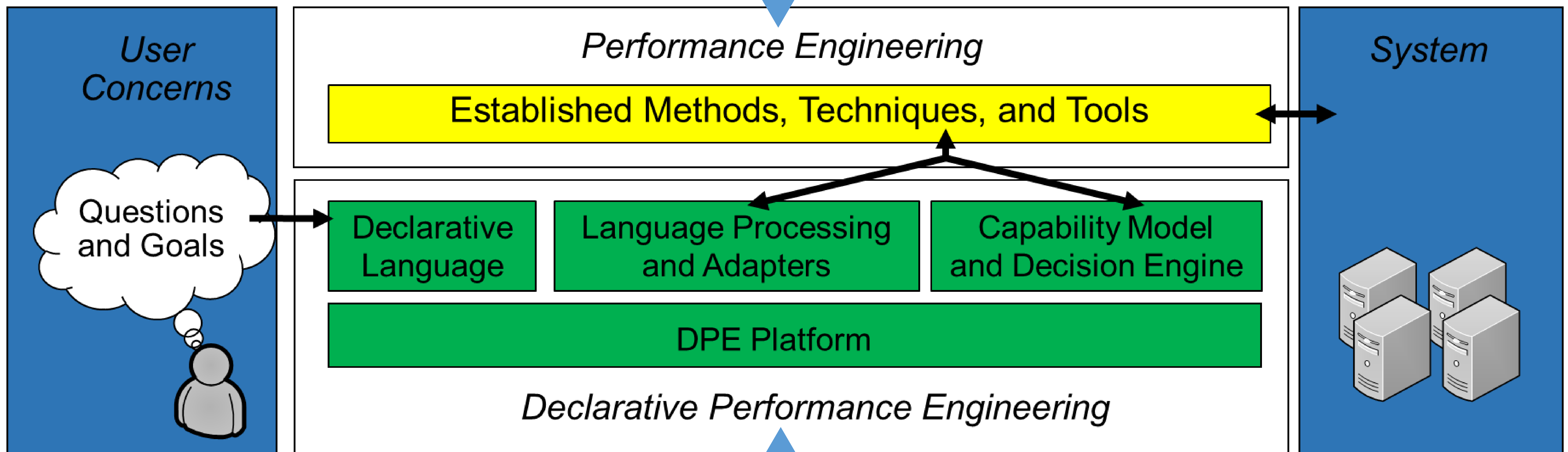
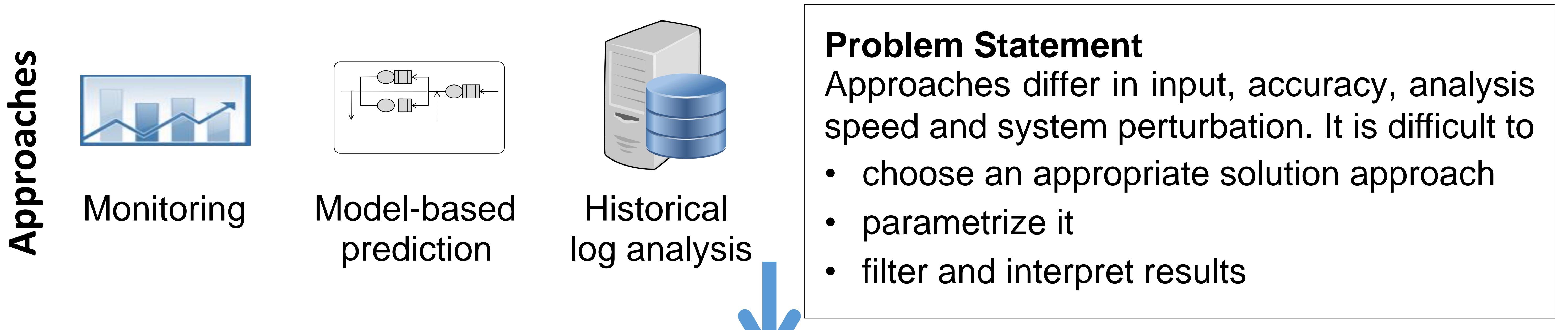


The Vision of Declarative Performance Engineering

Jürgen Walter, André van Hoorn, Heiko Koziol, Dušan Okanović and Samuel Kounev

Software Performance Engineering

...the entire collection of **software engineering activities and related analyses** used throughout the **software development cycle**, which are directed to meeting **performance requirements**.



Declarative Performance Engineering

Declarative Language

- Defines information need without tool evaluation details
- Performance analysts only describe what they want to know instead of how to get it

```
SELECT cpu1.utilization CONSTRAINED AS accurate
DETECT BOTTLENECKS CONSTRAINED AS fast
```

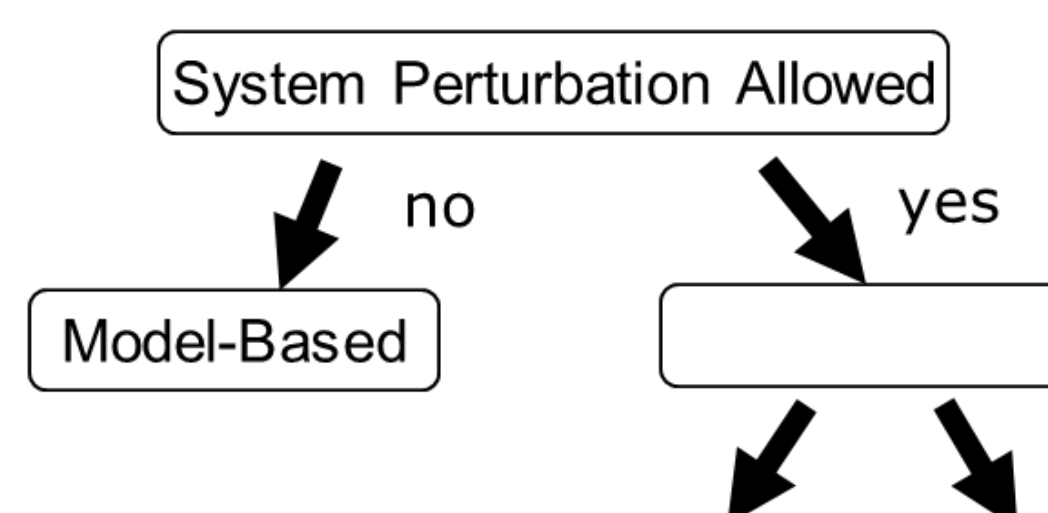
Processing Framework and Adapters

- Provides solution according to user concerns
- Uses internal automation and optimization
- Is independent of the evaluation approach



Capability Model and Decision Engine

- Automated choice of an appropriate evaluation approach
- Based on a tool and approach capability model



Preliminary Work

- Declarative Query Languages (DQL, Mamba)
- Model Extraction for Architectural Performance Models (PCM, DML)
- Measurement-Based Analysis (Kieker)

Benefits

- Reduces the complexity for users
- Decision support for tools and approaches
- Automation and optimization