CollaBaWue

Semantic Integration of Business Component Specifications with RDFS

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Agenda

- Introduction
- Motivation
- Scenarios for component repositories
- Business component specification
- Semantic integration
- Preliminary results

Introduction

- The *CollaBaWue* project
  - Collaborative, component-based software development in the financial service industry
  - Addresses fundamental issues of software reuse on multiple levels:
    - Component description, model-driven development, collaboration, software ecosystem, legal affairs.
- *Semantic-based software development*
  - Improve documentation, retrieval and integration in component-based development through ontologies and semantic technologies
  - Involves using SWT for component specification

Motivation

- Has CBSE failed to live up to its promises?
- Current challenges:
  - A leap forward in software reuse both within and among enterprises is required
  - Finding new ways for making software components marketable
  - Develop representations for “semantically-rich” component specifications
- How to build a generic repository for managing business component specifications and supporting CBD-related activities?

Motivation
Scenarios
Specification
Integration

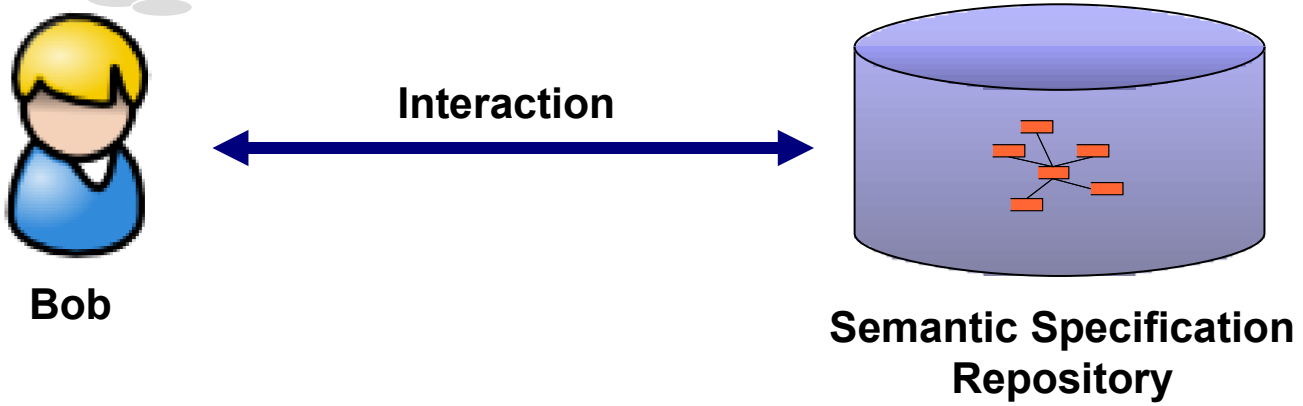
Scenarios for Component Repositories

Component Reuse

Motivation
Scenarios
Specification
Integration

Are there software components that can be applied to our problem?

Do we need to create a mapping to assemble these components?



Scenarios for Component Repositories

Knowledge Reuse

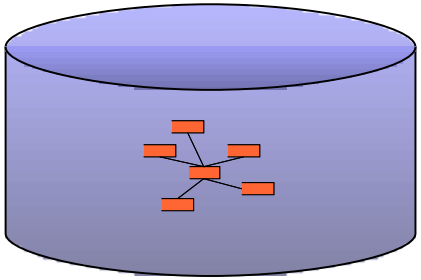
What are the dependencies of this component?

Which parts are affected by this use case?

Is it approved to deliver our solution as a package?

Alice

Interaction

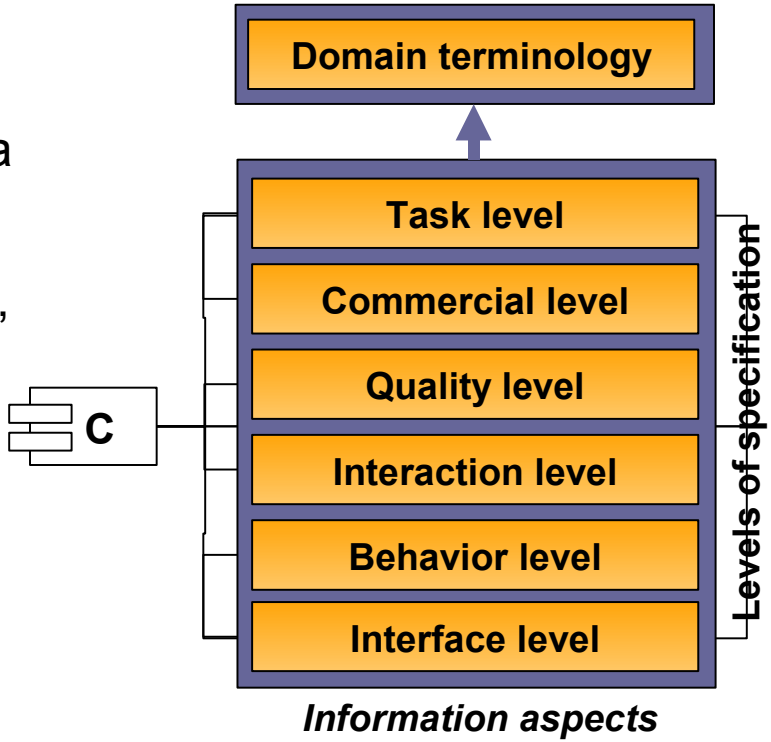


Semantic Specification Repository

Specification of Business Components

General overview

- A *Business Component* is a unit of composition with contractually defined interfaces, which implements a business concept.
- It is comprised of several software (description) artifacts, which may cover a variety of information aspects.
- Methodologies:
  - KobrA, UML Components, …
- Standard notations:
  - UML diagrams, OCL
  - WSDL, OWL-S



Specification of Business Components

Reuse Support through Repositories

- Main issues
  - A single notation does not cover all specification aspects
  - A specification aspect can be represented by more than one format
  - A component does not necessarily need to be exhaustively specified to be qualified for reuse
- Requirements
  - Extensible to new artifact types and formats
  - Enable both component and knowledge reuse
  - Continuous development life cycle support

Specification of Business Components

Role of Semantic Web Technologies

- Integration of heterogeneous resources
- Specification of component metadata
- Referencing of domain-specific concepts

Motivation
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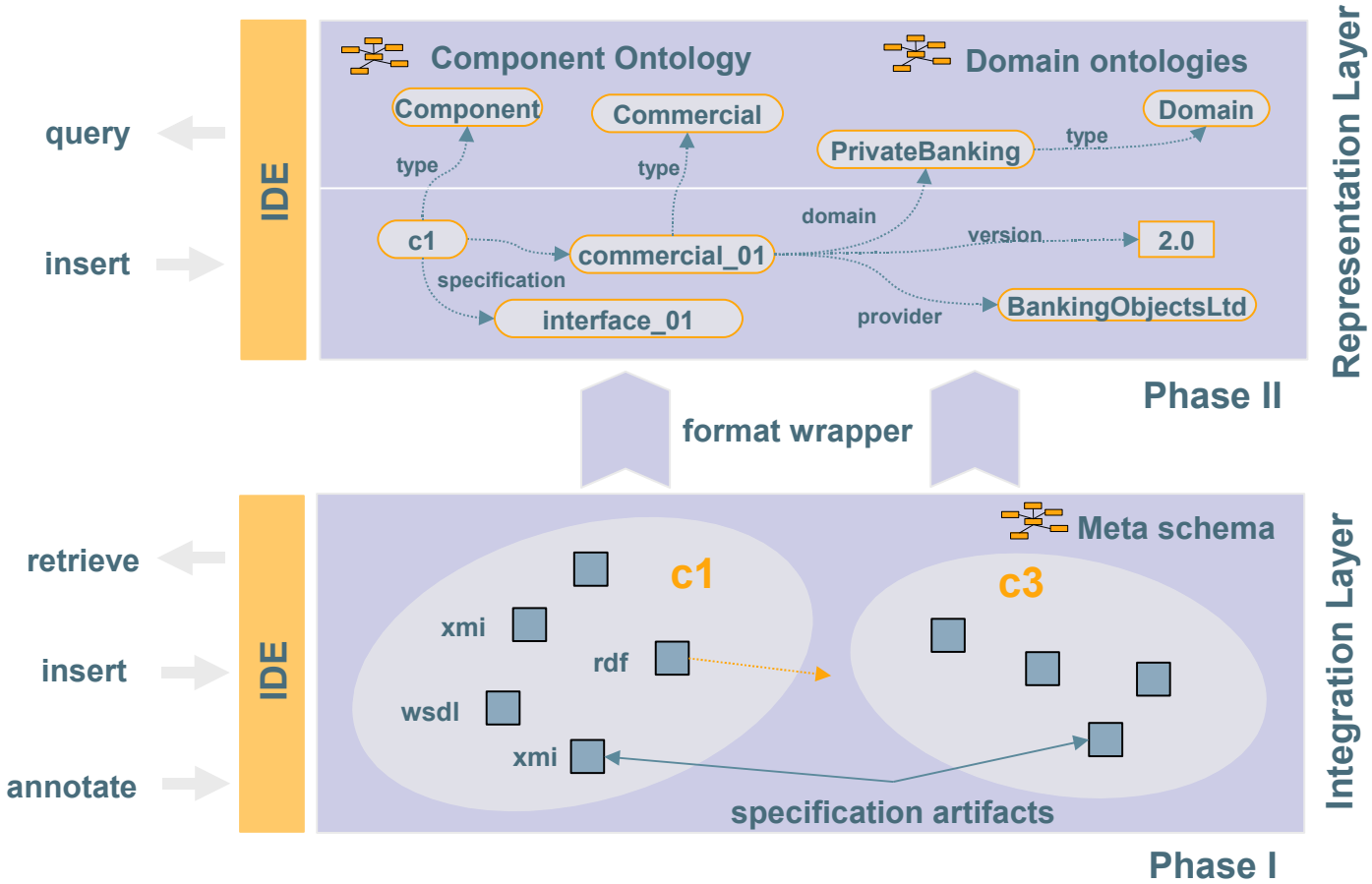
Semantic Integration of Specifications



Preliminary Results

- Semantic Web Technology serves both objectives machine-readability and understandability by the repository users
- Commonly used notations can be maintained
- Initial value is relatively easy to achieve by the integration of specification artifacts
- Standardization efforts for component specification are still essential

Thank You for Your Attention

- For more information on the CollaBaWue project visit: www.collabawue.de
- Contact:
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