

# $\Omega$ -RIDL: A Language and Interpreter for Ontological Commitments

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**Abstract.** At this time there is still a wealth of information hidden from the Semantic Web in so called legacy (classic relational) databases. The key to unlock this information is using *ontological database mediation*. DOGMA<sup>1</sup> is an ontology representation model and framework which makes use of the “double articulation” principle. The specification of the *conceptualization* (i.e. lexical representation of concepts and their inter-relationships) is separated from its *axiomatization* (i.e. semantic constraints). This corresponds to an orthodox *model-theoretic* approach to ontology representation and development. Consequently, the DOGMA framework consists of two layers: a *Lexon Base* (conceptualization) and a *Commitment Layer* (axiomatization), which makes it specifically suited for database mediation.

In this talk I present  $\Omega$ -RIDL<sup>2</sup>, a formal language that allows the specification of *ontological commitments* and *conceptual querying* of heterogeneous data sources. The *committing* applications are assigned a formal semantics by mapping the application symbols and relationships to a Lexon Base. Besides specifying which concepts are used, we restrict how they “may” be used with semantic constraints based on ORM. These ontological commitments specify mediators for translating conceptual queries in terms of the ontology to correct logical queries in the respective data sources.

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<sup>1</sup> Acronym for Developing Ontology-Grounded Methods and Applications.

<sup>2</sup> Acronym for Ontology Reference and IDEa Language.