SPASS-meter - Measuring Diverse Software Attributes in an Integrated Manner

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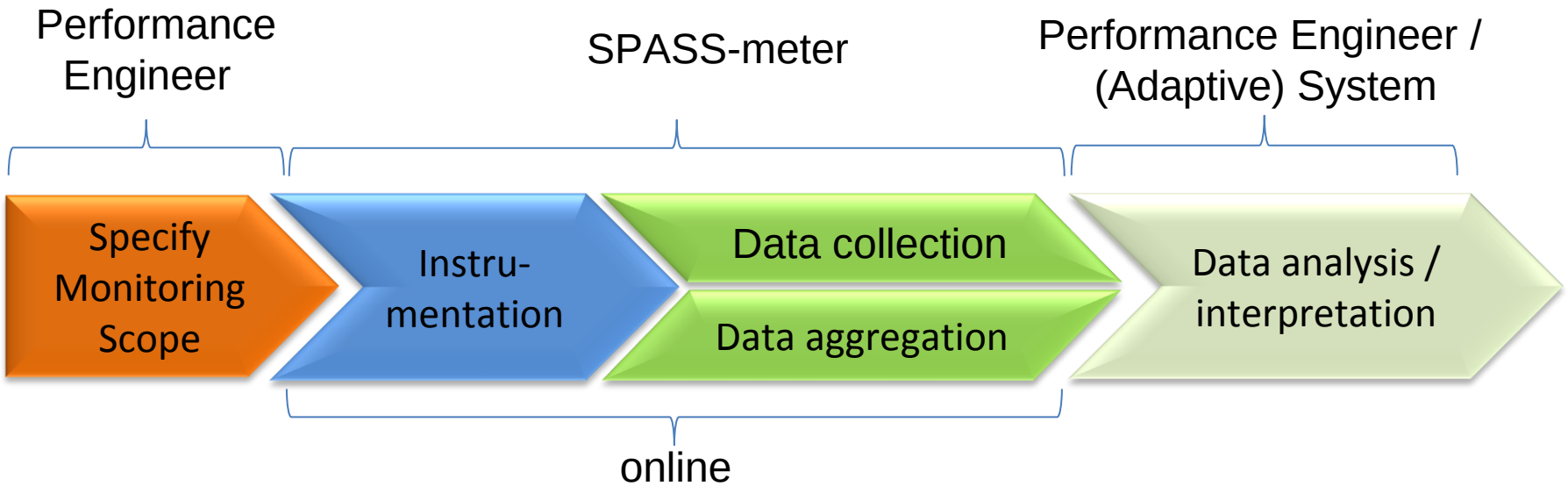
SPASS-meter - Measuring Diverse Software Attributes in an Integrated Manner

SPASS-meter

- Motivation
  - Assess quality requirements (in SPL)
  - Basis for self-adaptation in DSPL
- Basic workflow



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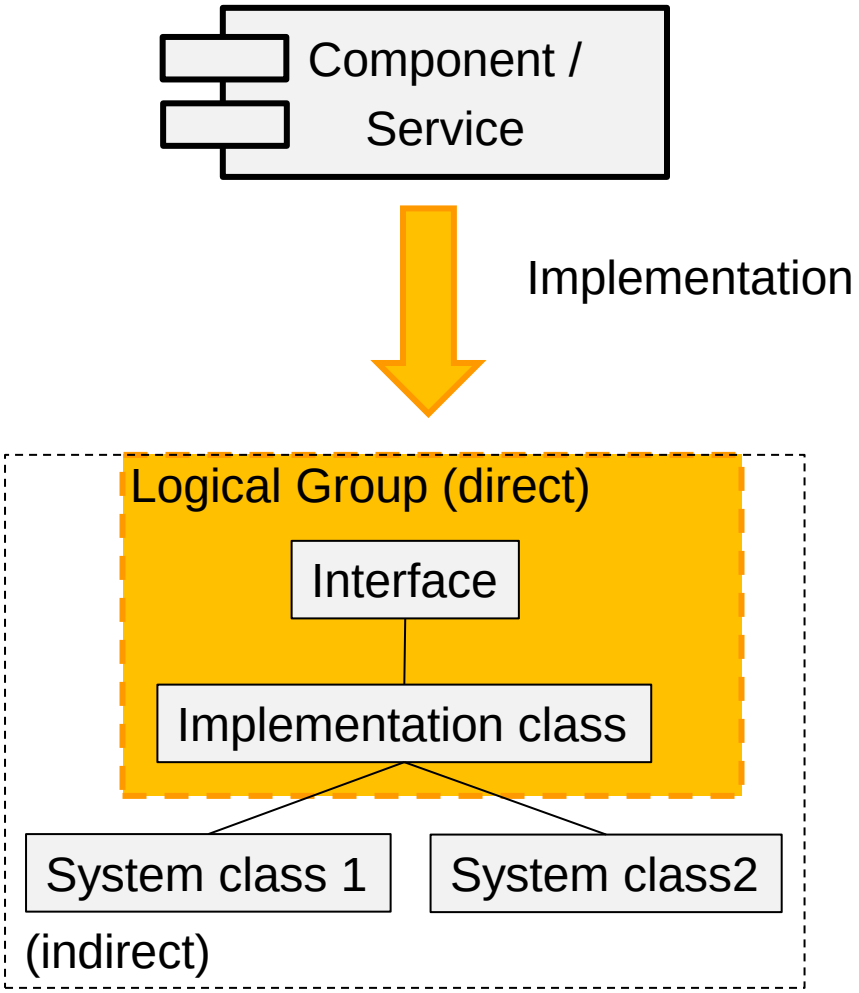
SPASS-meter

- Java program resource consumption
  - Execution time (CPU usage)
  - Response time (selected methods)
  - Memory consumption
  - File transfer
  - Network transfer
- Related system resource consumption
- **Monitoring of user-defined program units e.g. components or services (online analysis)**
- **Direct vs. indirect monitoring**



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Further SPASS-meter Features

- Konfiguration
  - Annotations
  - External files
- Instrumentation modus
  - Dynamic
  - Static
  - Mixed
- Supports Java programs and Android Apps (Example DSPL ± OSGi)
- Optional:
  - Remote monitoring
  - JMX integration
  - OW2 Wildcat integration

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Initial Overhead Evaluation

- Based on SPECjvm08
- Execution time overhead
  - Direct resources < 2,8%
  - Naive indirect monitoring < 11%
- Memory overhead < 1,4%

Experimental dynamic indirect monitoring < 3%

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Summary and Future Work

- Summary
  - SPASS-meter:
    - User-defined logical grouping (online analysis)
    - Direct and indirect monitoring
    - Rich set of features
  - Initial overhead evaluation
- Future Work
  - Application to service platforms
  - Non-Java Programs

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Thank you for your interest.

Questions?

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