I’m Moving voortraject

Reporting 03/05/23

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David De Block (iO)

Objective

Make the **data and procedures accessible and executable** to simplify collaboration and integration of the various services and tools. In addition, we want to make the data and procedures easily **reusable** across different governmental levels and public and private partners.

Method

SotA review

- Organization and (Public) Service Standards
- Business Rule Modeling Standards

Stakeholder interviews

Use Cases and Requirements analysis

Model design

Iterative feedback to further detail the UCR and improve the model

State of the Art Standards

Public Organization: CPOV (+OSLO AP, +BELGIF AP)

Public Service: CPSV AP (+OSLO AP/IM, +BELGIF AP)

IPDC/LPDC, Algoritmeregister

Procedure: User Journey, BPMN

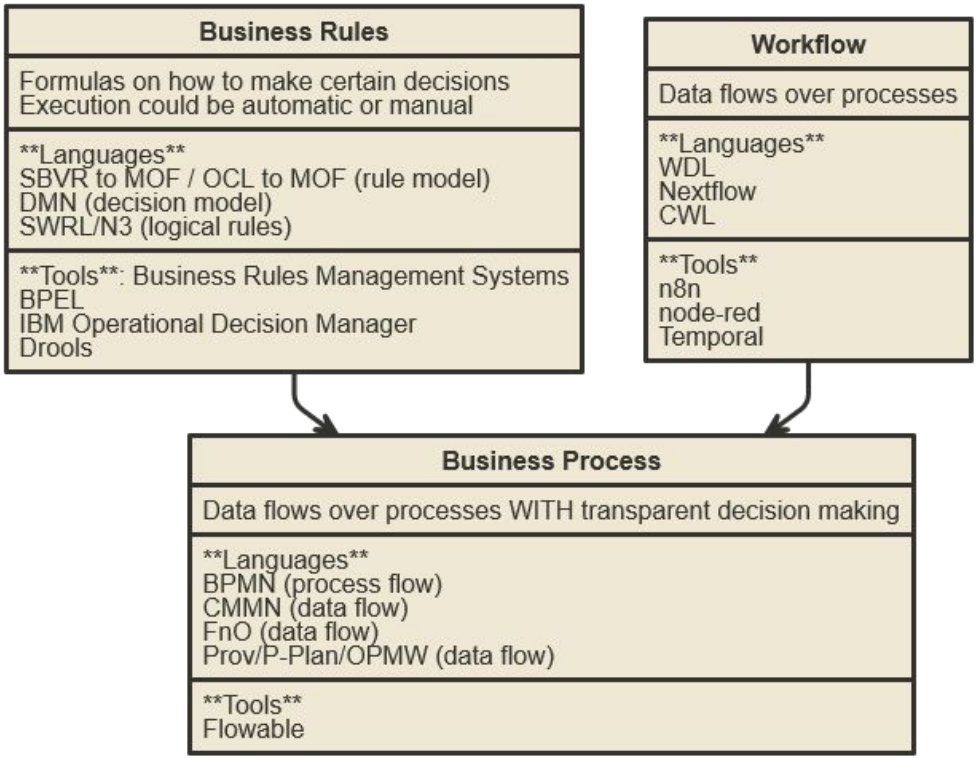
Automatisch advies, Open Proceshuis

Case: Dossier (OSLO AP)

Evidence: CCCEV (+OSLO AP)

OOTS

State of the Art - Business Rules



Interviews

Interviewees:

- Raf Buyle (ADV)
- Liesbeth D’hondt (BOSA)
- Marc Bruyland (BOSA)
- Veronique Volders (ABB)
- Pieter Vanhoutteghem (BOSA)
- Stefanie Kerckhof (ADV / ABB)

Main findings

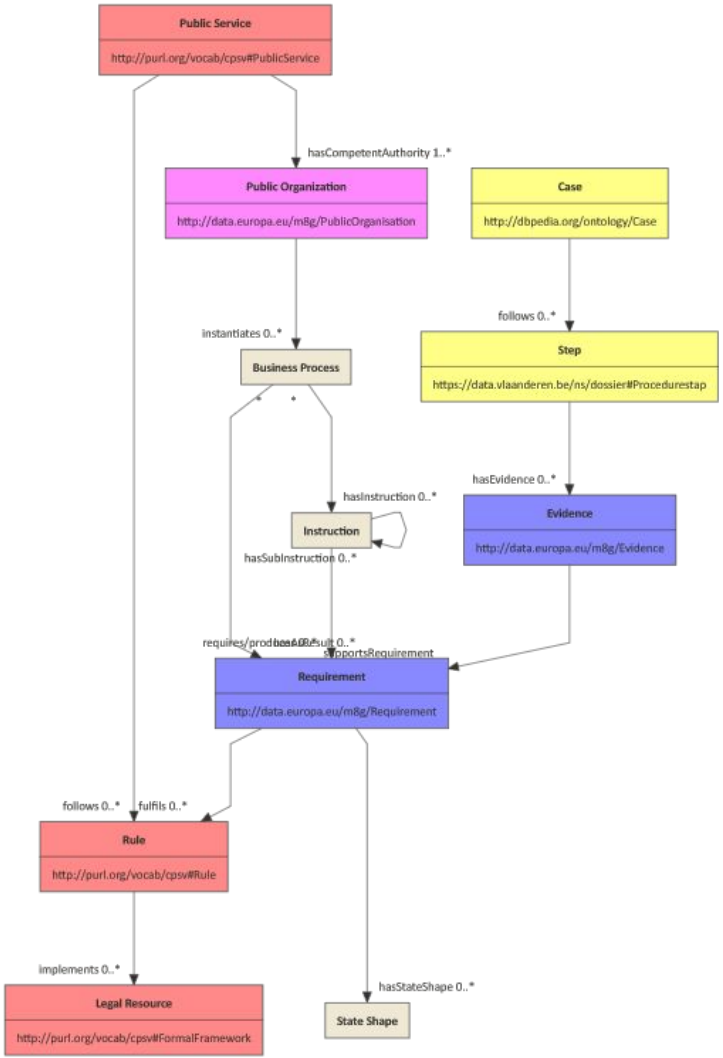
- Interoperability initiatives are **currently mainly focused on exchanging data**, not on procedures.
- There is a **growing demand for a standardized approach to describing procedures**, e.g. for SDG, IPDC/LPDC.
- There is **currently no LOD standard that supports the description of procedures**. At present, procedures are often documented in unstructured text or represented using Business Process Model and Notation (BPMN).
- There is a **willingness to actively support** this standardisation process.
- There is the hope that a semantic standard to describe procedures will bring us **a step closer to the automation of many G2C processes**.

Use Cases and Requirements

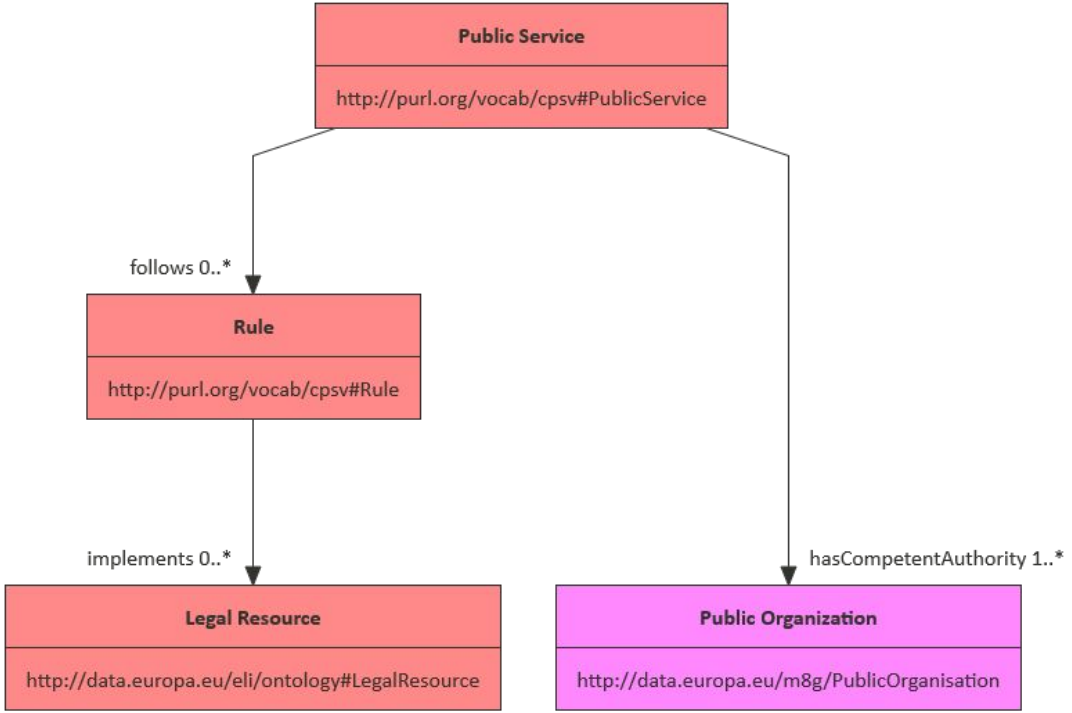
- R-S1: Semantic ontology
  - UC-S1: Decentralised: different policy levels (municipal, regional, federal) should be able to manage their own procedures independently
  - UC-S2: Standardized (Linked Data) machine-readable format: procedures should be automatically ingested by machines
- R-D1: Division between listing rules and deploying executable procedures
  - UC-D1: The latest version should be under governance of the authentic source, aligned with regulation where relevant.
  - UC-D2: Different organizations should be able to deploy different procedure “flavors”
- R-C1: Case management
  - UC-C1: Following up and managing specific cases (i.e., keeping track of a person's current status in the context of a specific procedure) should be linked to the procedures that are executed.
- R-T1: Subprocedures
  - UC-T1: High-level procedure descriptions should allow to align and harmonize different procedure flavors across organizations
  - UC-T2: Low-level procedure descriptions should be optimizable.
- R-U1: A procedure is a sequence of steps
  - UC-U1: A link with prevalent visual notations such as BPMN and User Journeys should be feasible.

Model

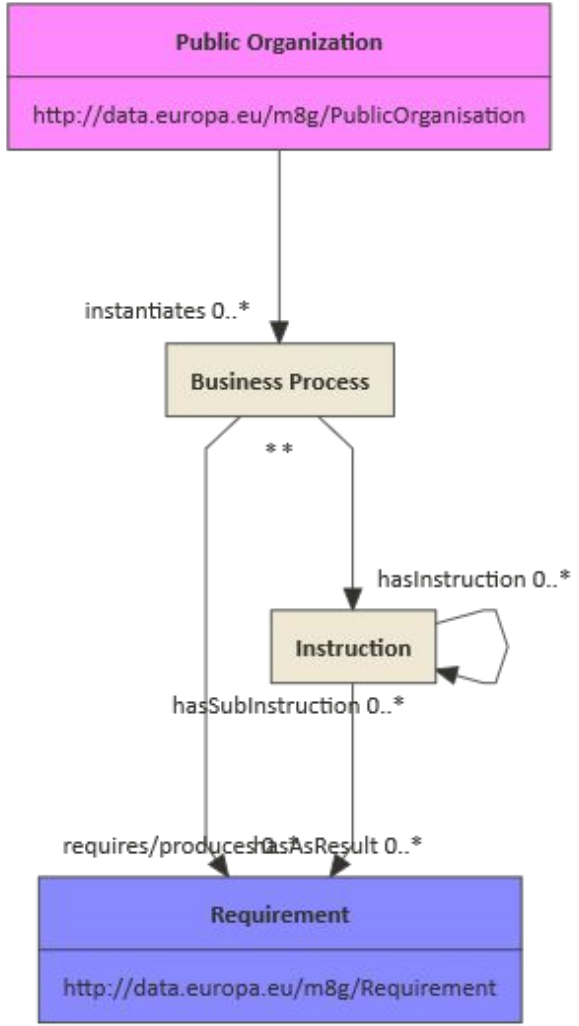
- Red
  - Vocabulary: CPSV v1.01
  - Application profile: CPSV-AP v3.1.0 / Dienstencataloog / Public Service
  - Implementation model: IPDC-LPDC
- Pink
  - Vocabulary: CPOV v2.1.0 / Organisatie / Public Organization
  - Application profile: Organisatie Basis / Public Organization
- Purple
  - Vocabulary: CCCEV 2.0
- Yellow
  - Vocabulary: Dossier
  - Application profiel: Dossier



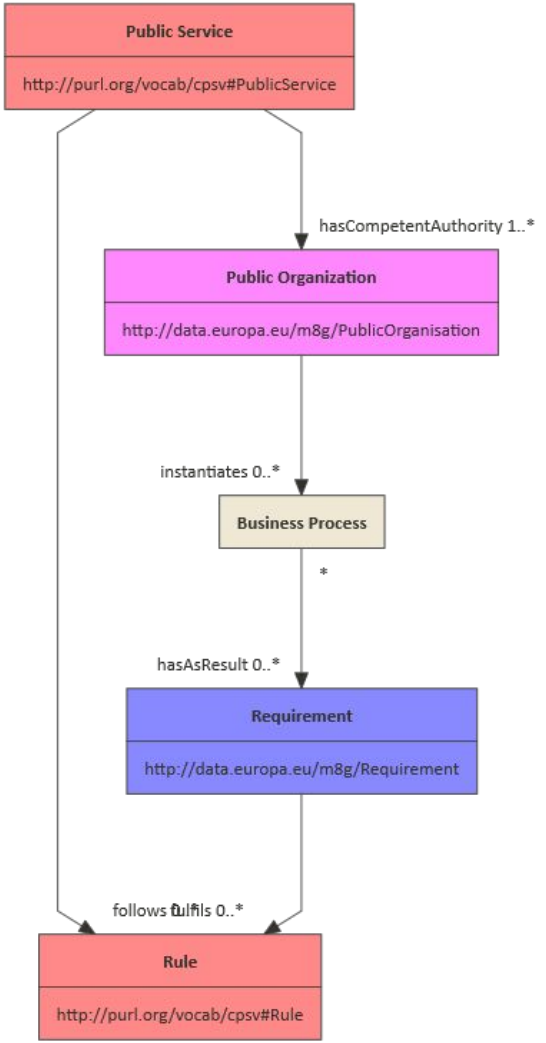
Model - Public Service



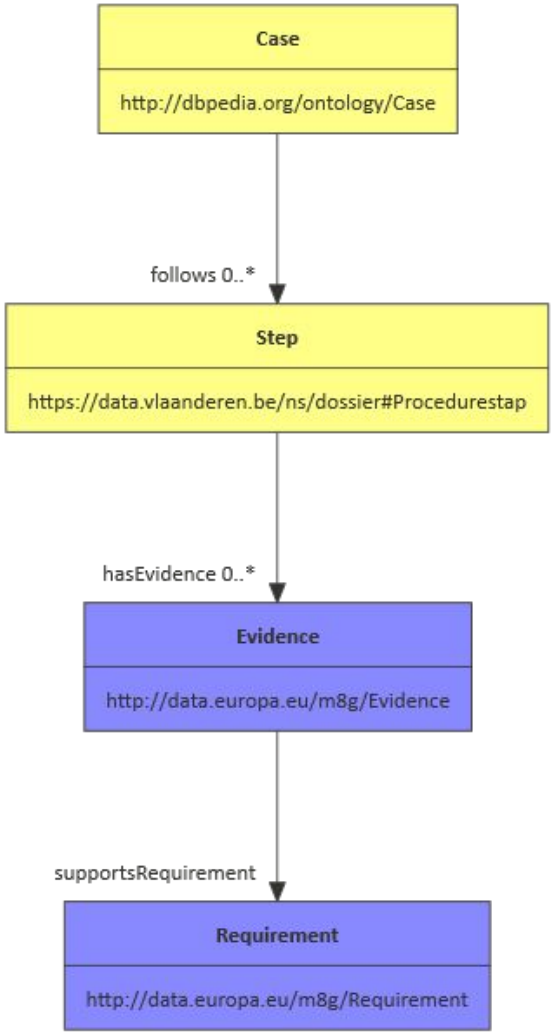
Model - Business Process



Model
Business Process vs Public Service



Model - Case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Step
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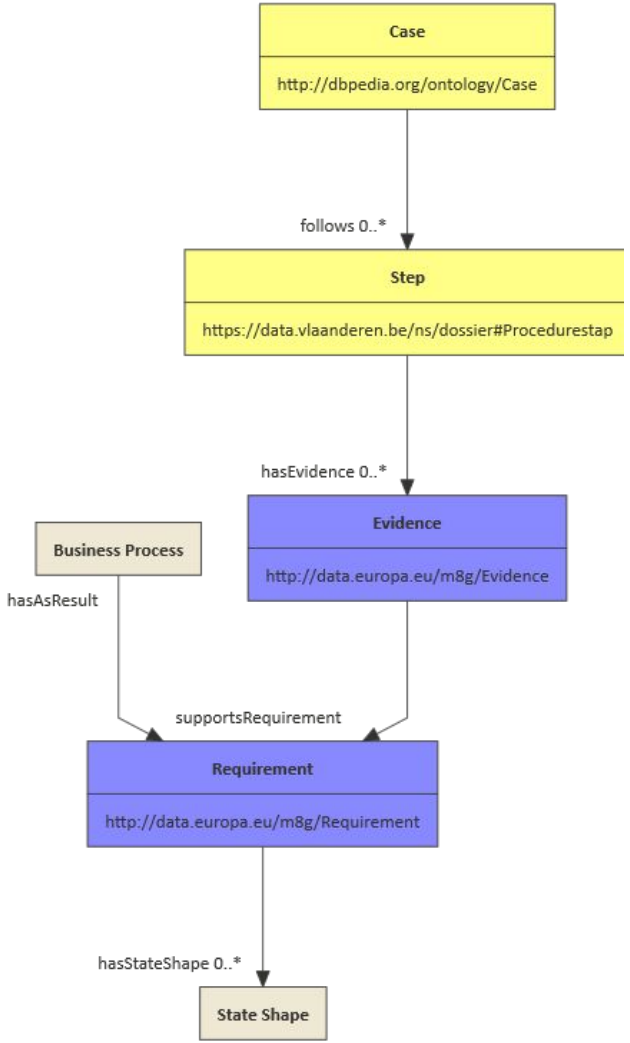
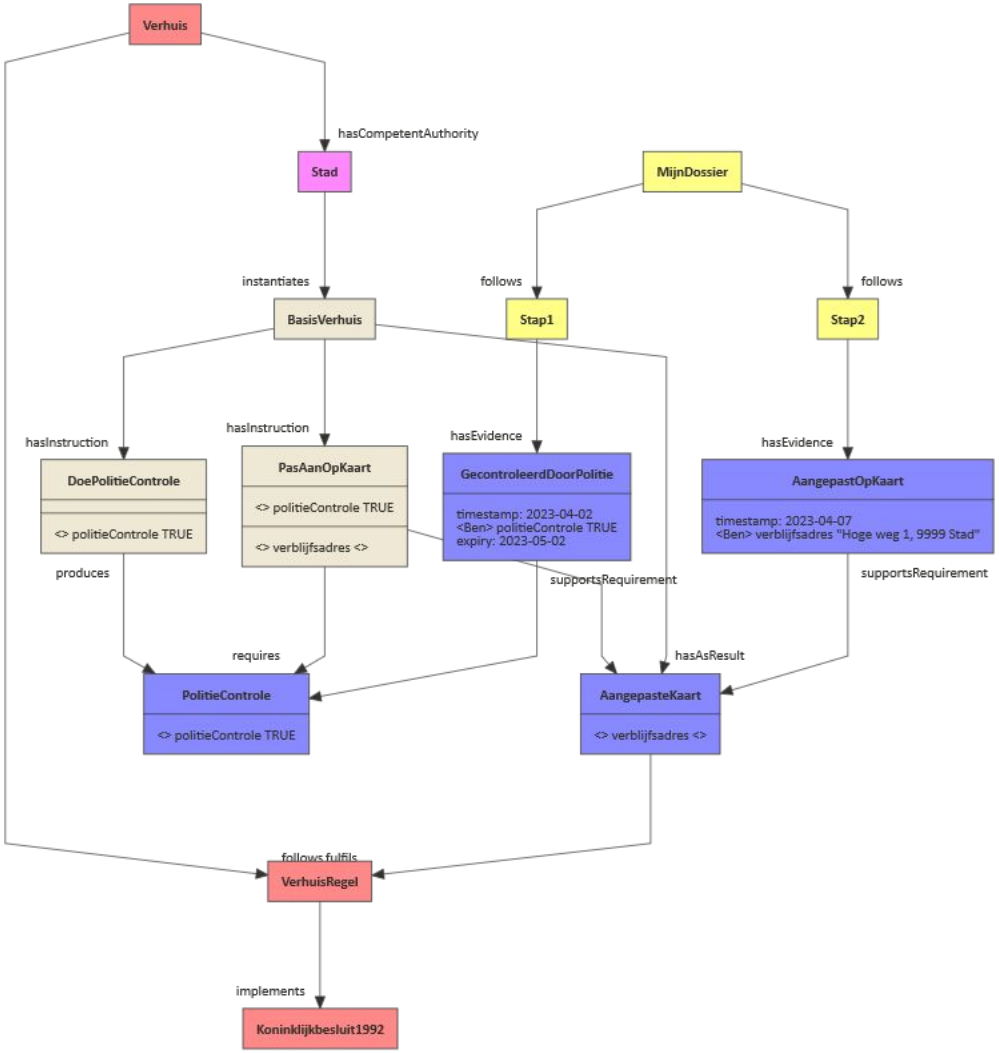
hasEvidence 0..*
Evidence
http://data.europa.eu/m8g/Evidence
supportsRequirement
Requirement
http://data.europa.eu/m8g/Requirement

Model
Business Process vs Case



Example


Verhuis
hasCompetentAuthority
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Stap1
Stap2
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GecontroleerdDoorPolitie
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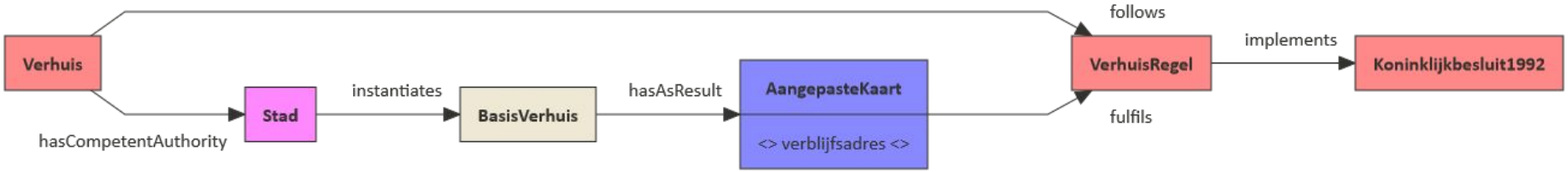
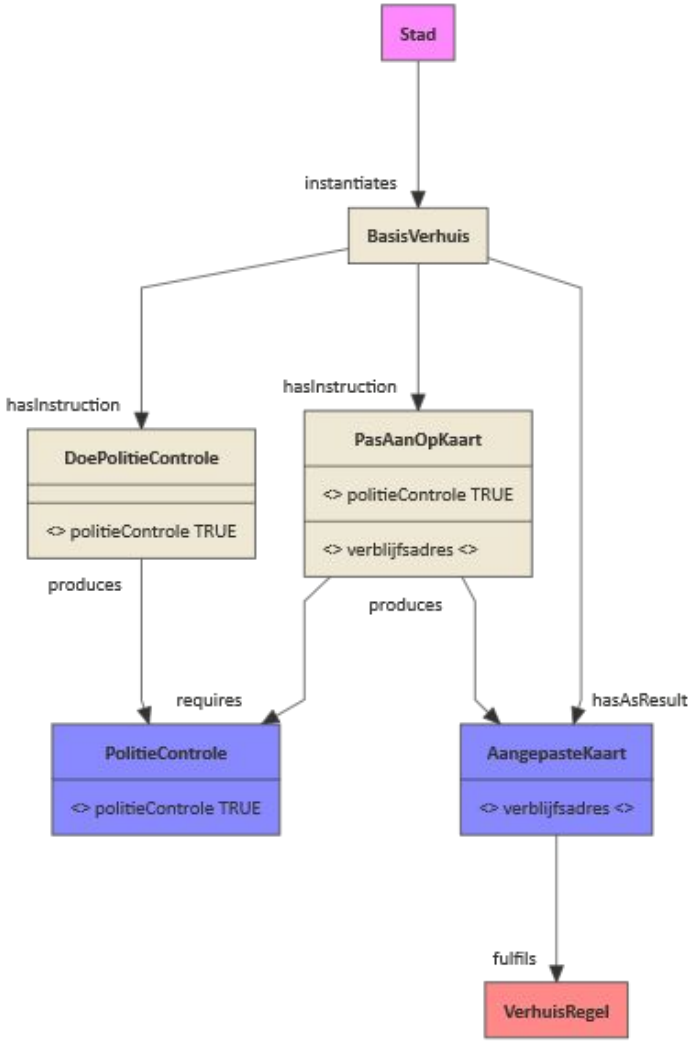
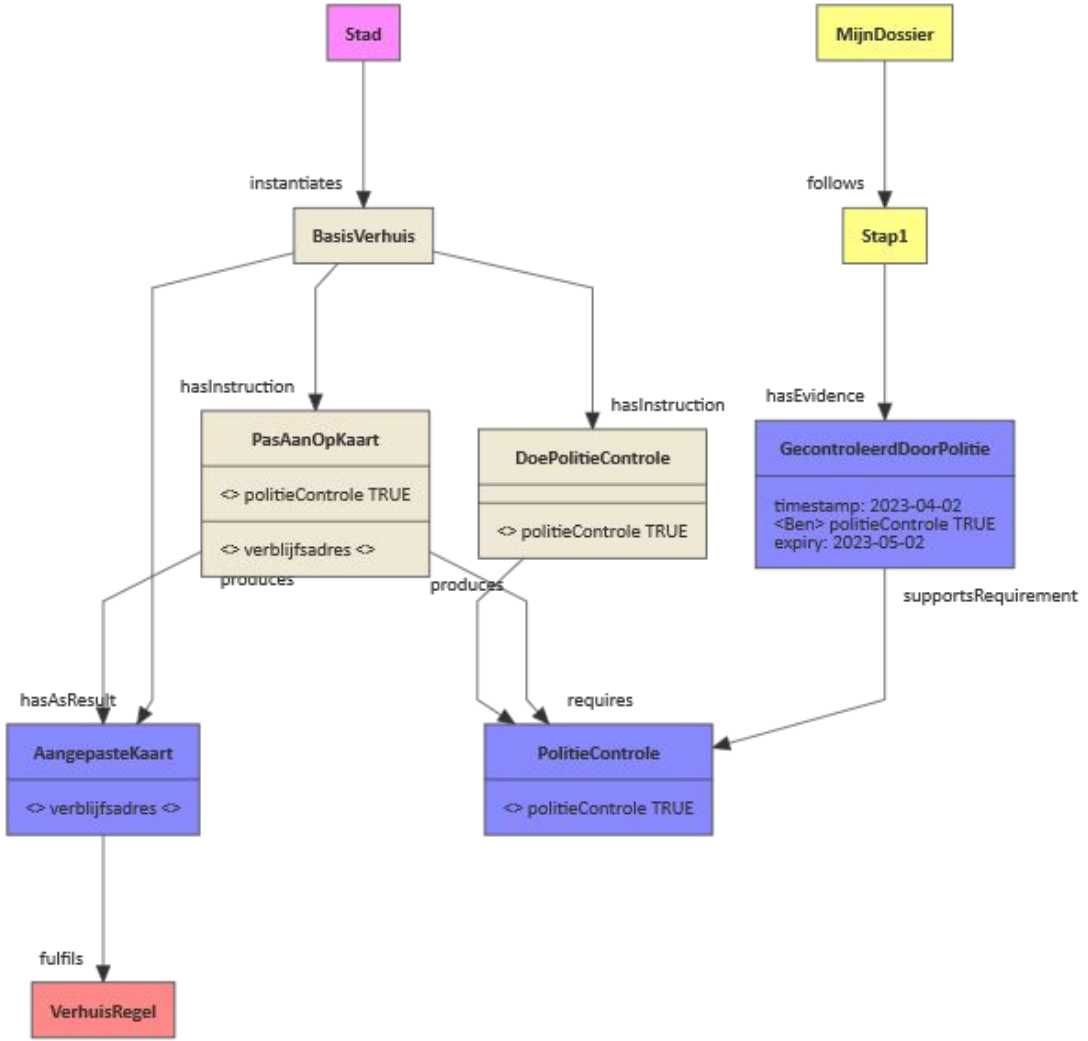
Service - Business Process



Business Process - Instructions



Case step 1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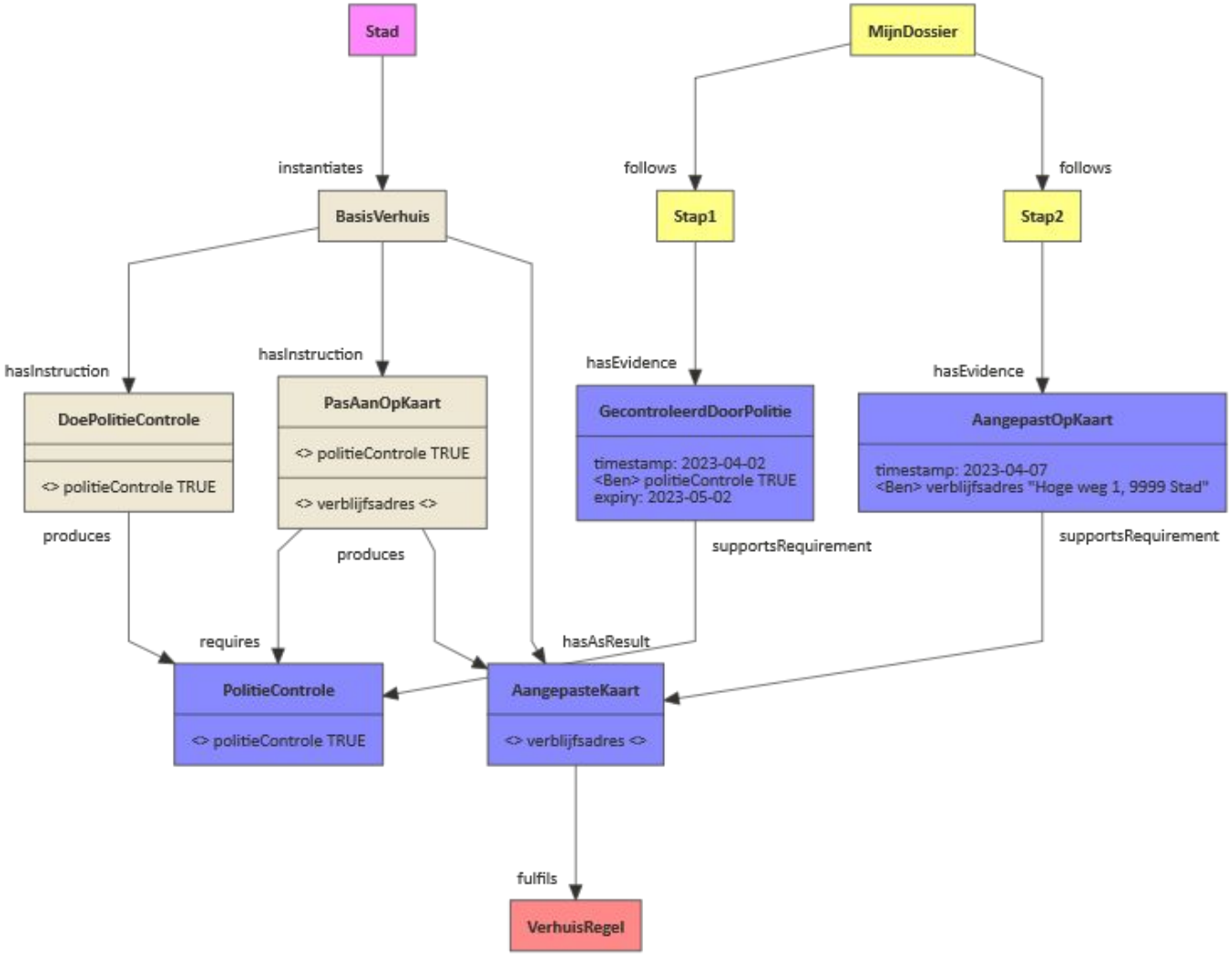
Case step 2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<Ben> verblijfsadres "Hoge weg 1, 9999 Stad"
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fulfils
VerhuisRegel

Alignment with OSLO-STEPS

Since the inception of OSLO-STEPS, CCCEV 2.0 was released. We can see following mappings

- **oslo-steps:Step** → **ex:Instruction**: A choice was made to rename this concept to clarify the difference between an instruction (i.e., describing what to do) and a step (i.e., describing what you have done). The concepts oslo-steps:JourneyLevelStep, oslo-steps:ContainerLevelStep, and oslo-steps:ComponentLevelStep remain to clarify the hierarchy between ex:Instructions.
- **oslo-steps:State** → **cccev:Requirement:** CCCEV's Requirement covers the same definition as OSLO-STEPS' State.
- **oslo-steps:StateShape** → **sh:NodeShape:** SHACL's NodeShape covers the same definition as OSLO-STEPS' StateShape.

Conclusions

The proposed model nicely aligns with existing mature vocabularies, and only introduces complementary terms. The concept of a Business Process was missing in existing standards and OSLO-Steps, and is hereby introduced. Next to that, combining OSLO-steps concepts and CCCEV concepts allowed us to glue these existing vocabularies together.

Two things are not strictly specified within this proposal:

- The order between steps is only implicitly defined when looking at how the requirements depend on each other
- The semantic description of business rules is out of scope

Future work - Business Rules

Predefining **a fixed set of available operators** to build business rules upon. Although the most simple choice, one must be aware that this fixed set will constantly evolve to cope with changing requirements.

Defining an **extension mechanism** to define business rules as externally defined functions that can be maintained and developed in parallel. The Function Ontology is a potential solution to allow declarative business rules without limiting the scope, complexity, or implementation.

A **hybrid** solution.

Future work - smaller recommendations

Evaluating the current CPSV application profiles (Dienstencataloog and Public Service) in light of the latest CPSV v3 release, to see whether these can be reconciled and updated.

Extend the Public Service class to a more general Service. At the moment: it is not possible to describe services that are not performed by or on behalf of a public agency.