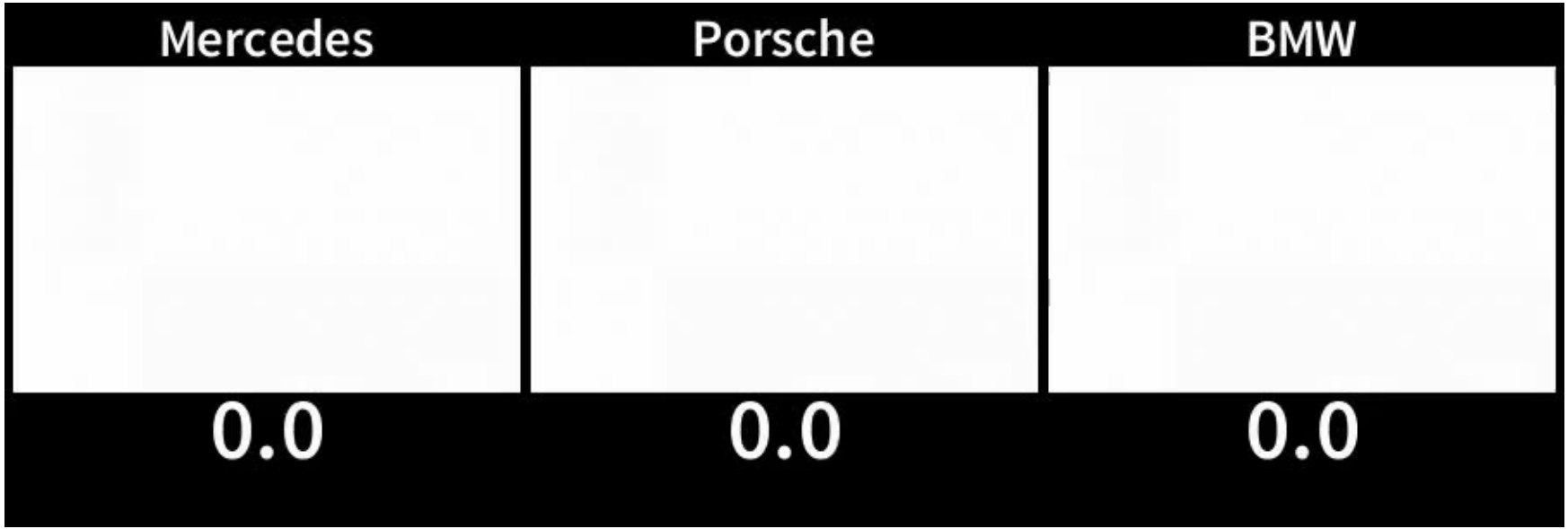
Because performance matters!

-

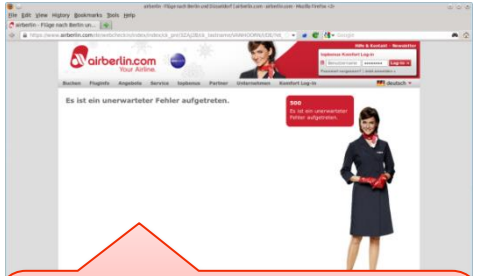
Open Source Application Performance Monitoring for the Crowd

Visual Comparison

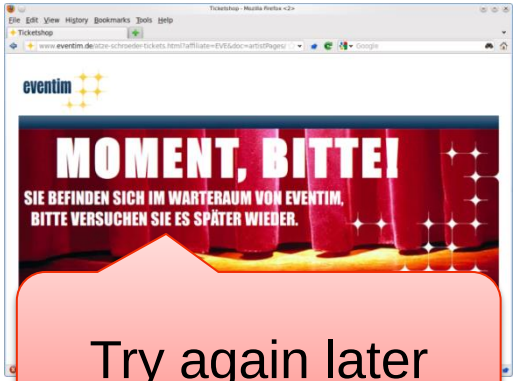


http://www.webpagetest.org - Tested from Dulles, VA - Chrome

Perfomance Problems are Omnipresent



An unexpected error occured



Try again later

Temporarily not available

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Business Impact of Performance

Every **100ms** page load improvement increases revenue by **1%** (2008)

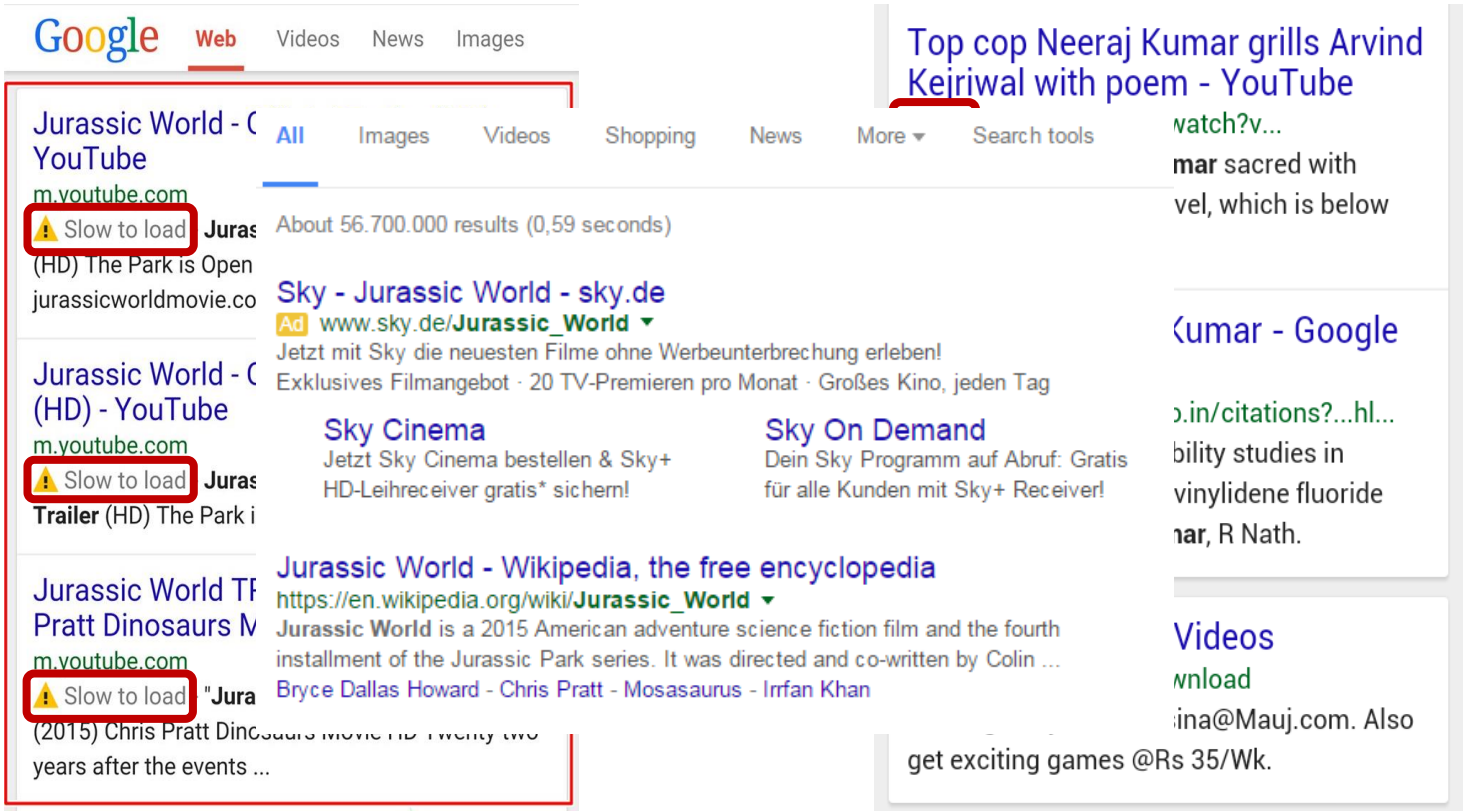
2008: 19,17 Mrd € → **191,7 Mio €**
2013: 74,51 Mrd € …

32% of all users leave a page if the load time is between 1-5 seconds
(2010)

1 seconds delay reduces revenue by 3%
(2010)

The perceived load time is 15% higher.
The remembered load time even 35%.
(2010)

Performance as Direct Competitive Factor



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… because performance matters!

AGENDA

1. The inspectIT Team
2. Overview
3. Live Demo: Working with inspectIT
4. Outlook
5. Automatic Diagnosis of Performance Problems
6. Live Demo: Automated Diagnosis

ACTIVE CONTRIBUTORS

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Max Wassiljew

Alexander Wert

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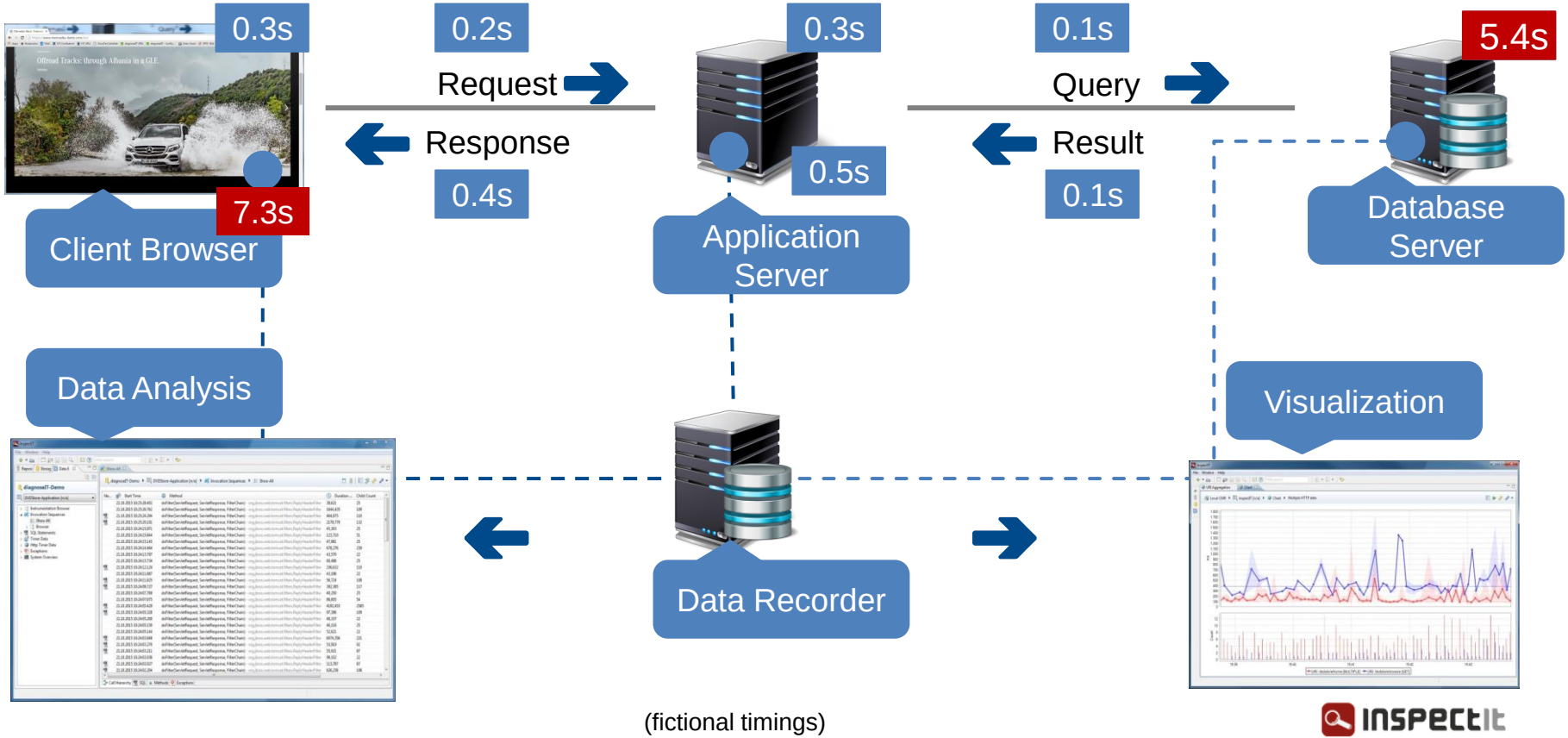
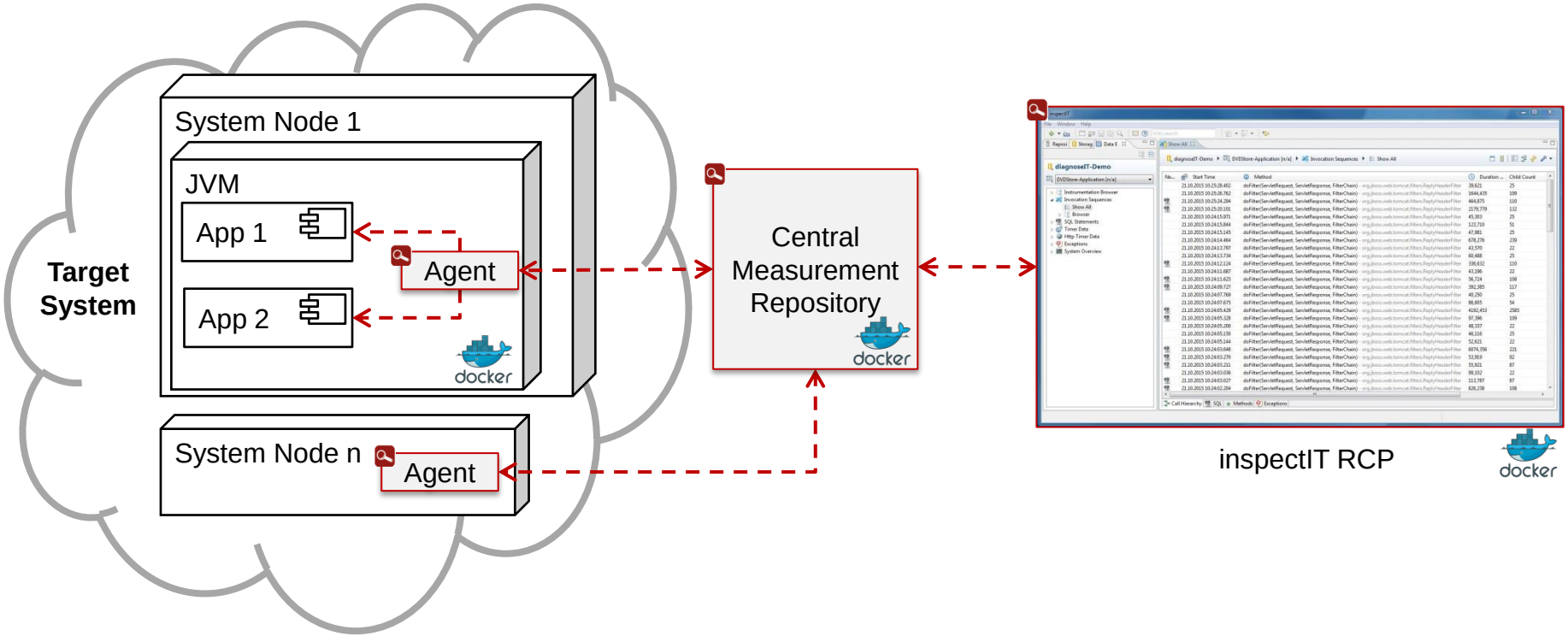
OVERVIEW ON INSPECTIT

Overview



(fictional timings)

Architecture



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Docker Container

Application Container
+ inspectIT Agent

CMR

inspectIT RCP

inspectit

inspectIT-docker

Installation

Download

http://*github.com/inspectIT/inspectIT/releases*

Central Measurement Repository (CMR)

startup.sh / startup.bat

Instrumentation Configuration Mapping

Environment ↔ Agent

Agent

-javaagent:<PATH_TO>/inspectit-agent.jar -Dinspectit.repository=<CMR_IP>:9070;<Agentname>

Live Demo

Sensors

- Timer Sensor
- Exception Sensor
- Invocation Sequence Sensor
- HTTP Data Sensor
- Datenbank/SQL Sensor
- System Information Sensor
- Logging Sensor
- JMX Sensor

Blog Post: Stefan Siegl – „Creating an inspectIT sensor“

http://goo.gl/5cER11

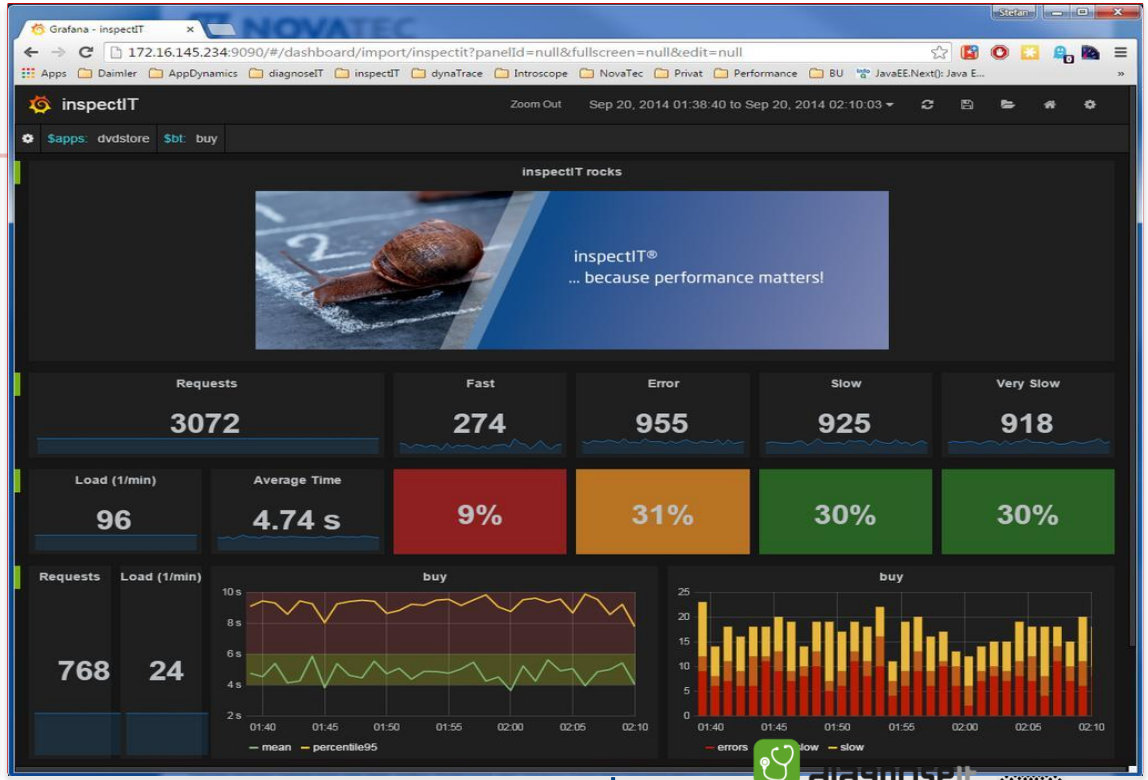
OUTLOOK

Outlook

Feature

- Business Context
- Distributed Traces
- End User Monitoring
- Monitoring in Production
- Adaptive Instrumentation

- **Automated Diagnosis**



2017

diagnoseIT

Bundesministerium für Bildung und Forschung

Universität Stuttgart

NOVATEC
make IT happen!

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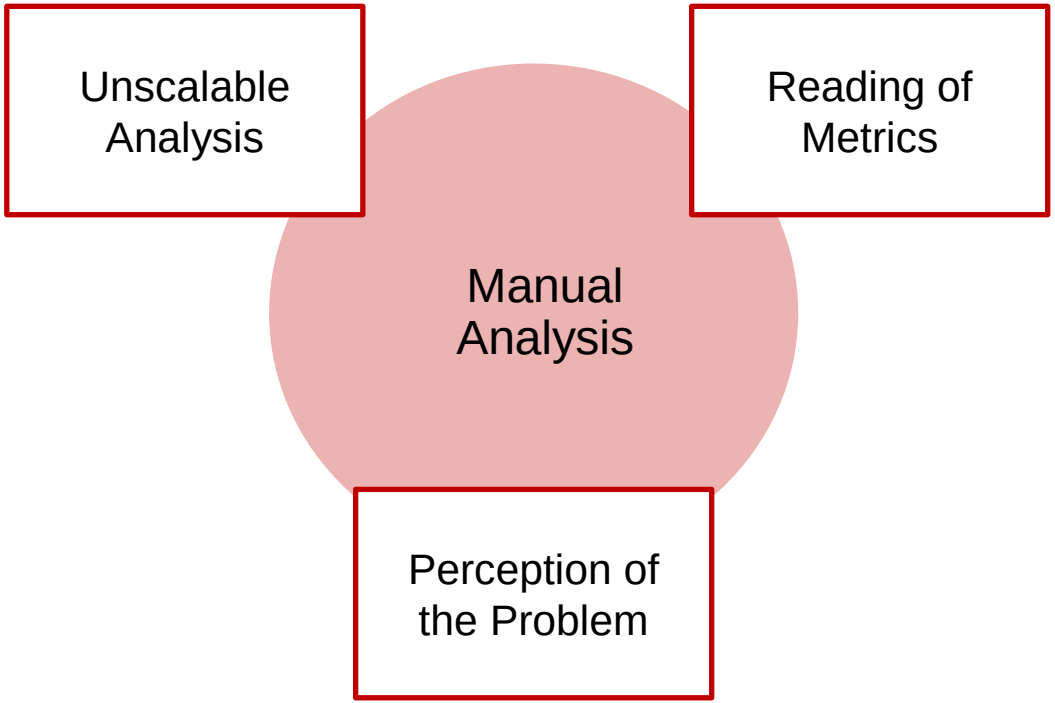
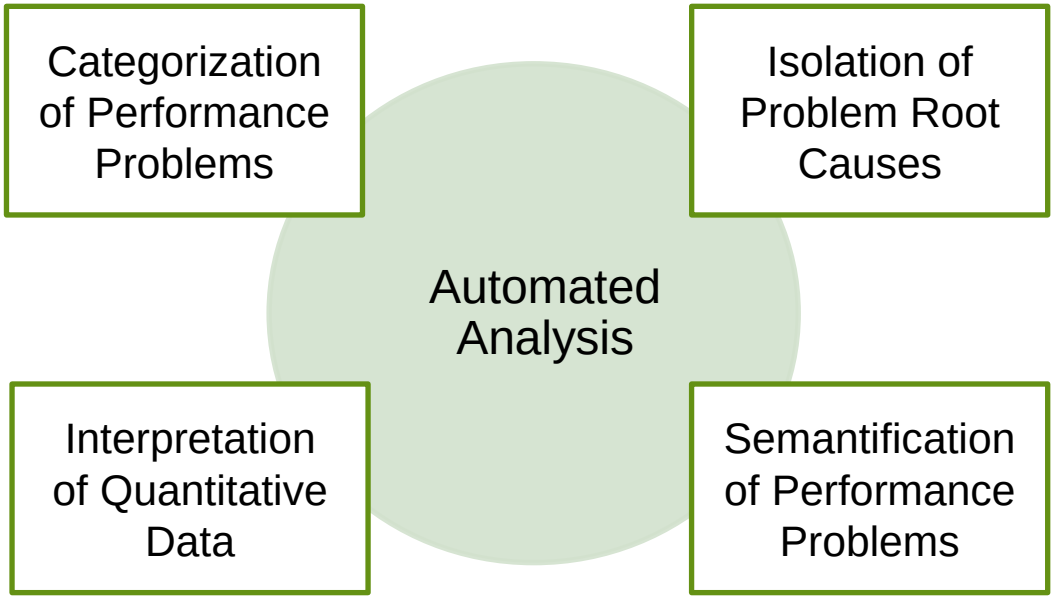
AUTOMATIC DIAGNOSIS OF PERFORMANCE PROBLEMS

Automatic Diagnosis of Performance Problems



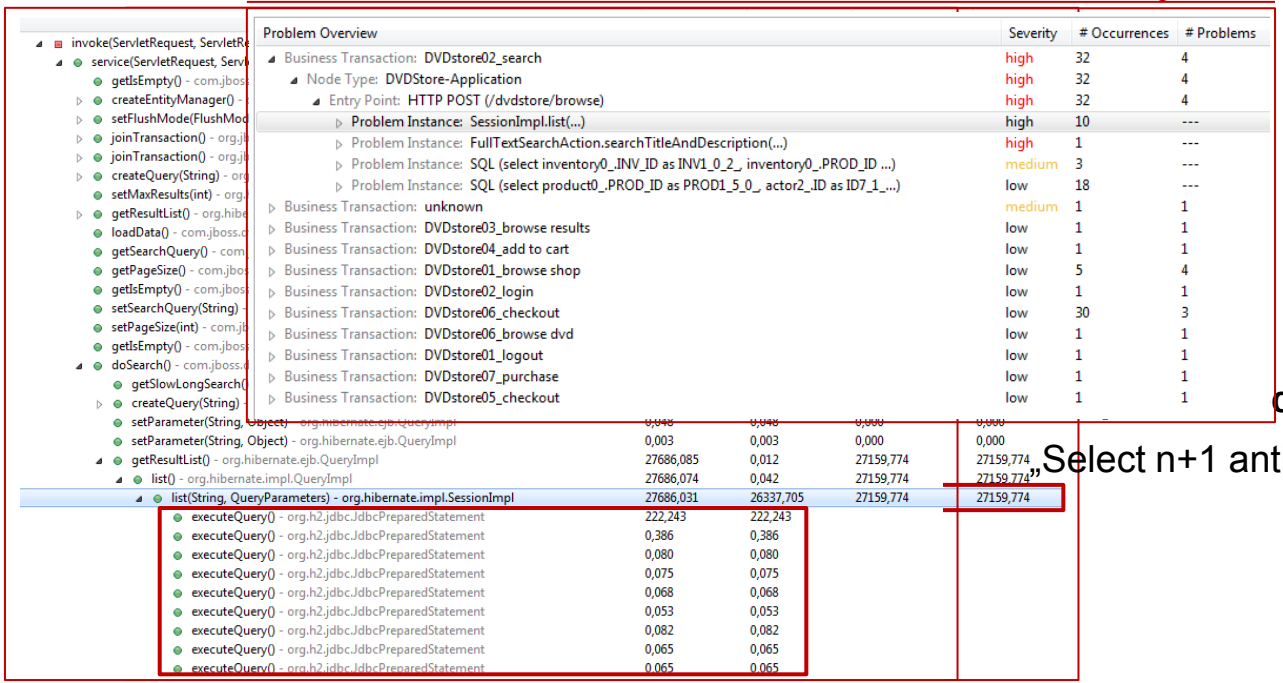
Automatic Diagnosis of Performance Problems



Rules

Invocation Sequences

Root Cause Isolation ➤ **Semantification** ➤ **Clustering**



cognition

„Select n+1 anti-pattern“

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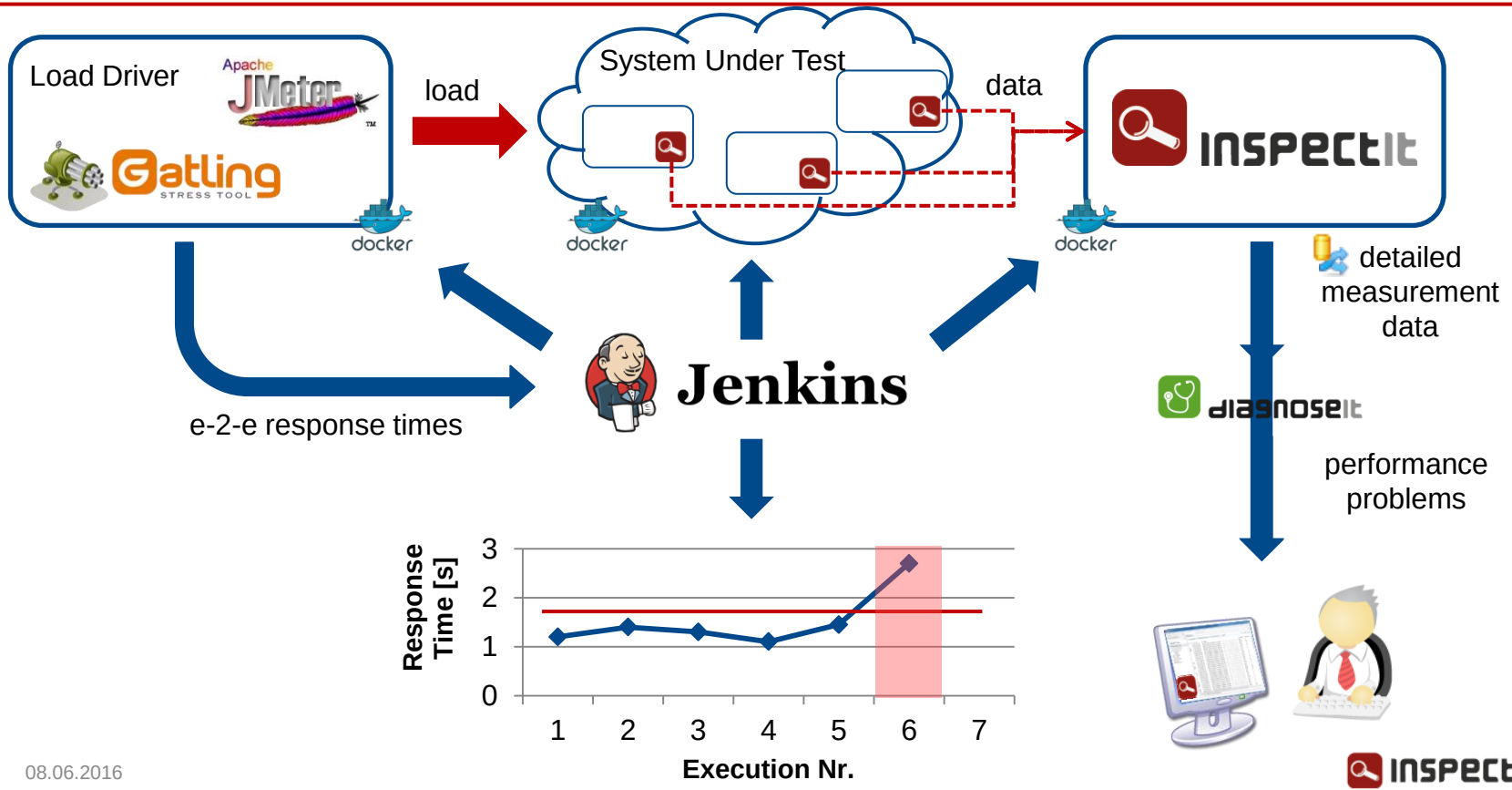
Live Demo – Preview (Automated Diagnosis)

inspectIT & Continuous Integration



Contribute


troubleshooting
development
use inspectIT
production
continuous integration
performance awareness coaching
like & spread tweets
star & watch on GitHub
customer reference
promote
write about
tell colleagues about
Contribute
documentation
create feature requests
bug reports
code
ecosystem
provide
feedback
new ideas
bug fixes
vote feature requests
icons & images
experience reports

SPONSOR

Stuttgart **München**

Berlin Frankfurt

more than 200 colleagues

founded 1996

Consulting Domains

Agile Methods & Processes

Service Oriented Architecture and Technology

Business Process Management

Application Performance Management

Agile Quality Engineering

Enterprise Application Development

@novatecgmbh

Get in touch with us

www.inspectIT.rocks

@inspectIT_APM

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inspectIT-docker

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Application Cases of inspectIT and diagnoseIT

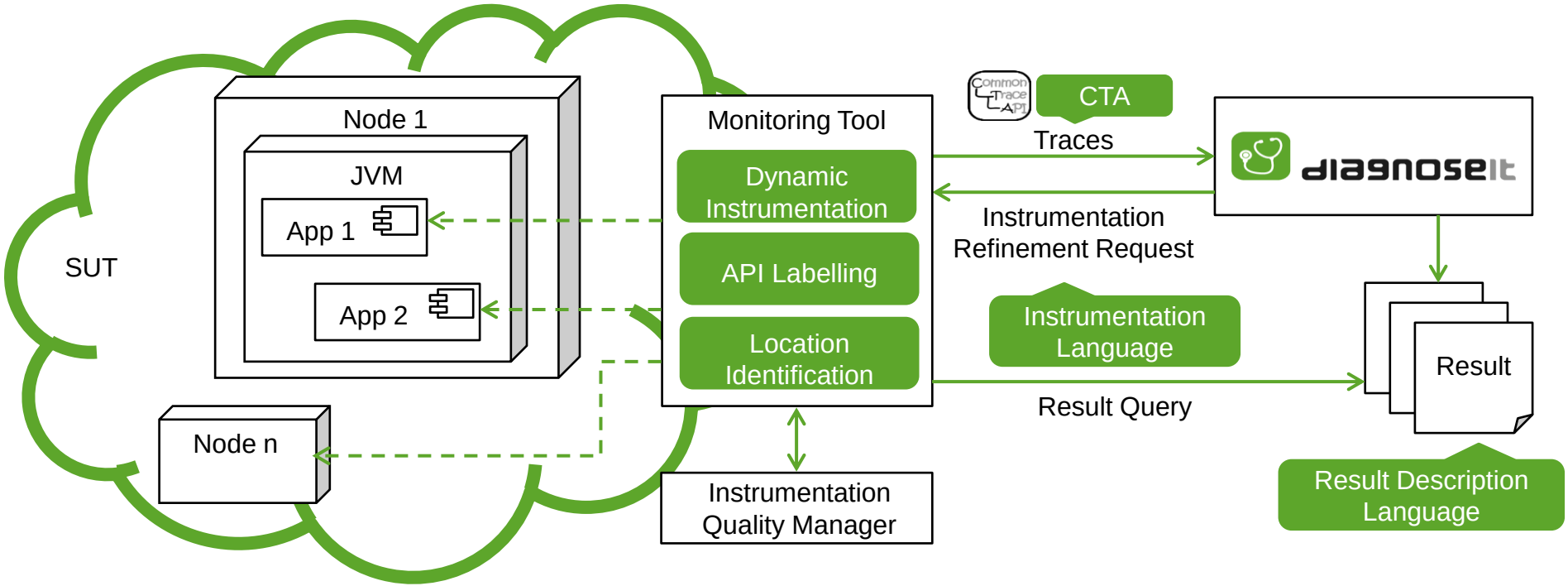
Current State

- Performance Analysis & Troubleshooting
- Performance Awareness in Development
- Continuous performance testing as part of Continuous Integration
- Collaboration between Testing and Development Teams

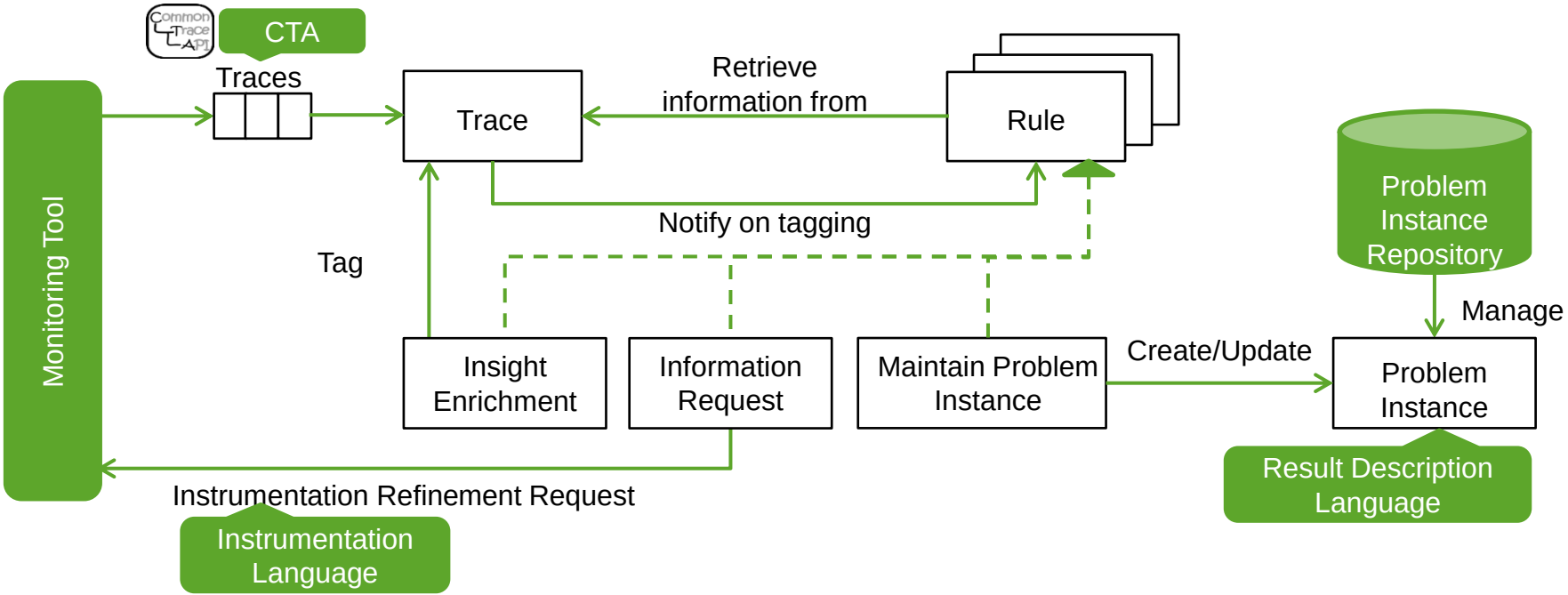
Work in Progress

- Monitoring in Production
- inspectIT as Platform Service in Cloud Foundry

Overview


SUT
Node 1
JVM
App 1
App 2
Node n
Monitoring Tool
Dynamic Instrumentation
API Labelling
Location Identification
Instrumentation Quality Manager
Common Trace API
CTA
Traces
Instrumentation Refinement Request
Instrumentation Language
Result Query
diagnoseIT
Result
Result Description Language

Diagnosis


Common Trace API
CTA
Traces
Monitoring Tool
Trace
Retrieve information from
Rule
Notify on tagging
Tag
Problem Instance Repository
Manage
Insight Enrichment
Information Request
Maintain Problem Instance
Create/Update
Problem Instance
Result Description Language
Instrumentation Refinement Request
Instrumentation Language

Common Trace API

Motivation

Monitoring data format is tool-specific

Drawback

APM vendor lock-in limits interoperability and data exchange

Goal

APM vendor independent data access

Join us

https://goo.gl/UuoZkN

NOVATEC

University of Stuttgart
Germany
(http://goo.gl/5S337v)

KIT
Karlsruhe Institute of Technology
(http://goo.gl/AAwdge)

Julius-Maximilians-
UNIVERSITÄT
WÜRZBURG
(https://goo.gl/eDuA9R)

Importers

dynatrace
(http://goo.gl/z18Tuj)

inspectIT

Kieker
(http://goo.gl/3xM2ur)

ca technologies
(http://goo.gl/KCWimU)

Planned

APPDYNAMICS
(http://goo.gl/B3rJt4)

inspectIT

inspectIT is not a Profiler!

Profiler		APM (inspectIT)
fine-grained profiling method inefficiencies object allocation threads	**Purpose**	End-to-end behaviour analysis invocation flow transactions Business context
developers	**Target User Group**	developers, operations, management
very high	**Performance Overhead**	negligible (configurable)
application unit	**Scope**	application unit → software system