

Interoperation and Interchange of Knowledge Bases

Le Thi Thu Thuy¹, Doan Dai Duong¹, Harold Boley², and Virendrakumar C. Bhavsar¹

¹Faculty of Computer Science, University of New Brunswick, Fredericton, New Brunswick, Canada

²National Research Council, Fredericton, New Brunswick, Canada

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Motivation

Knowledge bases (KBs), viz. databases and rulebases, are usually heterogeneous:

- Use different syntax
- Have different semantics

Key Terms

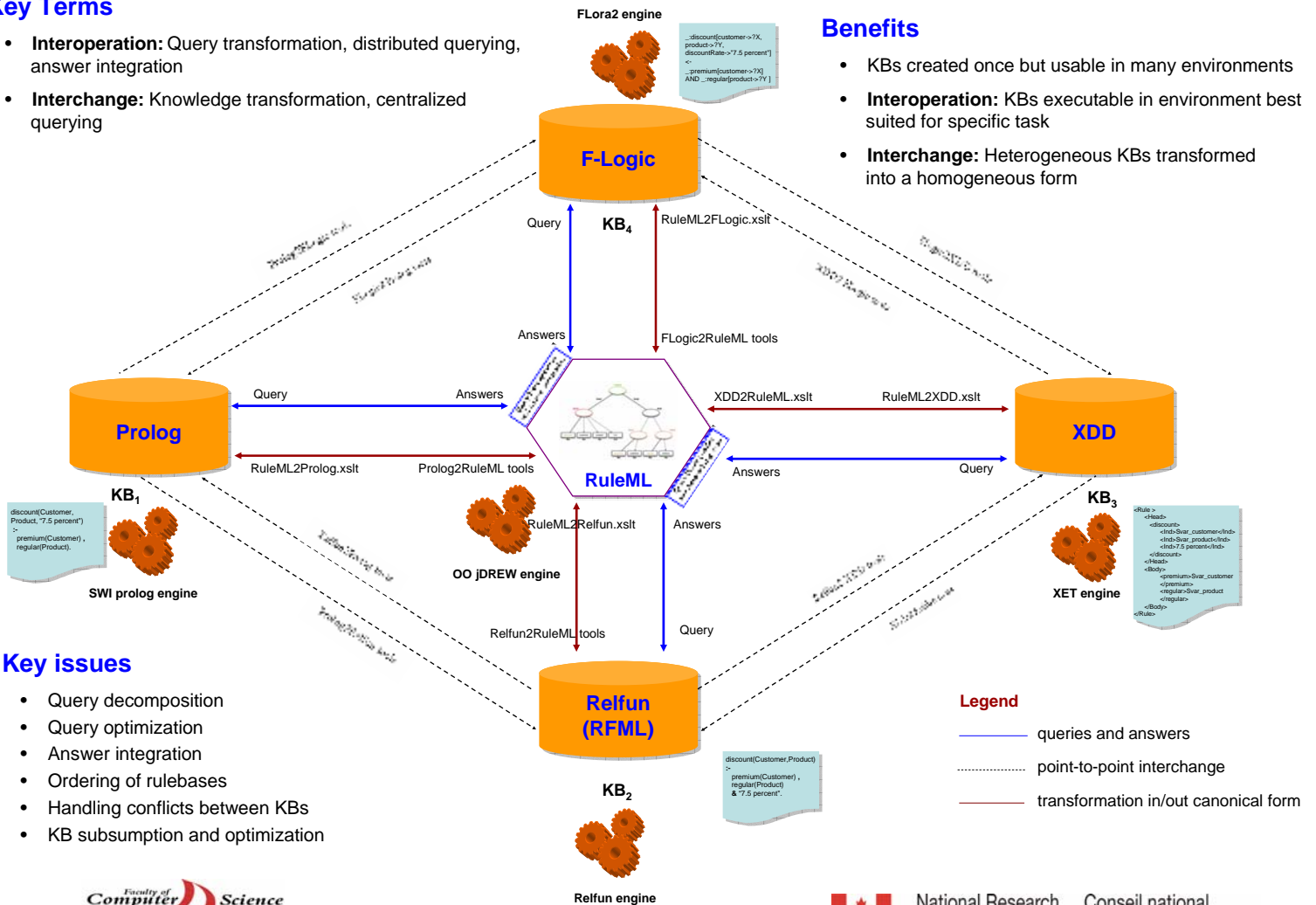
- **Interoperation:** Query transformation, distributed querying, answer integration
- **Interchange:** Knowledge transformation, centralized querying

Our approach

- From point-to-point to canonical form
- Total or partial information preserving or lossy
- Uses transformation rules
- Transformation rules themselves are interchangeable

Benefits

- KBs created once but usable in many environments
- **Interoperation:** KBs executable in environment best suited for specific task
- **Interchange:** Heterogeneous KBs transformed into a homogeneous form



Key issues

- Query decomposition
- Query optimization
- Answer integration
- Ordering of rulebases
- Handling conflicts between KBs
- KB subsumption and optimization