



Benchmarking Semantic Web Technology



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Thesis Overview

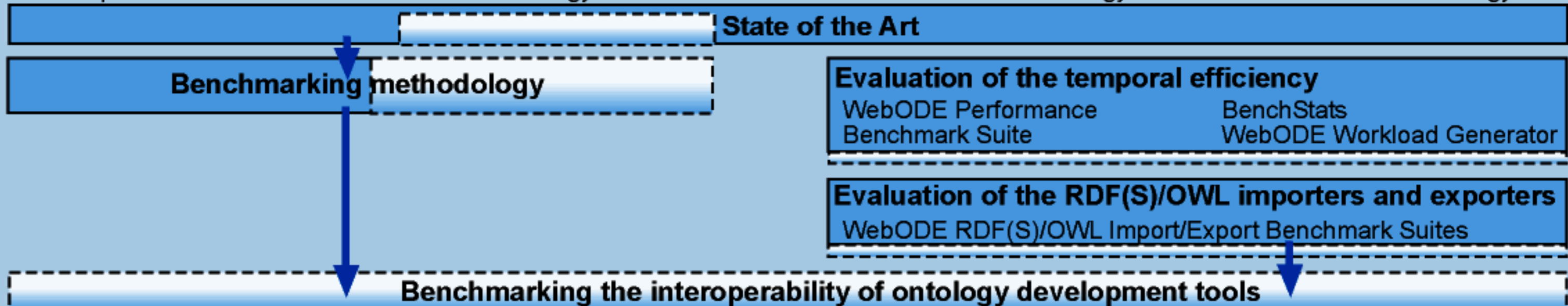
Methodological goals

Benchmarking methodology composed of tasks Techniques for the tasks of the methodology

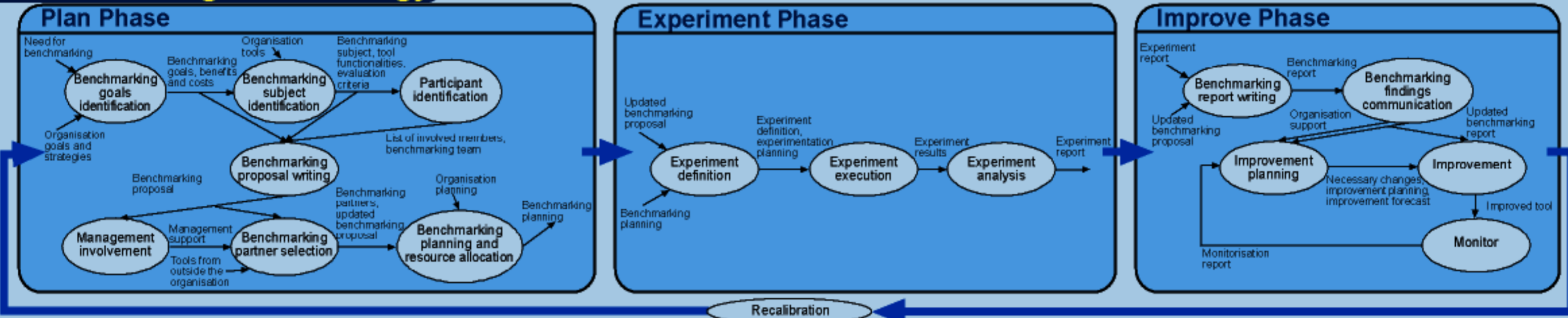
Technological goals

Benchmark suites for evaluating Semantic Web technology Tools for evaluating Semantic Web technology

Done
Ongoing



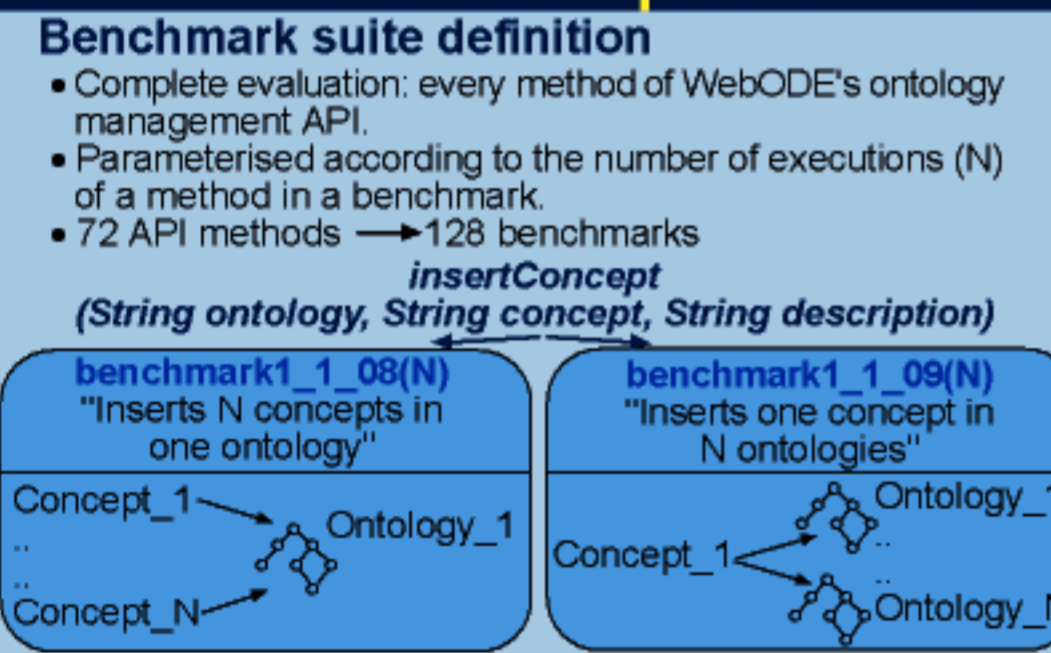
Benchmarking methodology



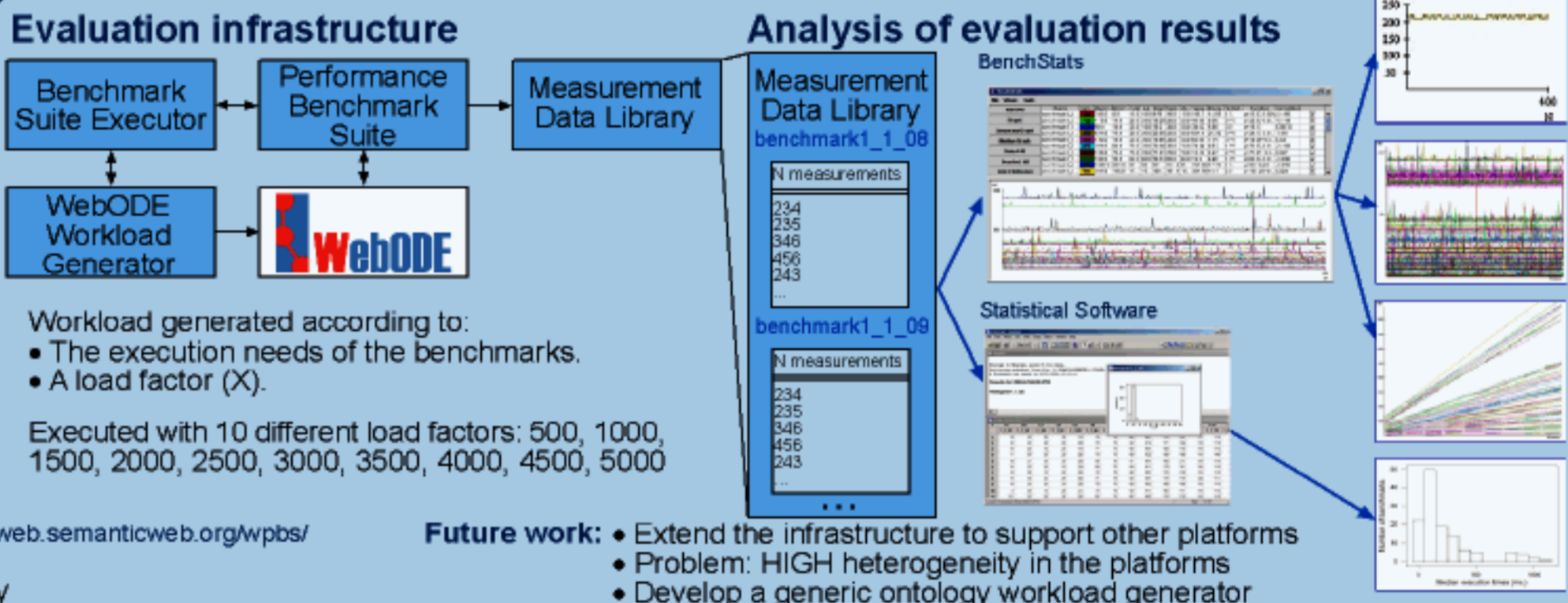
Results: The proposed methodology:
• Is very general • Is loosely related to the Semantic Web
• Hasn't been tested • Doesn't include techniques for the tasks

Future work:
• Apply the methodology to a concrete case (in Knowledge Web)
• Include the techniques for performing the tasks

Evaluation of the temporal efficiency

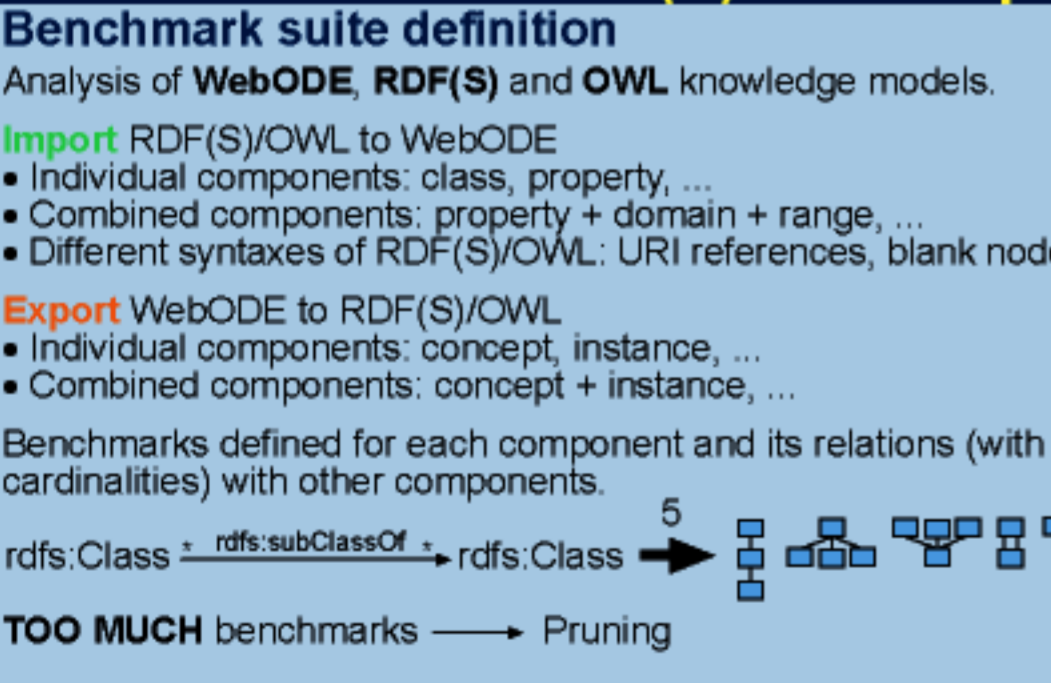


Results: • WebODE Performance Benchmark Suite <http://knowledgeweb.semanticweb.org/wpbs/>
• WebODE Workload Generator
• Precise knowledge about WebODE's temporal efficiency

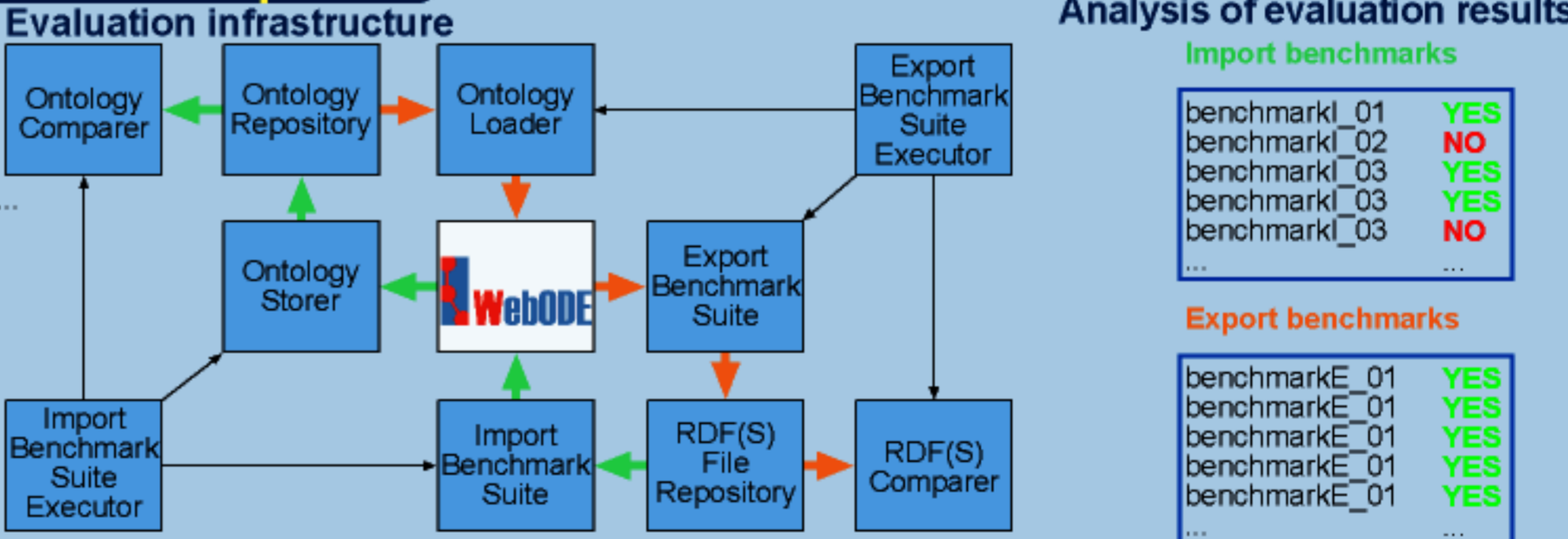


Future work: • Extend the infrastructure to support other platforms
• Problem: HIGH heterogeneity in the platforms
• Develop a generic ontology workload generator

Evaluation of the RDF(S)/OWL importers and exporters



Results: • Four benchmark suites defined



Future work: • Correct all the problems in the importers.
• Automate the analysis of the results.

Benchmarking the interoperability of ontology development tools

Motivation

The great diversity of languages and tools originates two problems:

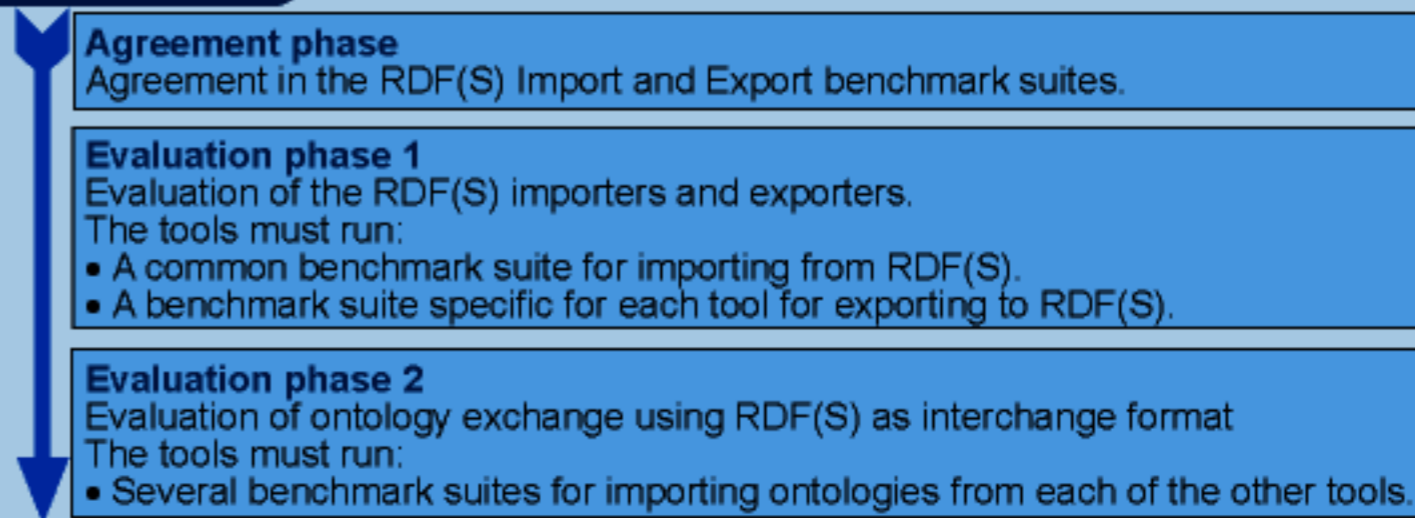
- The **translation** problem:
 - How can we translate an ontology between two different languages without losing knowledge?
- The **interoperability** problem:
 - How can two tools interchange ontologies or parts of them without losing knowledge?
 - How can a tool use ontologies or parts of them from other tools?

In the case of interoperability using an interchange language, the interoperability is not guaranteed with the existence of importers and exporters from the tools to the language.

Interoperability using an interchange language depends on the correct working of the translators...
... and these translators **DON'T WORK** properly.

Benchmarking goals

- To improve the interoperability of ontology development tools using RDF(S) for ontology exchange.
- To identify the subset of the RDF(S) elements that ontology development tools can use to interoperate.



The evaluation infrastructure and the benchmark suites will be similar to those of evaluating the RDF(S) importers and exporters.

Further details and information on participating:
http://knowledgeweb.semanticweb.org/benchmarking_interoperability/