

# HTN Planning for the Web Service Composition Using SHOP2

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This paper is about using SHOP2 HTN planning system to plan an execution path of web services with the OWL-S Web Service descriptions. The correctness of translations provided is proven using Golog (a high-level logic programming language based on situation calculus). These translations make several assumptions and have some limitations as a result.

## **Assumptions**

- Process can either have effects or outputs, but not both.
- SHOP2 does not handle concurrency  $\Rightarrow$  OWL-S's **Split** and **Split+Join** controls can not be present in the plan.
- Preconditions for all atomic processes have been satisfied at time of execution.

The third assumptions make the system incapable of working with dynamic worlds, if there is a physical affect that happen during the execution, there is no way to check sensors. Future work left would be to create a system that could continuously monitor effects and