

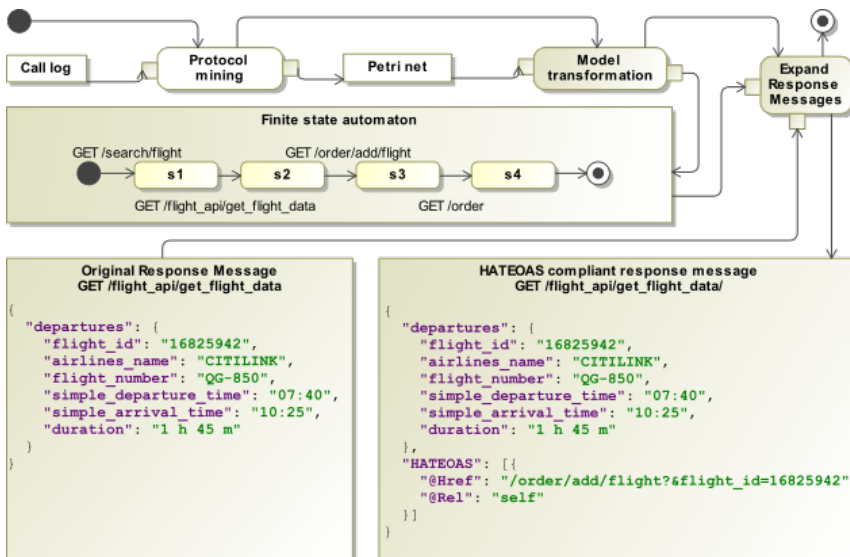
Bachelor thesis

Adding Hypermedia as the Engine of Application State to RESTful Web Services

s-lab – Software Quality Lab

Motivation

The REST (Representational State Transfer) architectural style includes the principle of *Hypermedia as the Engine of Application State (HATEOAS)*. Response messages of HATEOAS compliant web services contain all possible valid states the web service can take in a next step. Thus, such web service represent a finite-state automaton. Clients that use the web service, only need to know its initial states. Ideally, the clients do not need to be adapted in case this automaton changes afterwards. Many of today's web services that claim to be RESTful do not consider HATEOAS. Such web services are not fully compliant with REST.



Task

The task of the bachelor's thesis is to support developers in making their RESTful web services HATEOAS compliant. This is to be achieved by using an existing technique that mines behavioral models (petri nets or BPMN models) from call logs. A web service's states and transitions can be represented by such behavioral models. These models can be used to determine all

next possible states of a web service. The response messages of non HATEOAS compliant web service shall be automatically expanded by the information about the next valid states. Hence, this approach would help to evolve RESTful web services.

Literature

Liskin et al.: Teaching old services new tricks: adding HATEOAS support as an afterthought

Assigned Student

Open

Scientific Supervision

Prof. Dr. G. Engels

Contact person

s-lab – Software Quality Lab
Universität Paderborn
Simon Schwichtenberg
Room: ZM1.03-09
Tel: +49 (0) 5251 / 5465-217
Email: sschwichtenberg@s-lab.upb.de