UNIVERSITÄT KOBLENZ · LANDAU

Making the Semantics of ODRL and URM Explicit Using Web Ontologies

Virtual Goods 2010

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Outline

1. Semantic Web Basics
2. An Ontology for ODRL
3. An Ontology for URM
4. Conclusion

Outline

Ontology

- model with domain knowledge
  - entities and attributes
  - relations between entities
  - rules for interpreting data
- defines both syntax and semantics

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2. **An Ontology for ODRL**
3. An Ontology for URM
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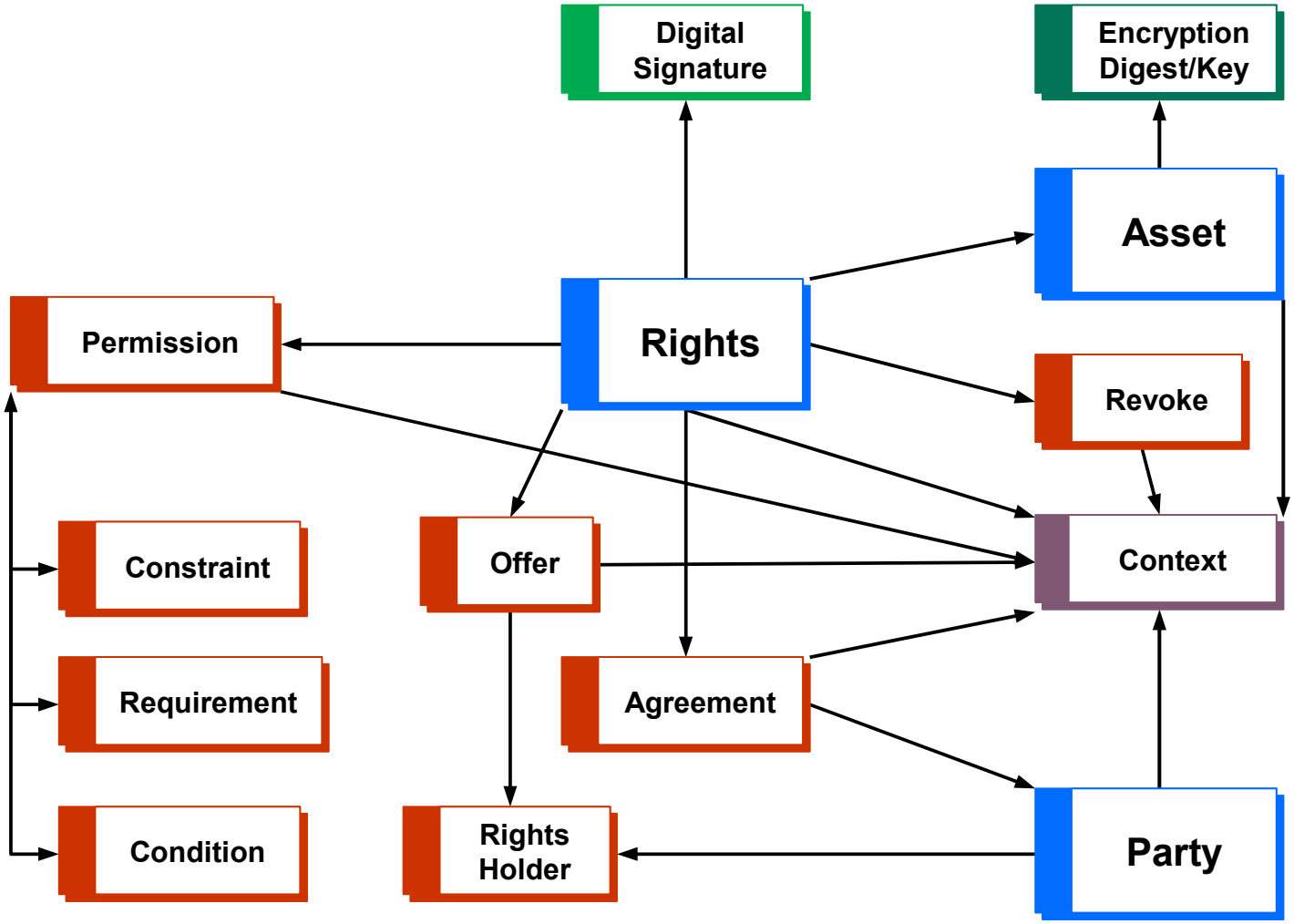
ODRL so far

- syntax given in model
- semantics given in specification

ODRL so far

- syntax given in model
- semantics given in specification
- drawbacks
  - specification manually interpreted
  - different applications implement different interpretations

ODRL Foundation Model



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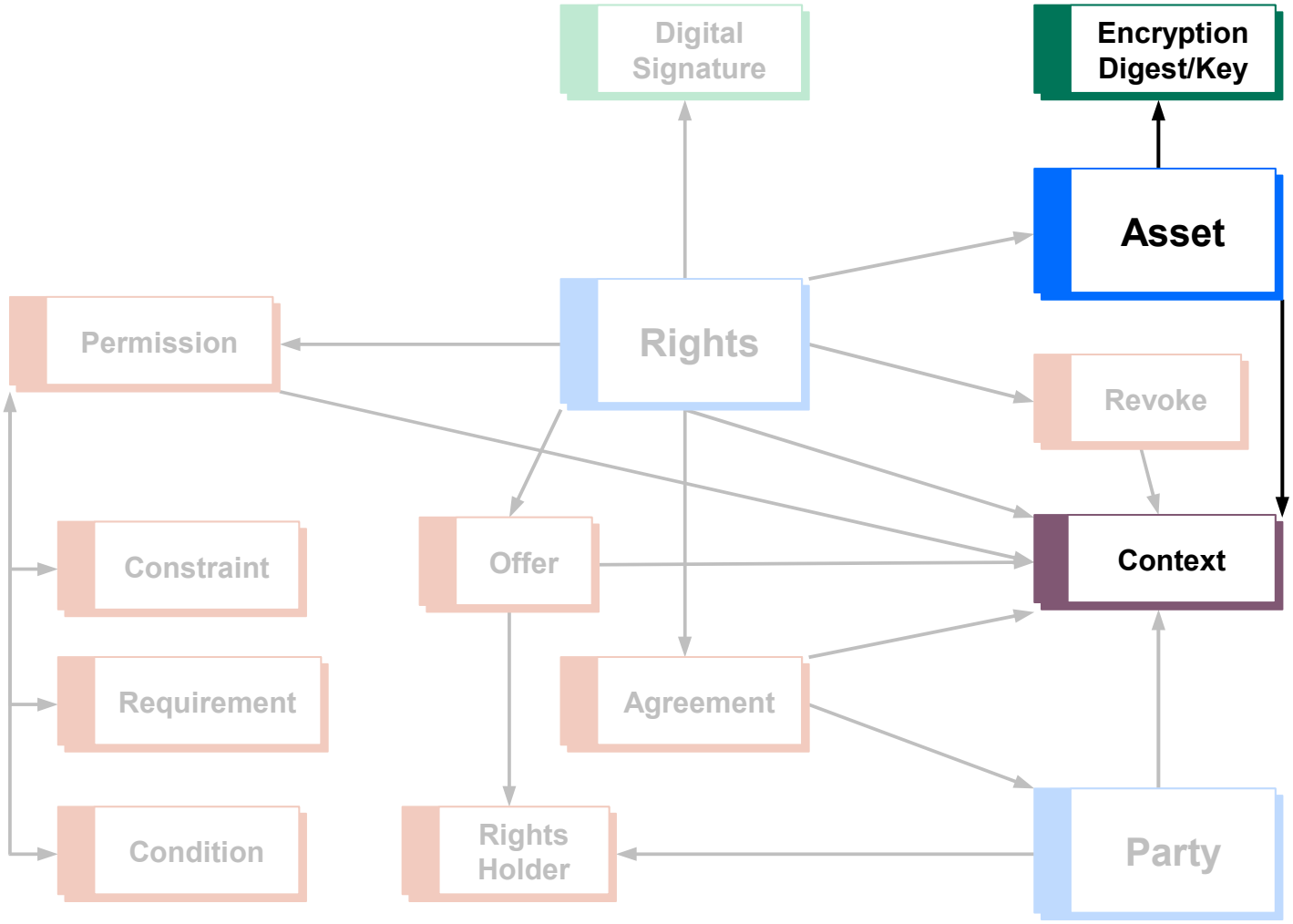

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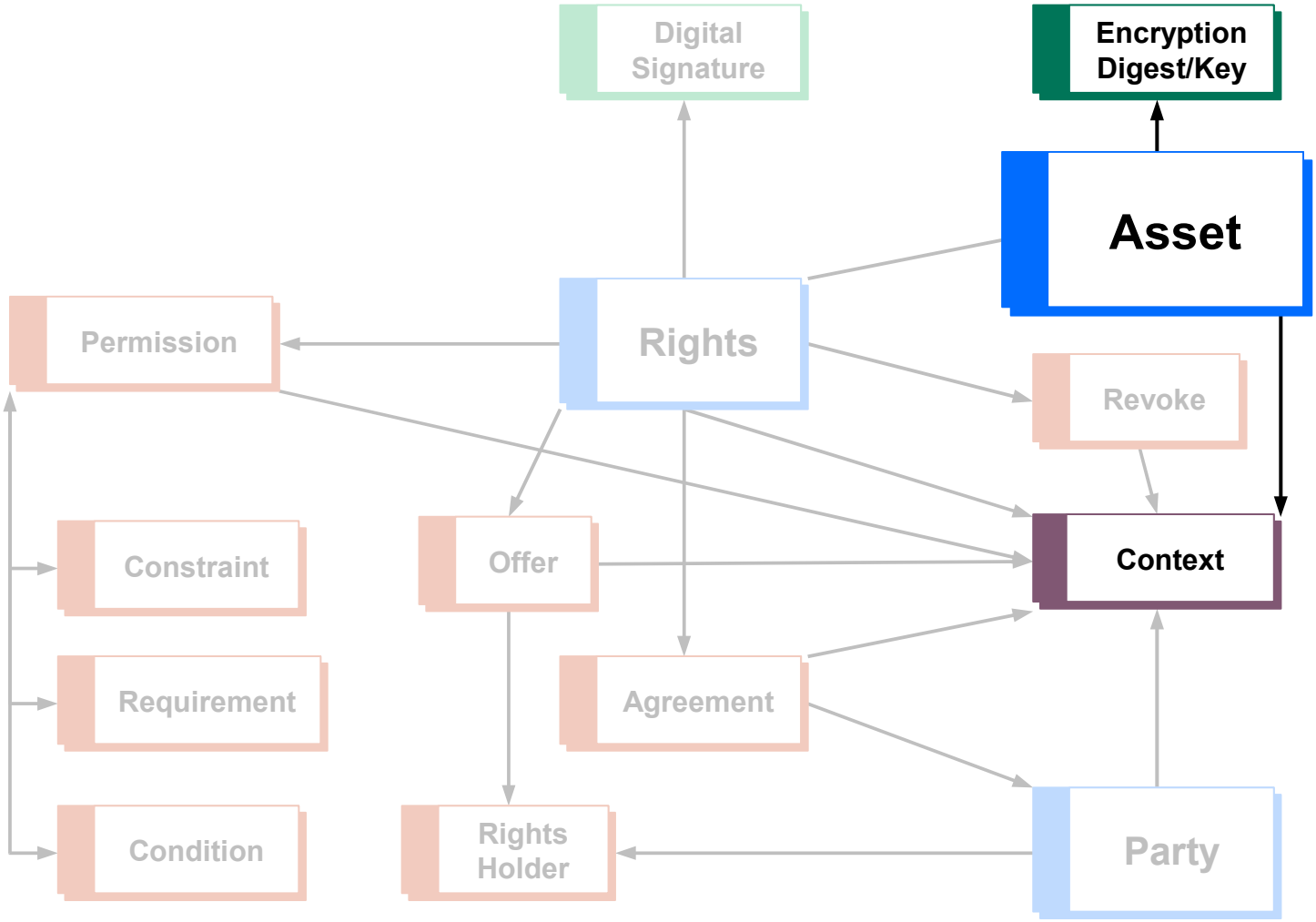

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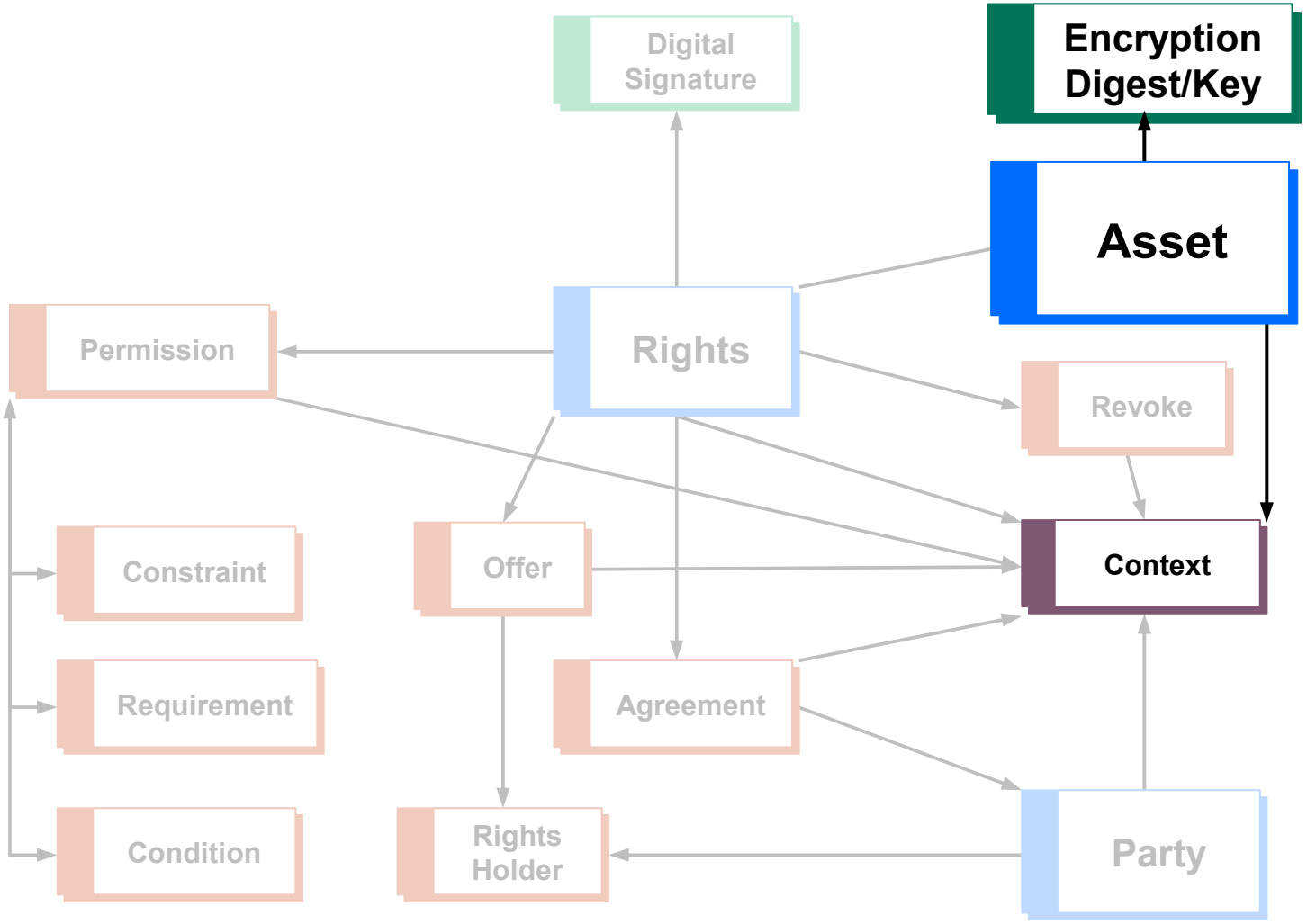

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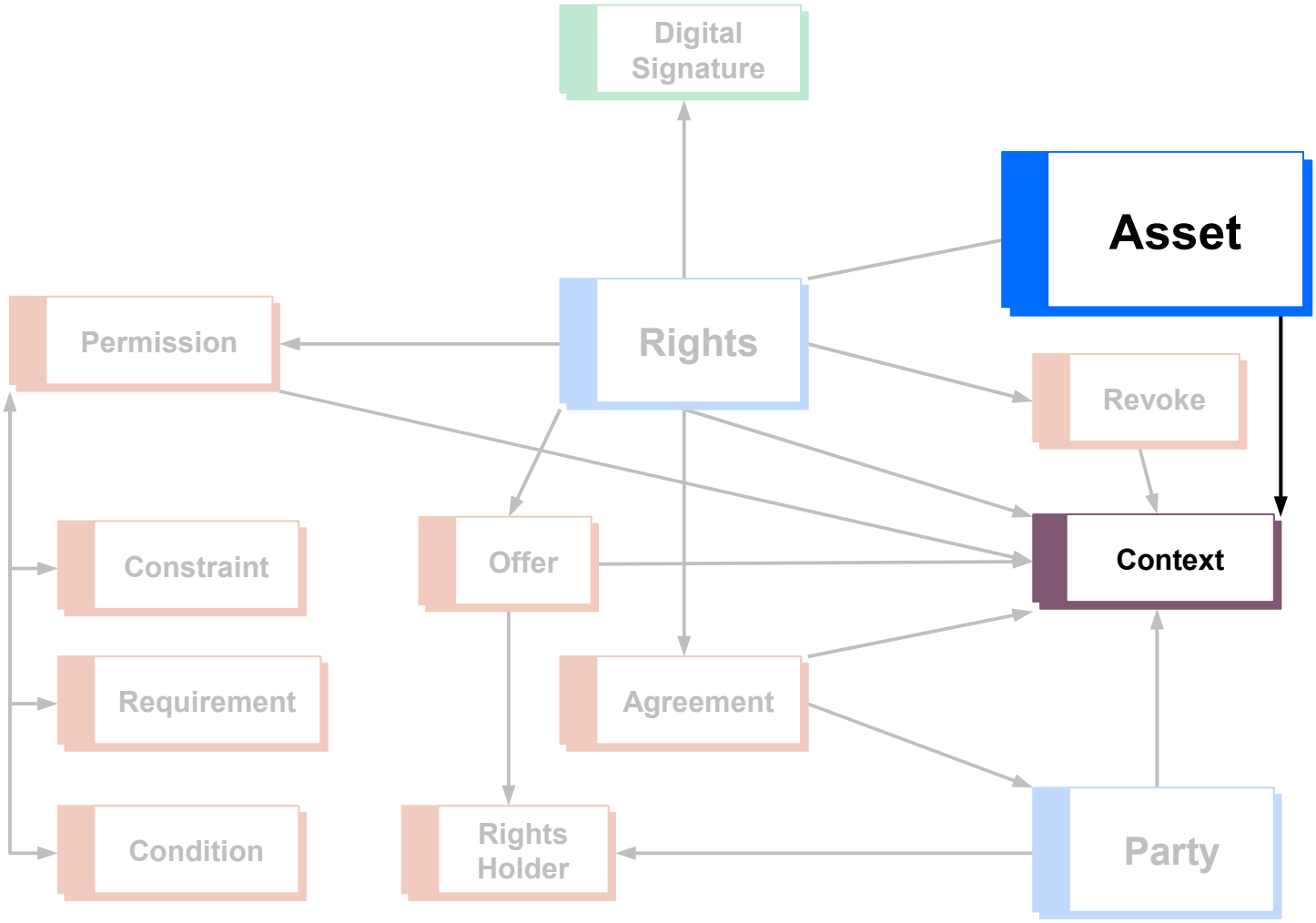

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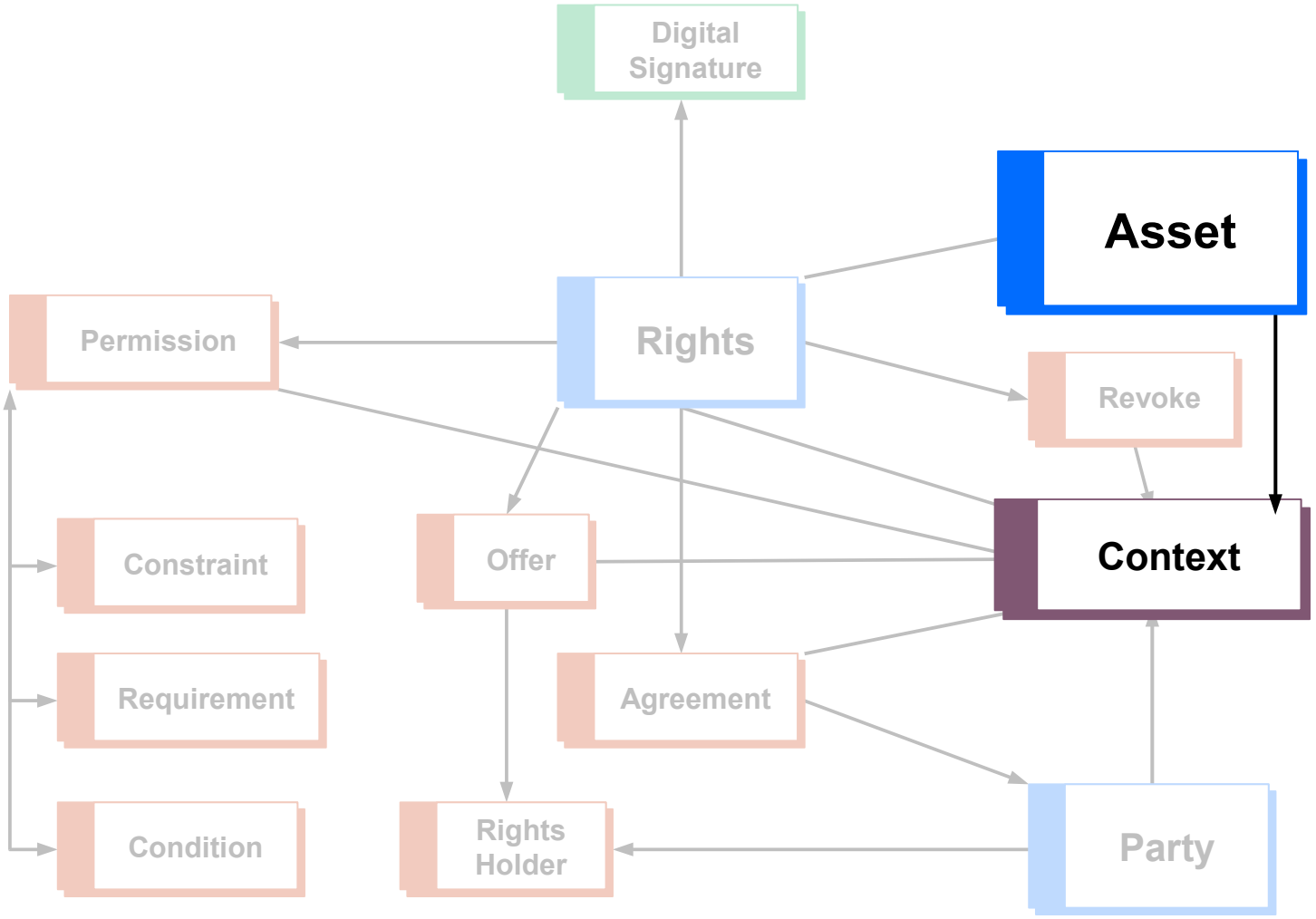

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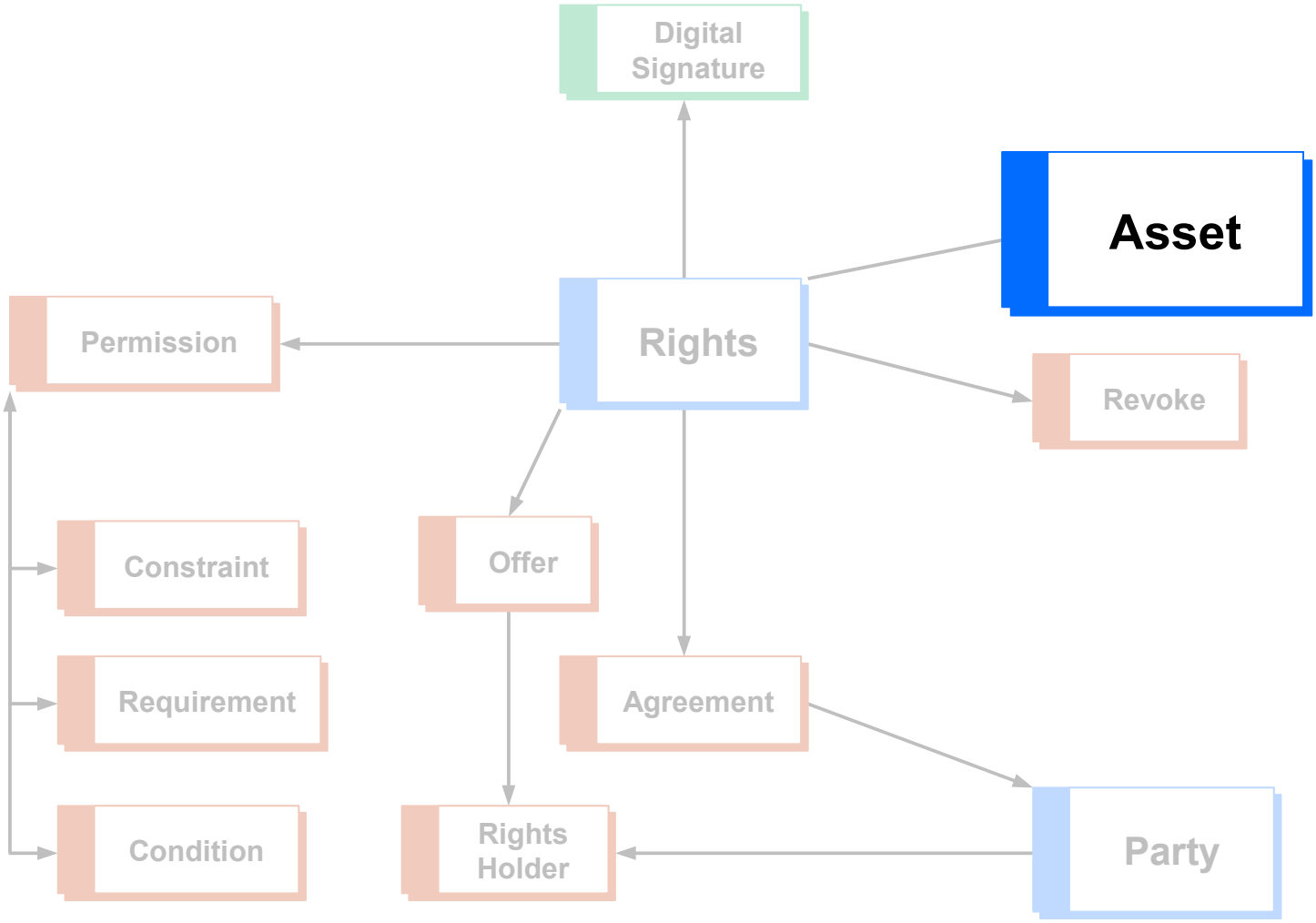

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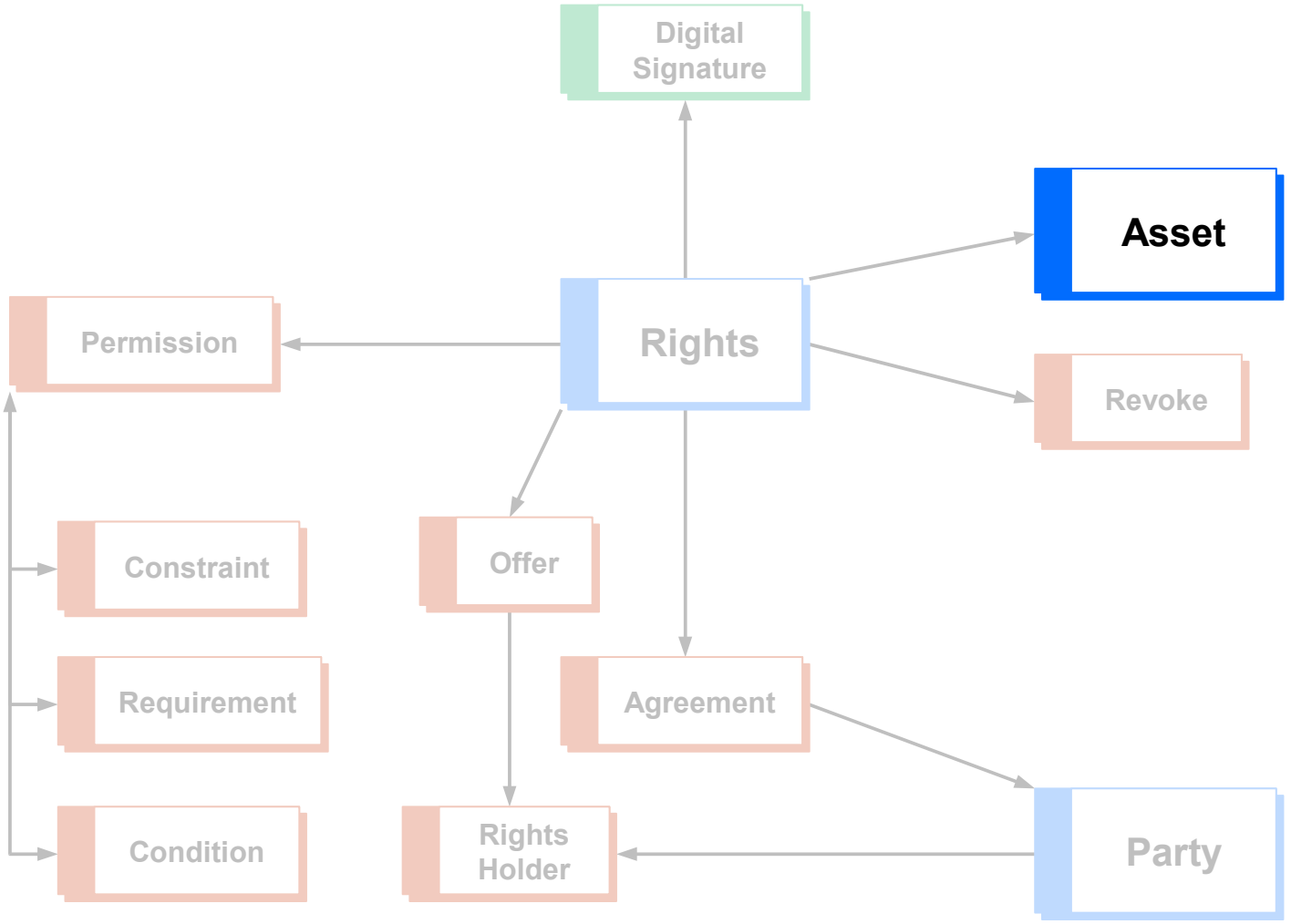

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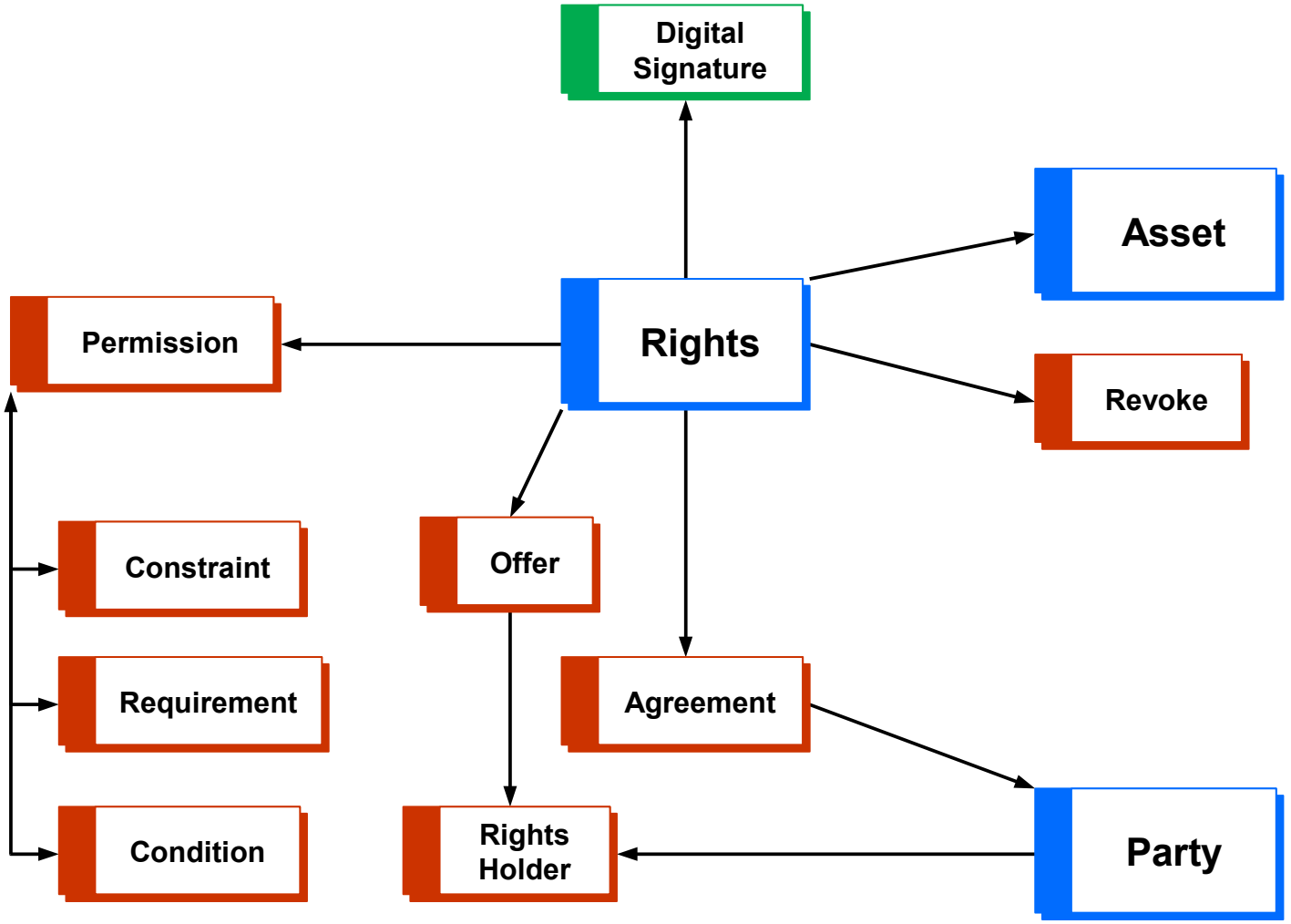

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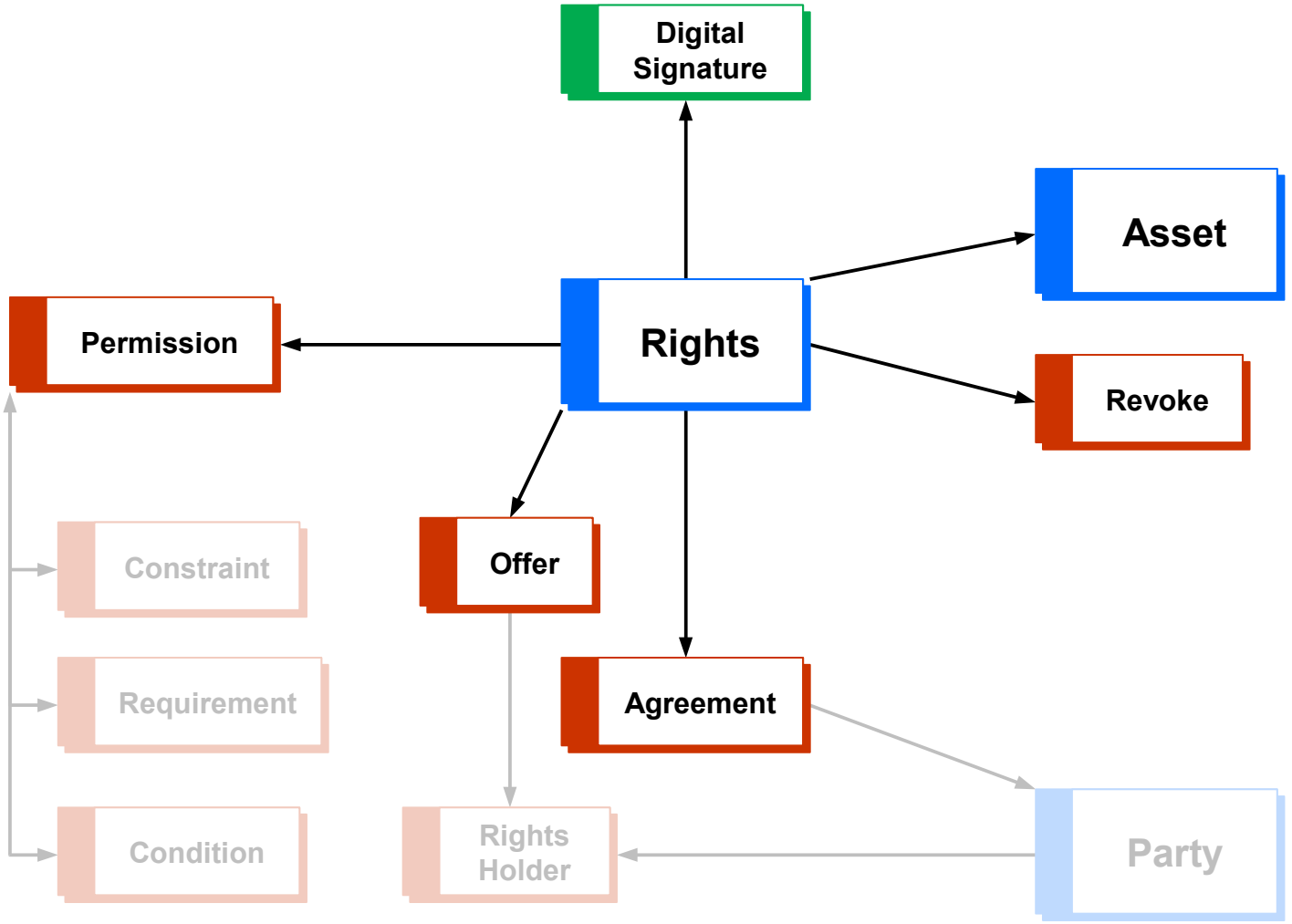

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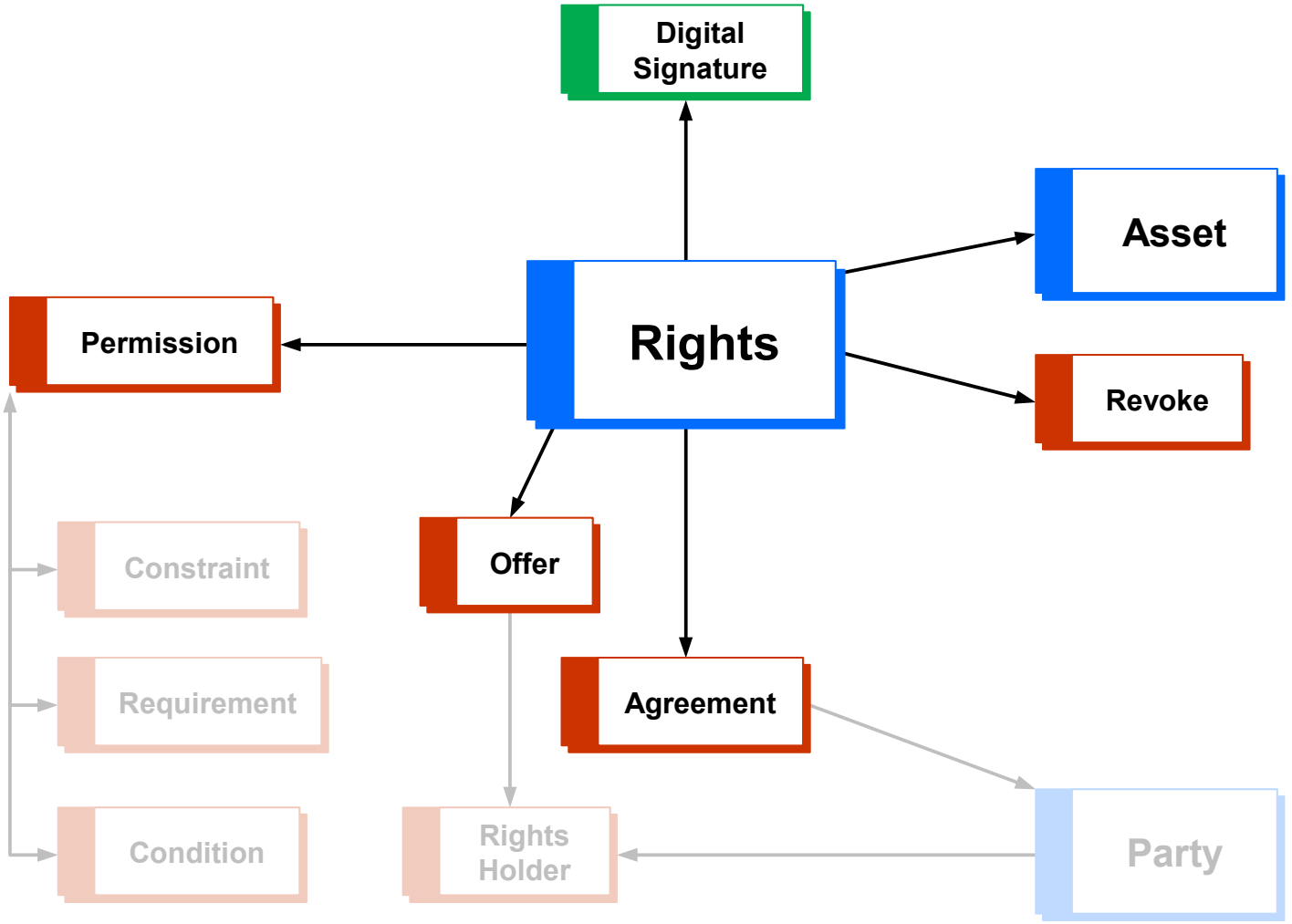

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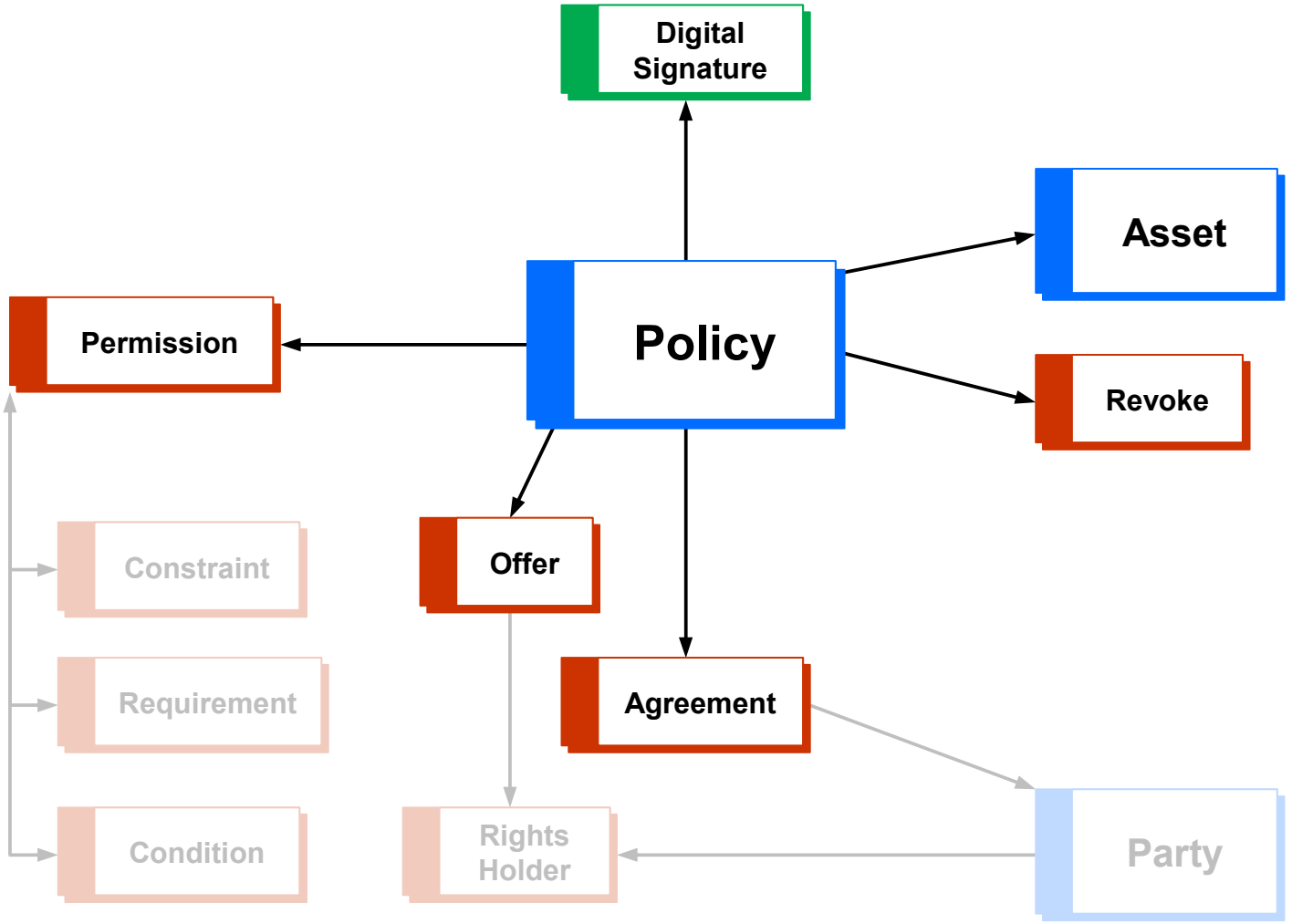

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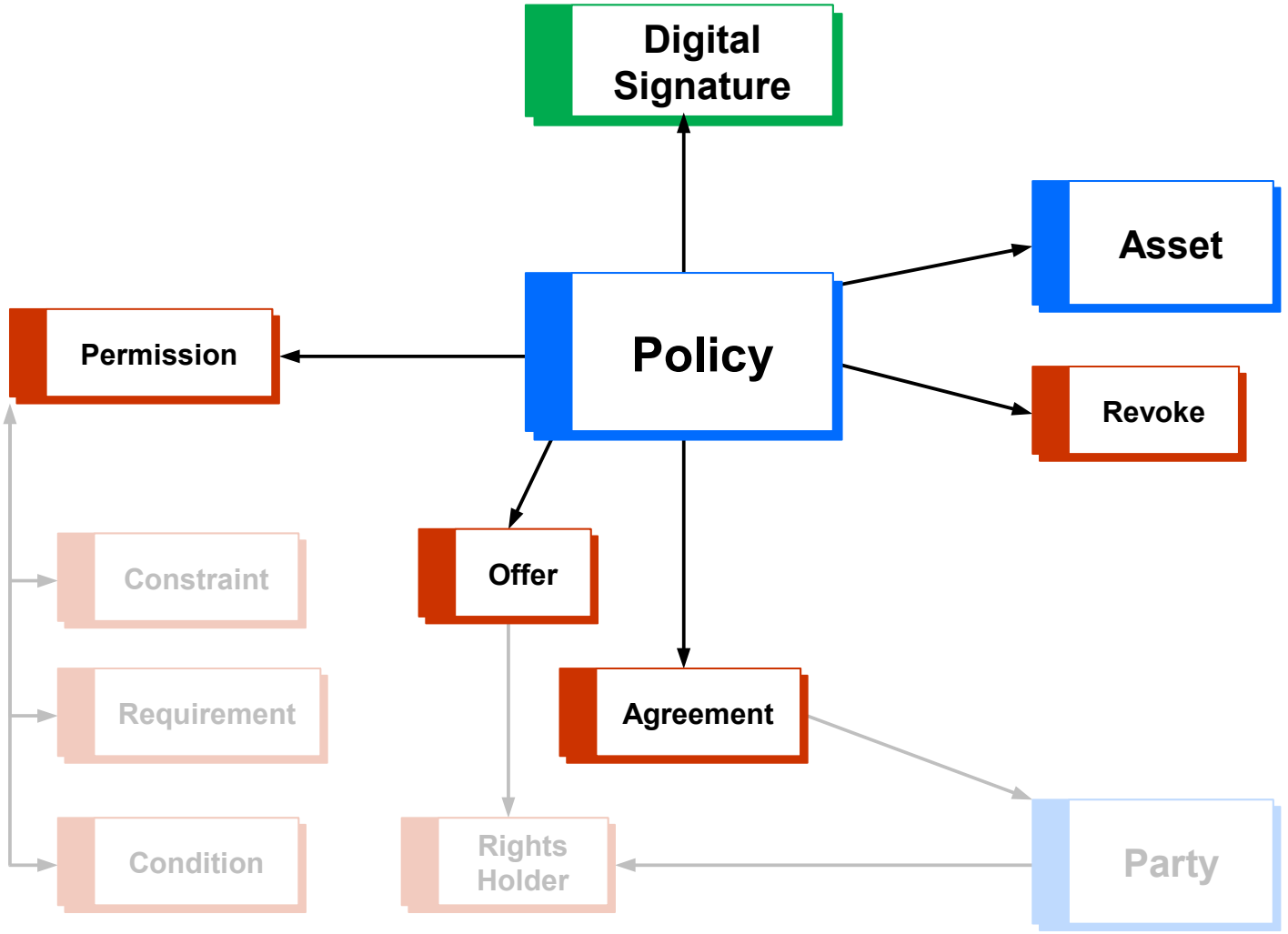

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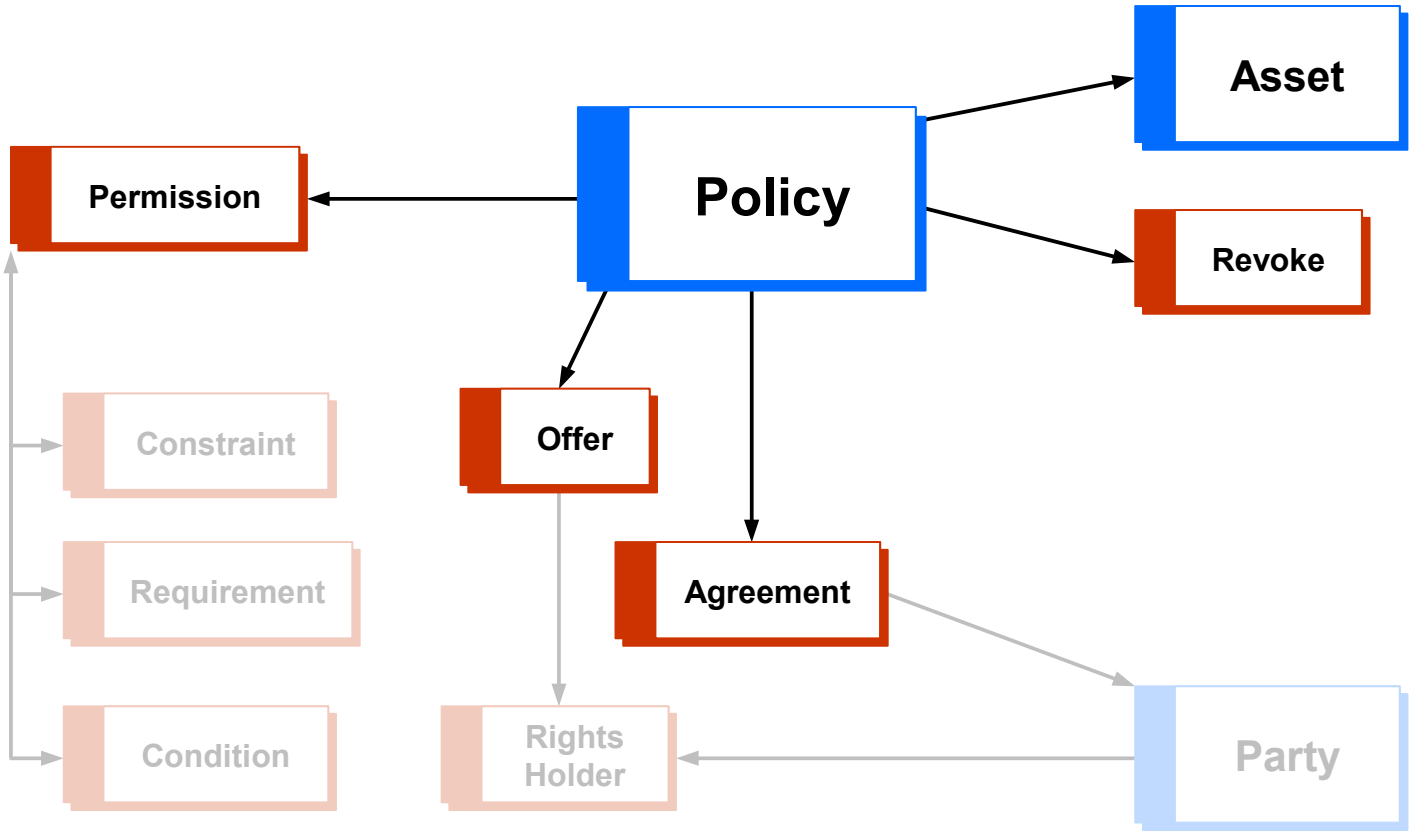

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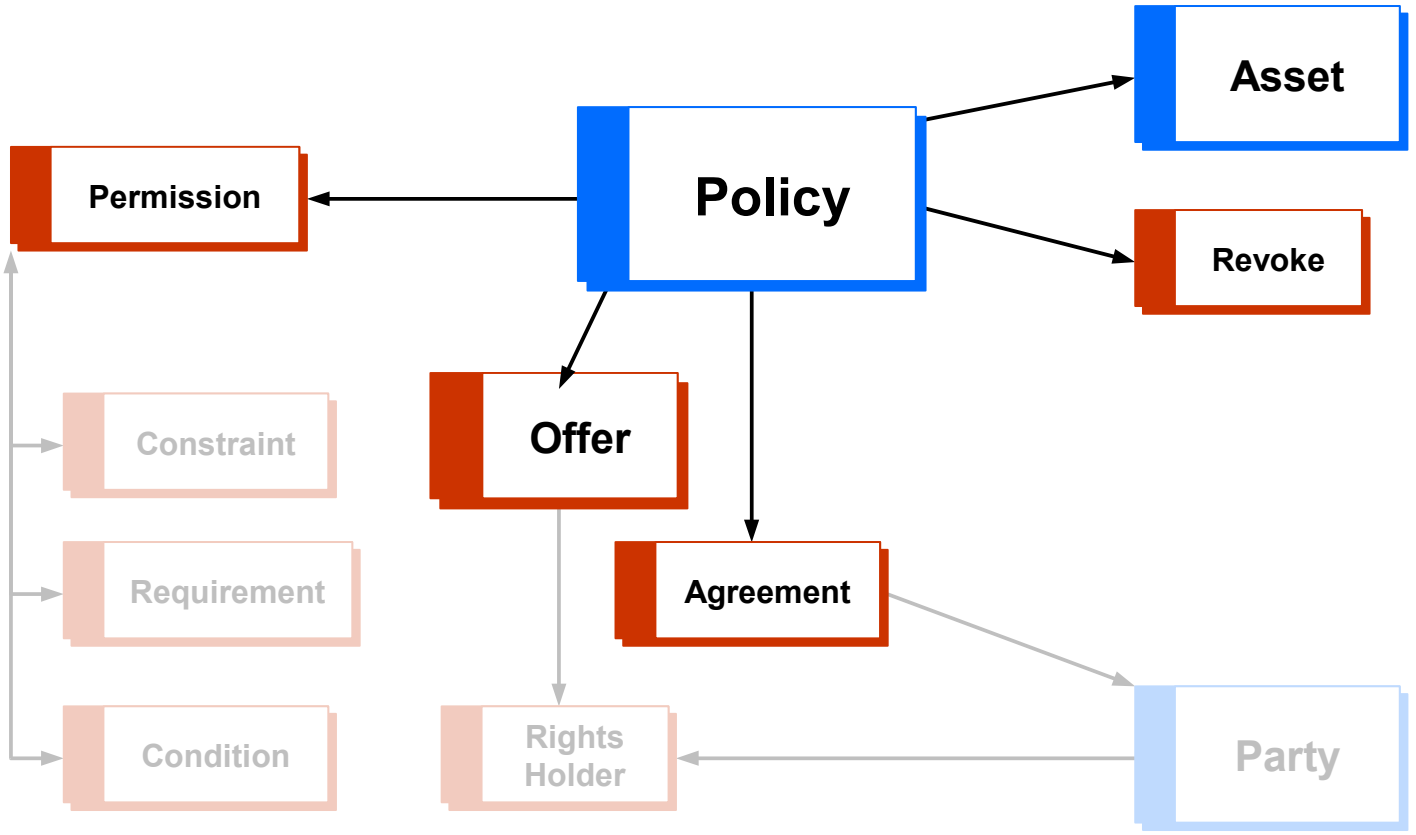

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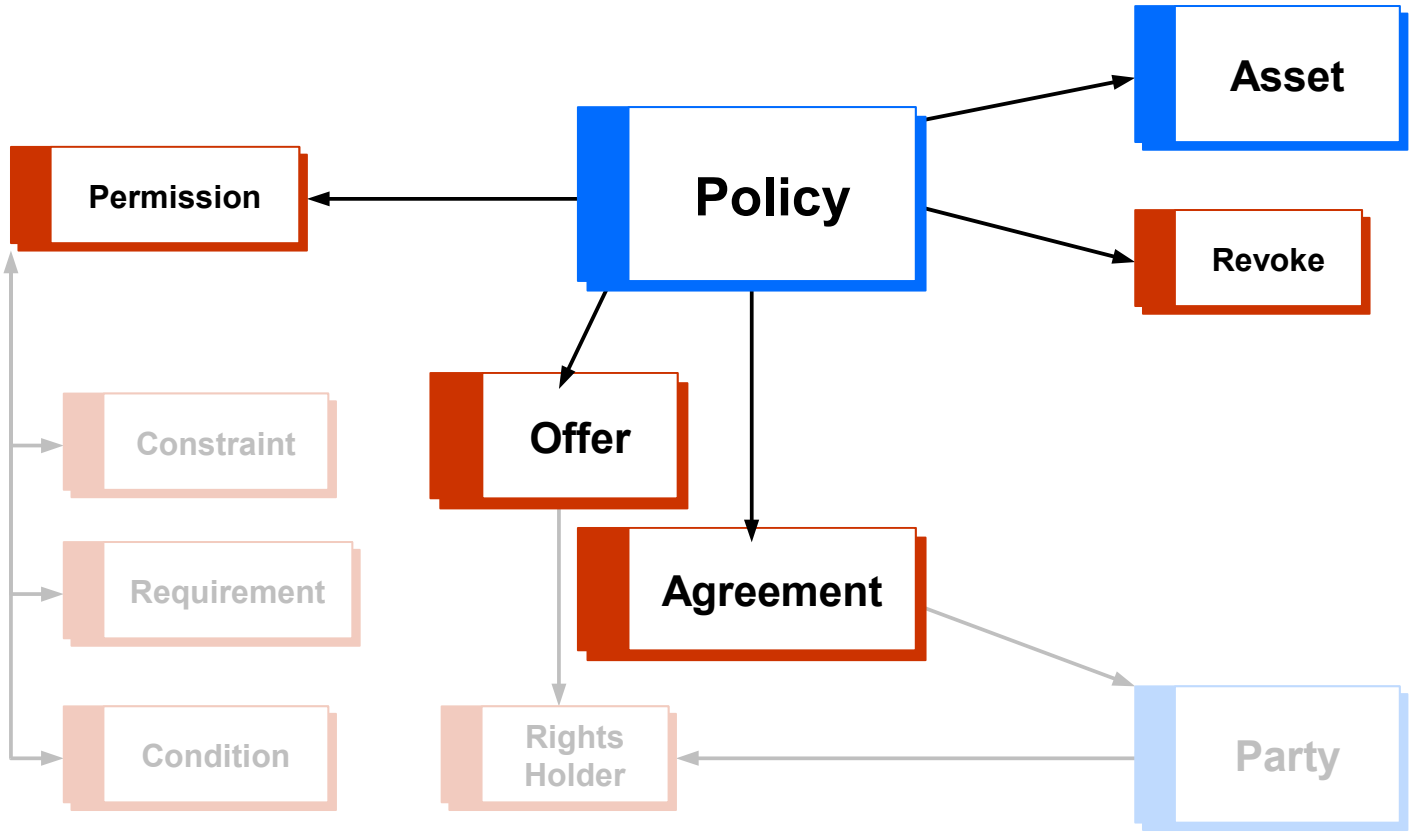

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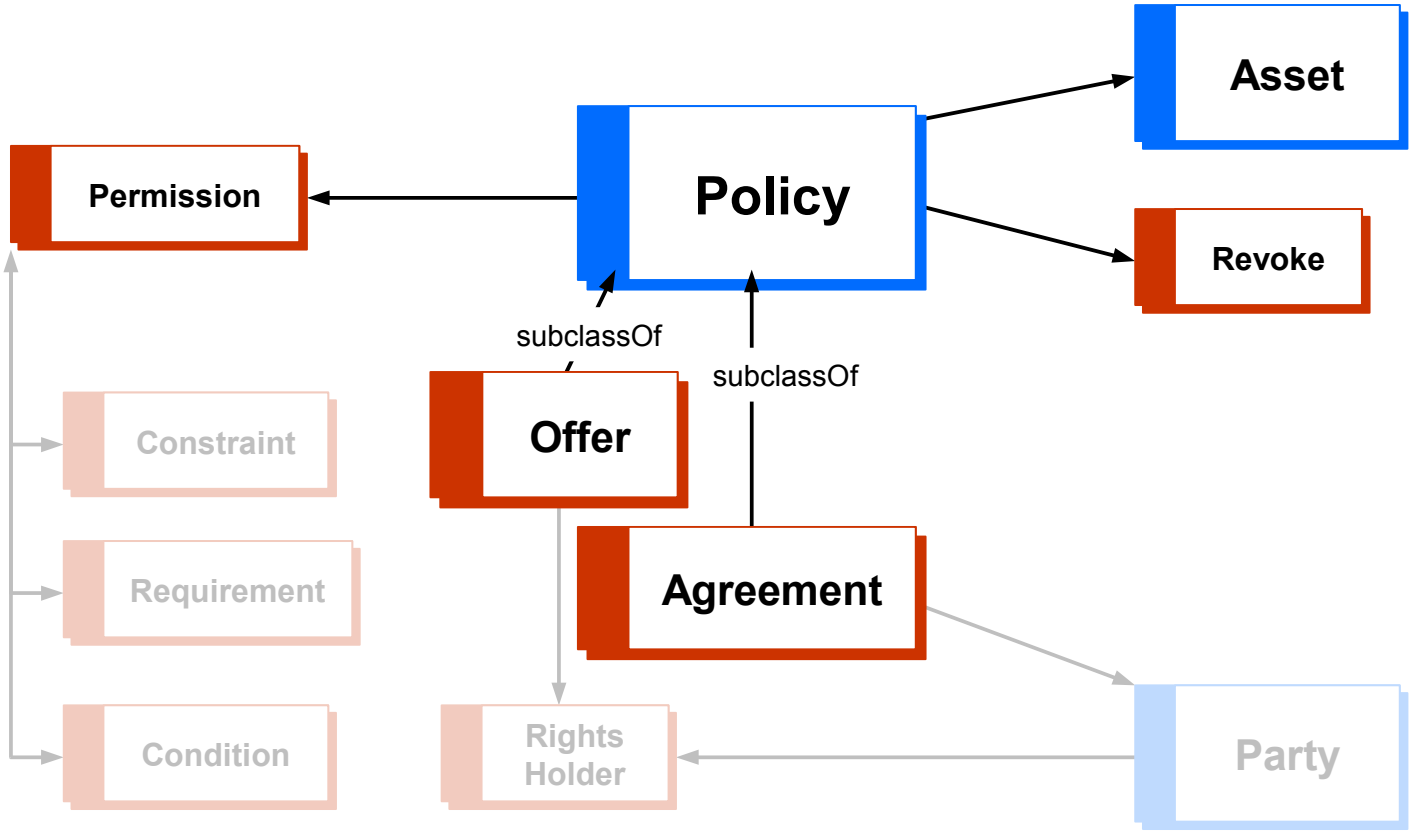

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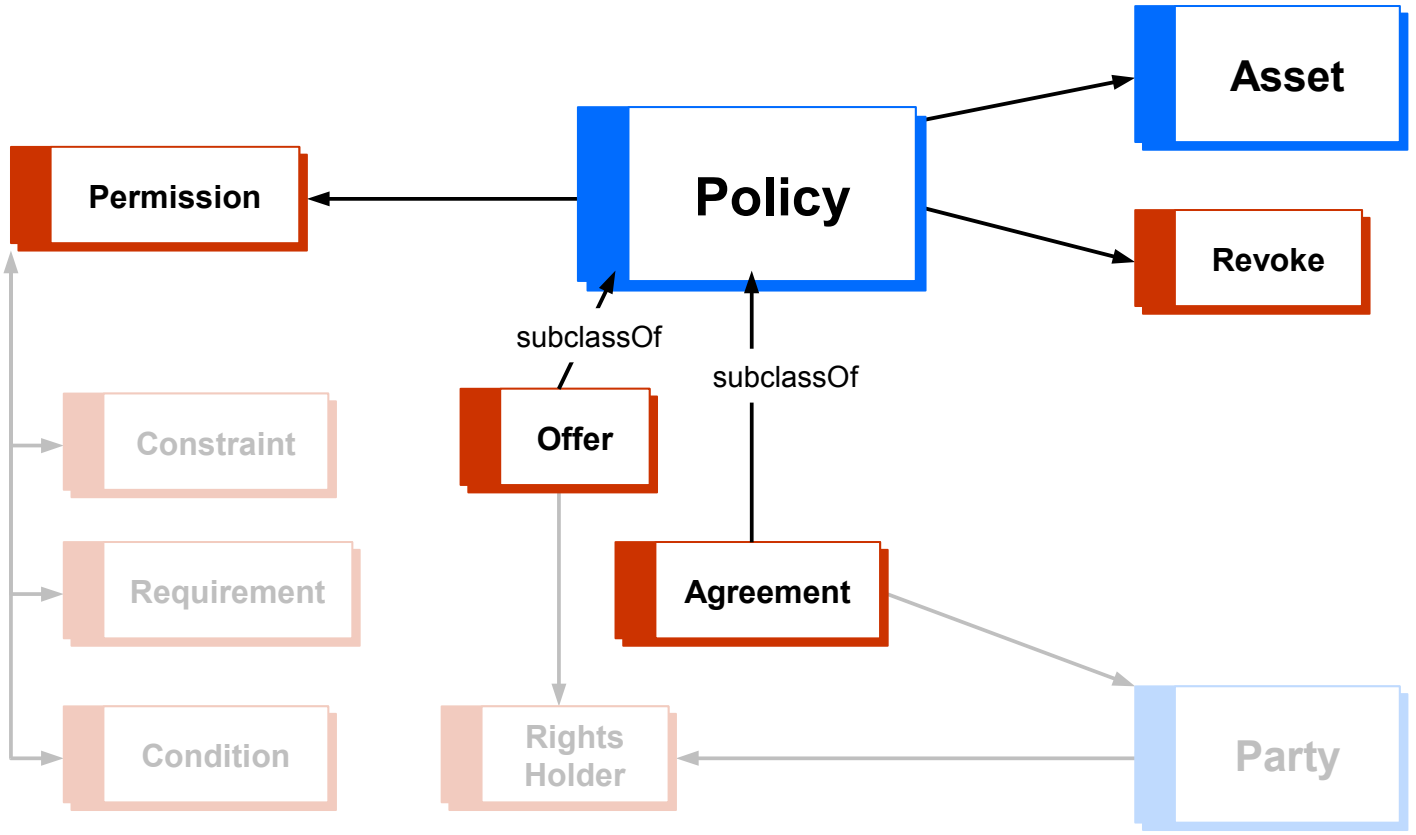

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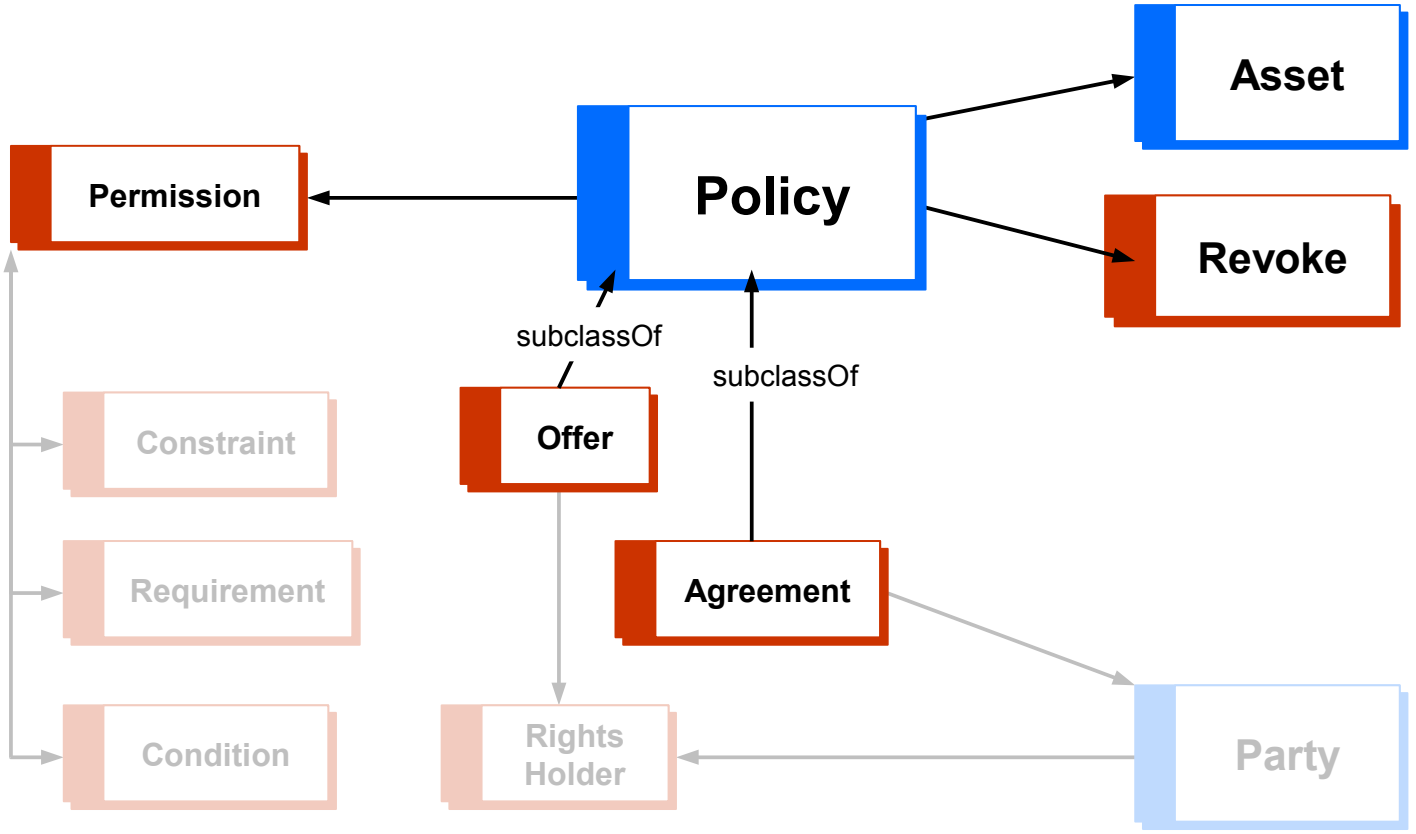

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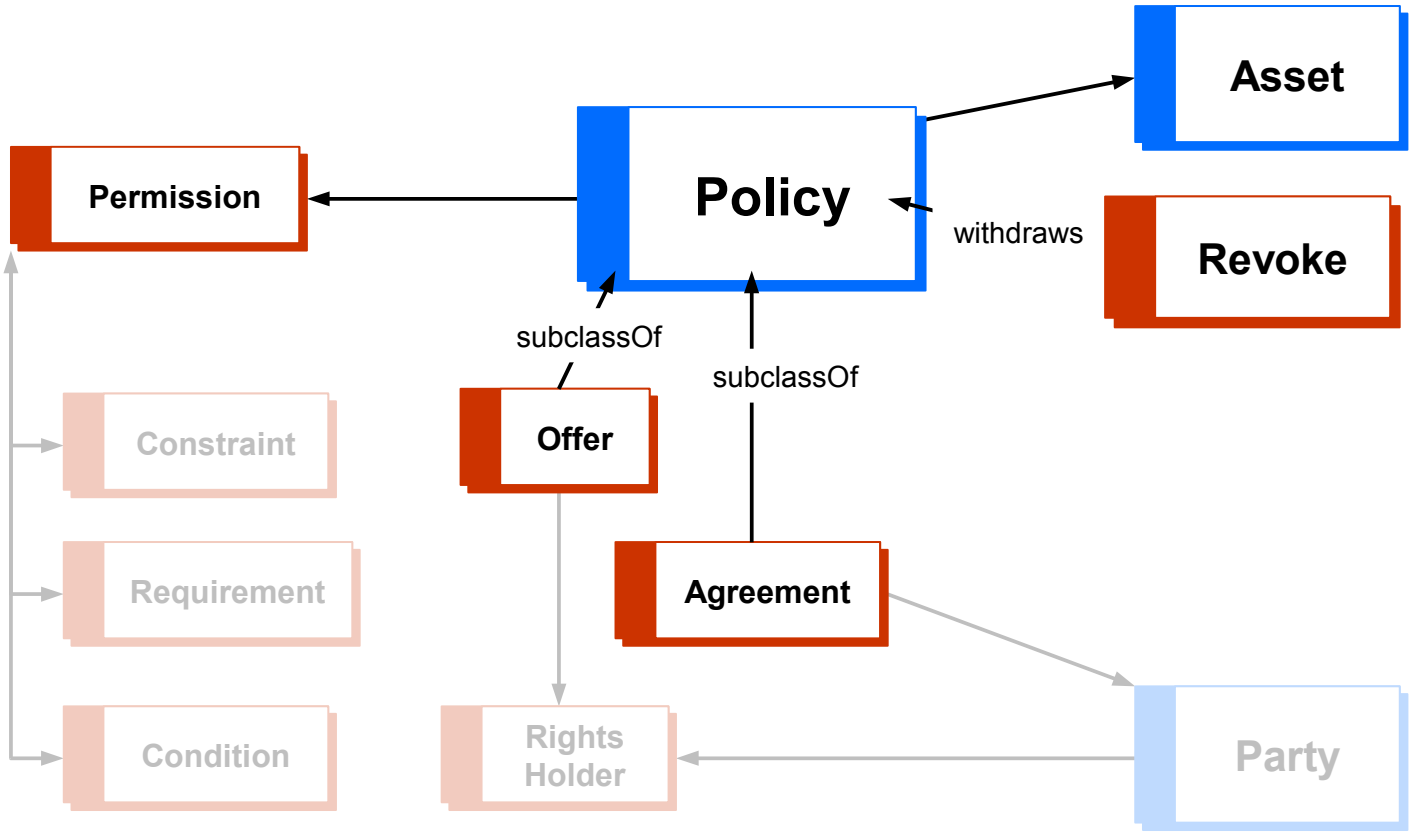

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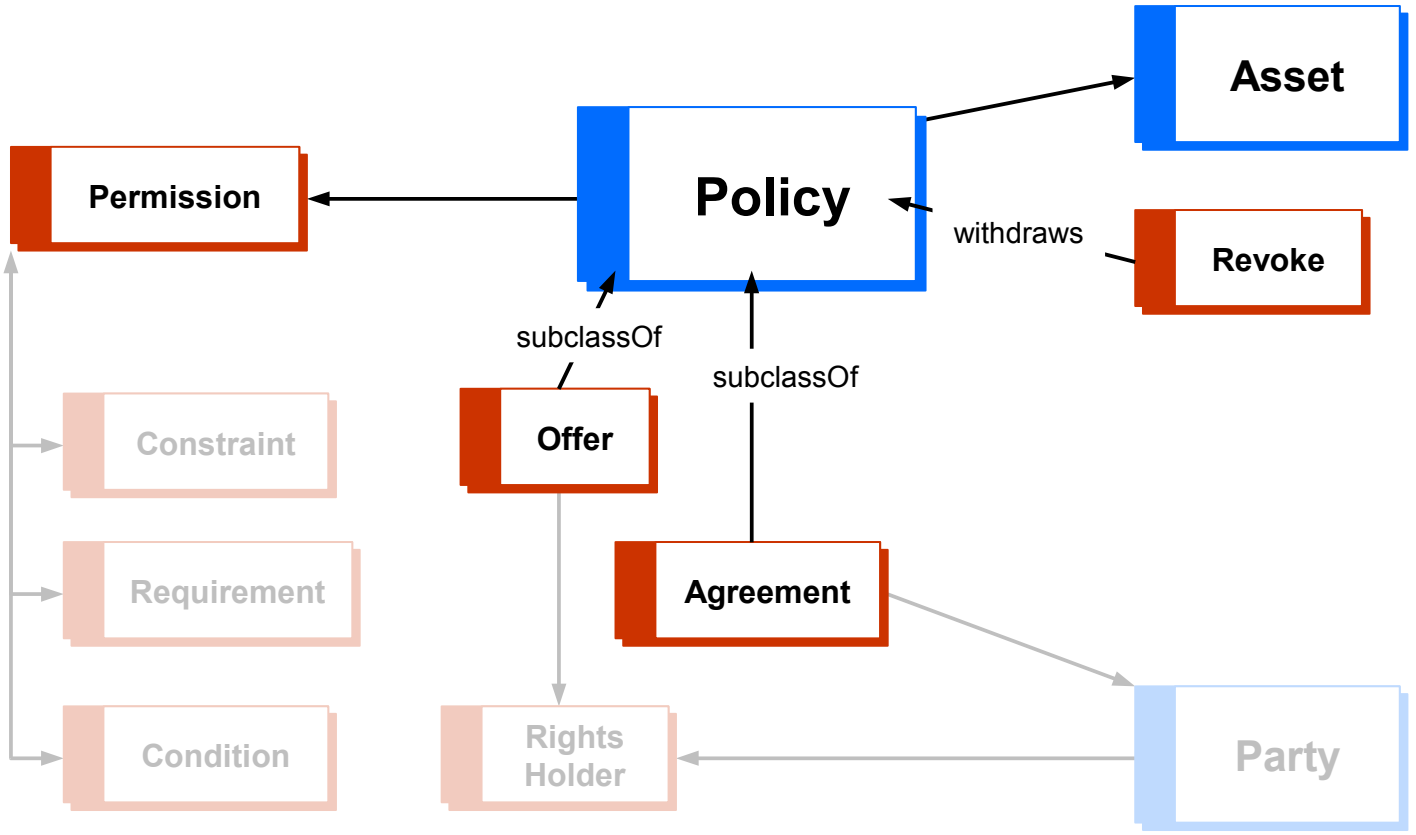

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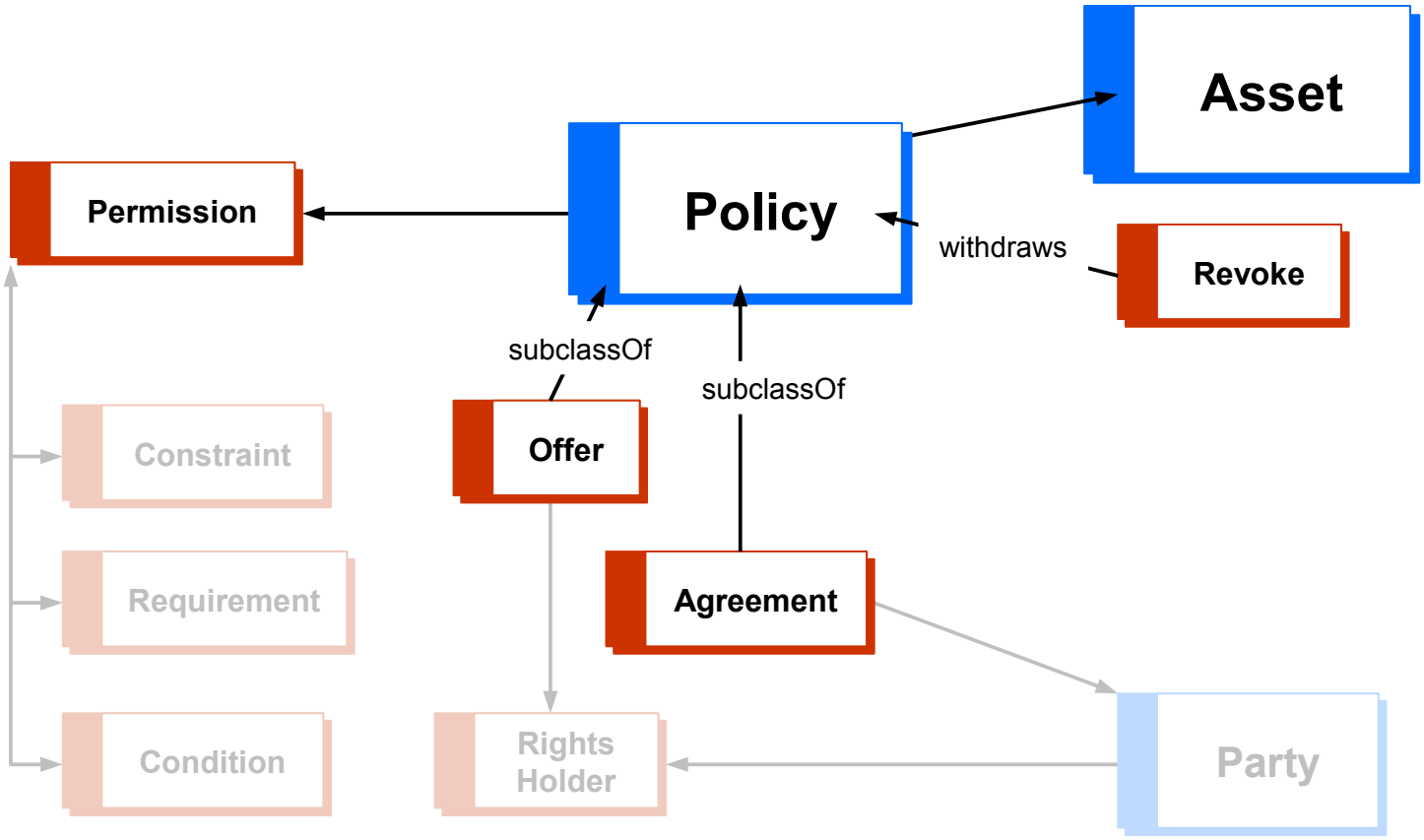

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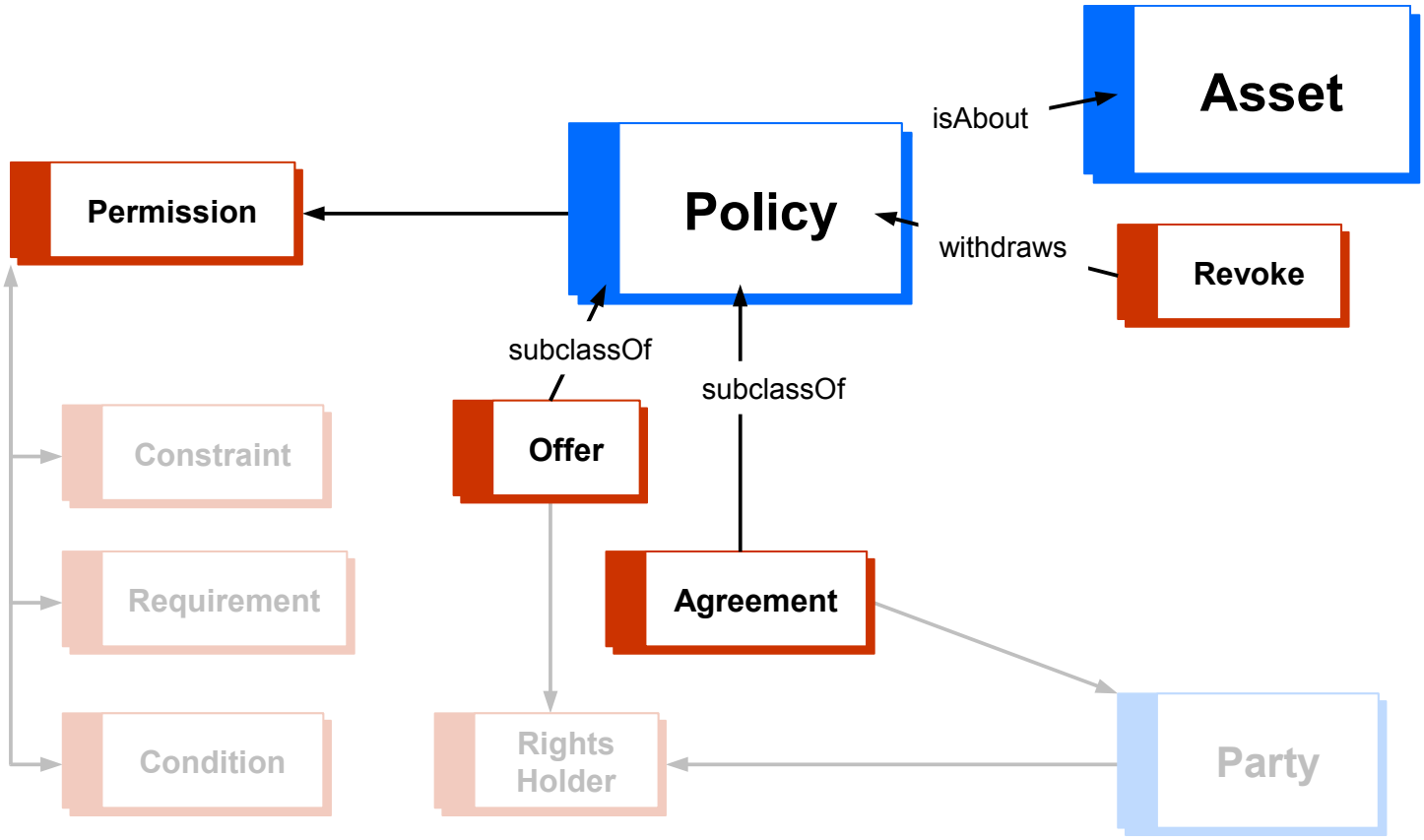

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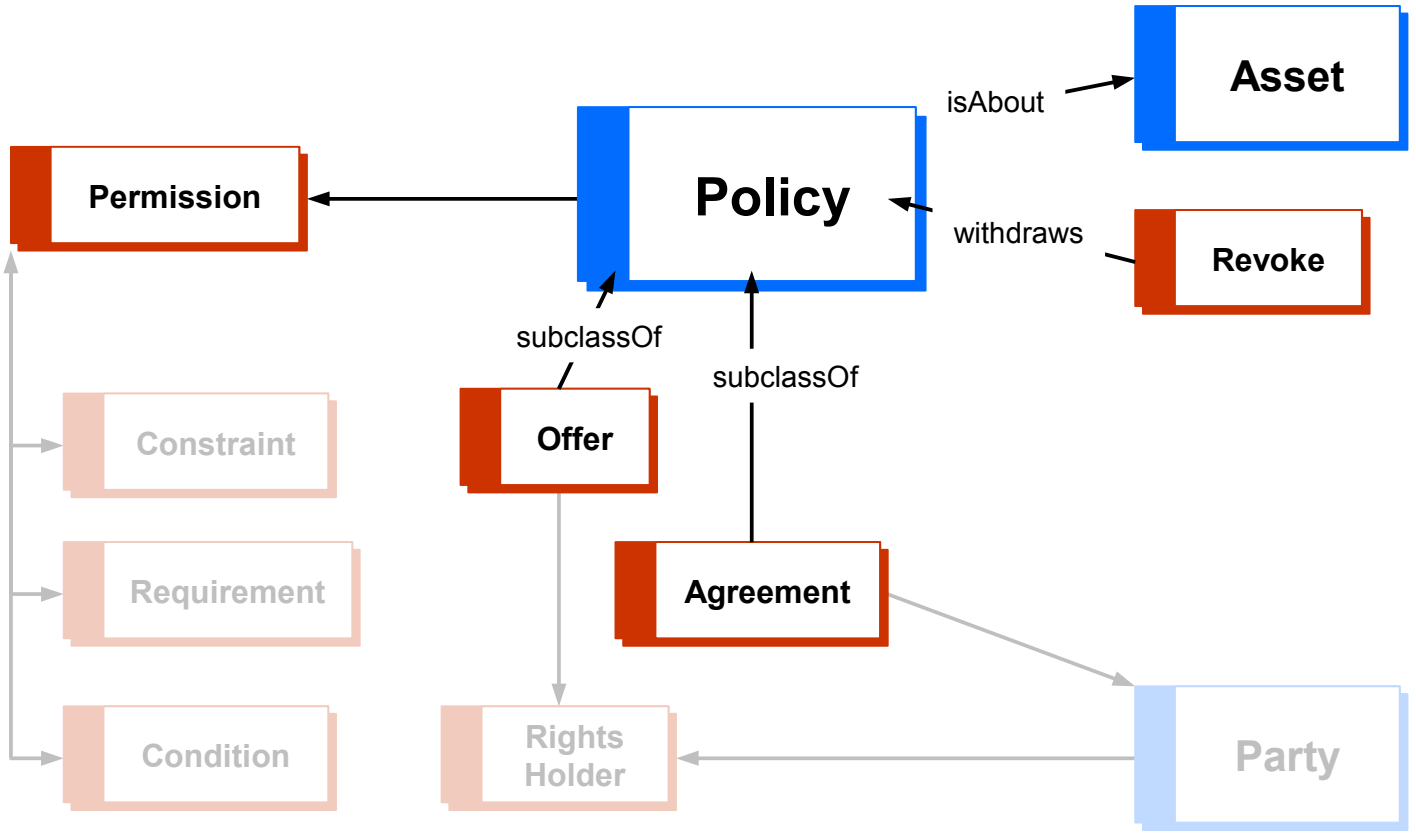

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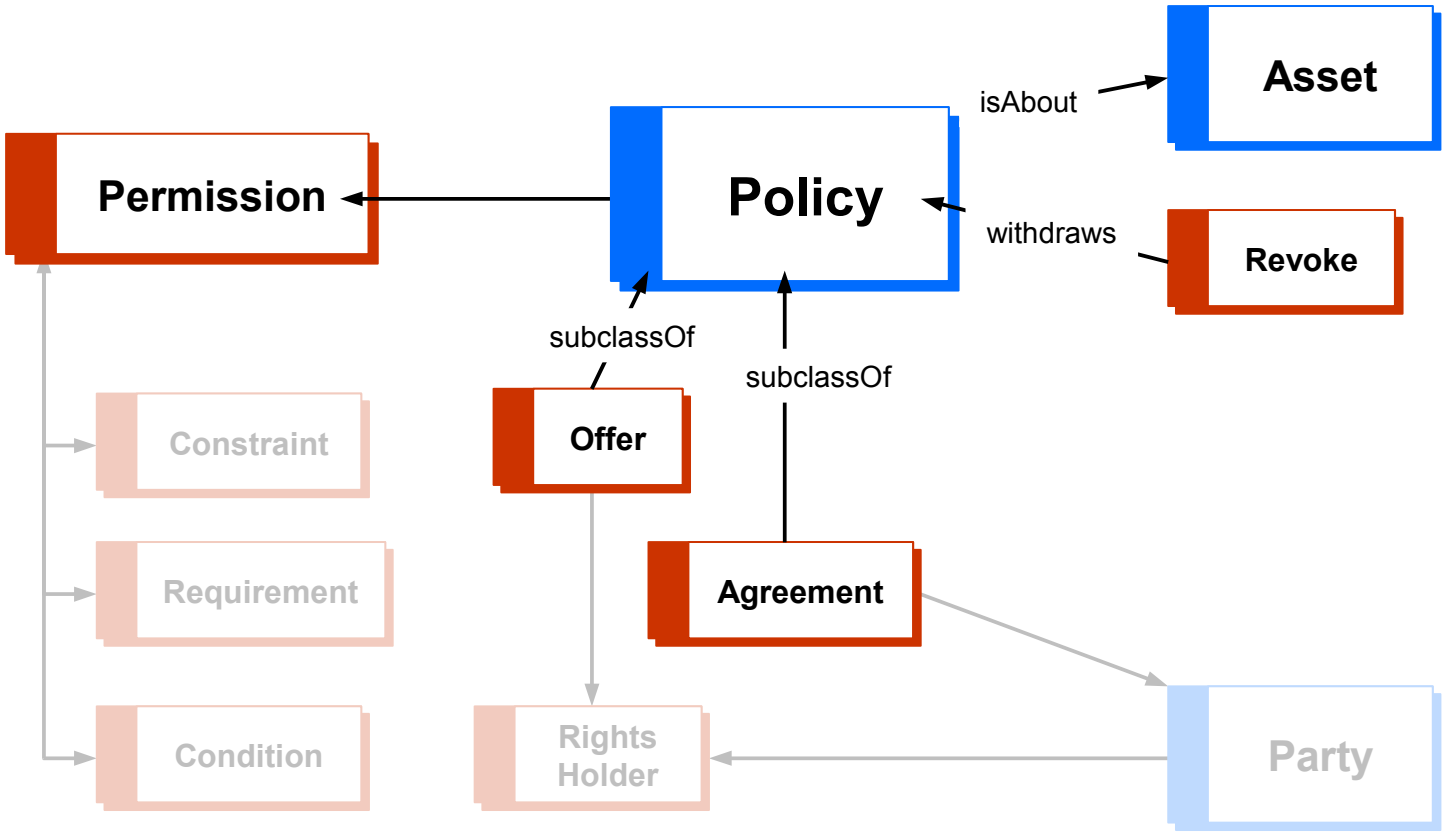

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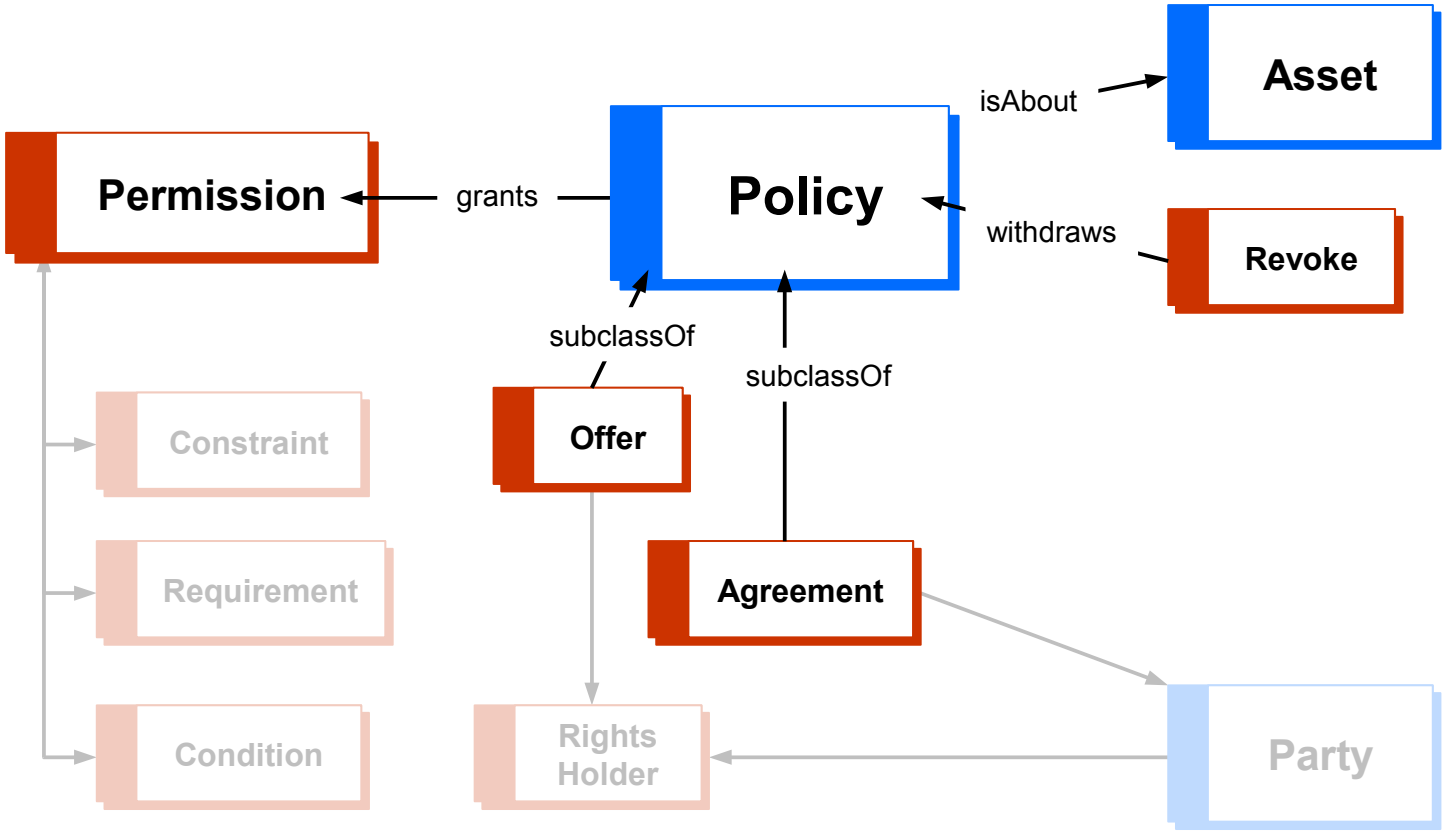

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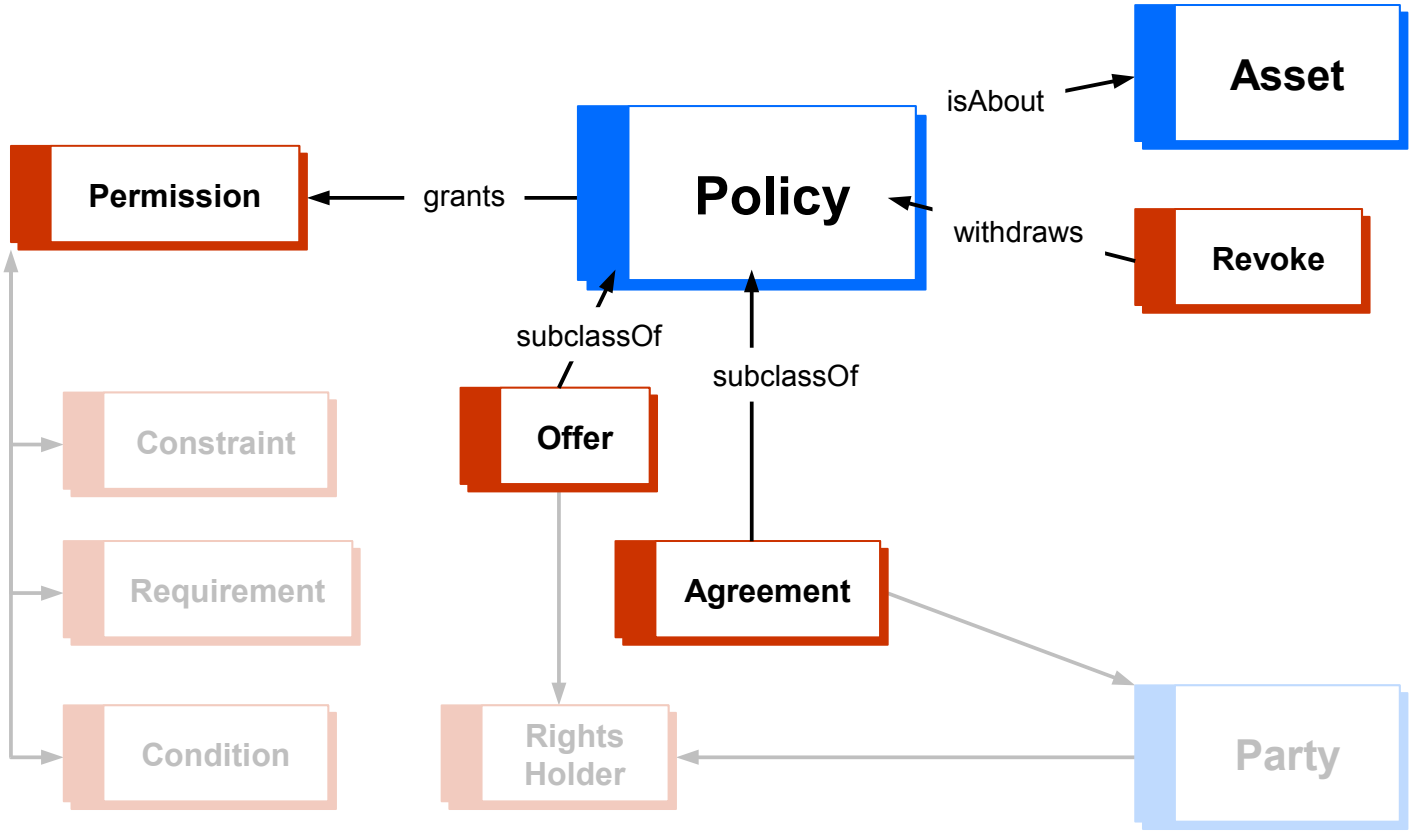

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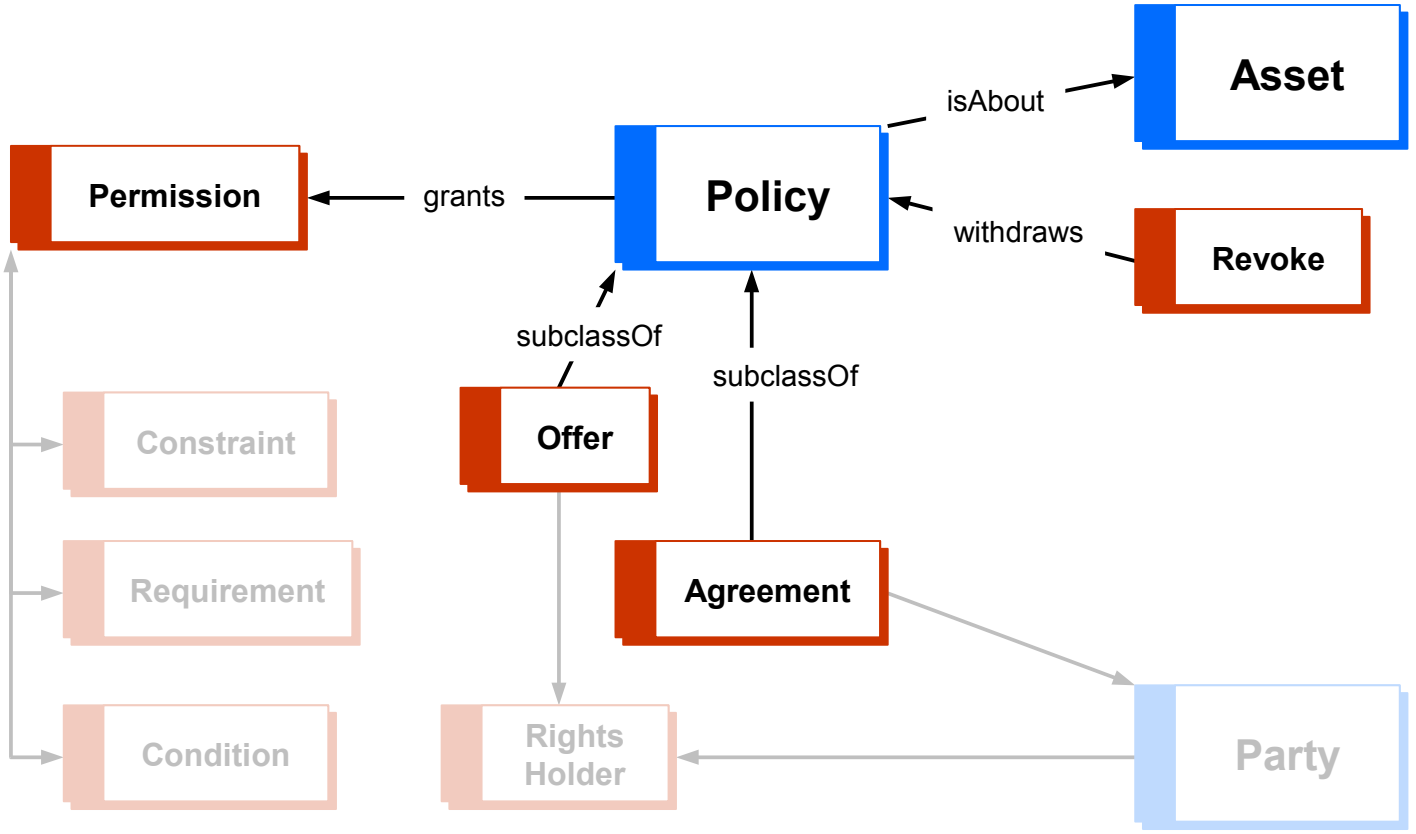

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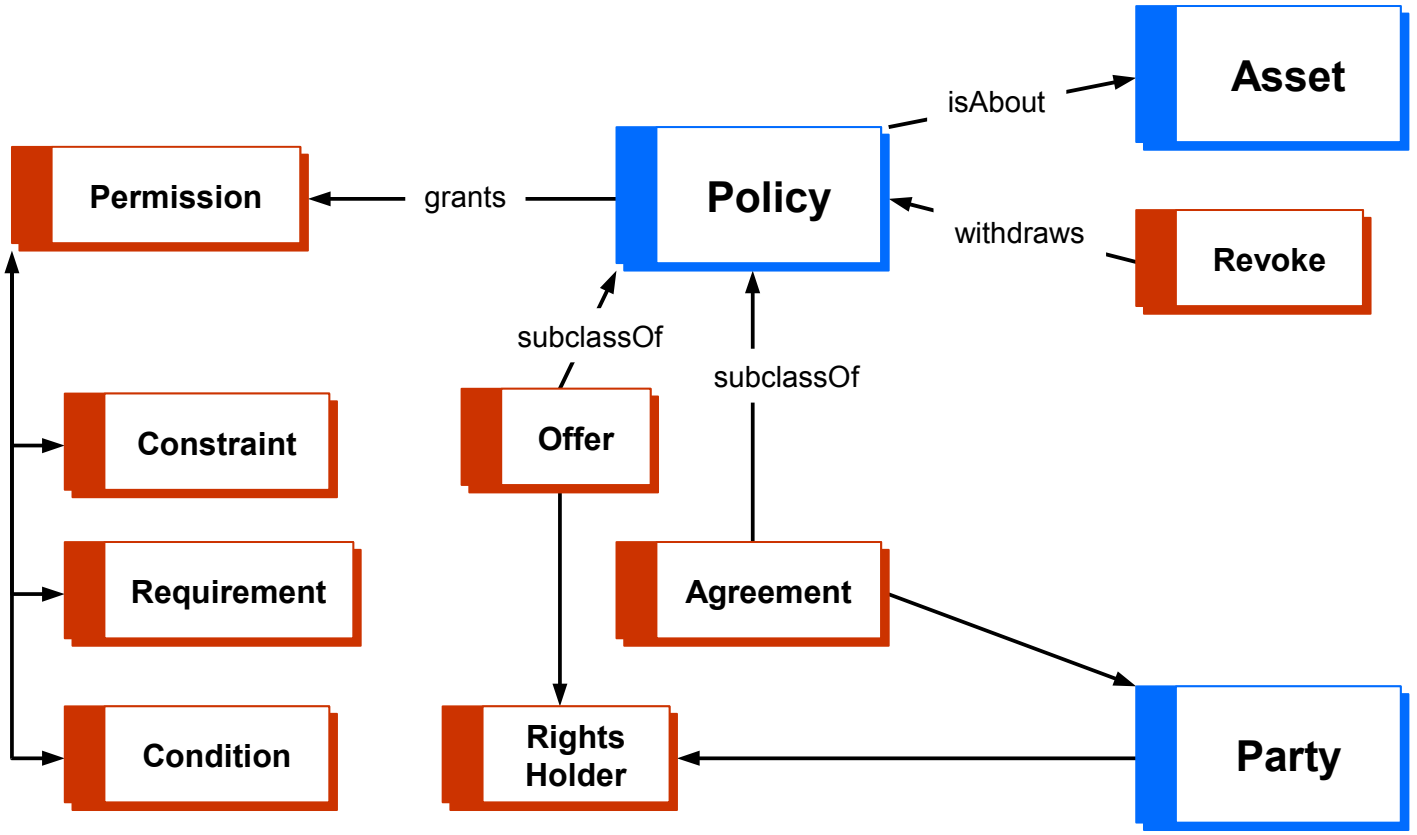

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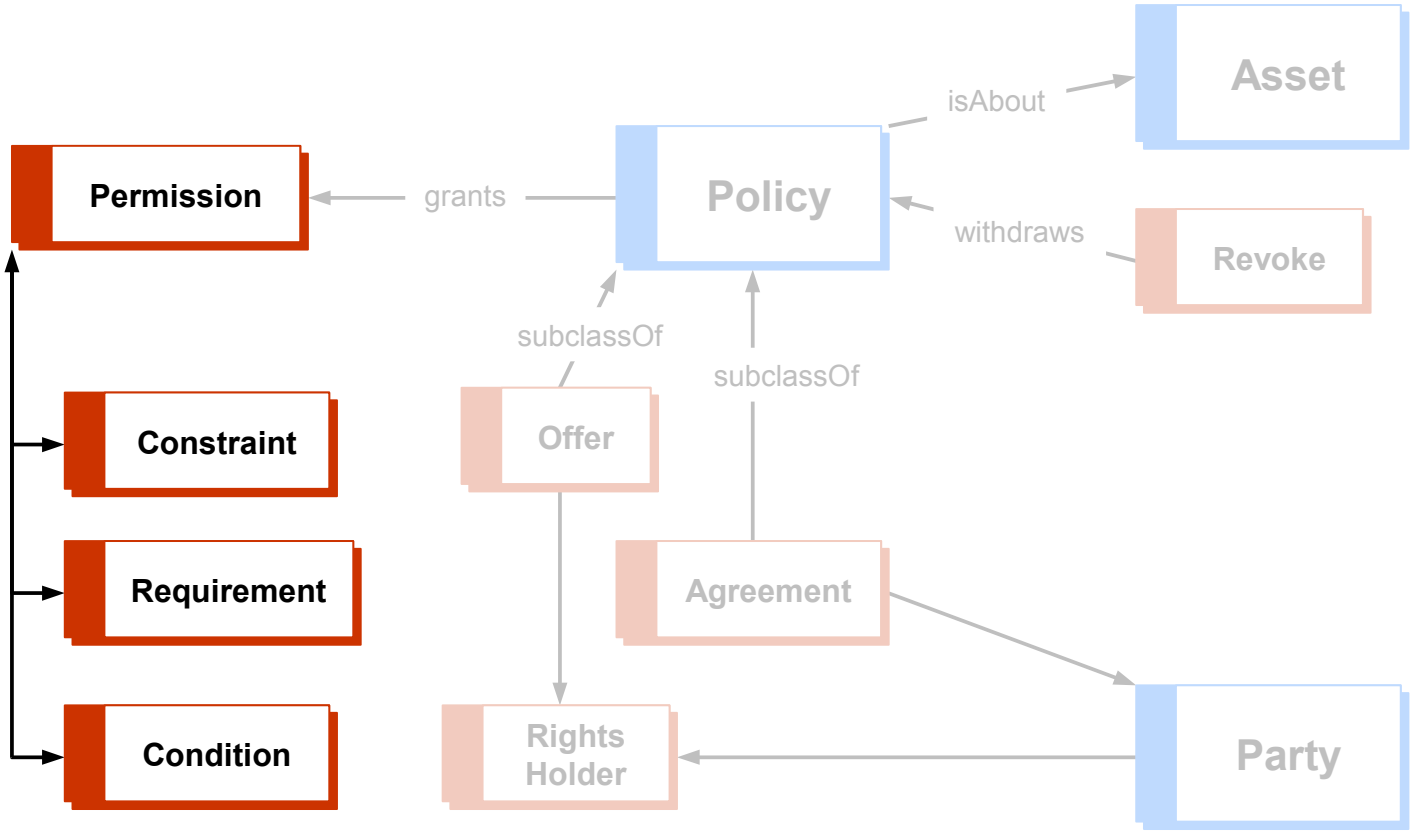

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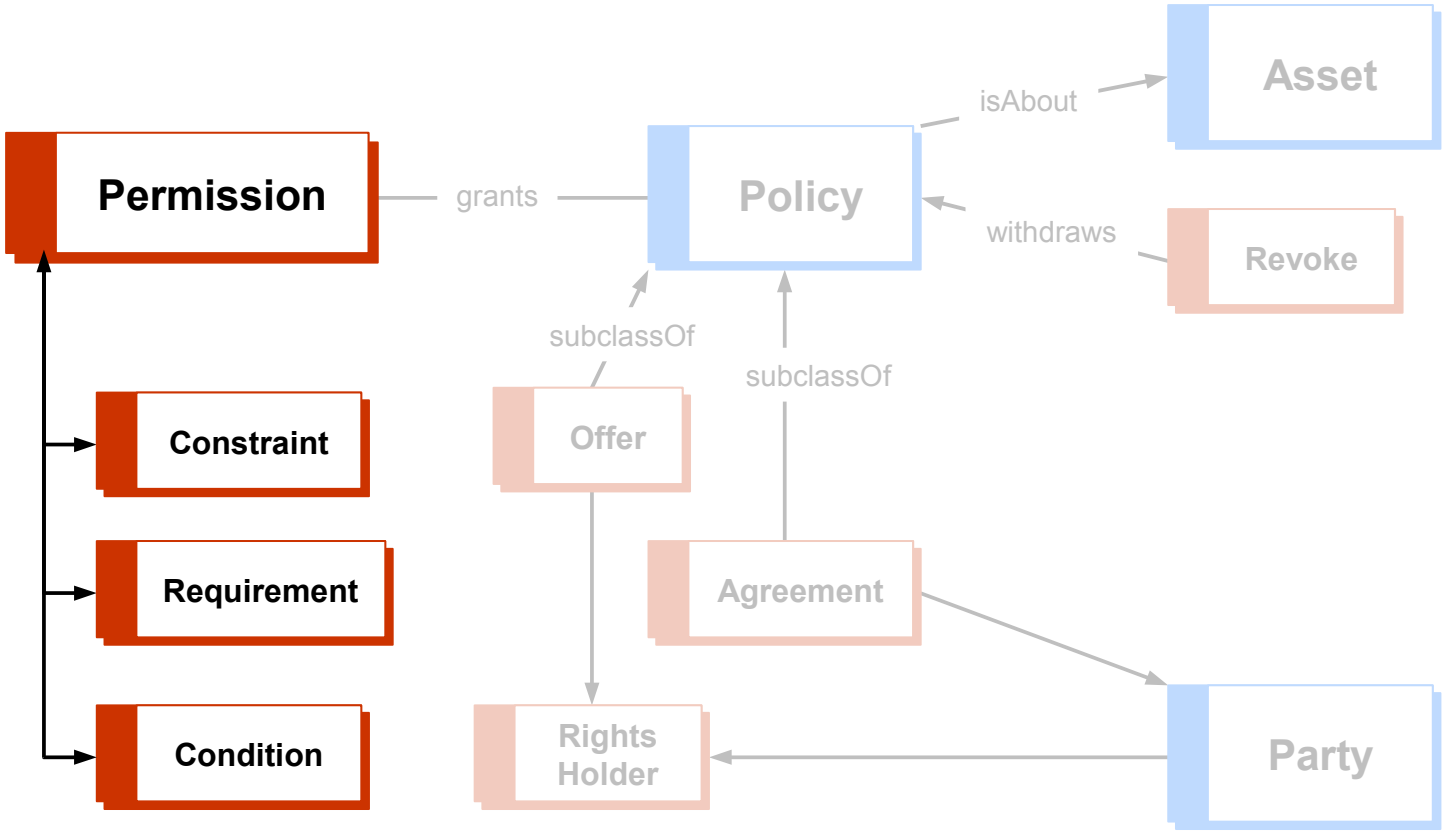

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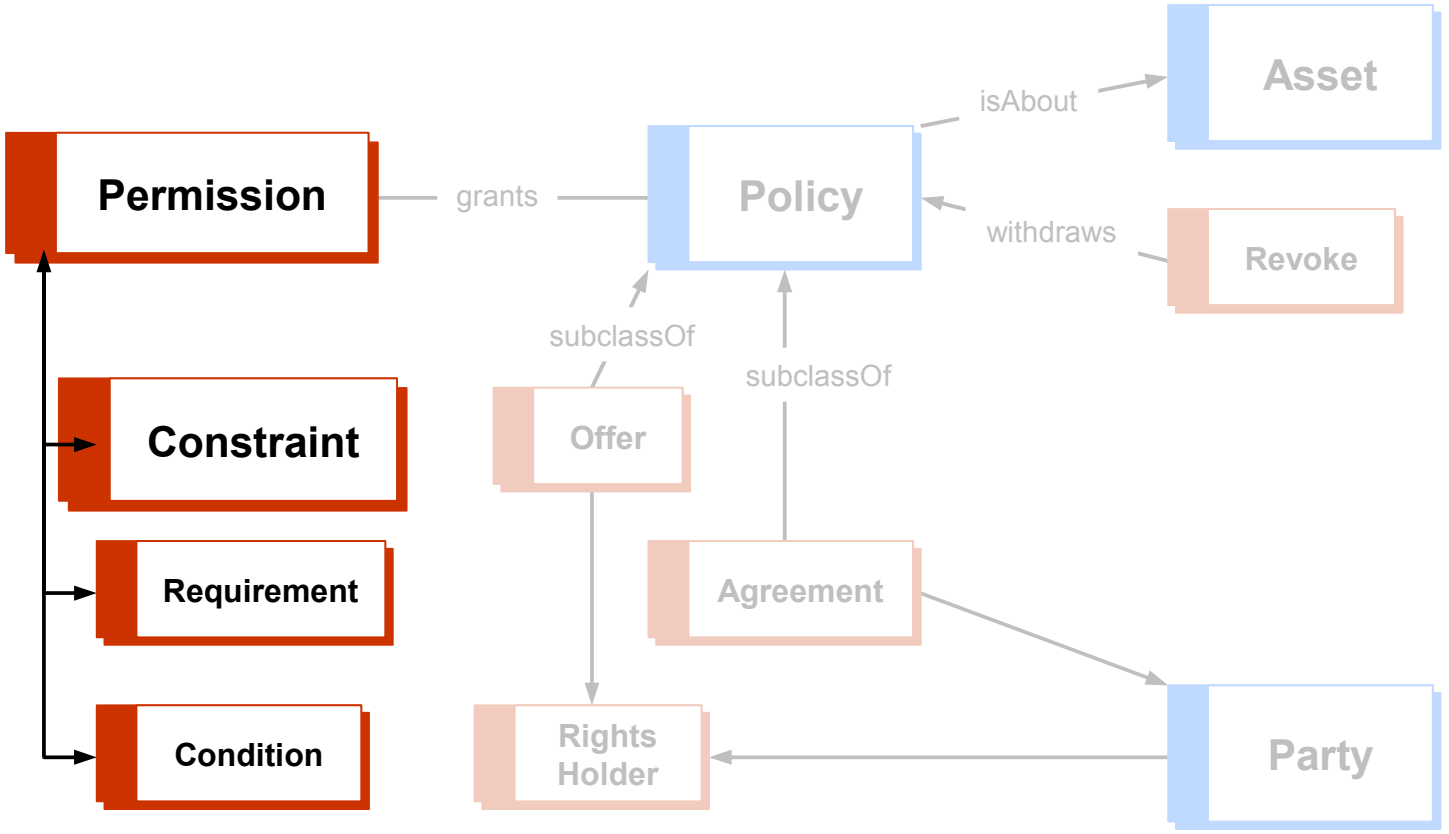

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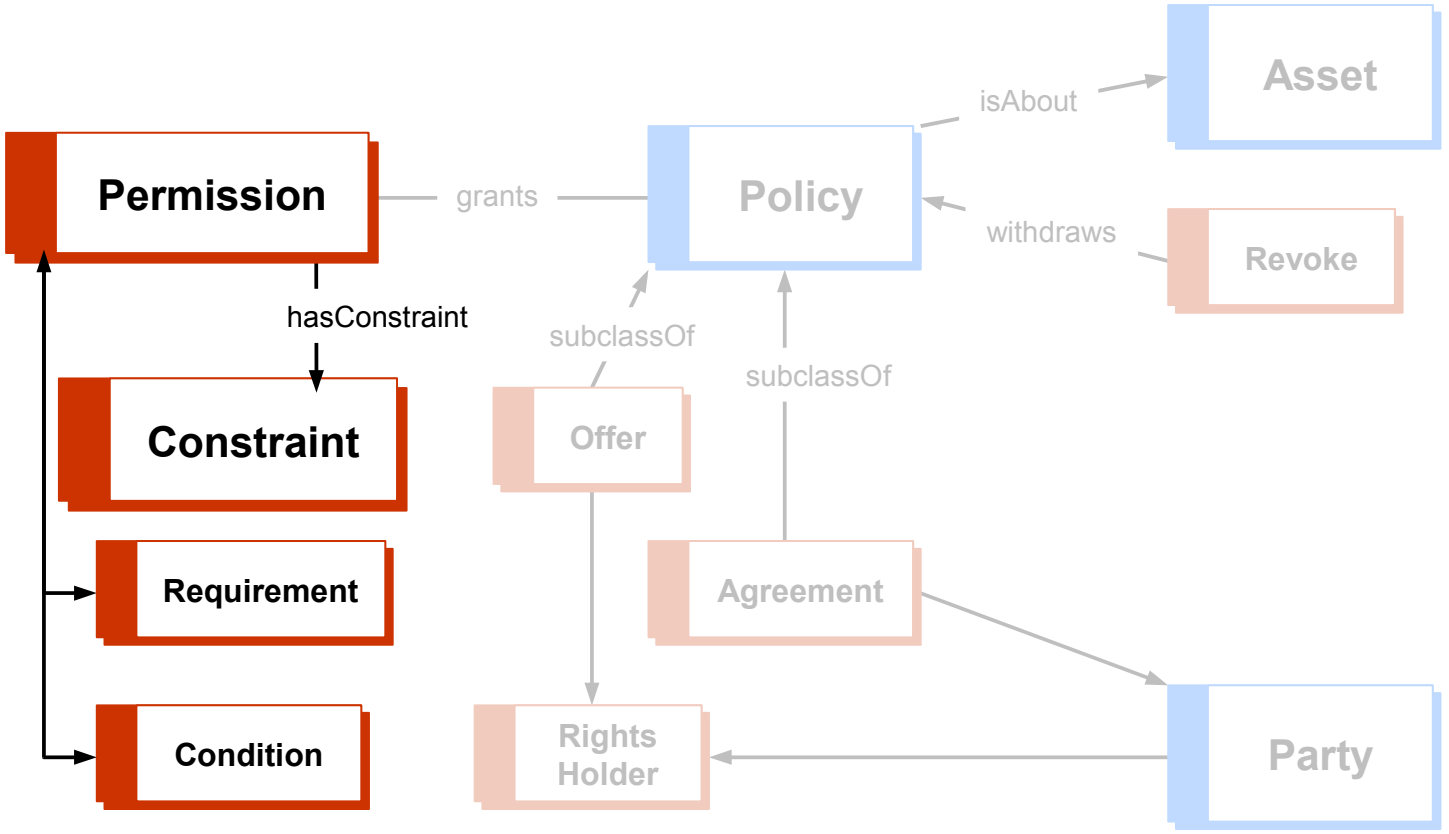

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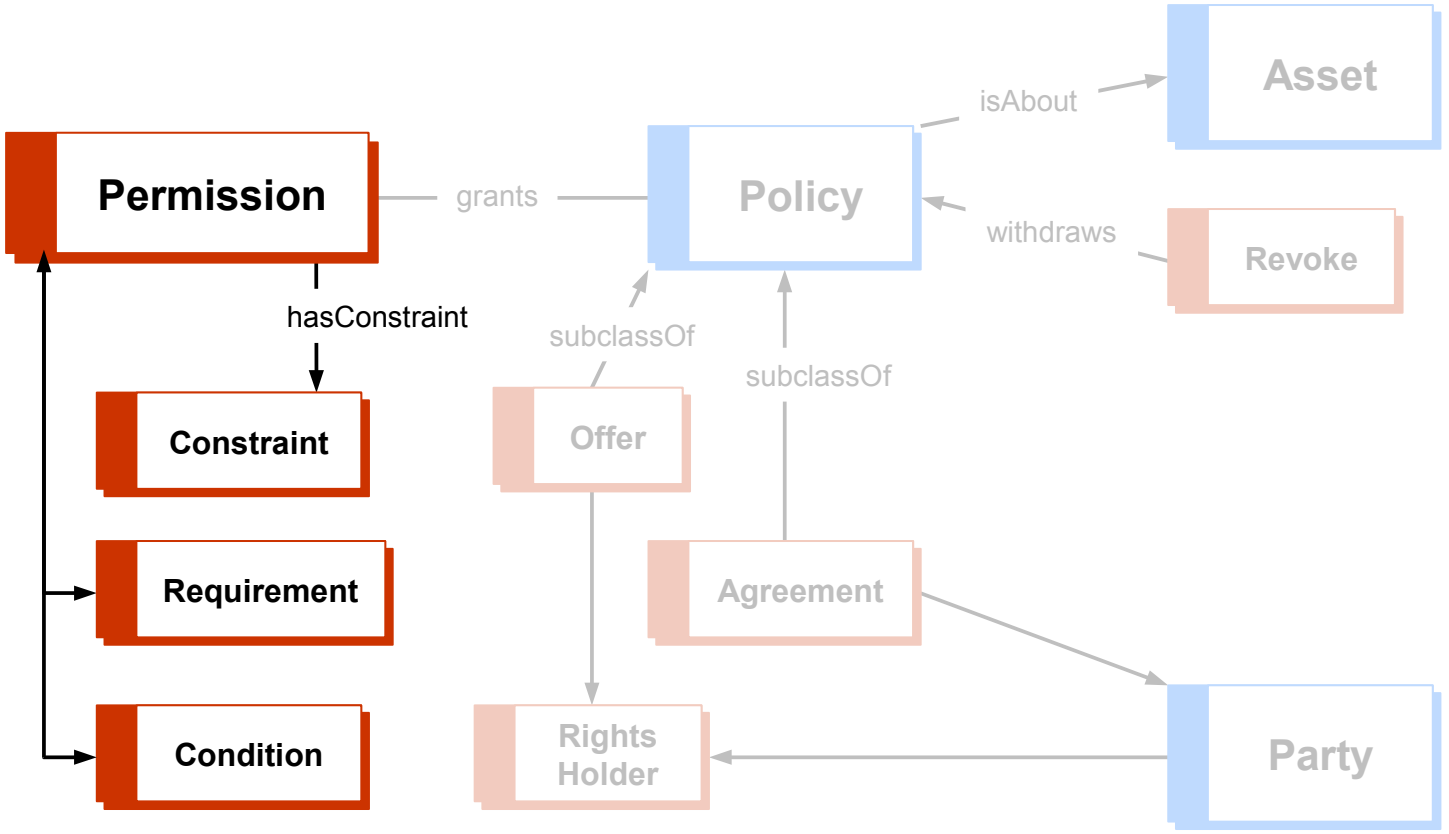

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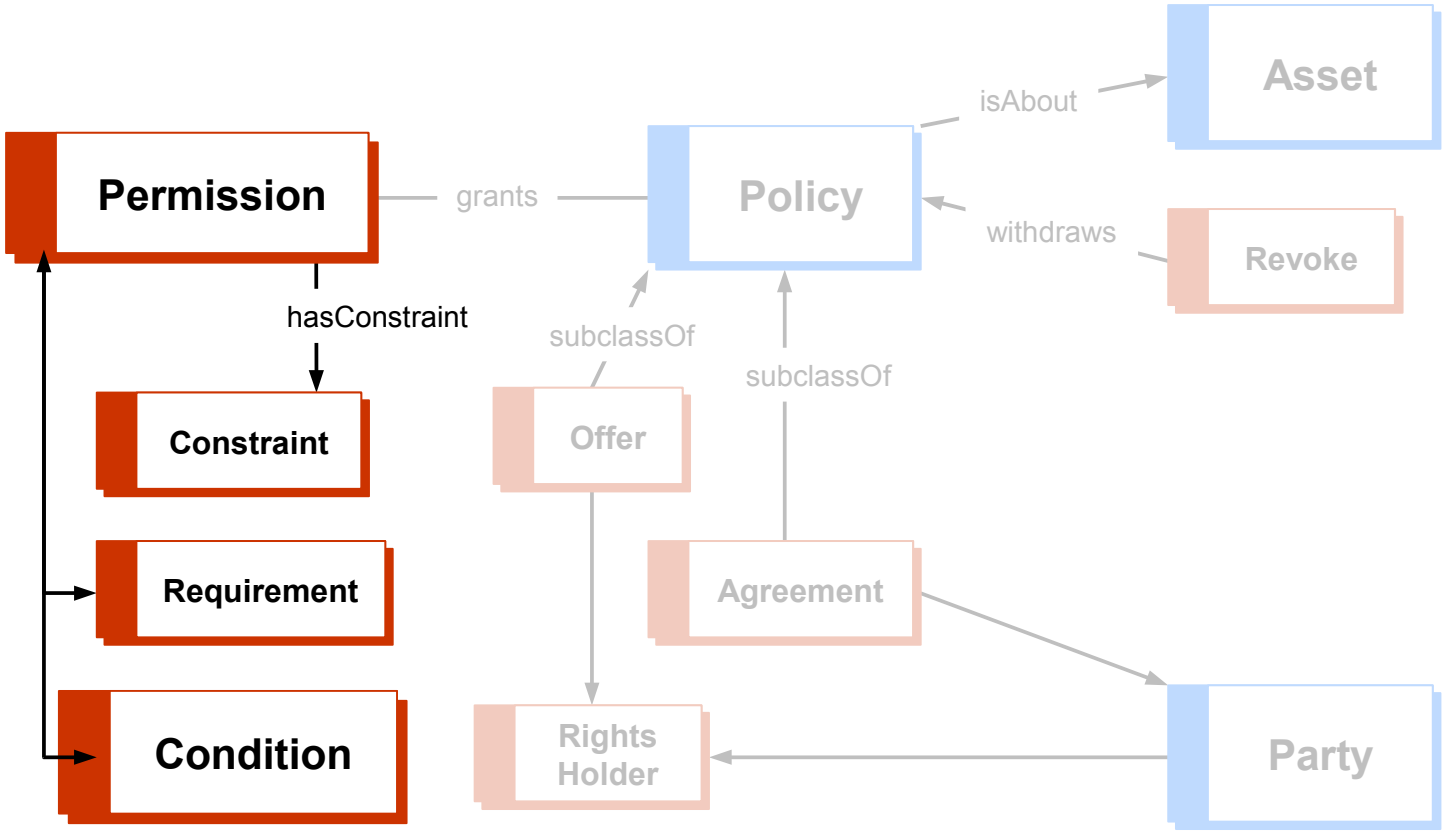

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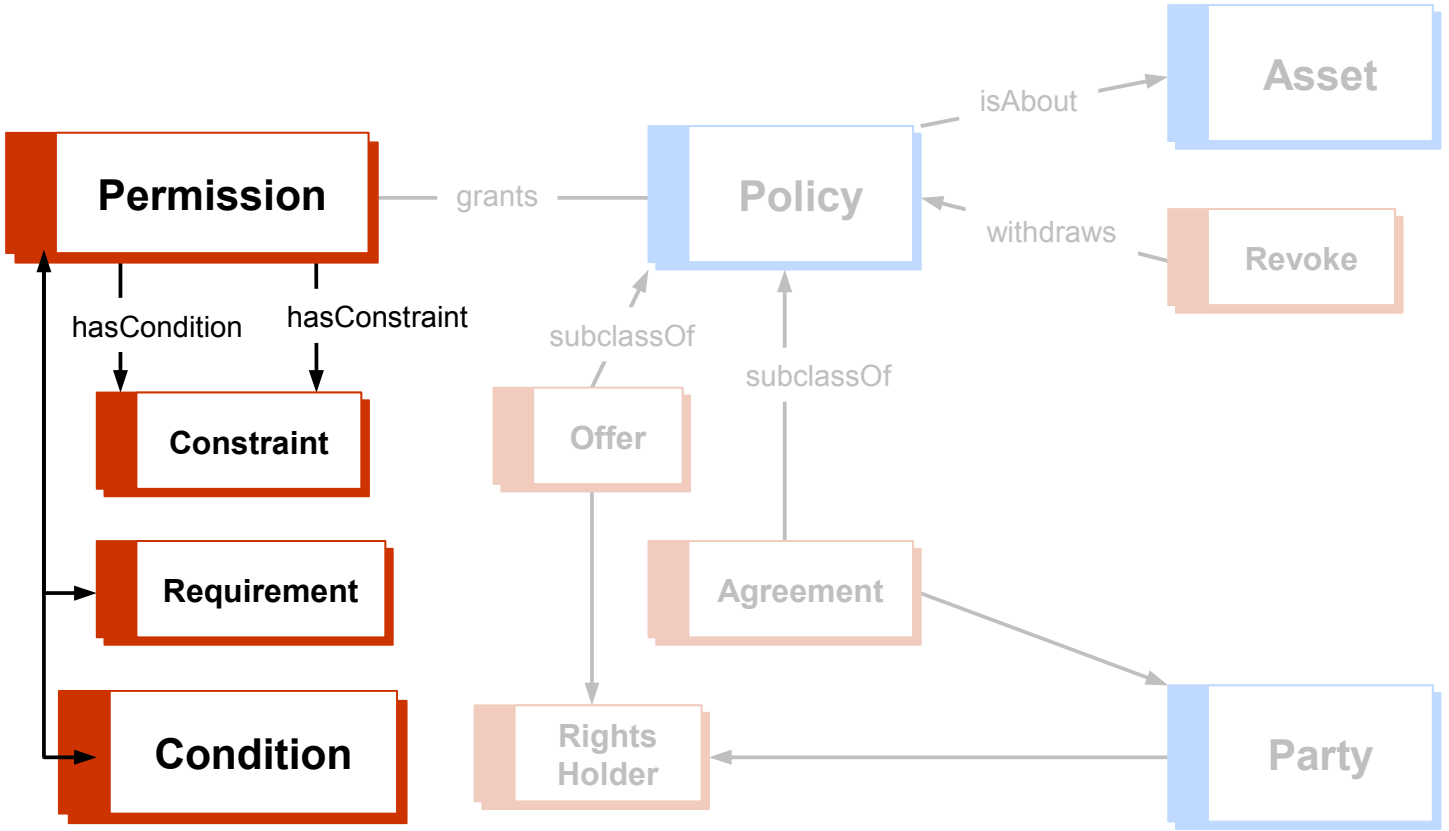

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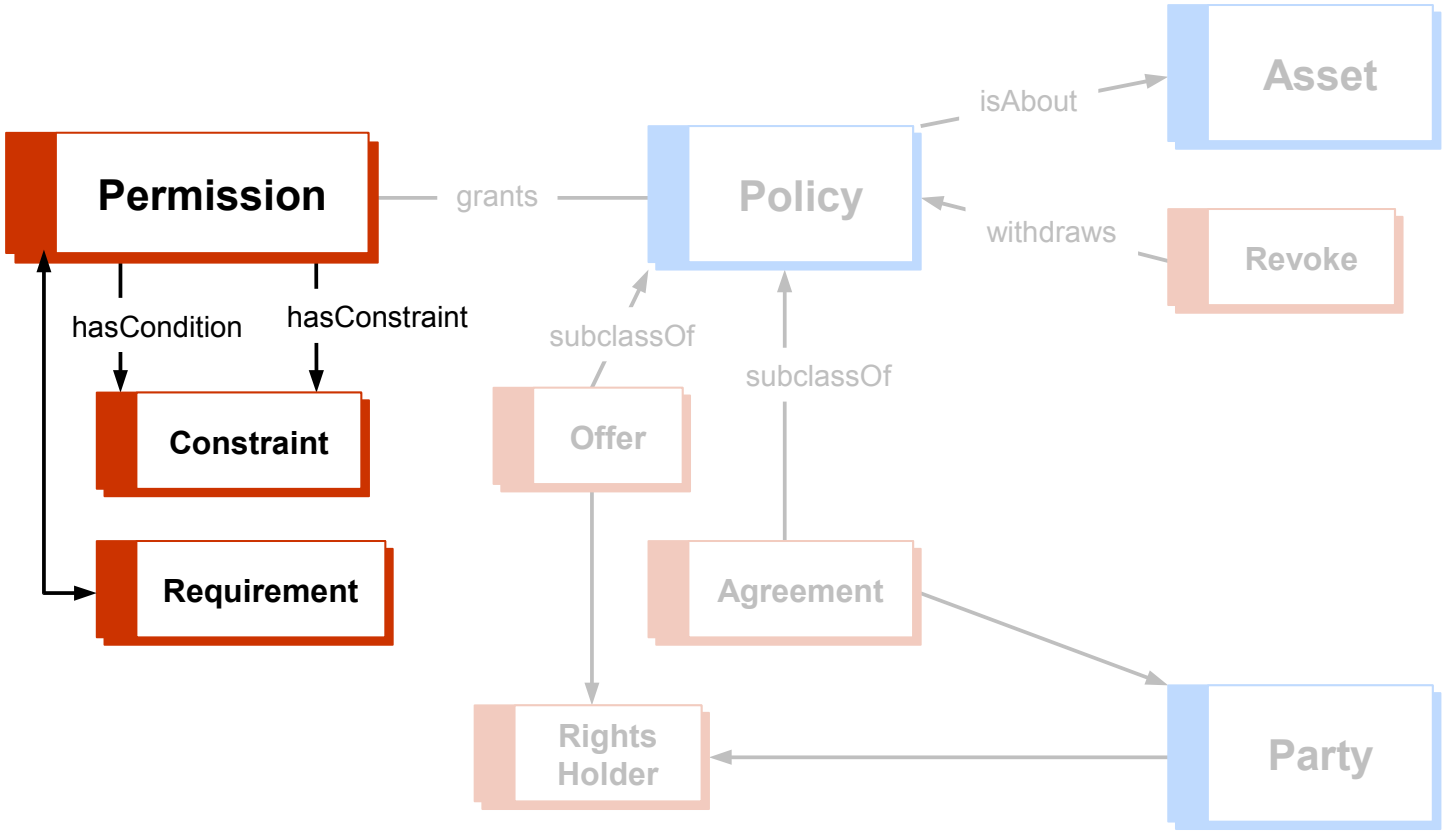

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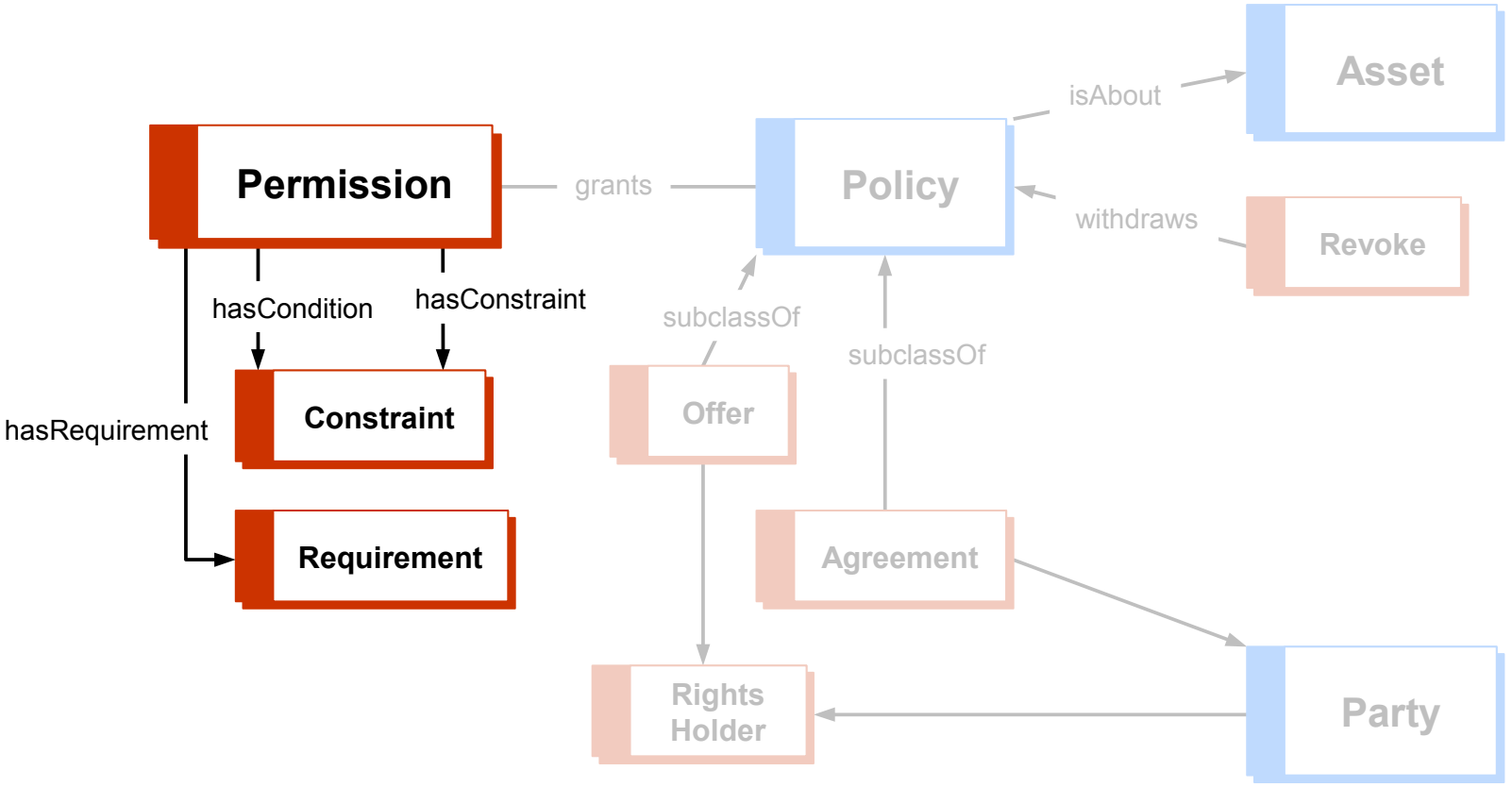

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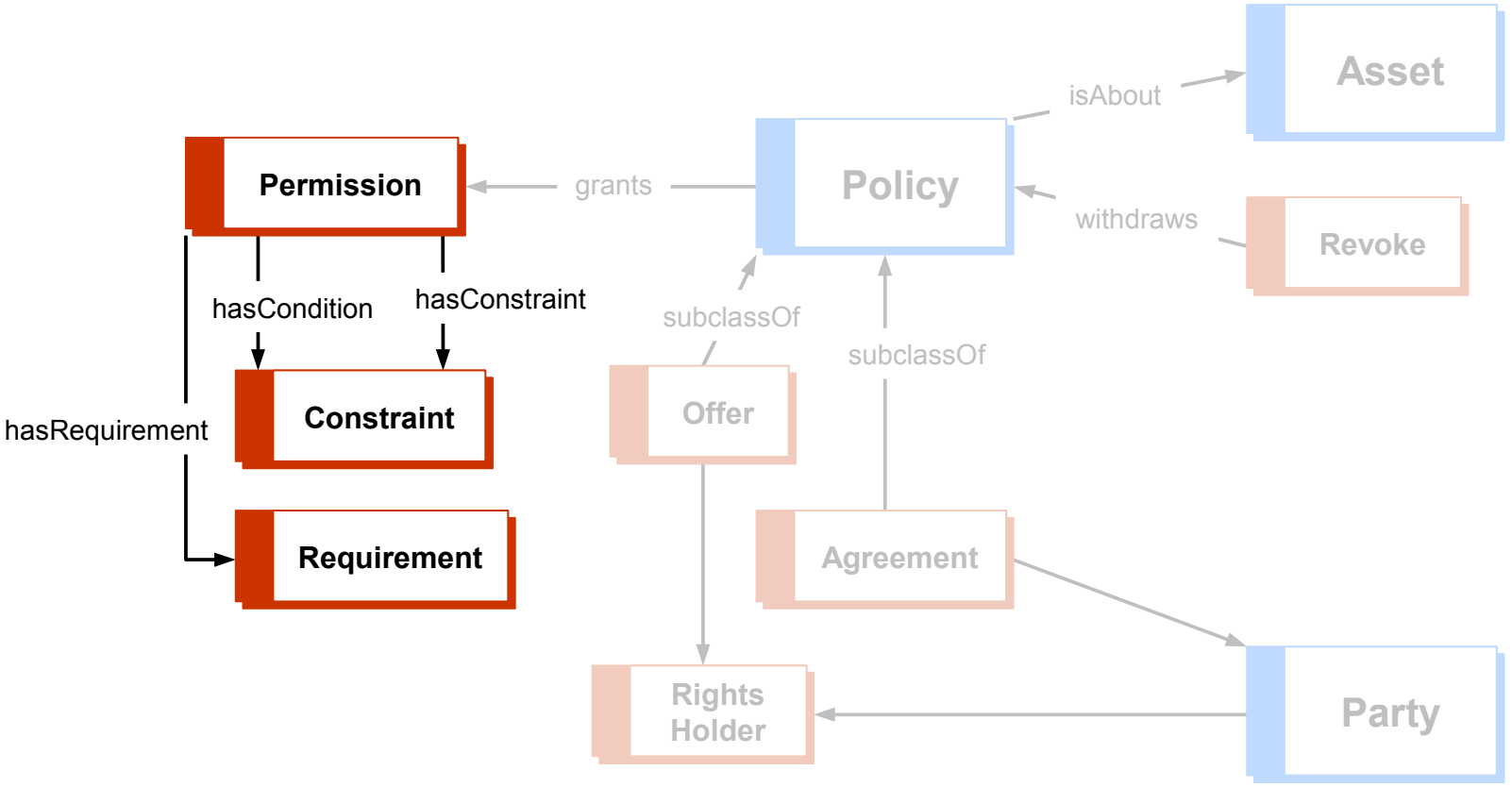

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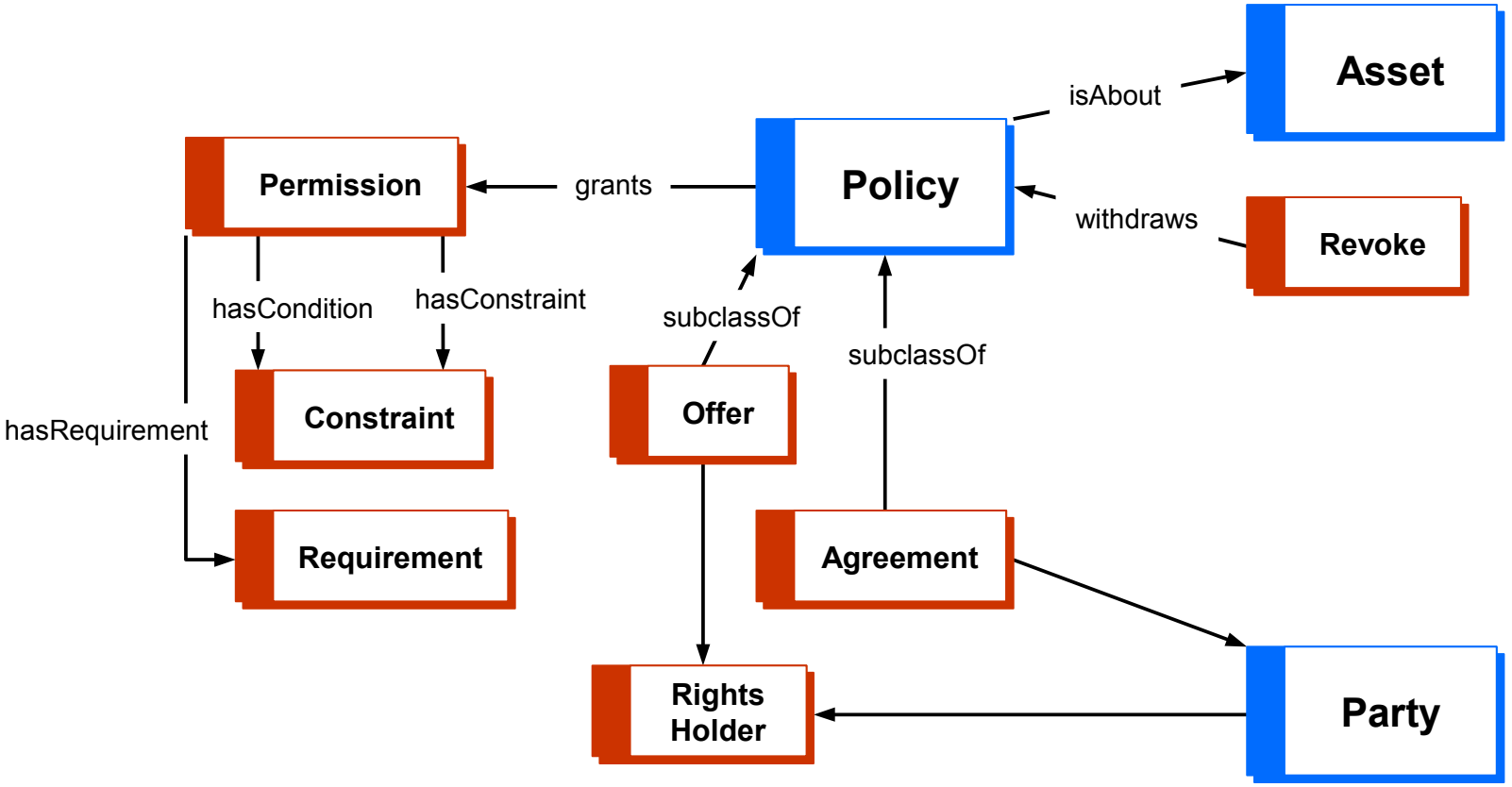

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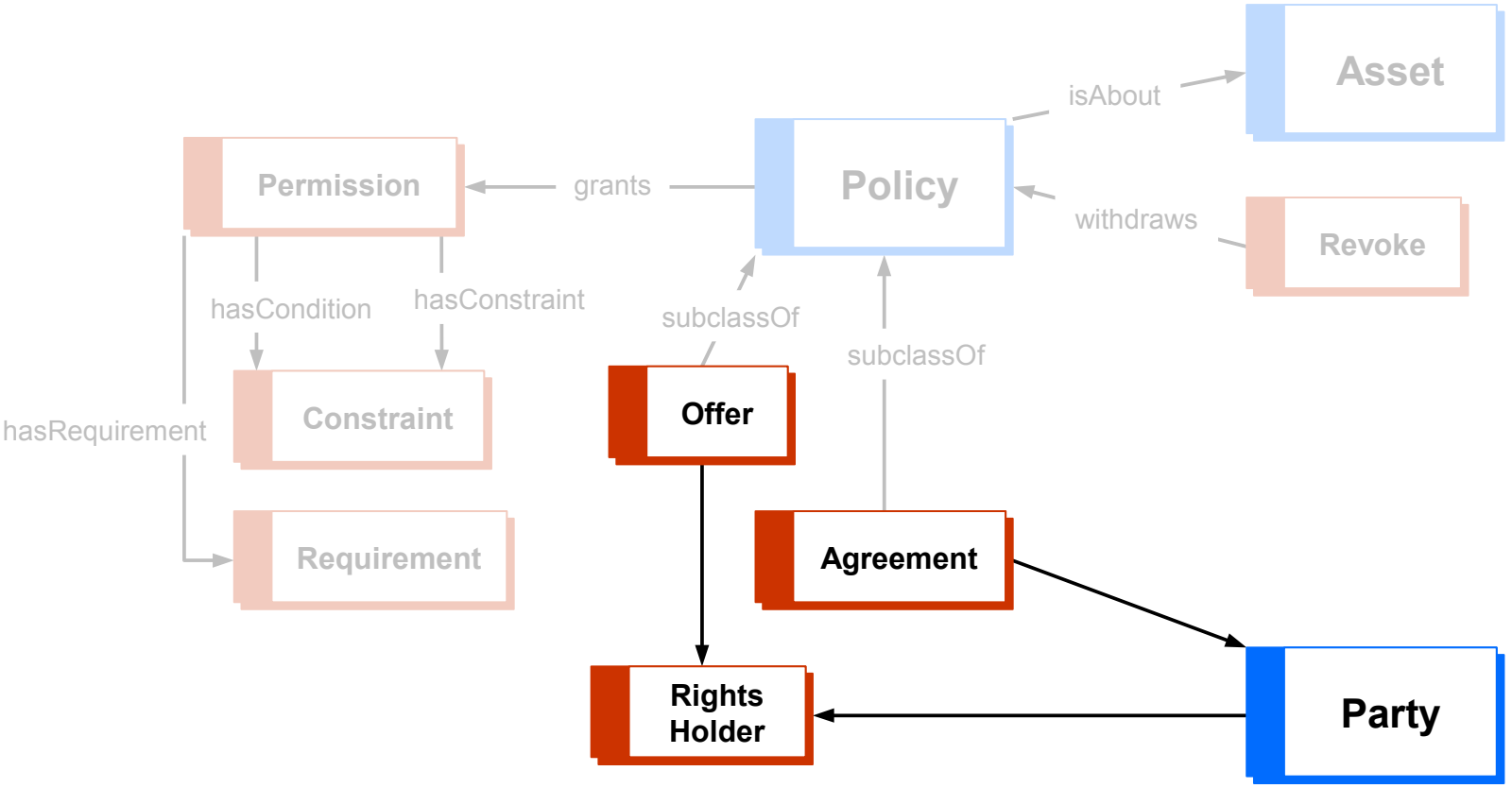

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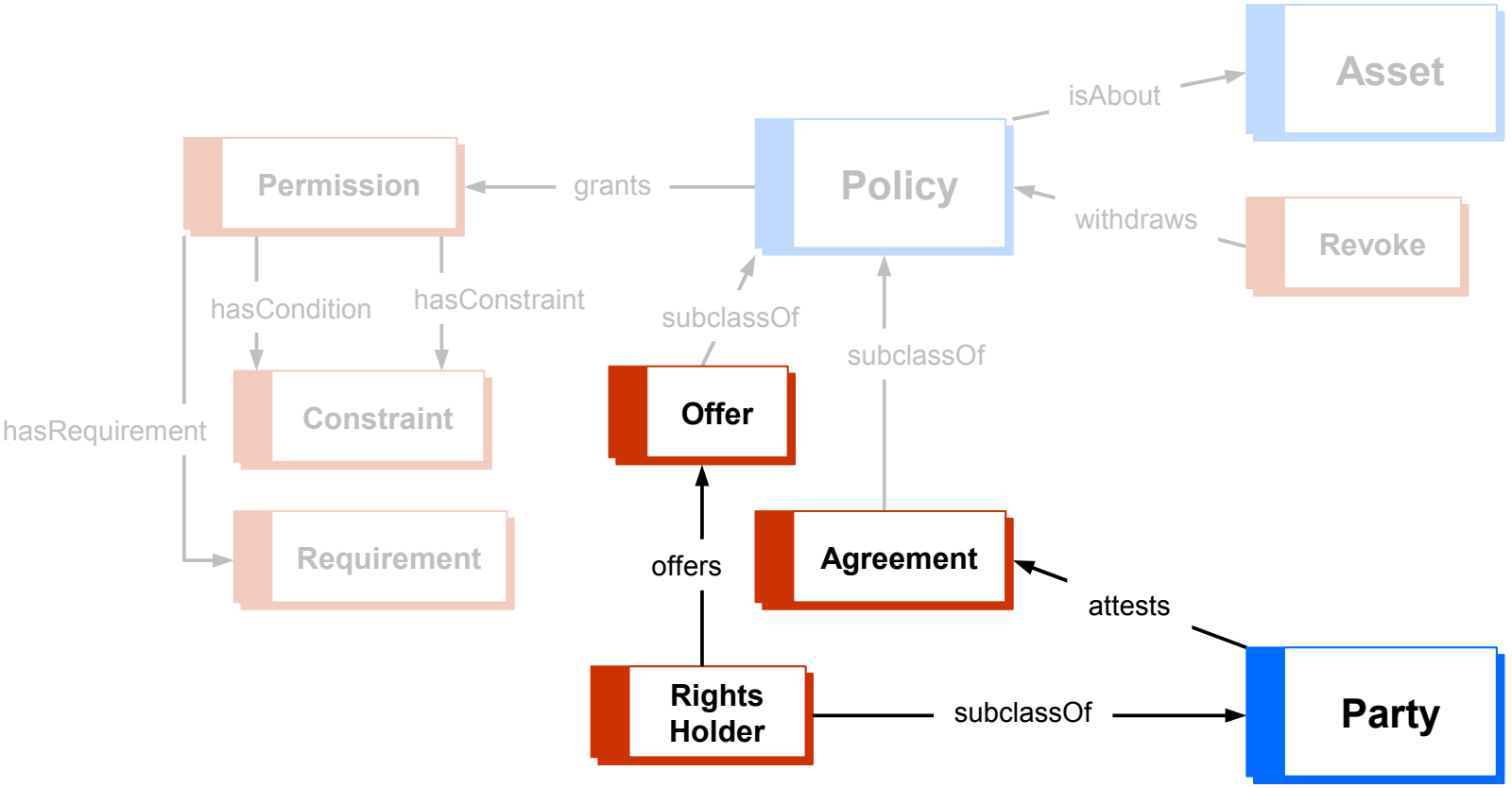

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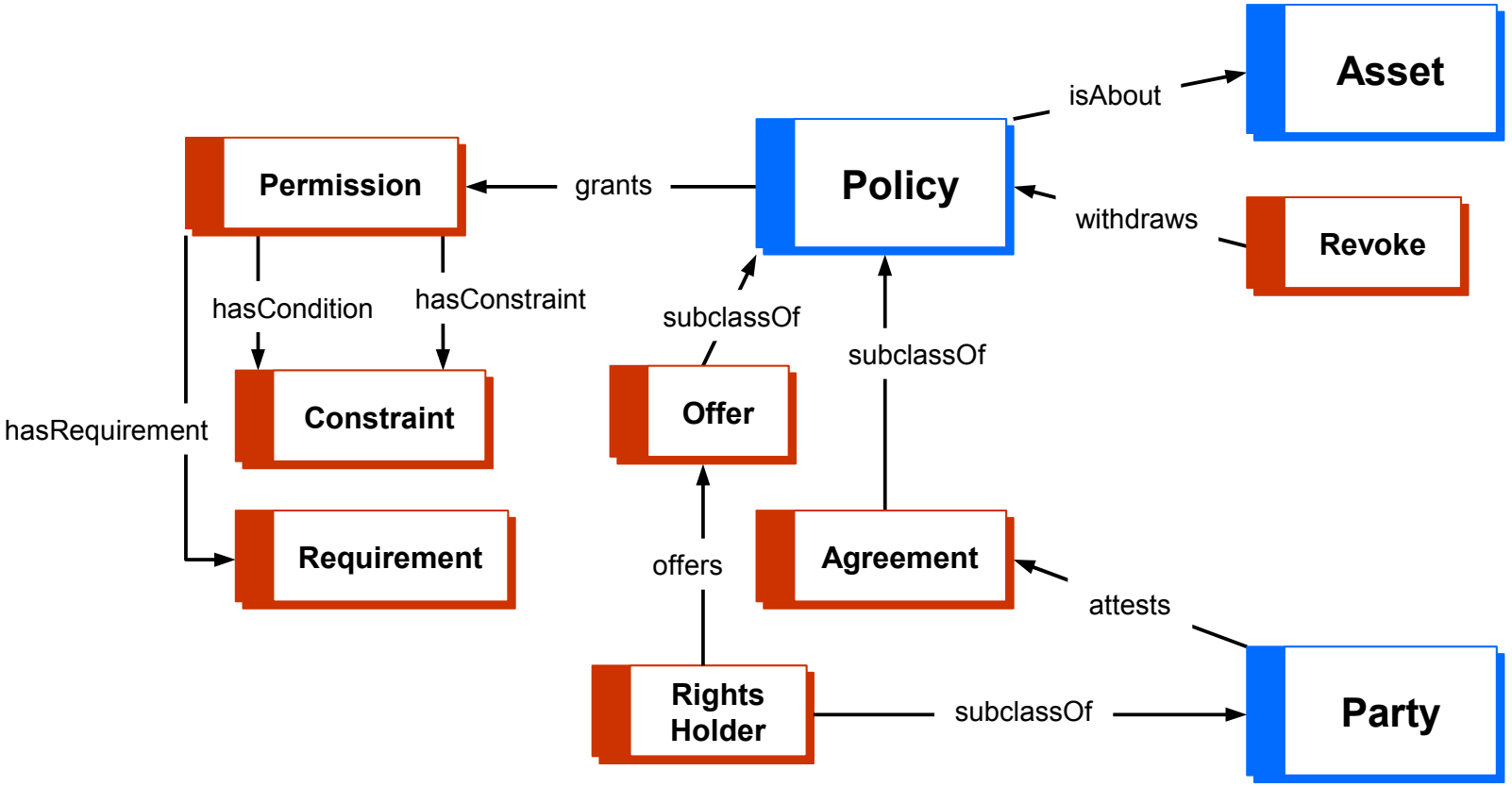
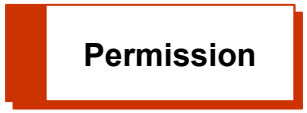


ODRL Permission Model (excerpt)



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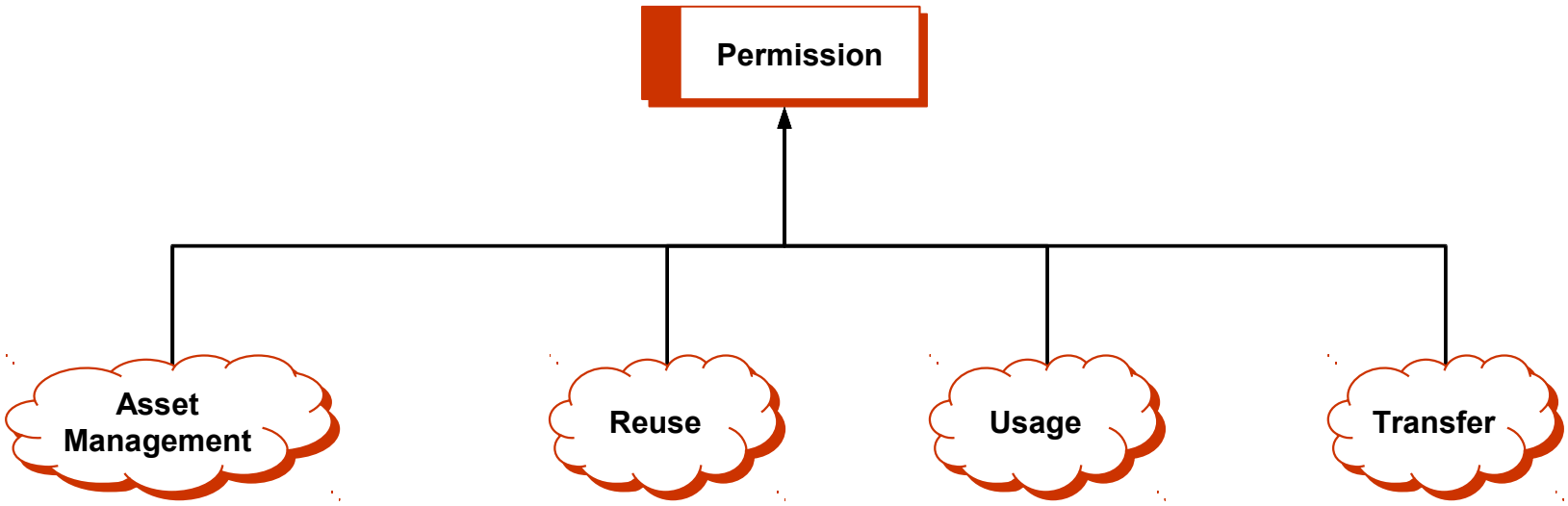

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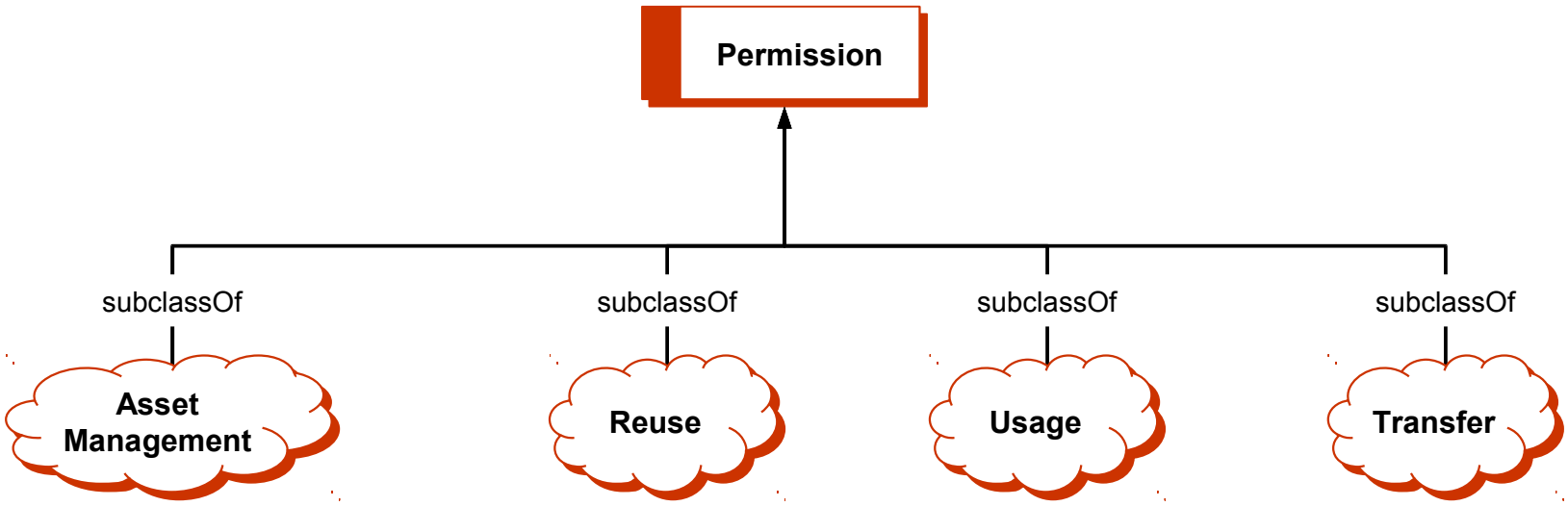

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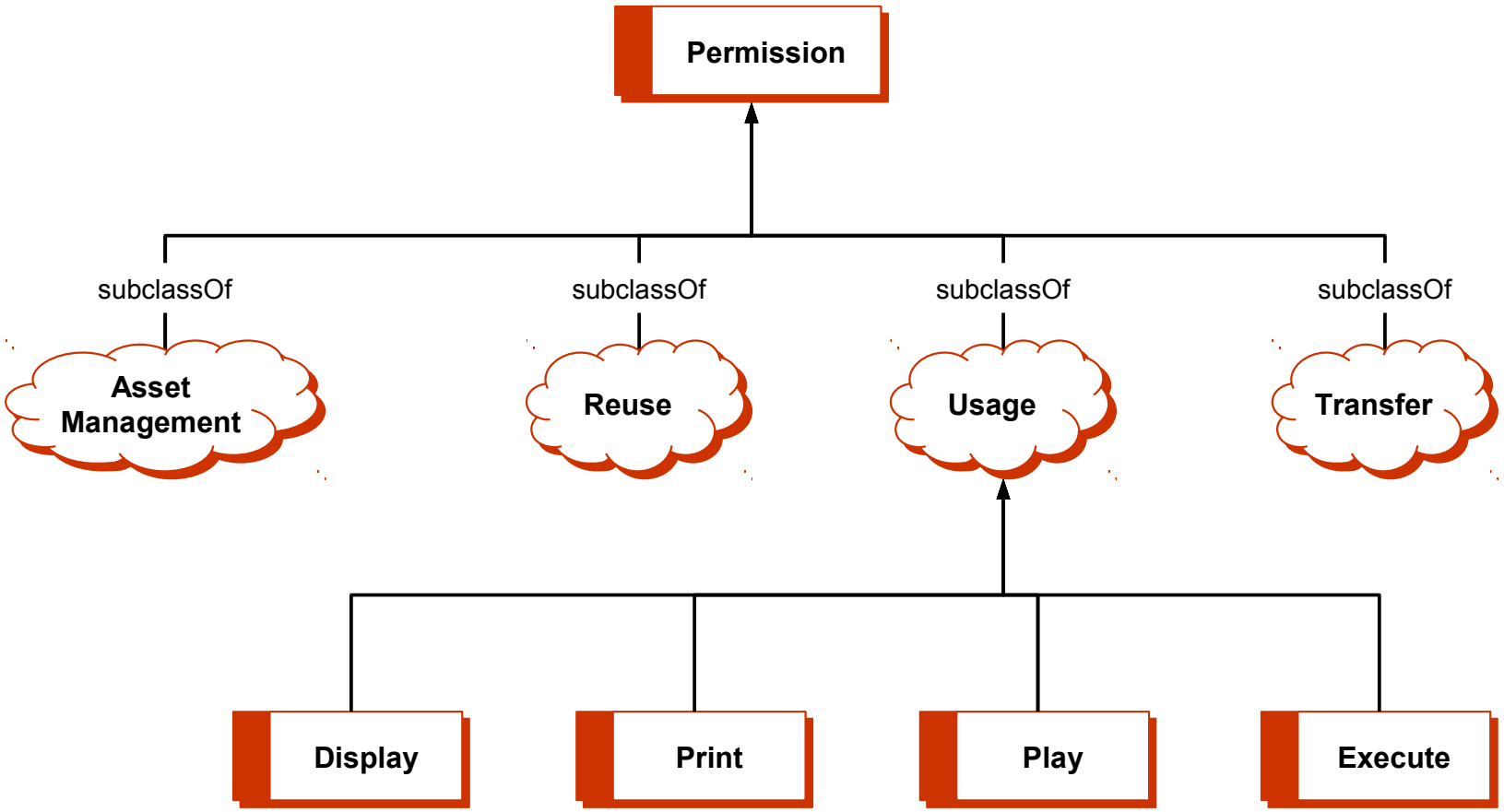

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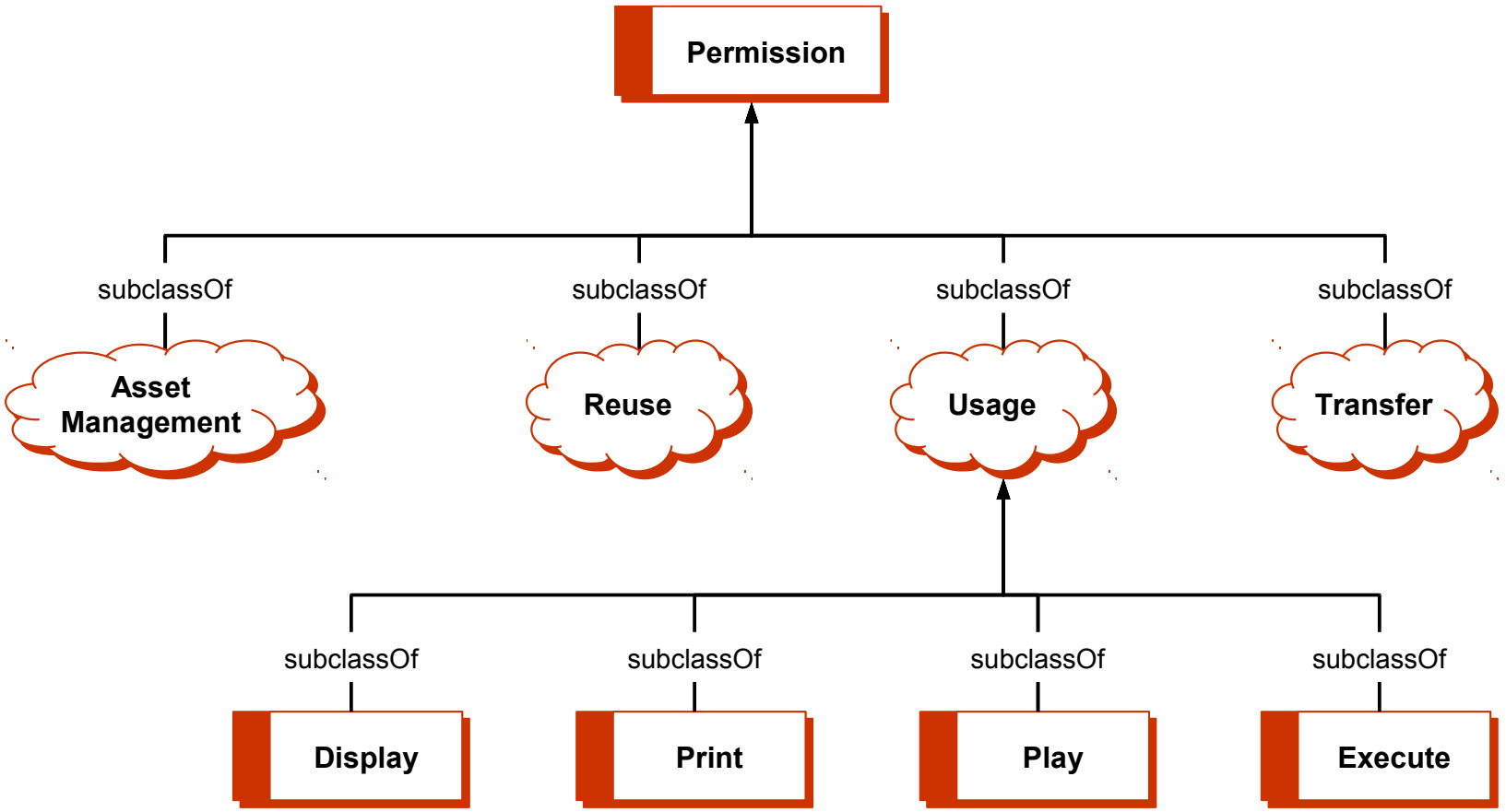

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URM – Usage Rights Management

- introduced by Hundacker et al. in 2009 [Hundacker09]
- based on ODRL with additional entities
- allows users to manage their usage rights

Idea of URM

- users have several (possibly illegal) media files
- each media file has different usage rights

Idea of URM

- users have several (possibly illegal) media files
- each media file has different usage rights
- URM
  - informs users about their usage rights
  - provides proofs for the validity of usage rights

URM Foundation Model

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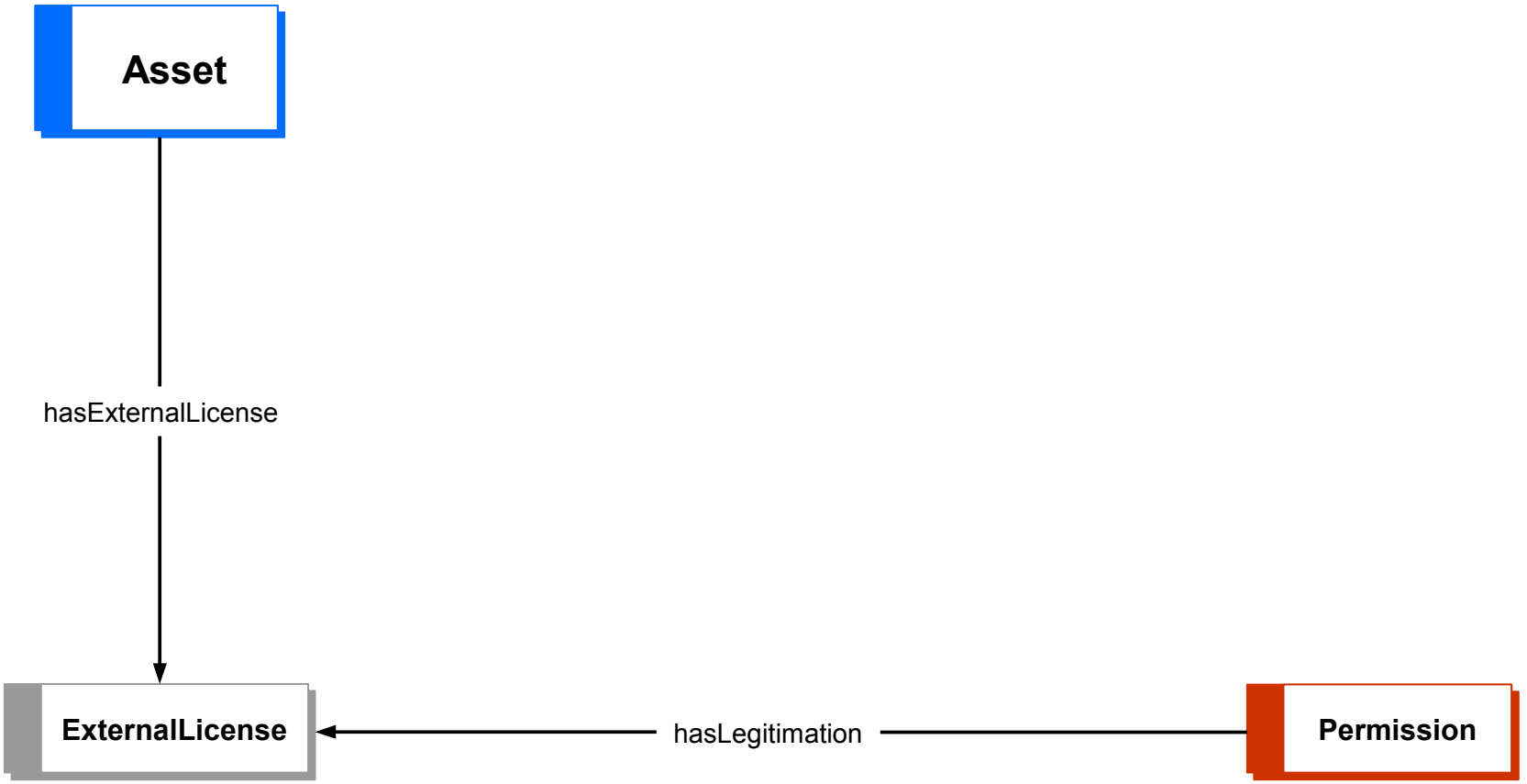

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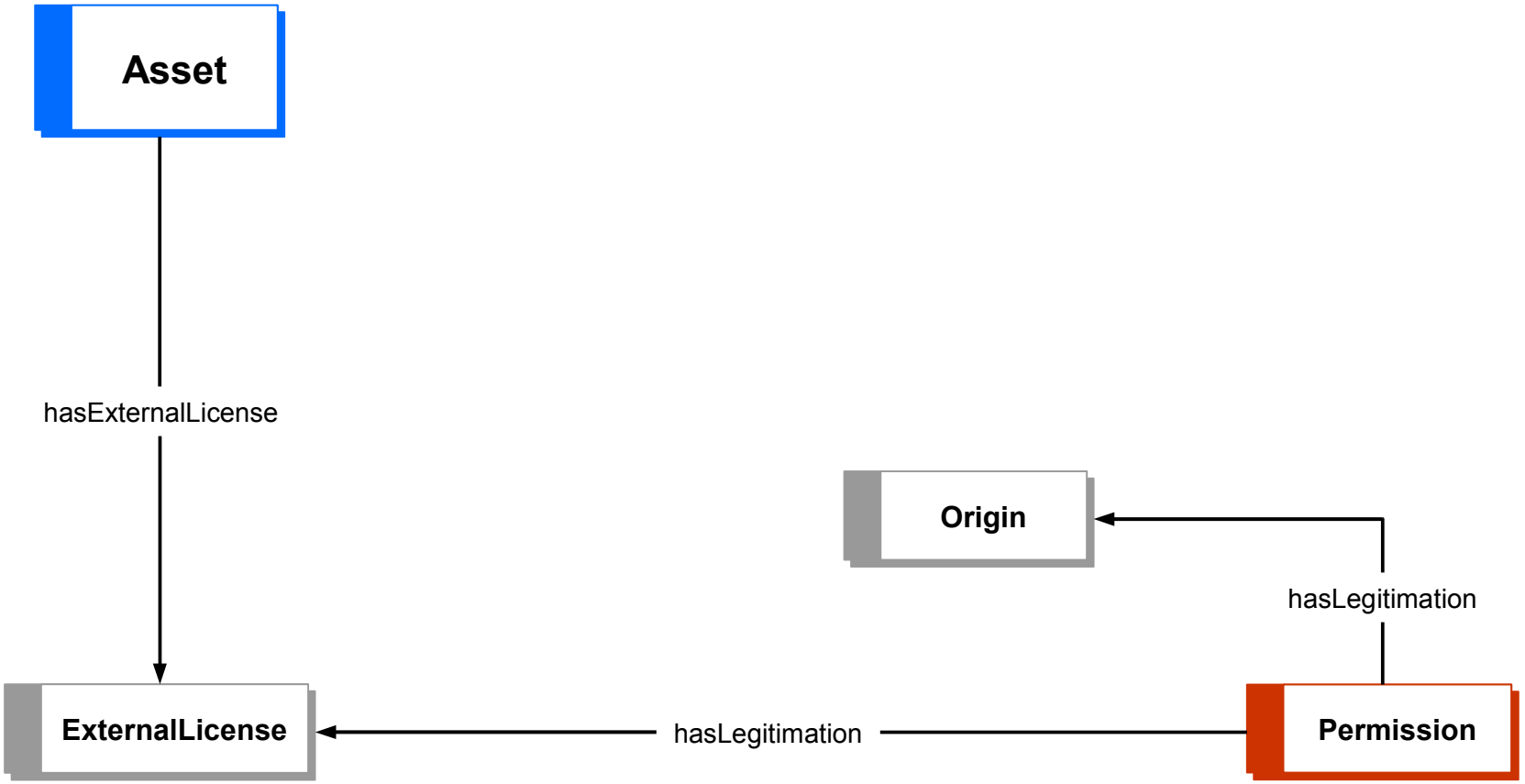

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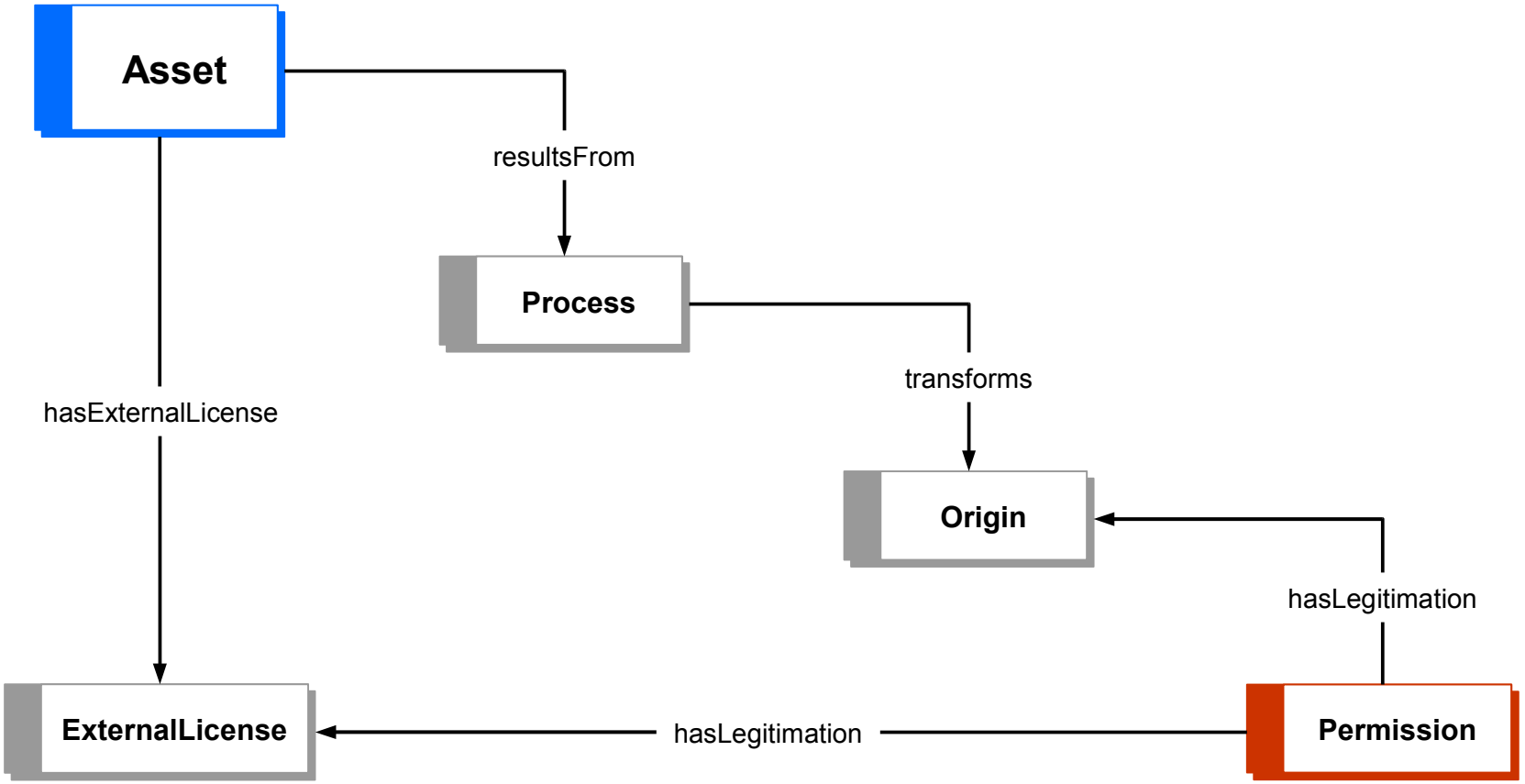
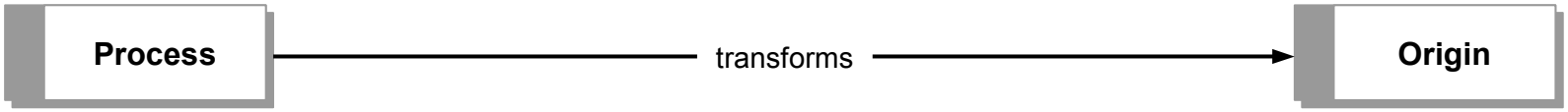


Origins and Processes (excerpt)



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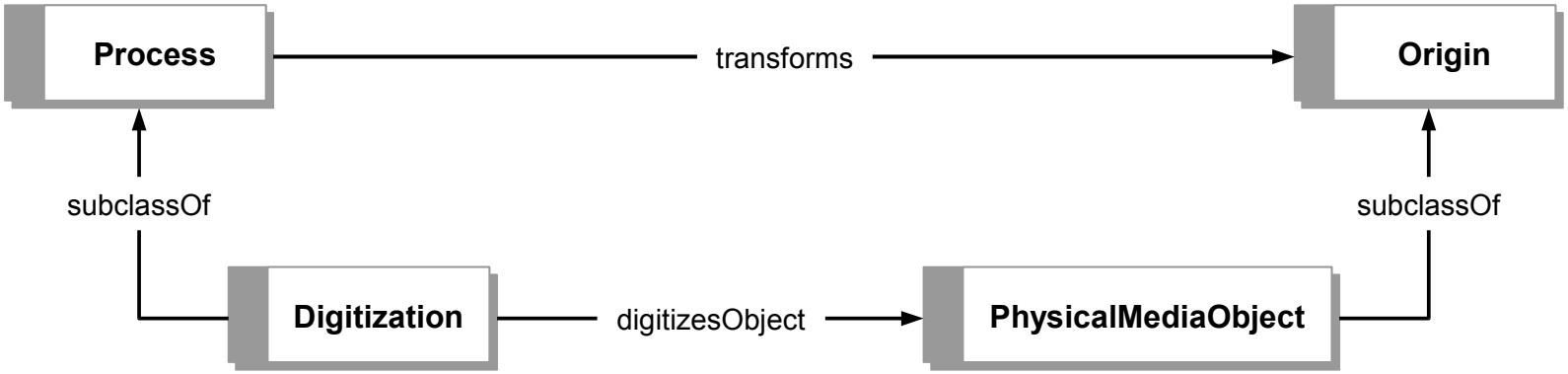

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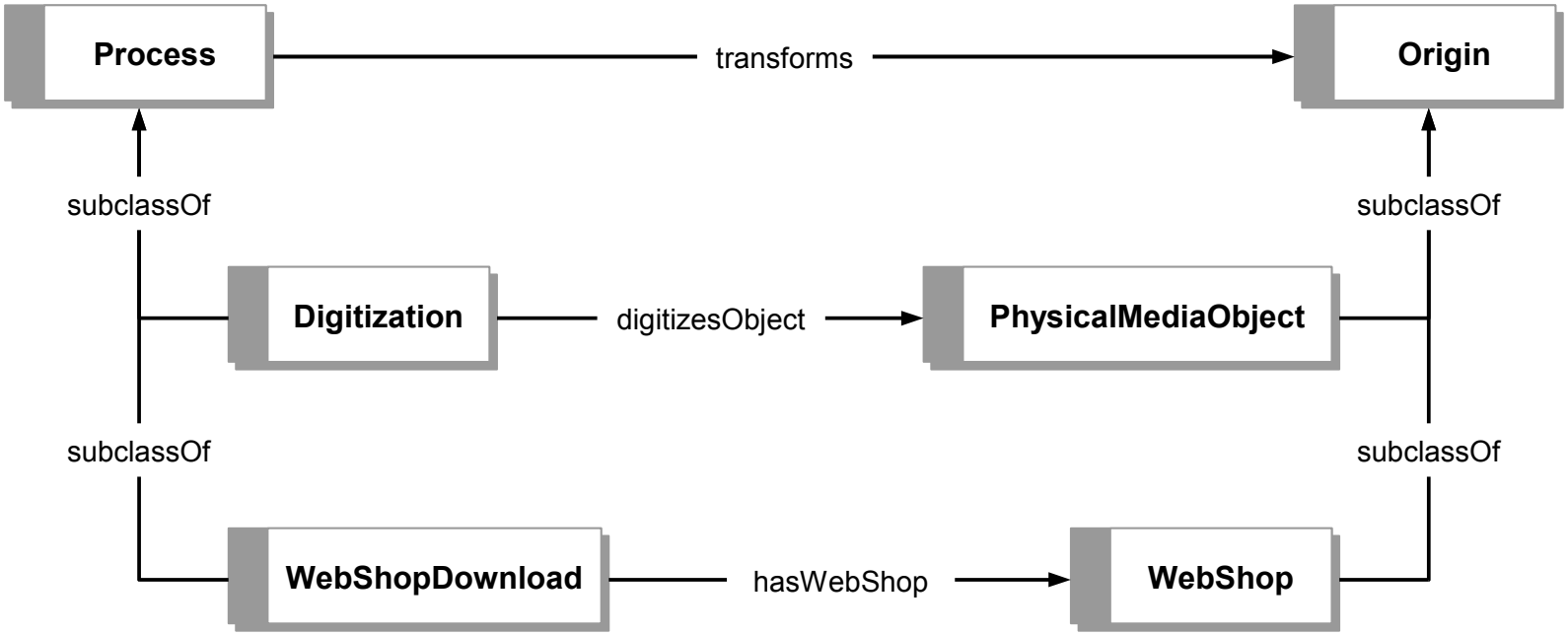

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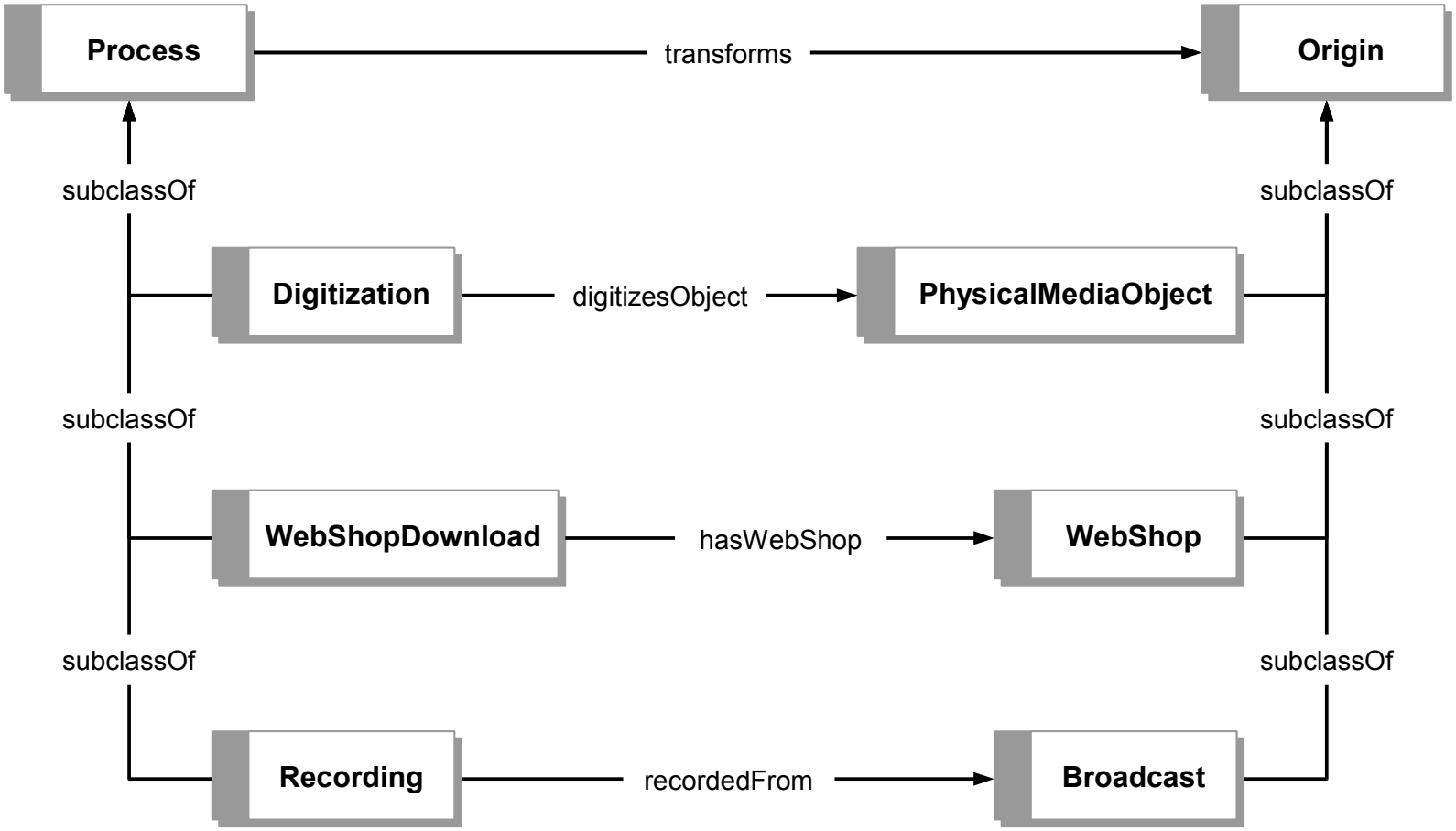

Use Cases

- generally:
  - combine domain knowledge with legal information
- specifically:
  - semantic queries
  - social semantic desktop

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Summary

- adding semantics to ODRL model
  - reduces misinterpretations
  - allows automatic interpretations
- adding semantics to URM model
  - allows semantic queries

Future Work

- Add more semantics?
- Implement use cases?

Thank you for your attention.

Bibliography

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