Toward OWL Restriction Reconciliation in Merging Knowledge

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INTRODUCTION

- Different modeling of source ontologies
- Can lead to conflicts in merging process [1,2]
- One Type Conflicts
- OWL Restriction Conflicts
- Cardinality conflicts
- Value conflicts

EXAMPLE OF CONFLICTS IN MERGED ONTOLOGY

- $O_1$ and $O_2$ are modeled differently
- Merging $O_1$ and $O_2$ leads to conflicts in $O_M$
- In example: one type conflict, cardinality conflict
- In $O_M$′ the conflicts are resolved

DETECTION AND RESOLUTION

- One type conflicts:
  - Subsumption hierarchy
- OWL Restriction conflicts:
  - Attribute Graph
  - Cardinality: upper and lower bound
  - Value: semantic relatedness

REFERENCES