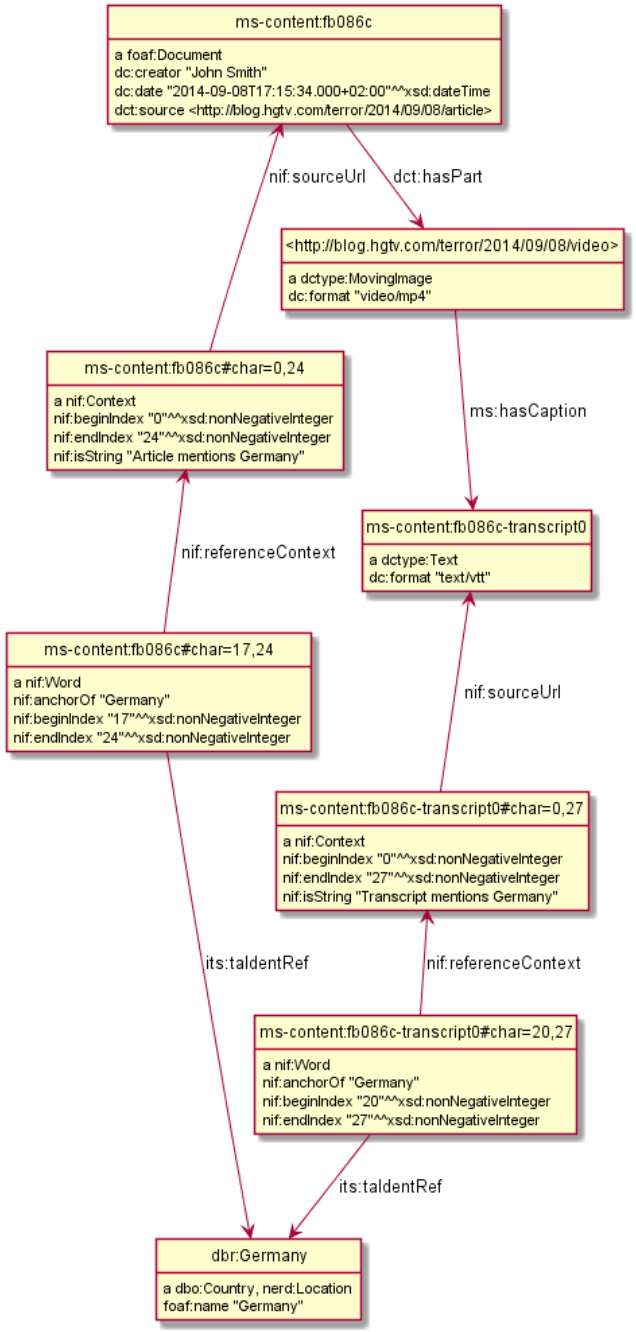
- NIF and OLIA for linguistic info,
- ITSRDF and NERD for NER,
- DBpedia and Babelnet for entities and concepts,
- MARL for sentiment,
- OA for image, video, cross-article annotations
- FrameNet for lexical frames (embedded in NIF)

Linguistic Linked Data, Multisensor presentation, 2014-11, Bonn

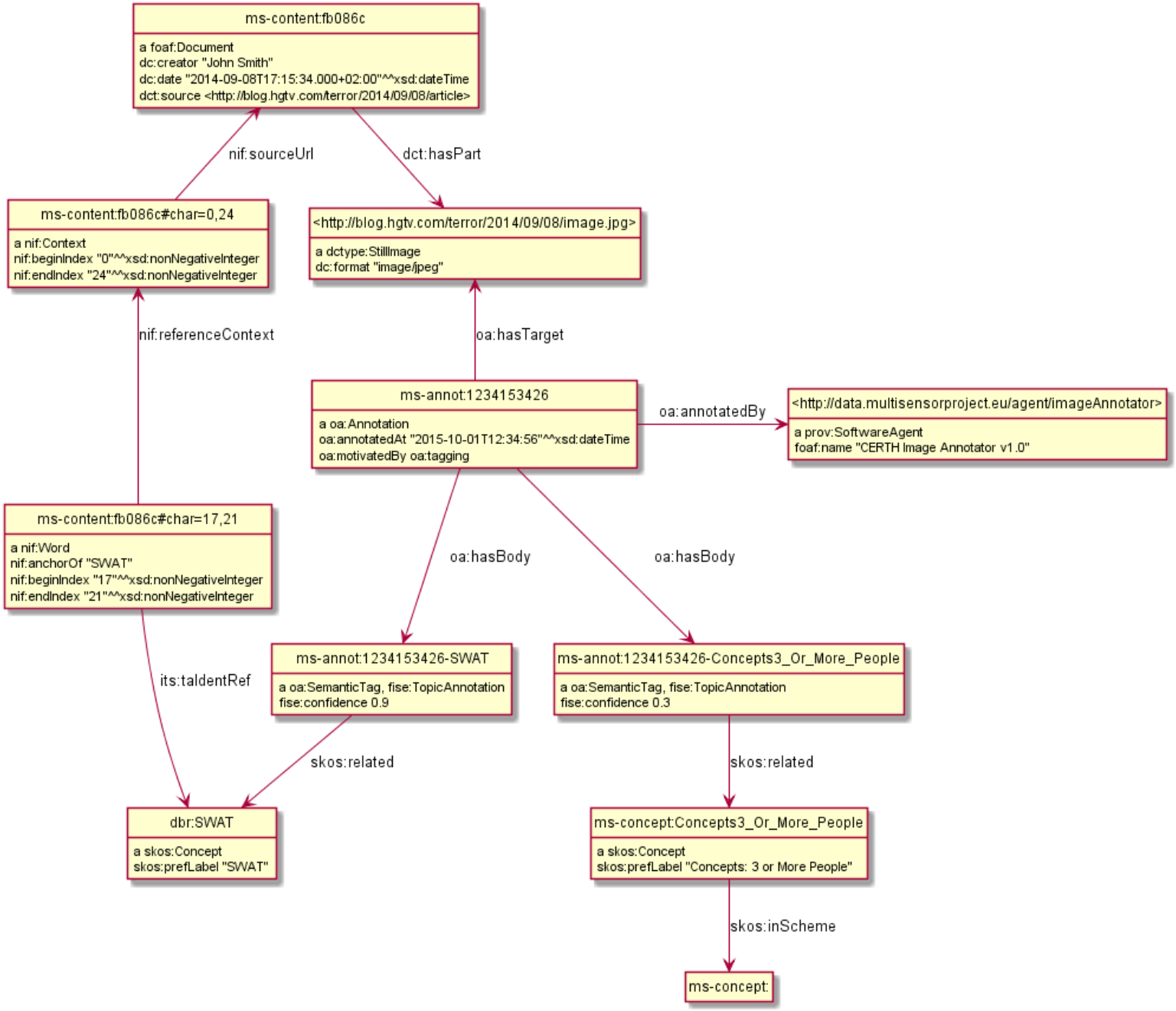
- Still working on an "RDF Application Profile" for Multisensor, part of D5.4 "Final semantic infrastructure and decision support system"


LINGUISTIC LINKED DATA
Text Annotation
Lexical Resources
Corpora
Semantic Annotation
Opinion/Sentiment Analysis
Working Groups:
OLWG
OntoLex
LD4LT
BPMLOD
Projects:
MultilingualWeb
LIDER
FALCON
Multisensor
FREME
XML schemas:
GRaF
ITS2
LAF
LMF
UBY
Linguistic
Ontologies:
FISE
ITS2
MARL
NERD
NIF
NLP2RDF
OLIA
OntoLing
OntoTag
Penn
Stanford
FrameNet
Lexical Ontologies/thesauri:
LEMON
LIME
OntoLex
GOLD
ISOcat
NERD
Lexical resources:
BabelNet
FrameNet
LemonUBY
OmegaNet
VerbNet
Wiktionary2RDF
WordNetRDF
Corpora:
Multitext
MASC

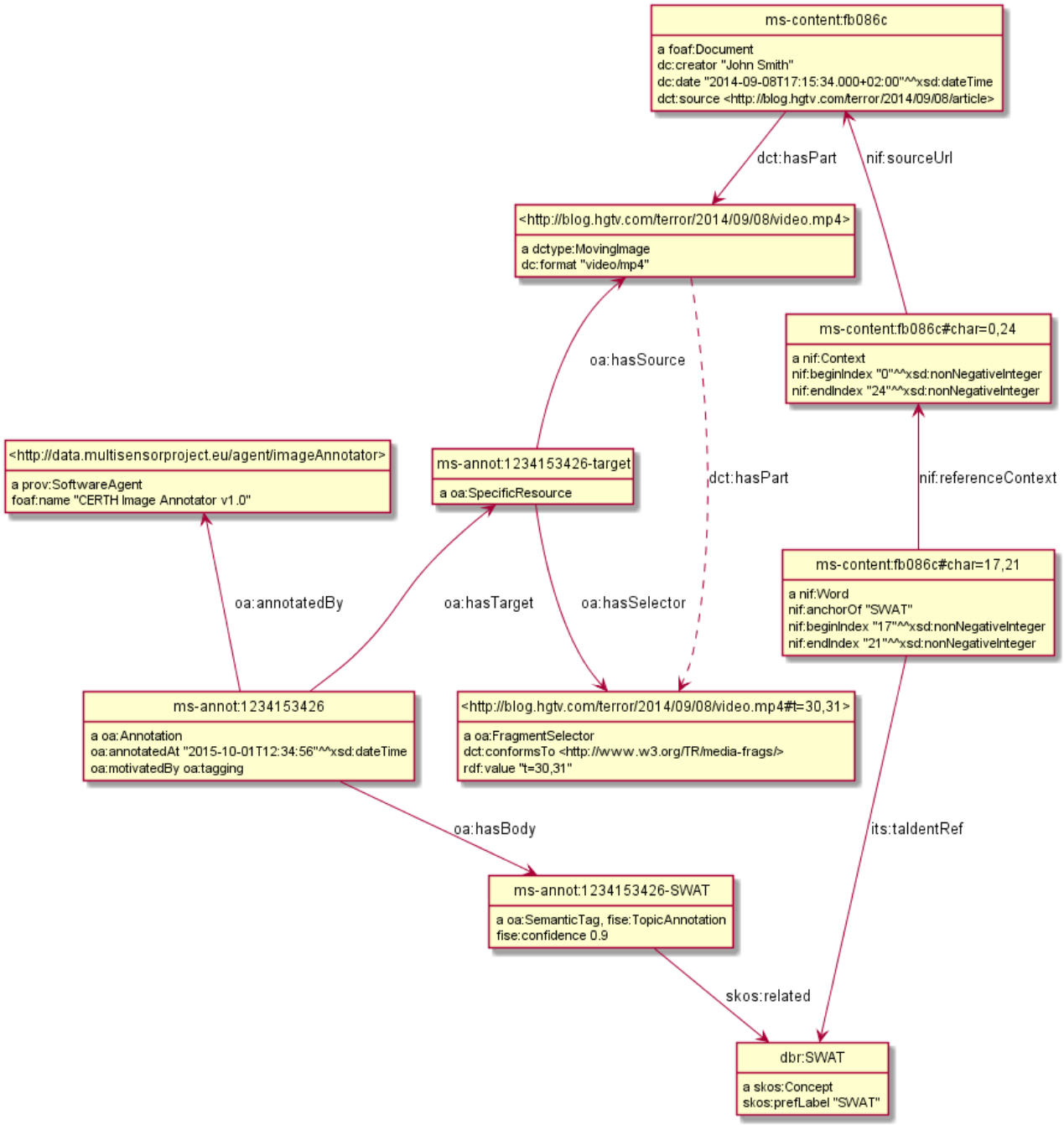
TEXT ANNOTATION (ARTICLE AND ASR TRANSCRIPT)



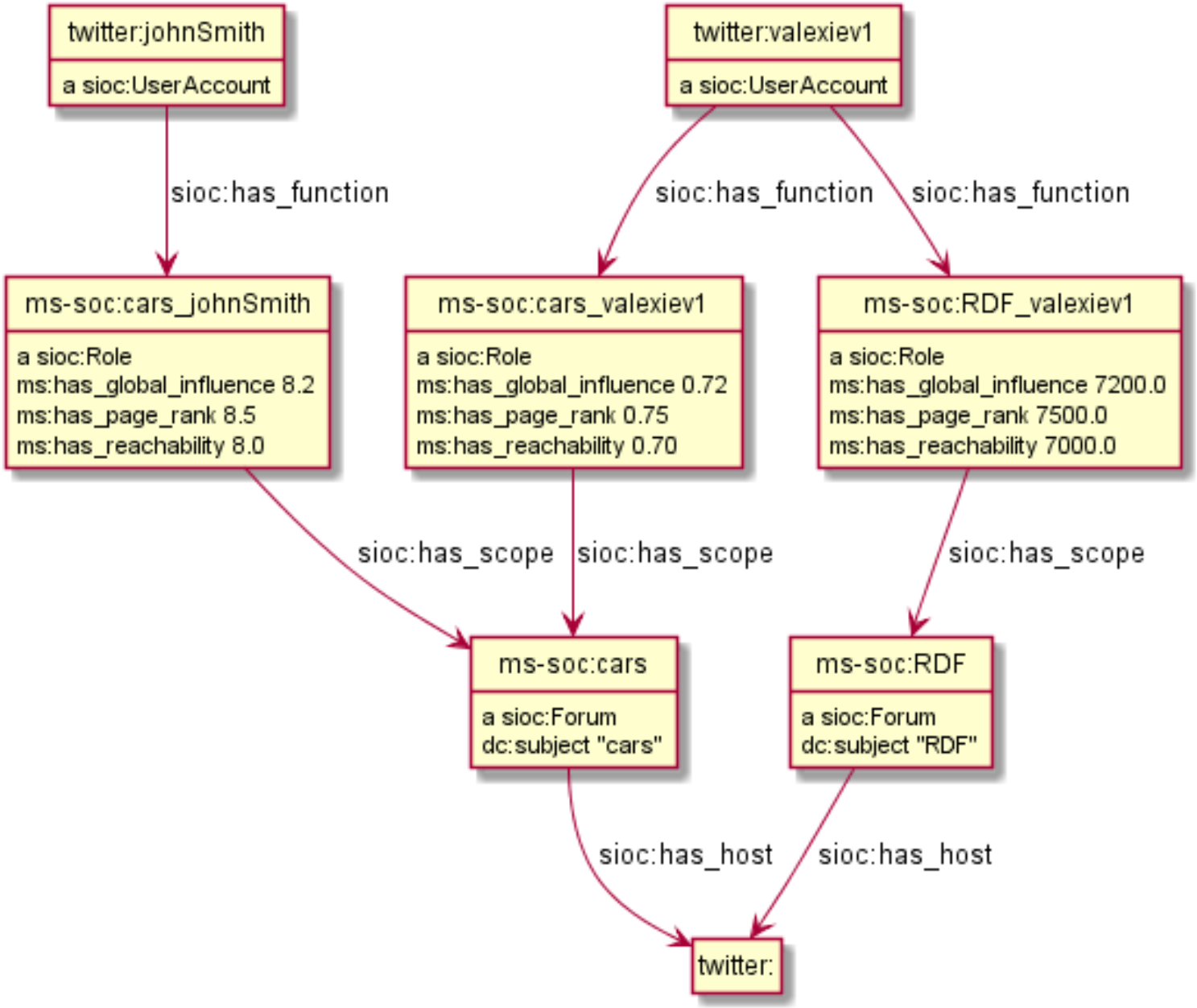
MEDIA ANNOTATION: IMAGE, FUSION TO TEXT ANNOTATION



MEDIA ANNOTATION: VIDEO FRAME

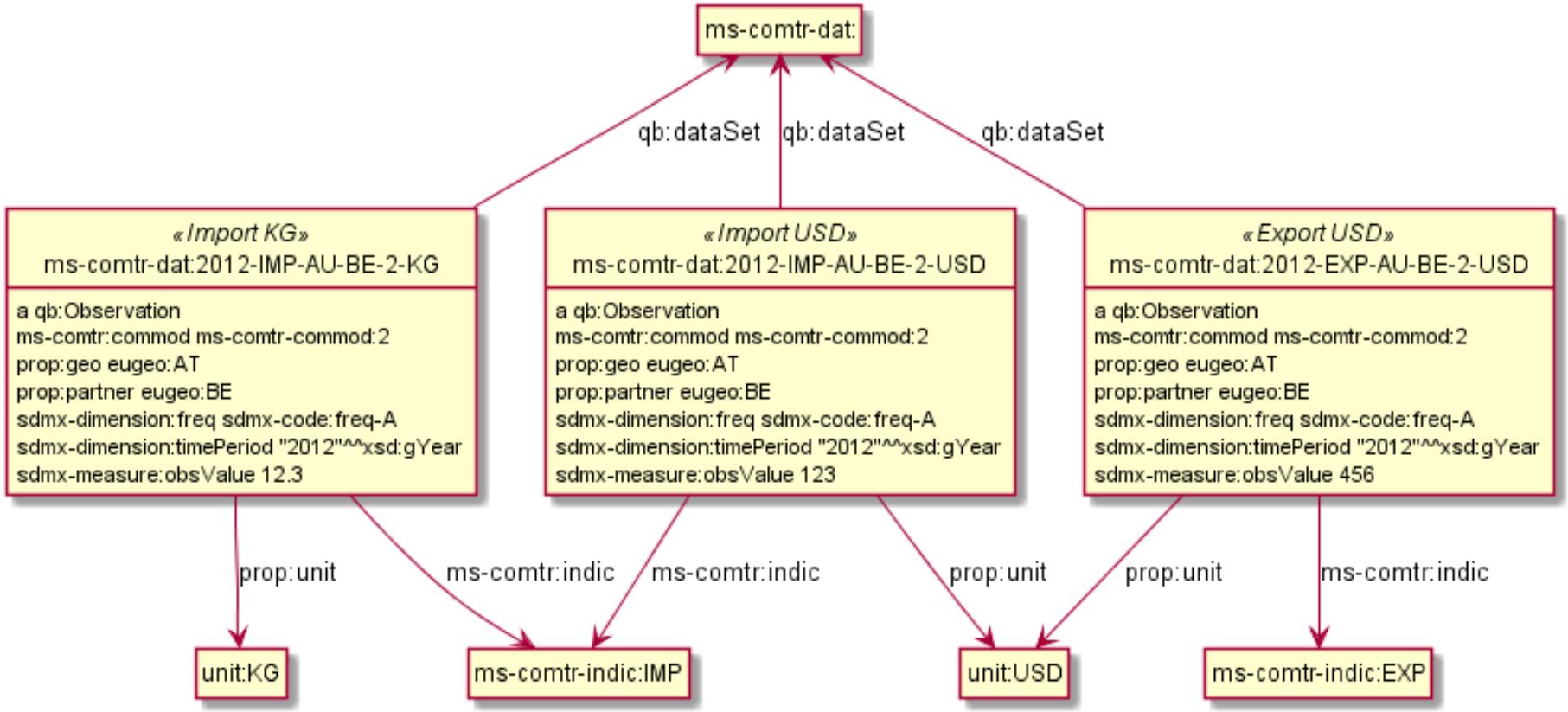


SOCIAL MEDIA: INFLUENCE



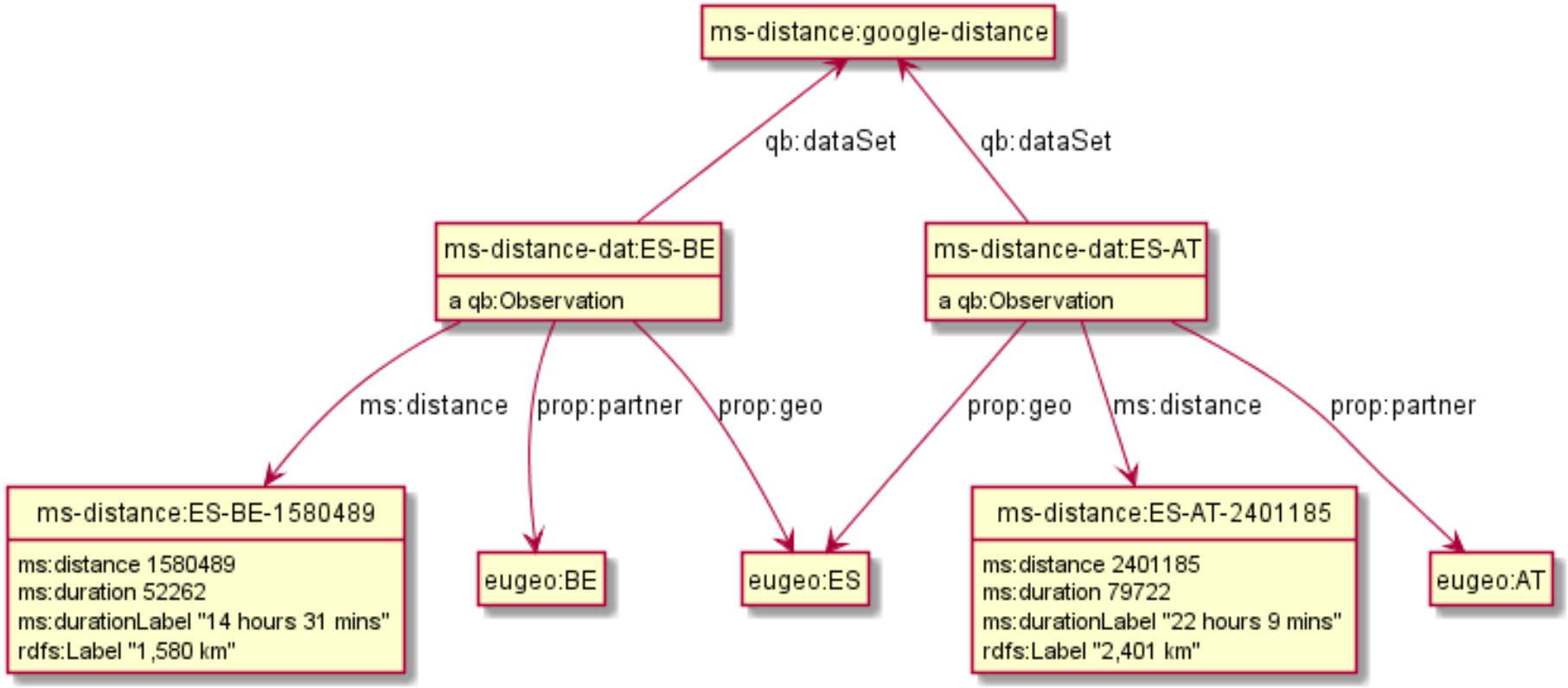
DECISION SUPPORT: TRADE

UN ComTrade data on commercial trade volumes



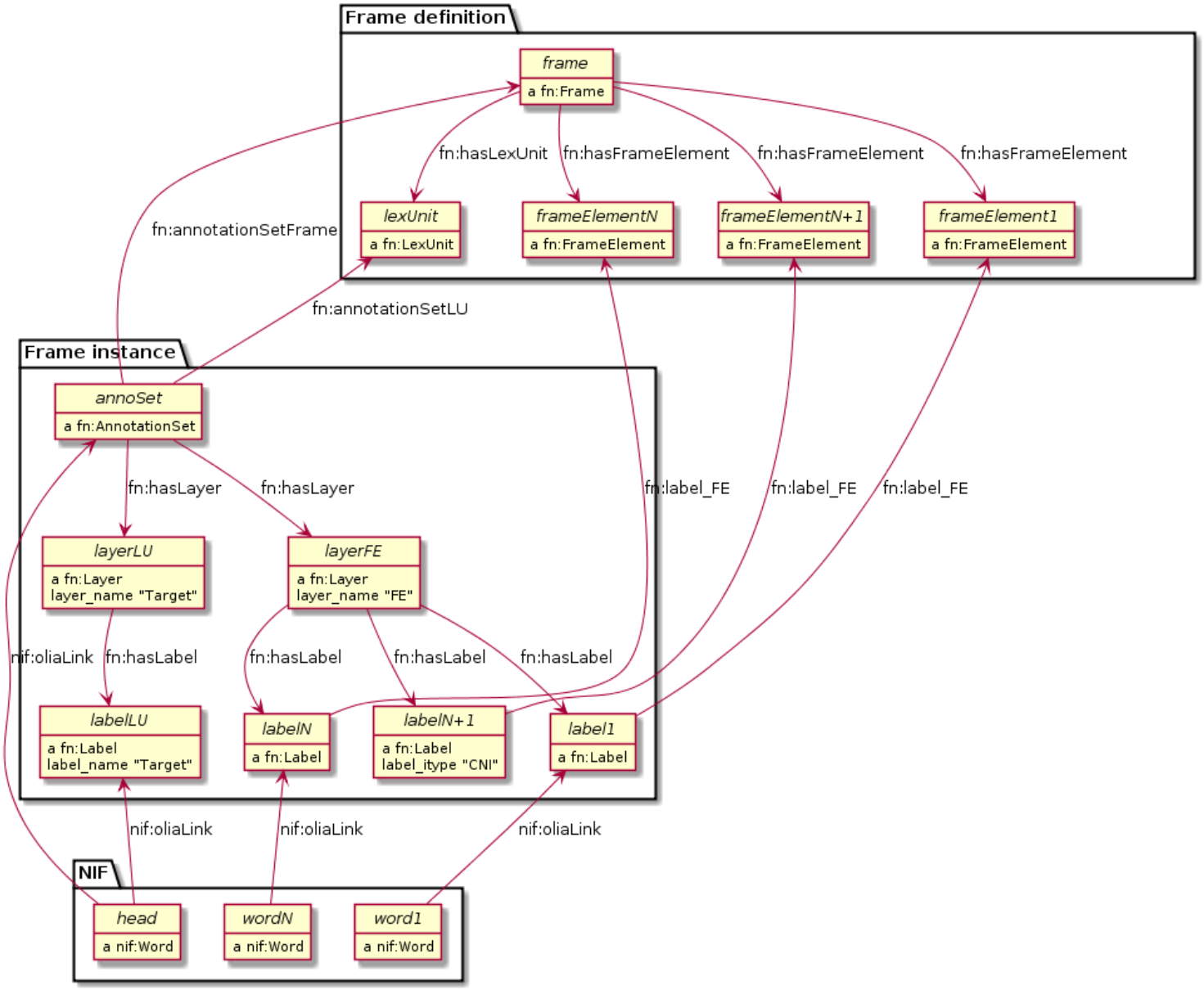
DECISION SUPPORT: DISTANCE

Google data on distances and travel time (between capitals)

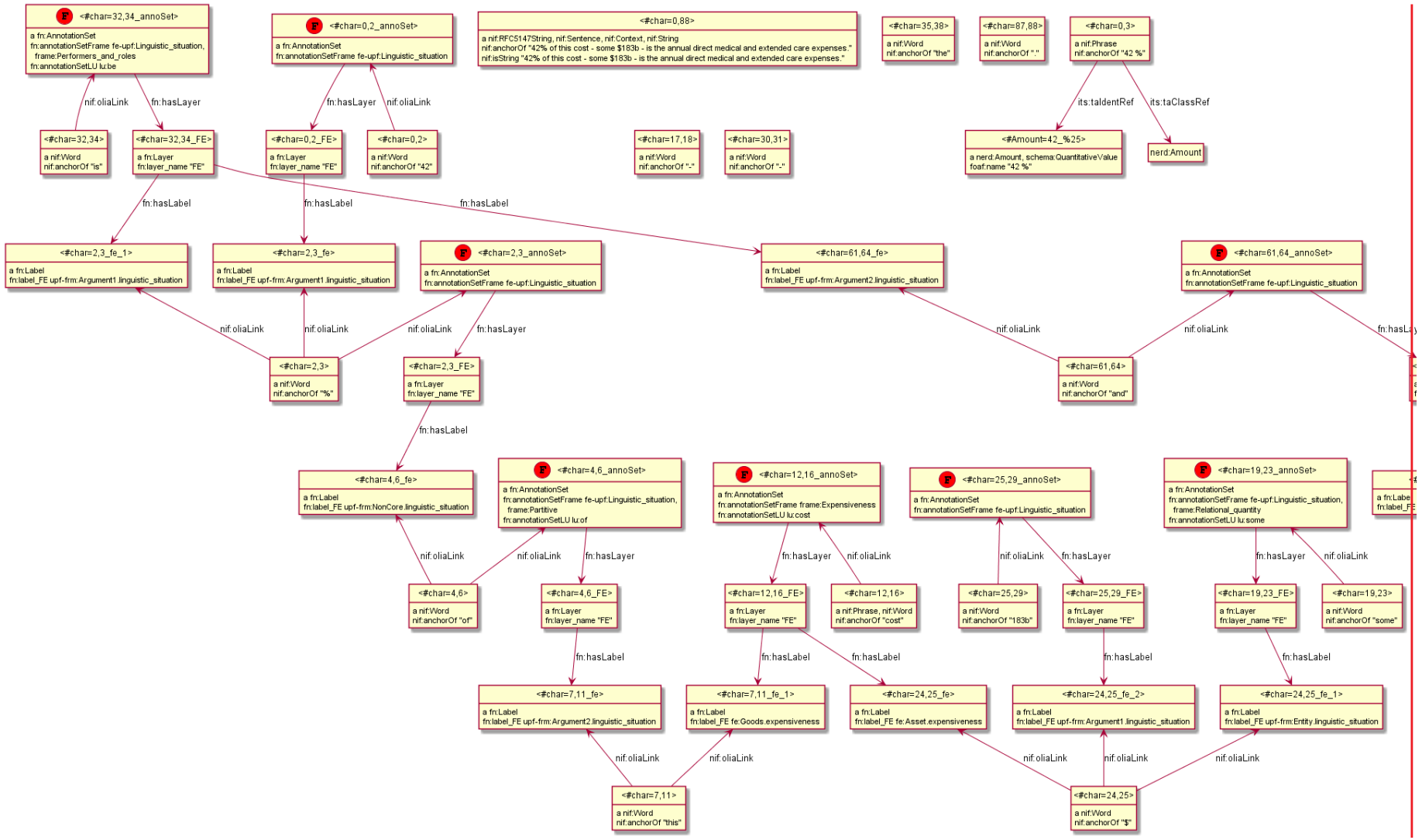


FRAMENET ANNOTATION

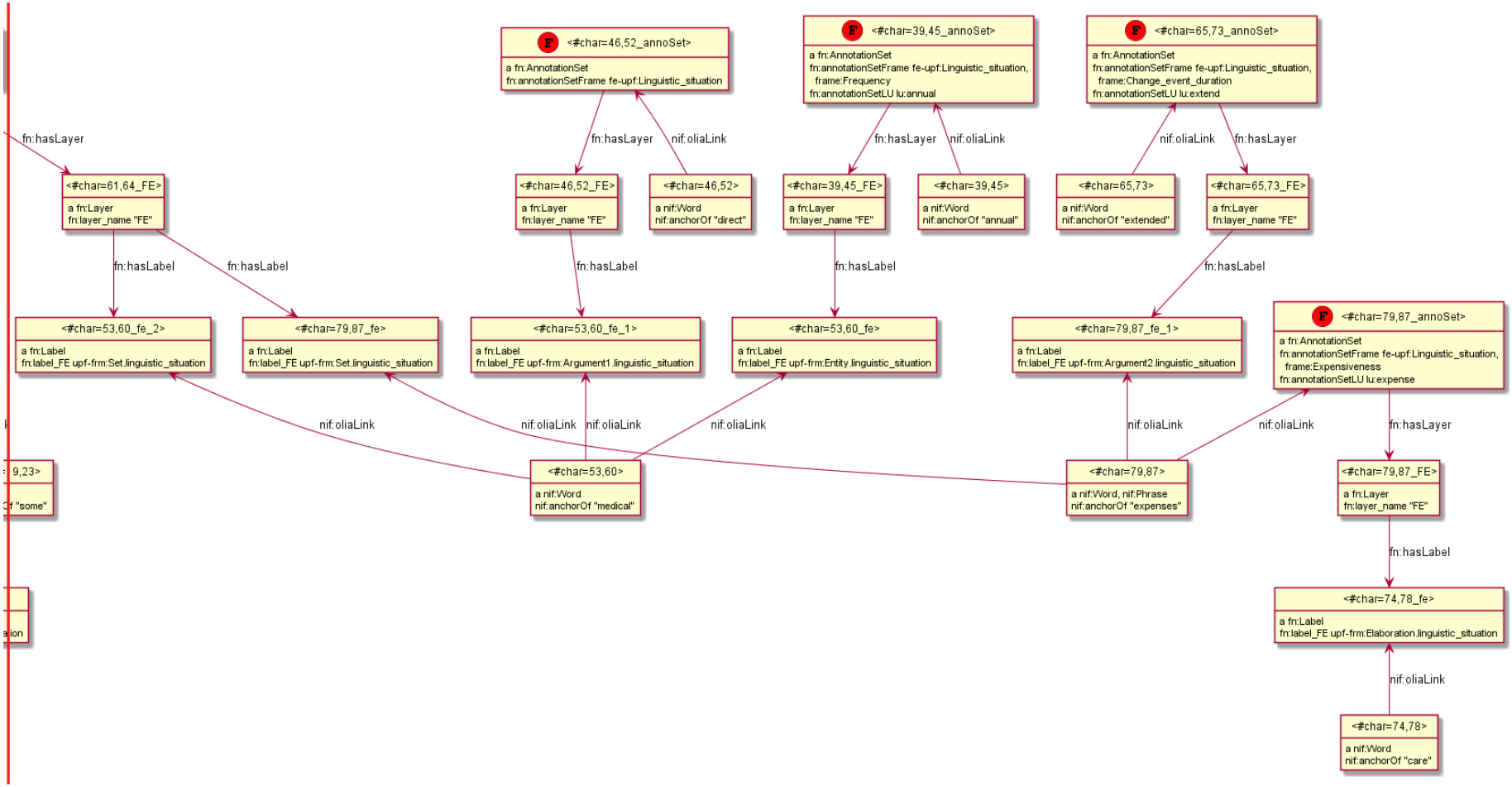
FN goes NIF: Integrating FrameNet in the NLP Interchange Format, LREC 2016



REAL FN DATA (PART 1)



REAL FN DATA (PART 2)



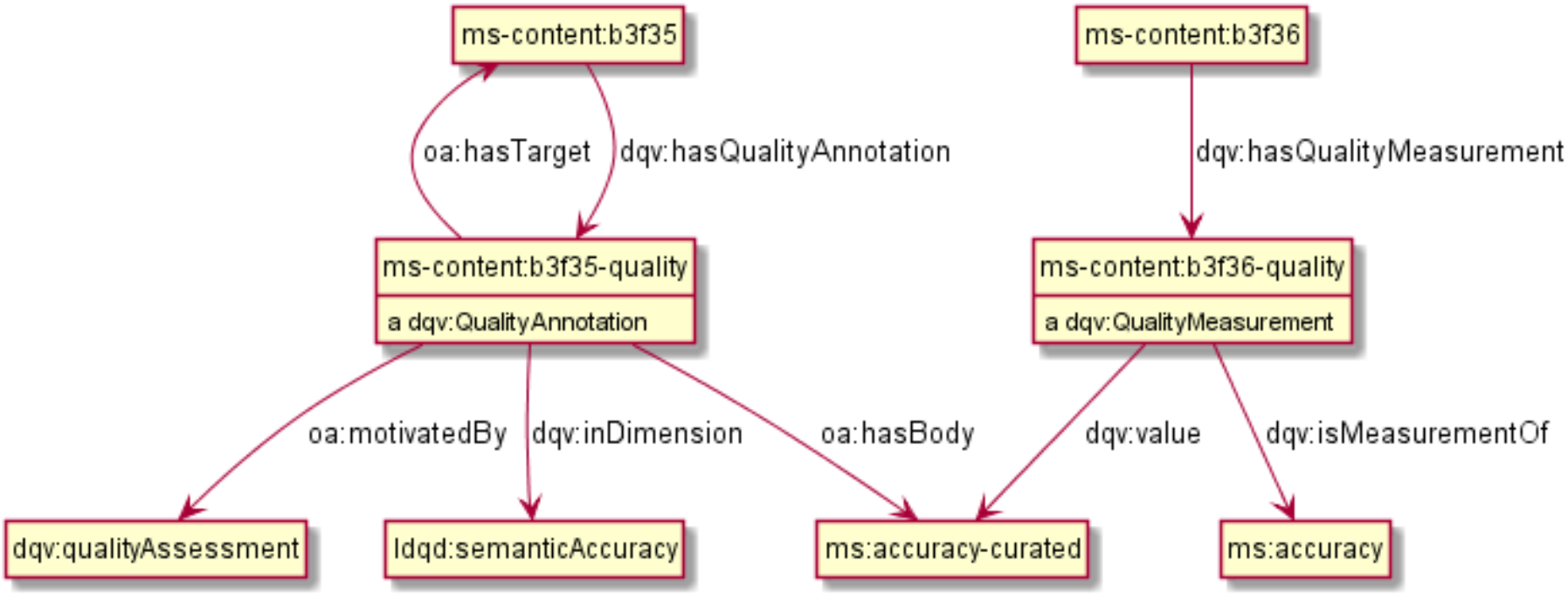
DATA QUALITY

W3C Data Quality Vocabulary dqv:, Linked Data Quality Dimensions ldqd:

```
ms:accuracy a dqv:Metric;
  skos:prefLabel "Accuracy"@en;
  skos:definition "Degree to which SIMMO data correctly represents real world facts."@en;
  dqv:inDimension ldqd:semanticAccuracy;
  dqv:expectedDataType ms:Accuracy.

ms:Accuracy a owl:Class, skos:ConceptScheme;
  rdfs:label "Accuracy values"@en.
ms:accuracy-low a ms:Accuracy, skos:Concept; skos:inScheme ms:Accuracy;
  skos:prefLabel "Low accuracy"@en.
ms:accuracy-medium a ms:Accuracy, skos:Concept; skos:inScheme ms:Accuracy;
  skos:prefLabel "Medium accuracy"@en.
ms:accuracy-high a ms:Accuracy, skos:Concept; skos:inScheme ms:Accuracy;
  skos:prefLabel "High accuracy"@en.
ms:accuracy-curated a ms:Accuracy, skos:Concept; skos:inScheme ms:Accuracy;
  skos:prefLabel "Manually curated"@en;
  skos:note "Highest accuracy"@en.
```

QUALITYANNOTATION (RIGHT) VS QUALITYMEASUREMENT (WRONG)



RDFUNIT VALIDATION

3. Test Generation

Test Results

Type	URI	Automatic	Manual
SchemaSource	http://xmlns.com/foaf/0.1/	174	-
SchemaSource	http://persistence.uni-leipzig.org/nlp2rdf/ontologies/nif-core#	199	10
SchemaSource	http://www.w3.org/2005/11/its/rdf#	75	-
SchemaSource	http://purl.org/dc/terms/	56	-
DumpTestSource	http://rdfunit.aksw.org/CustomSource#ec922cf4c56832645bcffccafb	-	-

✔ Completed! Generated 514 tests"

9/9 Cancel Generate tests

4. Testing

✔ Completed! (S: 514 / F: 0 / E: 0 / T : 0). See the results or rerun with a different 'Report Type'

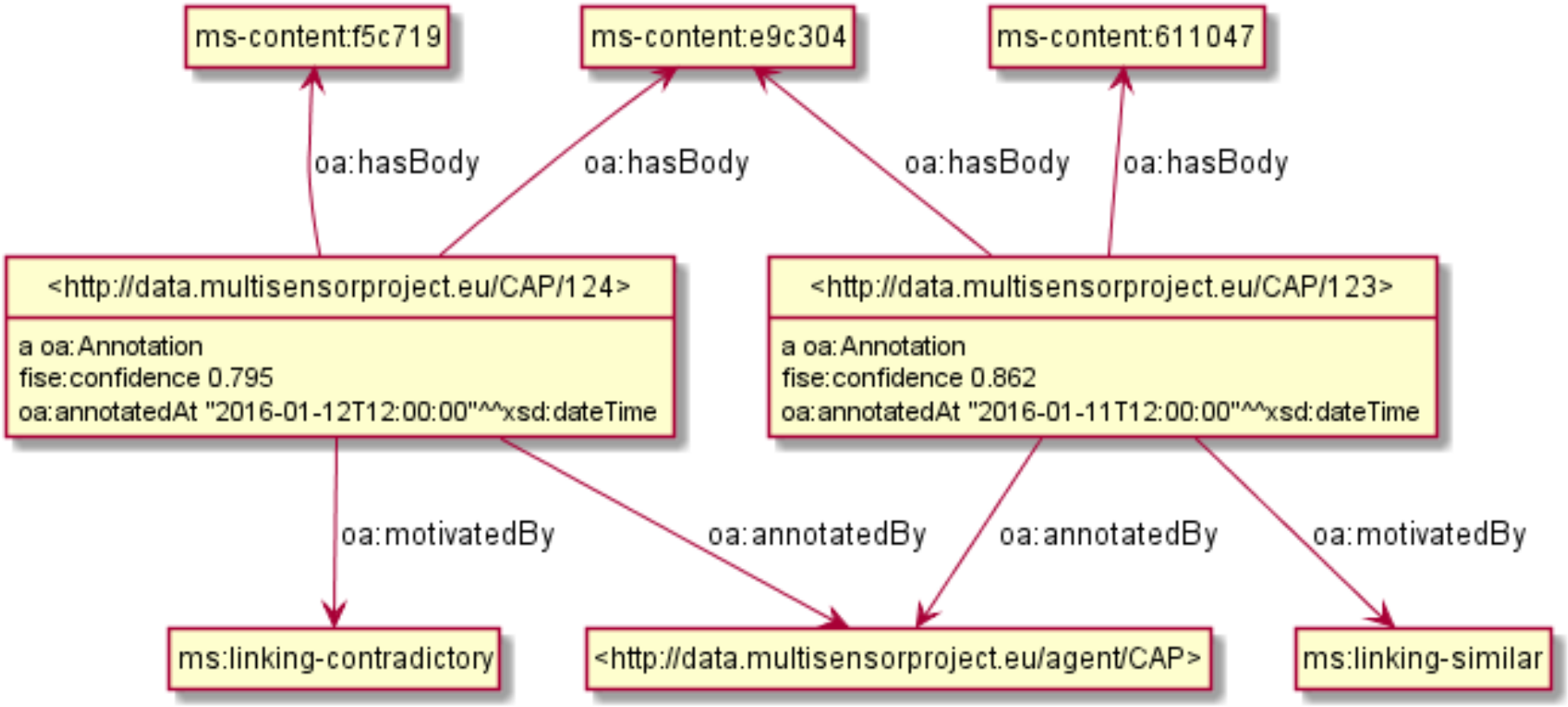
Select Report Type: Status (all) Cancel Run tests

514/514 (S: 514 / F: 0 / E: 0 / T : 0)

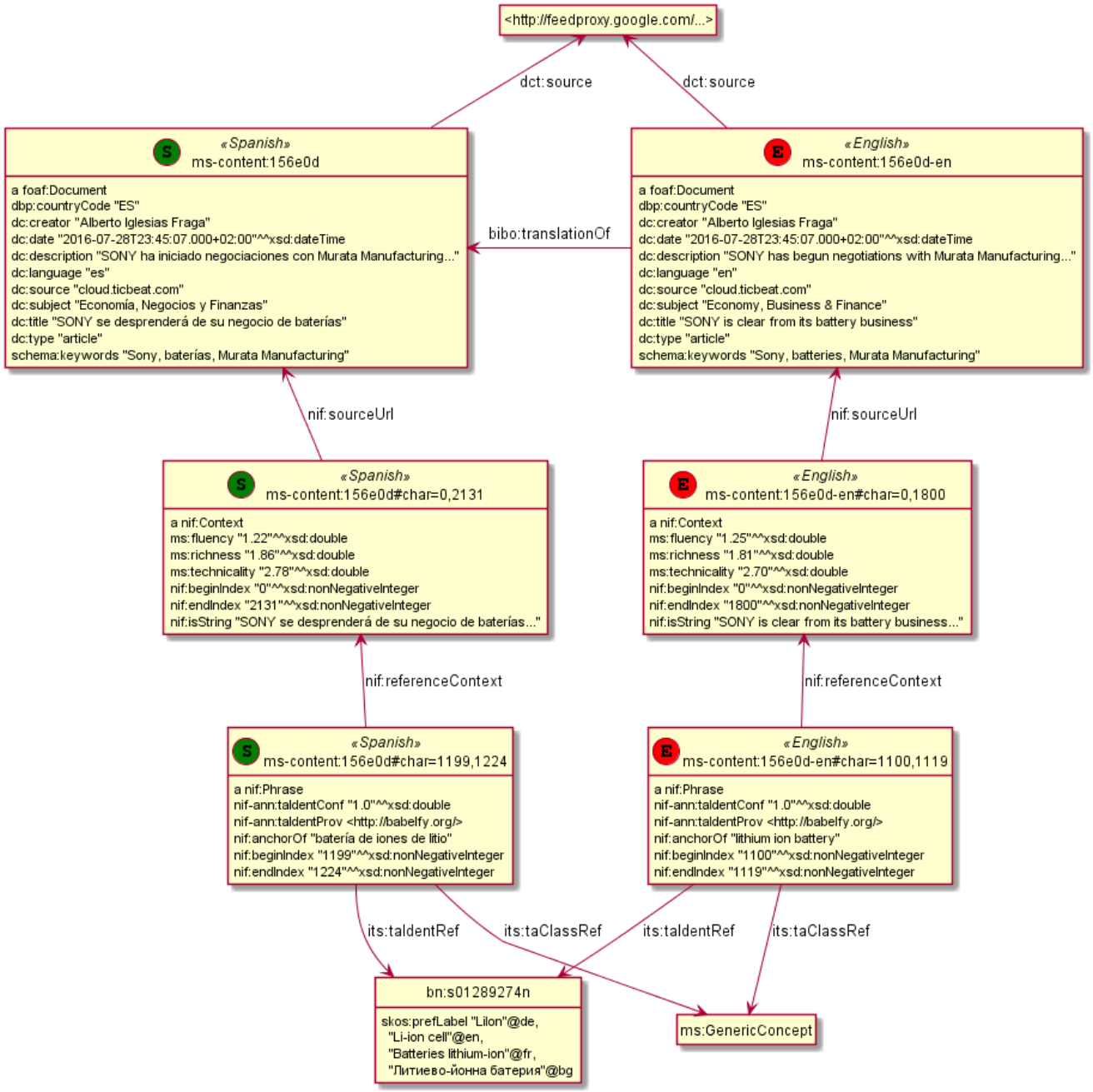
Select Results Format: HTML Display Results

@ AKSW / RDFUnit

CONTENT ALIGNMENT



CONTENT TRANSLATION



RDFPUML

All diagrams made with rdfpuml from **actual Turtle**

- "Making True RDF Diagrams with rdfpuml", Ontotext presentation (2016-05)
- "rdfpuml for True RDF Diagrams and R2RML Generation", SWIB 2016 (2016-11), upcoming

Eg this last diagram was made from Turtle, with these extra triples:

```
bibo:translationOf   puml:arrow puml:left.
dct:source           puml:arrow puml:up.
nif:sourceUrl        puml:arrow puml:up.
nif:referenceContext puml:arrow puml:up.
<http://babelfy.org/>  a puml:Inline.

ms-content:156e0d          puml:stereotype "<<(S,green)Spanish>>".
<156e0d#char=1199,1224>    puml:stereotype "<<(S,green)Spanish>>".
<156e0d#char=0,2131>       puml:stereotype "<<(S,green)Spanish>>".
ms-content:156e0d-en       puml:stereotype "<<(E,red)English>>".
<156e0d-en#char=0,1800>    puml:stereotype "<<(E,red)English>>".
<156e0d-en#char=1100,1119> puml:stereotype "<<(E,red)English>>".
```