

The SPARQL Query Graph Model for Query Optimization

Olaf Hartig and Ralf Heese

Humboldt-Universität zu Berlin
Department of Computer Science
(hartig|rheese)@informatik.hu-berlin.de

Abstract. The Semantic Web community has proposed several query languages for RDF before the World Wide Web Consortium started to standardize SPARQL. Due to the declarative nature of the query language, a query engine should be responsible to choose an efficient evaluation strategy. Although all RDF repositories provide query capabilities, some of them require manual interaction to reduce query execution time by several orders of magnitude.

In this paper, we propose the SPARQL query graph model (SQGM) supporting all phases of query processing. On top of the SQGM we defined transformations rules to simplify and to rewrite a query. Based on these rules we developed heuristics to achieve an efficient query execution plan. Experiments illustrate the potential of our approach.