Remembering performance – a database-backed service for PEPA models

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1 Aim

By storing models analysed in the past, and known facts about them, we can speed up future analysis of similar systems, and build a library of well-understood components for future use.

2 What's the point?

Faster than just computing it?

Better than a local cache?

3 What it does

Arbitrary meta-data Relationships between processes; facts about any process; users can add new types of fact

Queries Allows automated retrieval and update of information using simple HTTP GET and POST requests.

4   Incomplete models

Keep free variables in the model definition, and store algebraic solutions where possible..

'Complete' models are then just instantiations of these, binding the the variables. But can inherit all the metadata of the parent model.

5 RCAT

Store known reversed processes and pairs that satisfy certain conditions and can automatically generating stationary product-form solutions.

6 Still to answer

Matching What is the best way to perform matching, depending on the situation you care about?

Nearby processes Might it be useful to know that a *similar* but different process has certain properties, that may have some bearing on your model of interest? When can we quantify how it affects the metrics of interest.

7 Next

Internal references Allowing for a component to be defined in terms of other components in the system in a semantically rich way.

Clusters Could a network of communicating databases offer more useful or timely results?

Questions?

`<http://logicwand.com/pepadb/>` or

`<http://www.doc.ic.ac.uk/~abkk97/pepadb/>`