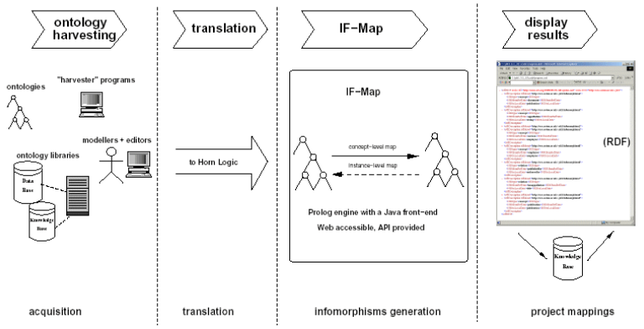
Advanced Knowledge Technologies

The next generation of knowledge lifecycle technologies

Description:

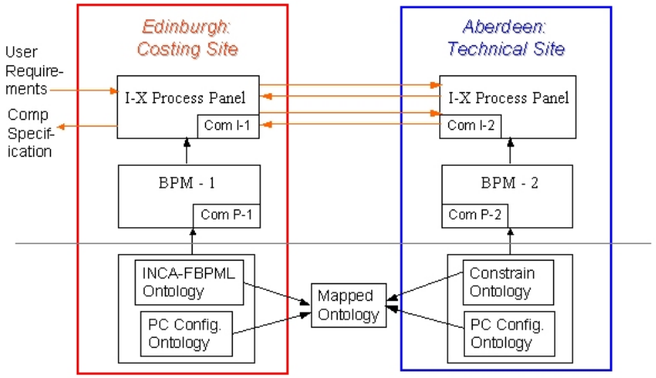
- **Multi-million pound 6 year collaboration between 6 university groups:**
  - **Aberdeen: cooperative KA & knowledge refinement;**
  - **Edinburgh: lifecycles & ontologies;**
  - **Open Univ: internet-based services & knowledge modelling components;**
  - **Sheffield: text analysis & information extraction;**
  - **Southampton: two groups with skills in multimedia, ontologies, agents, knowledge acquisition, etc.**
- **Aims to identify or invent the next generation of technologies for capture, modelling, publishing, reuse and management of knowledge.**



IF-Map Architecture

Further work:

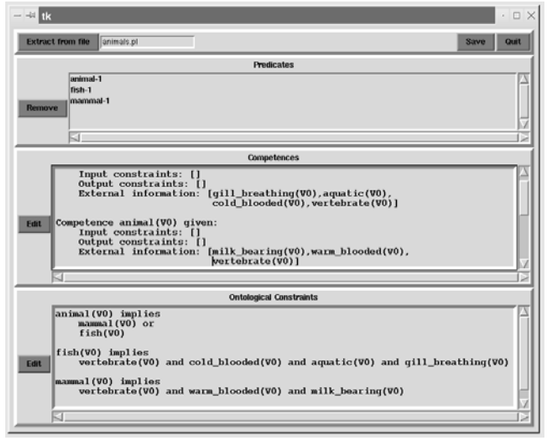
- **The ultimate goal of F-Life is to permit assembly of distributed software components over the Semantic Web, to perform complex transformations on large repositories of knowledge.**
- **The aim of KRAFT-IX is to provide a distributed virtual knowledge-based (and agent-based) workflow system.**
- **The overall aim of AKT is to provide seamless, intelligent, personalised access to and reasoning across the Web and other knowledge sources.**



KRAFT-IX Ontology based Collaboration support

Results:

- **IF-Map: uses Information Flow theory to merge two ontologies, based on a reference ontology.**
- **F-Life life-cycle editor, life-cycle interpreter and property checker: uses a formal life cycle calculus to describe property alterations during transformations.**
- **ExtrAKT Ontology Constraint Extraction Tool: finds ontology constraints in existing declarative knowledge bases & extracts them.**
- **KRAFT-IX Collaborative Support tool: integrates open-architecture workflow system with remote constraint solving system.**



The ExtrAKT Ontology Constraint Extraction Tool

Universities of Aberdeen, Edinburgh, Sheffield, Southampton & OU
Funded by EPSRC as an Interdisciplinary Research Collaboration
http://www.aiai.ed.ac.uk/project/akt/