A Simulation-Based Approach to Software Performance Modeling

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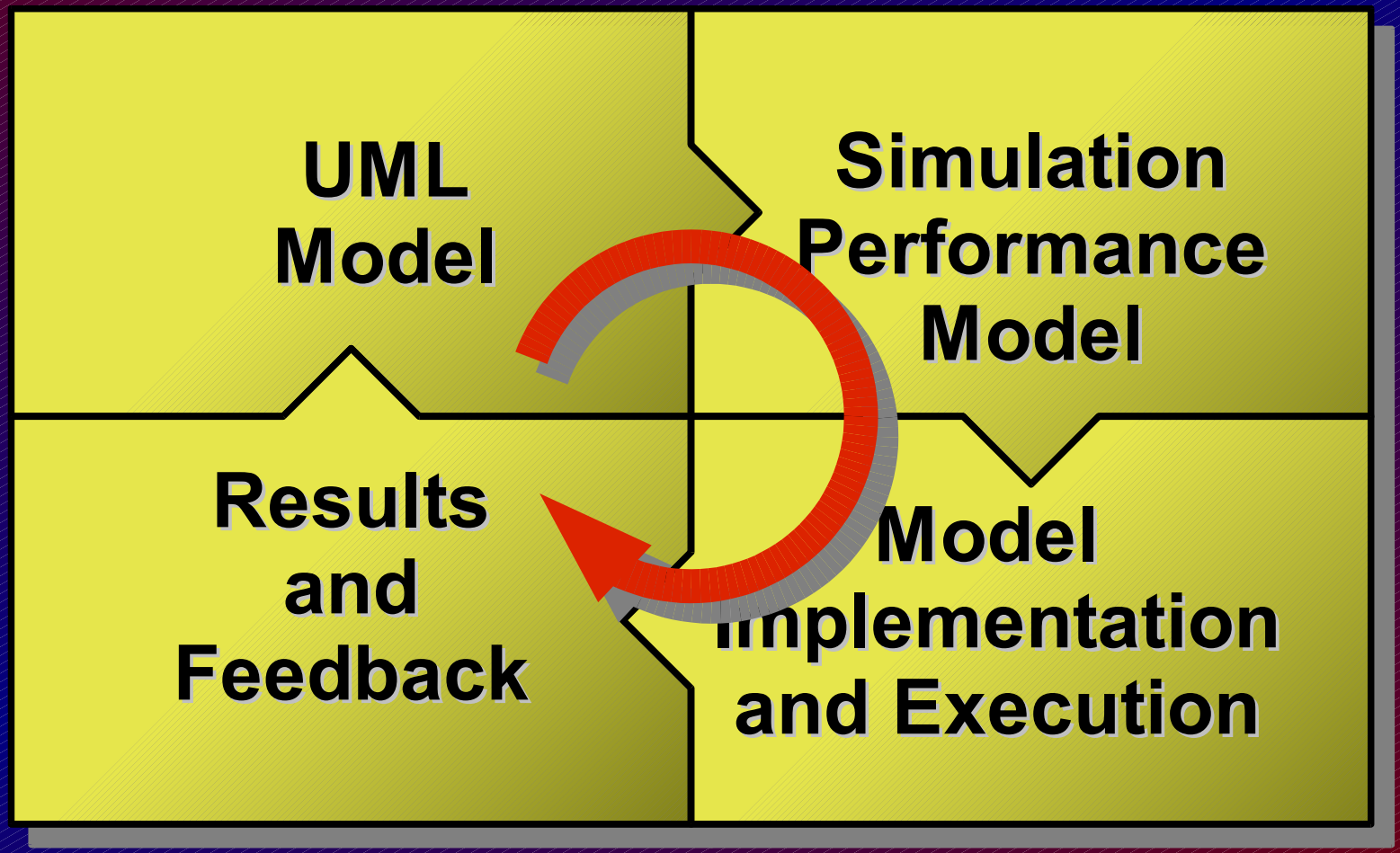
Performance Evaluation of SA

- Early identification of performance problems in Software Architectures is very useful
  - Costs of changing the design increases as the software development process proceeds
- Performances of SA can be evaluated with
  - Measurement-based approach (requires a running system)
  - Model-based approach (can be done at early stages of the software development process)

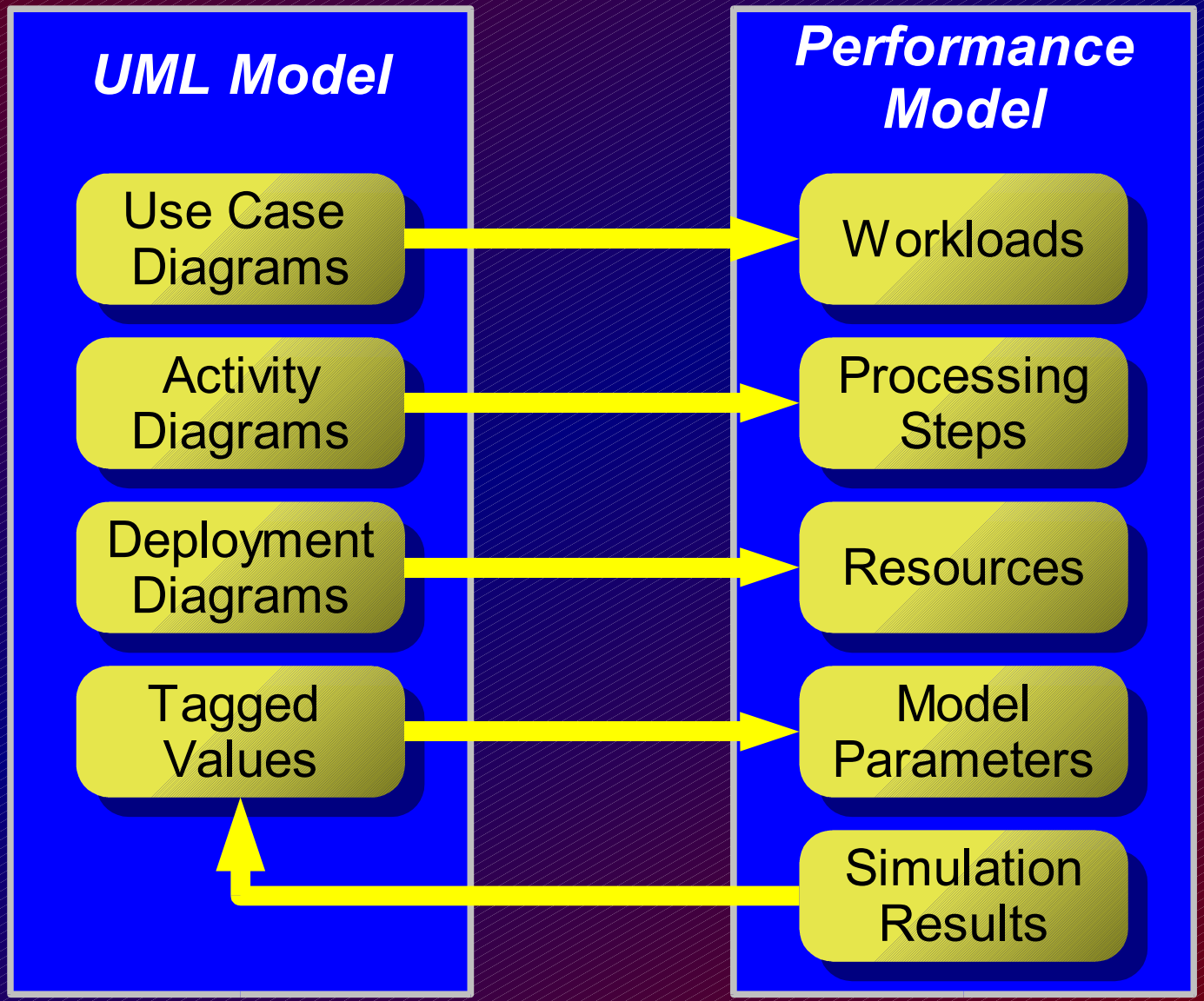
Model-based approach



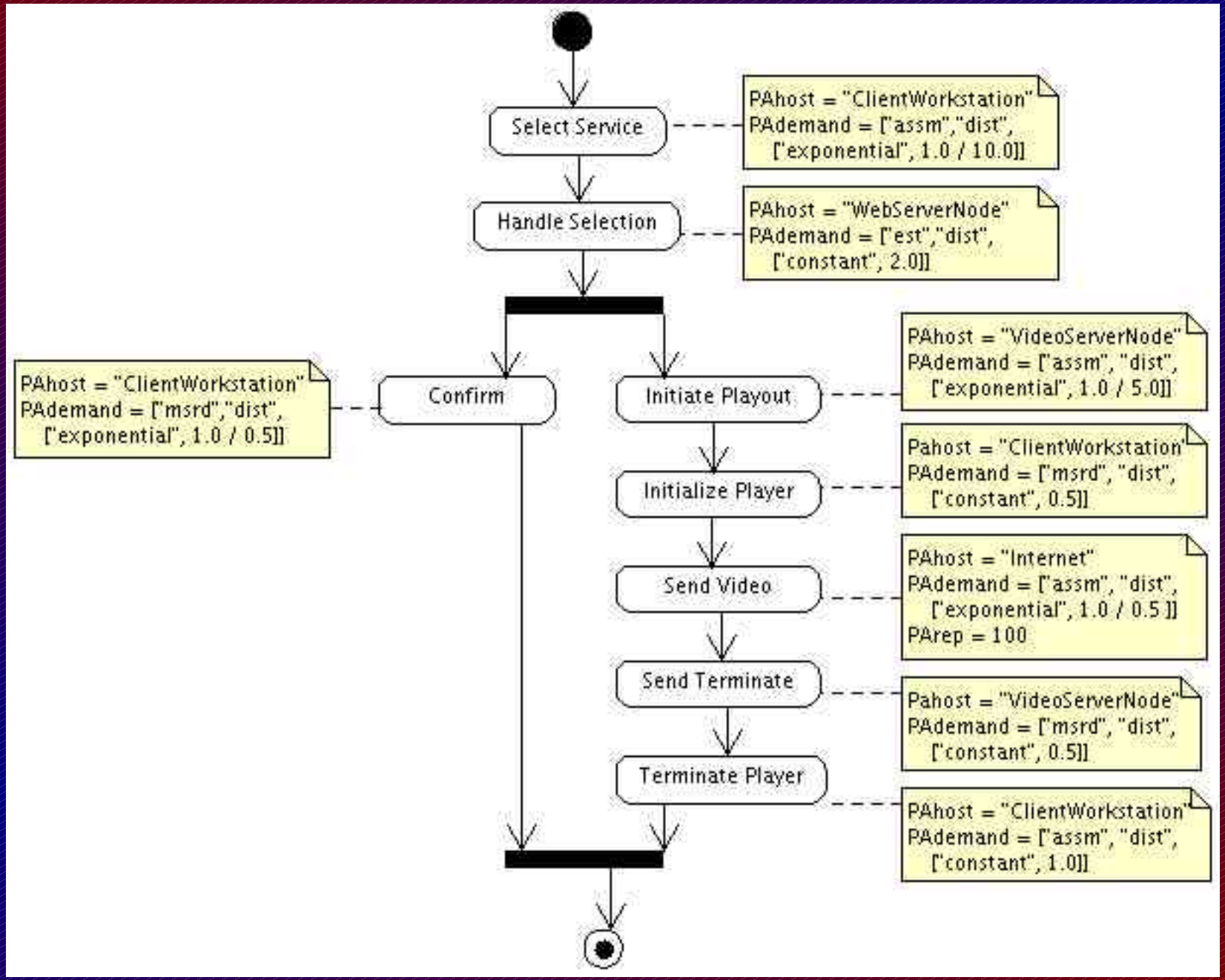
Simulation for Software Performance Evaluation

- Simulation not considered a solution technique for other performance models, but a performance model itself
- Advantages
  - Mapping between Software Model and Performance Model should be immediate
  - No constraints on the Software Model
  - Easy to report feedback into the Software Model

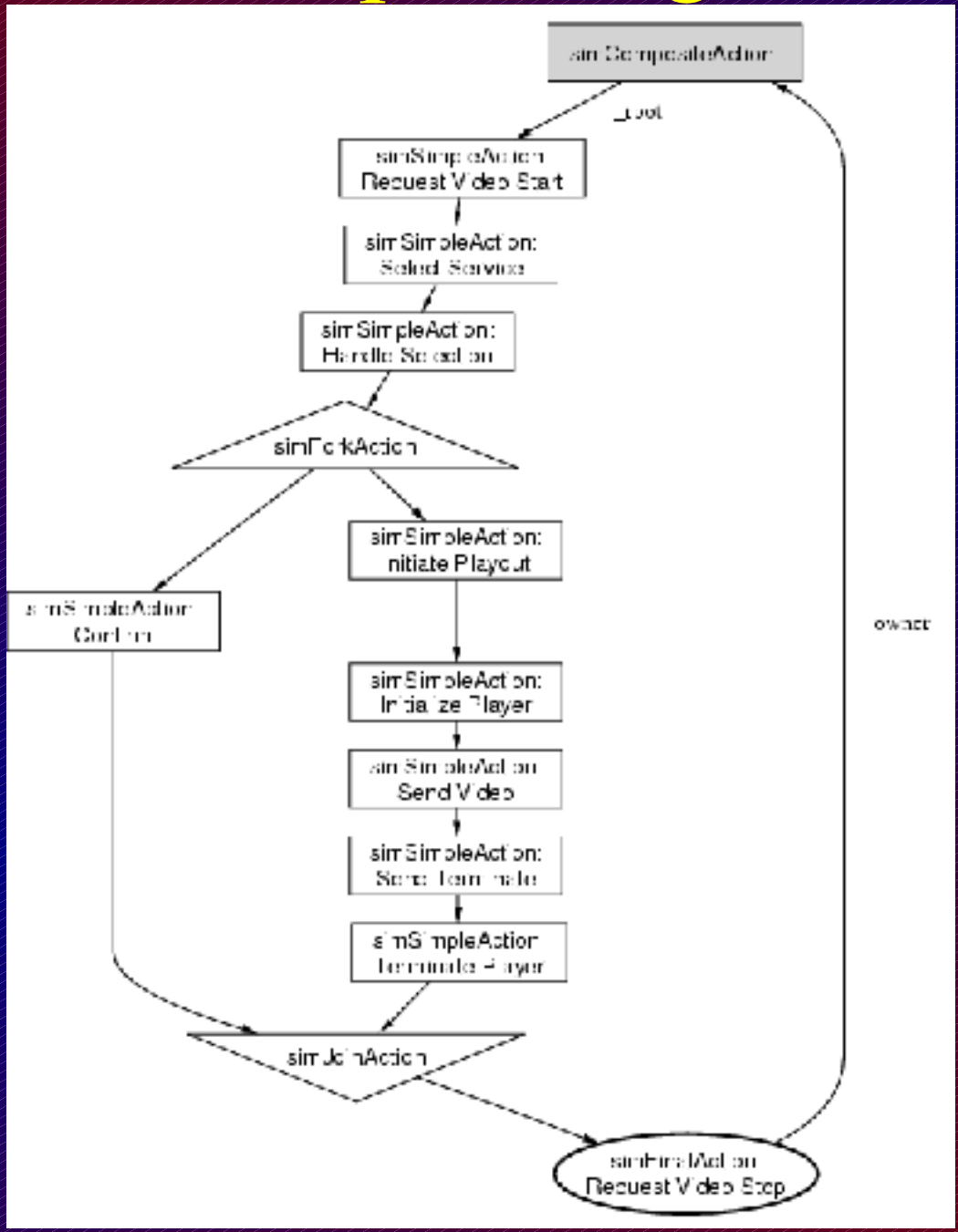
Proposed approach



Sample Annotated Activity Graph...



...And the corresponding simulation model



Additional informations on the poster

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