Model Checking in the Cloud

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Cloud Computing is a Reality!

- Much more than “parallelism” or “big storage”
  - Amazon AWS, Windows Azure, Google Cloud Platform, ...

- A new paradigm shaping the way hardware and software is designed
  - Shift to server-side computing
  - Faster application development through software-as-a-service framework

- Elasticity
  - Dynamically change hardware requirements
  - Pay for resource usage by the hour

- Scalability
  - Ware-house scale computers
  - Large storage, memory, and fast network connectivity

- Reliability
  - Fault-tolerant architectures that support disaster recovery
Modeling Checking in the Cloud

- How can model checking and formal technology benefit from this new paradigm?
  - Is this new paradigm suitable for model checking?
  - What are possible solutions beyond an “embarrassingly parallel” approach of running a single property per core?
  - Is there a specific subset of properties that might be more suitable to this form of analysis?

- What is needed from the research and engineering community to achieve adoption within the next 5 years?

- Would a drive to model checking in the cloud increase the industry’s adoption of formal technology?

- What issues need to be addressed for design houses to adopt this technology?

- Will the current EDA license model change to adapt to the new requirements?
Panelists

- Armin Biere, JKU
- Daryl Stewart, ARM
- Olivier Coudert, SiCAD
- Sven Beyer, OneSpin Solutions
- Vigyan Singhal, Oski Technology