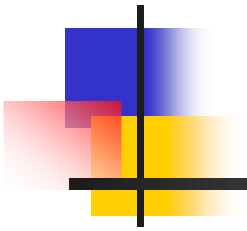

ECIMF Toolkit

Andrzej Bialecki

ECIMF Project Chair

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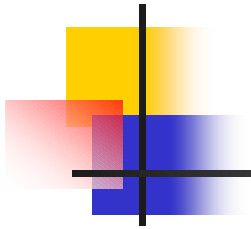
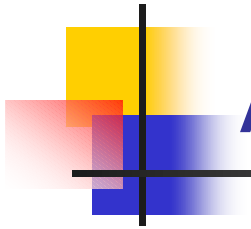
KTH-DSV meeting, 2002.11.14



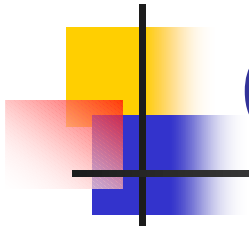
Requirements

- Support ECIMF methodology
  - Business Context equivalence
  - Business Process mediation
  - Semantic translation
  - Syntax mapping
- Open Source Software
  - Suitable for extension and inclusion in commercial applications
- Based on standards where possible
- Platform-independent (or highly portable)



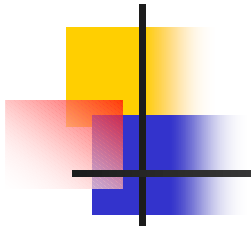
Additional requirements

- Ability to support standard models and definitions used in e-commerce
  - EDIFACT directories
  - DTD or XML Schema-based definitions
  - UML/XMI models
- Extensible
  - Through add-on modules
  - Through scripting languages
- Clear strategy from the mapping model to runtime implementation



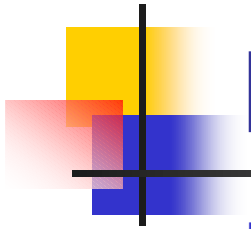
Current implementation status

- Just the Semantic Translation module
- BUT highly extensible framework
- Based on a sophisticated knowledge-management framework (Protégé-2000)
  - Implemented in Java (min. JDK 1.2.2)
- Supports semantic translation through labeling (tagging)
- Fully scriptable in many popular languages
- All source code available under free and business-friendly licenses
  - Mozilla, BSD, Apache and Protégé (=Mozilla)
  - No GPL code, at most LGPL will be allowed if indispensable



Information model

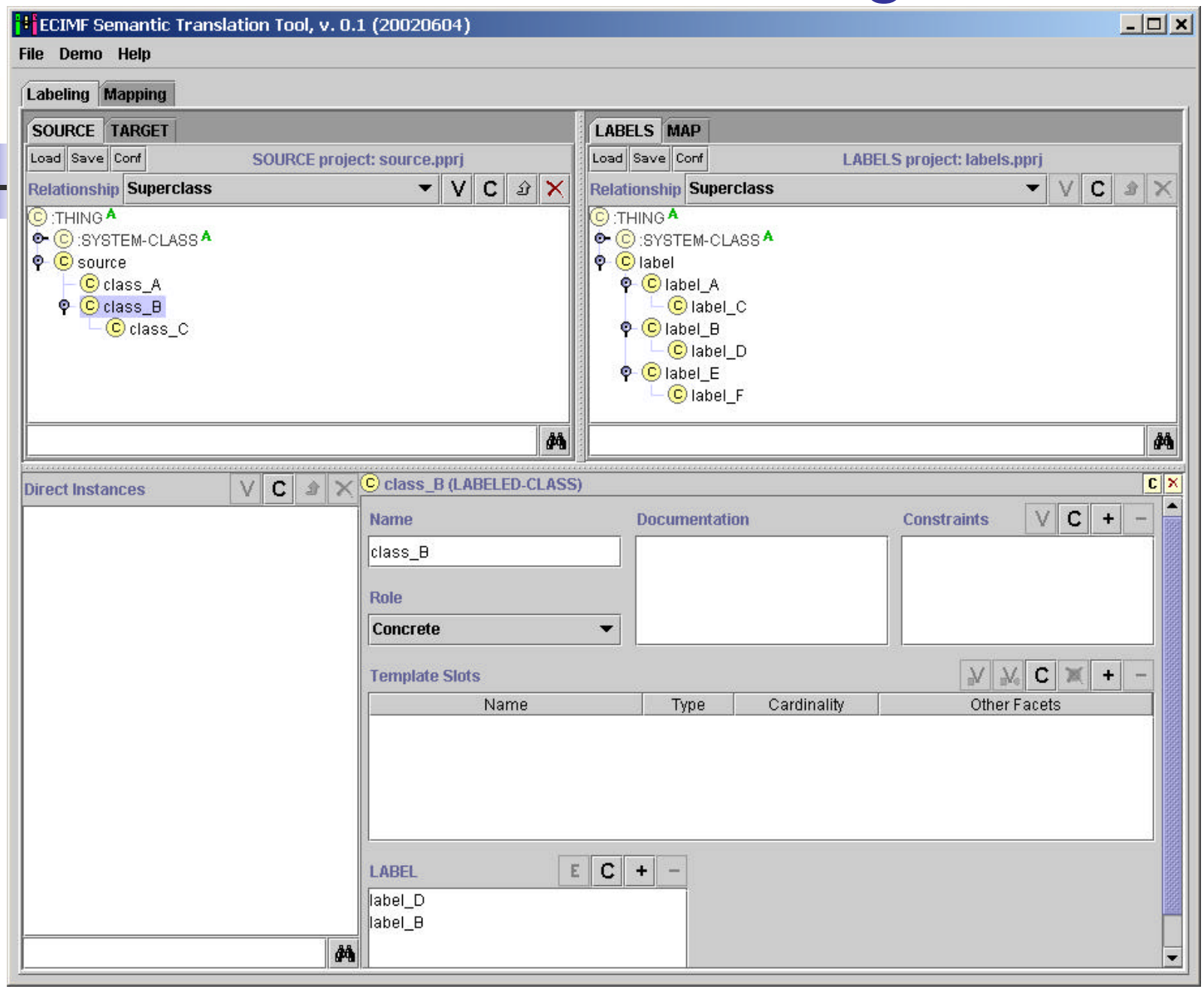
- Domain models are contained in frame-based knowledge bases
  - SOURCE – source model
  - TARGET – target model
  - LABELS – labels model
  - MAP – mapping model
- Concepts from LABELS model are used for SOURCE and TARGET concept tagging
- MAP contains formulas for translating between concepts from SOURCE and TARGET



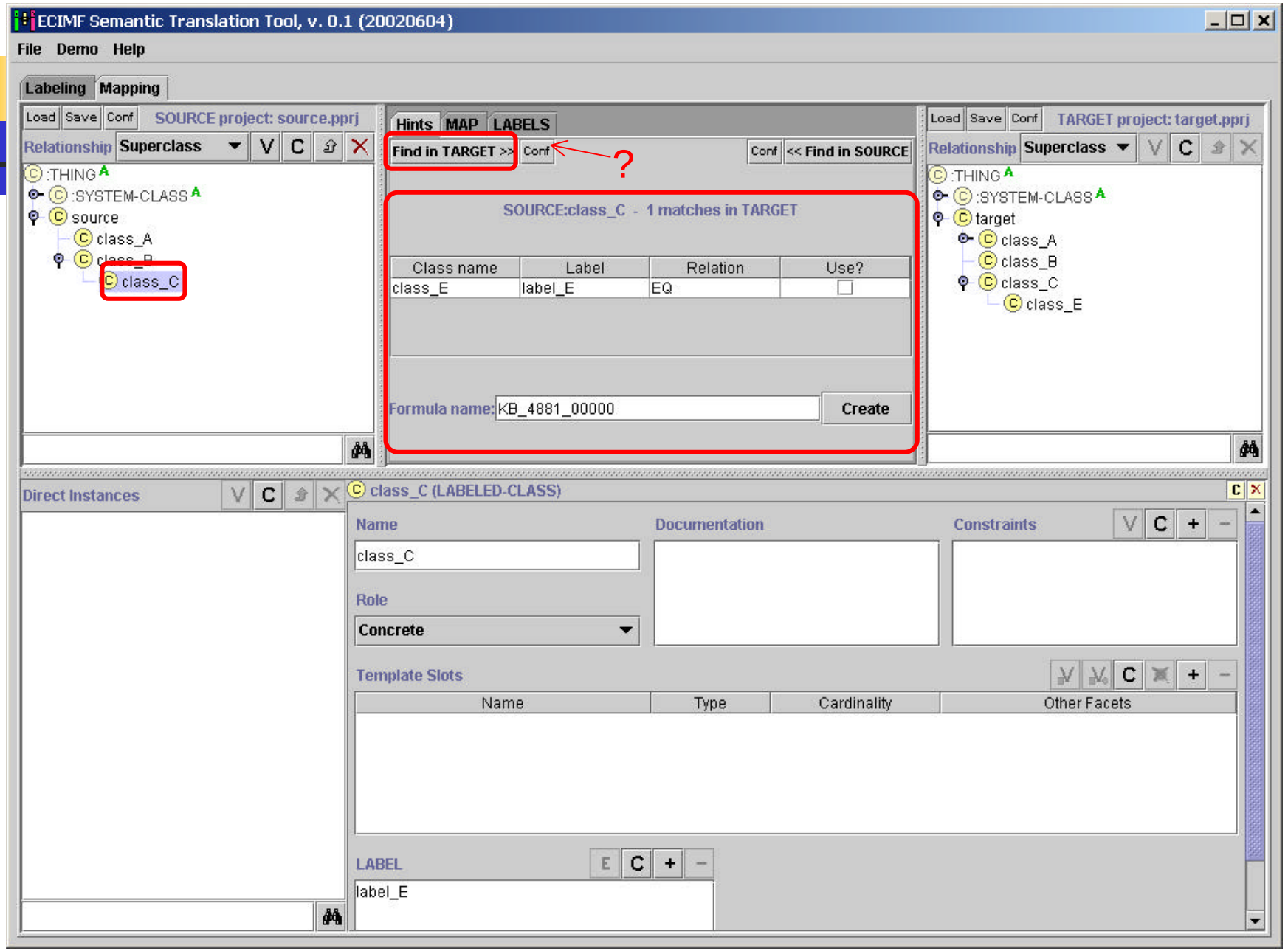
Mapping formulas

- The tool supplies hints for finding corresponding concepts in SOURCE and TARGET
  - Hints are prepared based on several customizable algorithms
- The tool automatically:
  - Sets the execution context (“stack frame”) of directly related concepts in all KBs
  - Generates skeleton of a translating formula
- User fine-tunes the formula using his favorite scripting language, and accessing external resources if needed
- A MAP::Formula instance is created, which defines:
  - The context
  - The translation formula (“scriptlet”)
  - The direction of translation

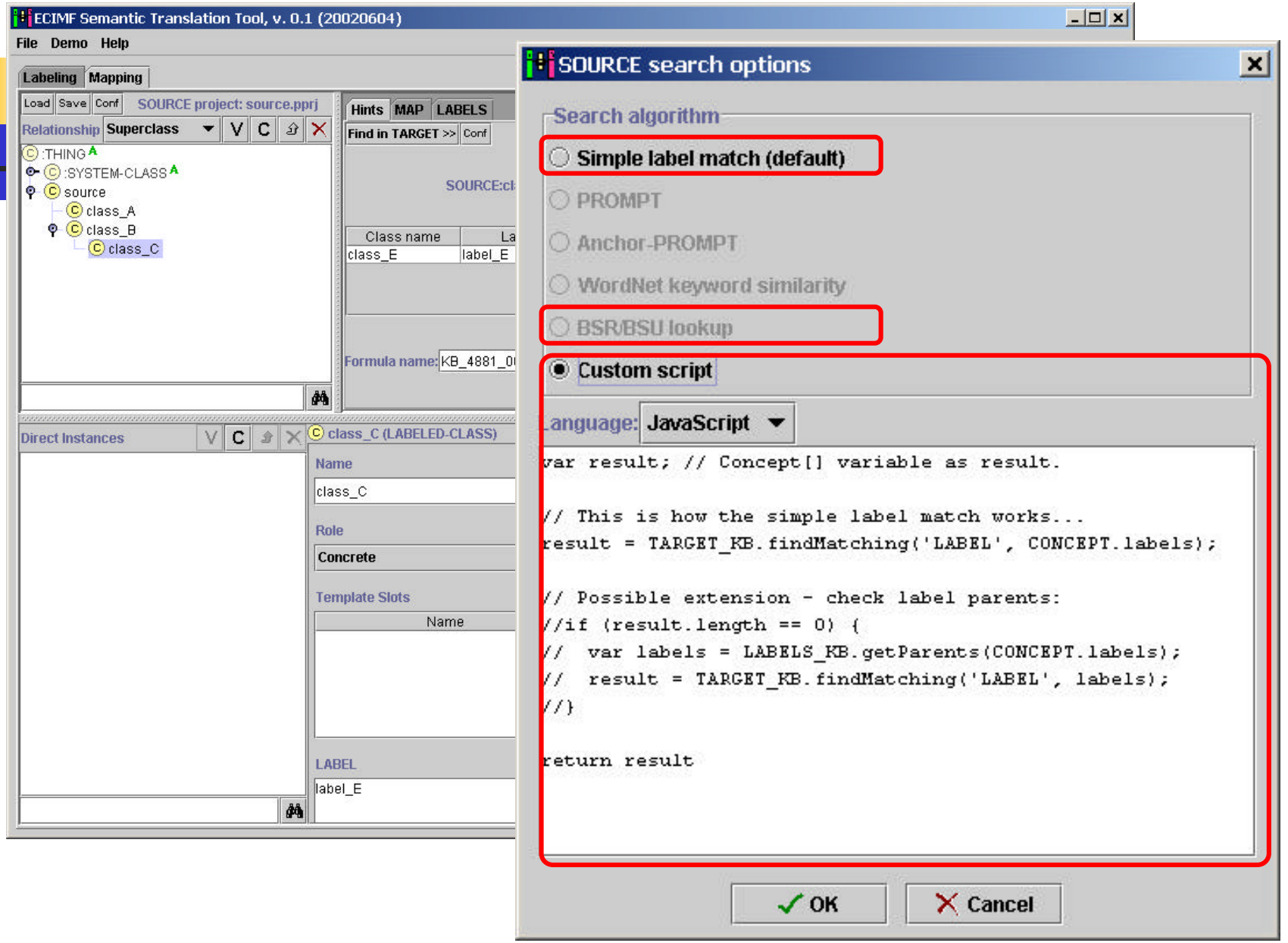
Demonstration – labeling



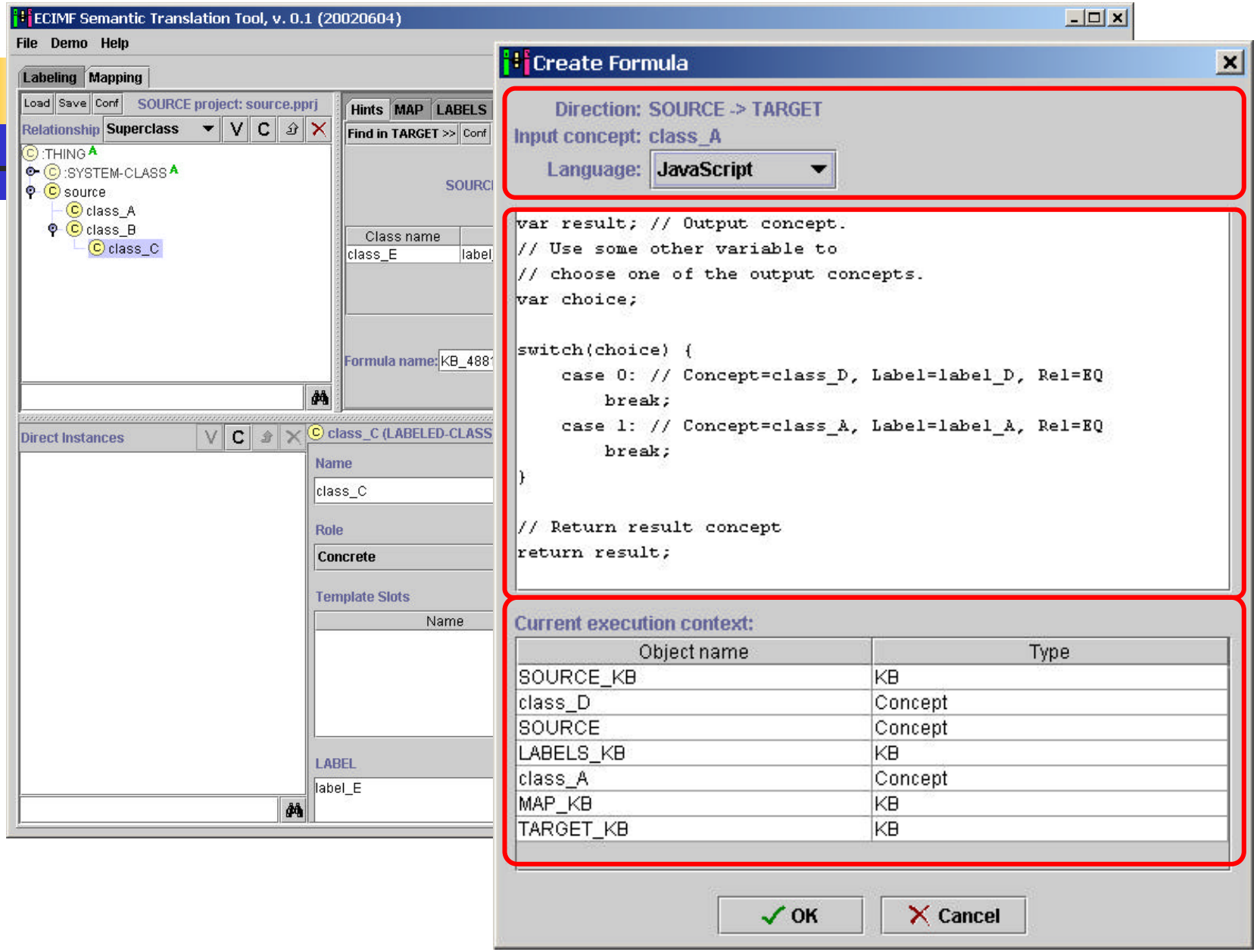
Demo – mapping



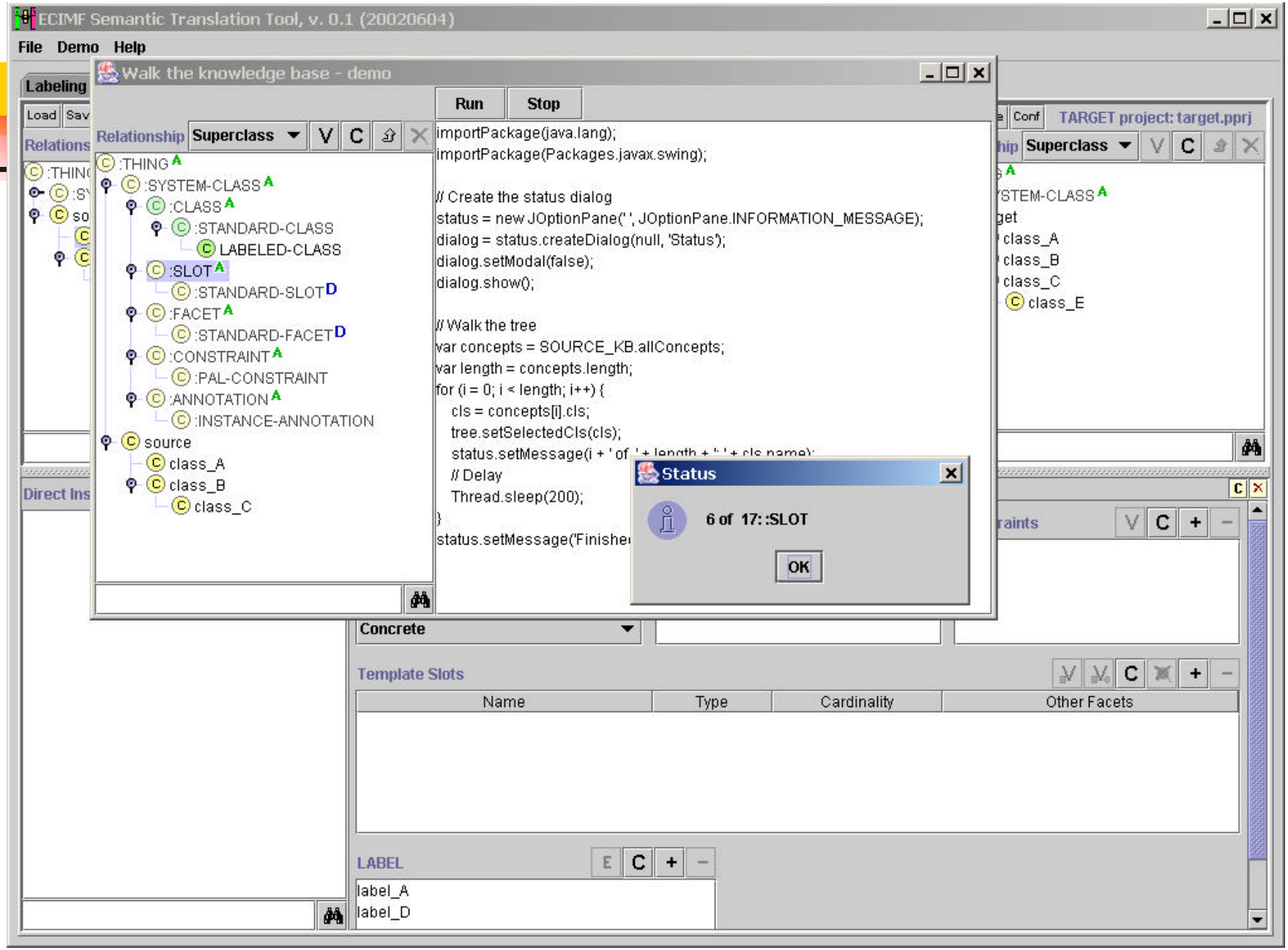
Demo – search script



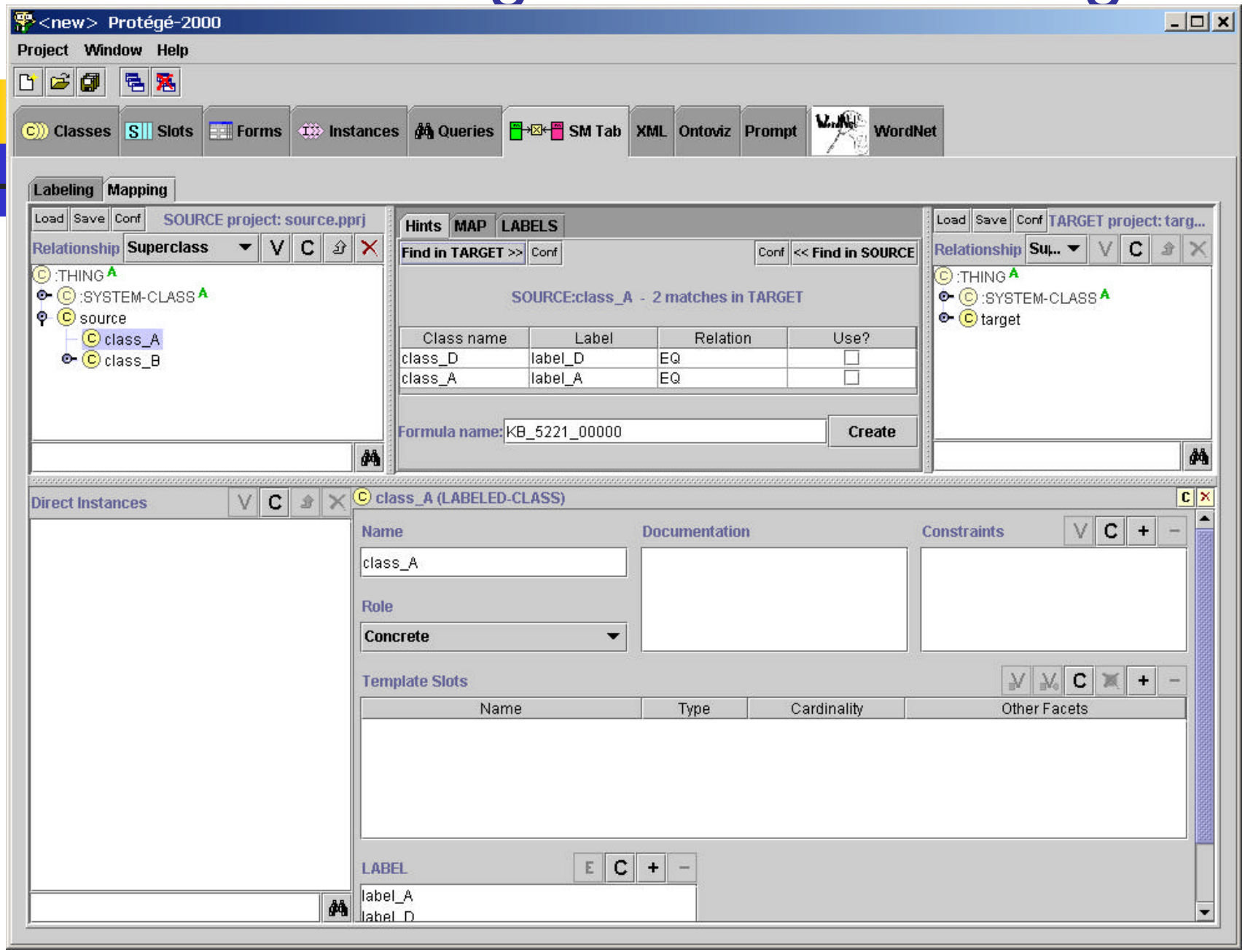
Demo – formula editor

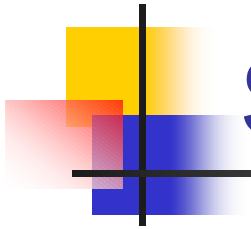


Demo – “Walk the KB”



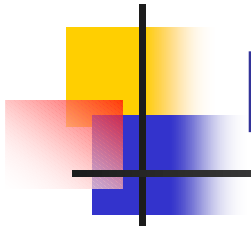
Demo – integrated with Protégé





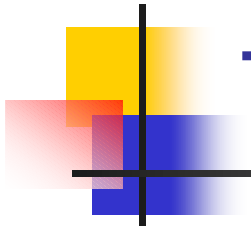
Summary – current status

- Implemented an extensible and scriptable framework
  - Supports 6 most popular scripting languages (JavaScript, VBScript, JScript, Python, Perl, Tcl)
  - Any model and data manipulations are possible, but most of them are now rather inconvenient
- Imported parts of EDIFACT D.01c into Protégé format
- Created parts of ebXML ontology as candidate labels (needs updating with ebTWG!)
- DTD and XSD import module in design phase



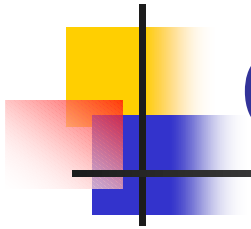
Next steps

- More import/export and resource modules
  - **BSR** – as an online service? Not yet available...
  - Excel ☹ - alas, quite popular
  - ebXML-RR, UBL, others ...
- Support for more mapping strategies (e.g. Anchor-PROMPT, WordNet...), and relationship qualifiers (from MULECO draft?)
- Generation of runtime translators
- Support for other parts of ECIMF framework



Tool availability

- The tool is available now for testing
  - Self-installing platform-independent package, containing full sources
  - At http://www.ecimf.org
- The distribution package contains example projects
- Unfortunately, no further documentation exists now ...
  - But a short README can be prepared soon... ☺



Questions?

- ECIMF project
  - http://www.ecimf.org
- CEN/ISSS WS-EC
  - http://www.cenorm.be/isss
- Author:
  - Andrzej Bialecki <ab@getopt.org>