Master Thesis Kick-off presentation

Interactive Visualizations for supporting the analysis of distributed services utilization in the context of business processes

Daniel Graf Hoyos, 24.07.2017, Munich

Chair of Software Engineering for Business Information Systems (sebis)
Faculty of Informatics
Technische Universität München
wwwmatthes.in.tum.de

Outline

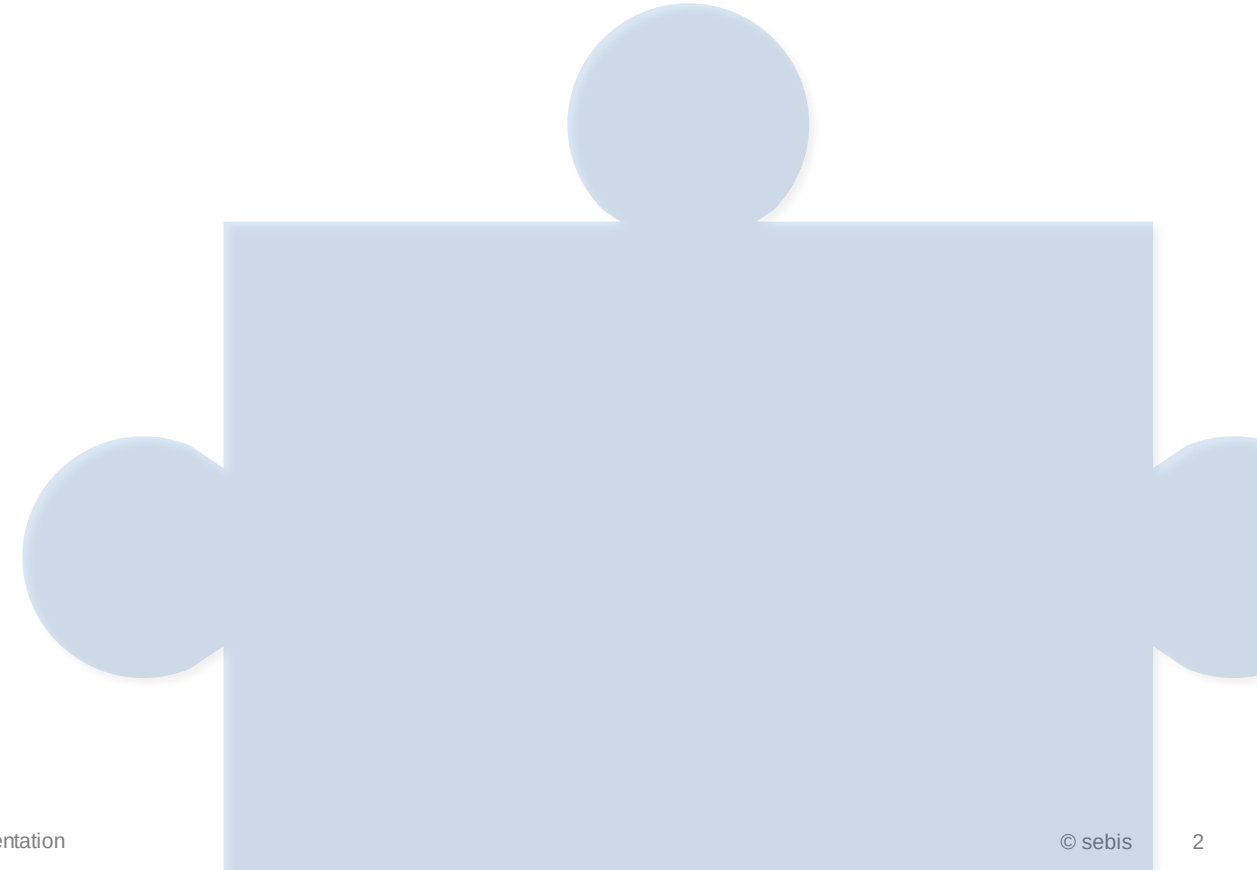
Motivation

- Micro Service Architecture
- Related Work
- Problem Statement

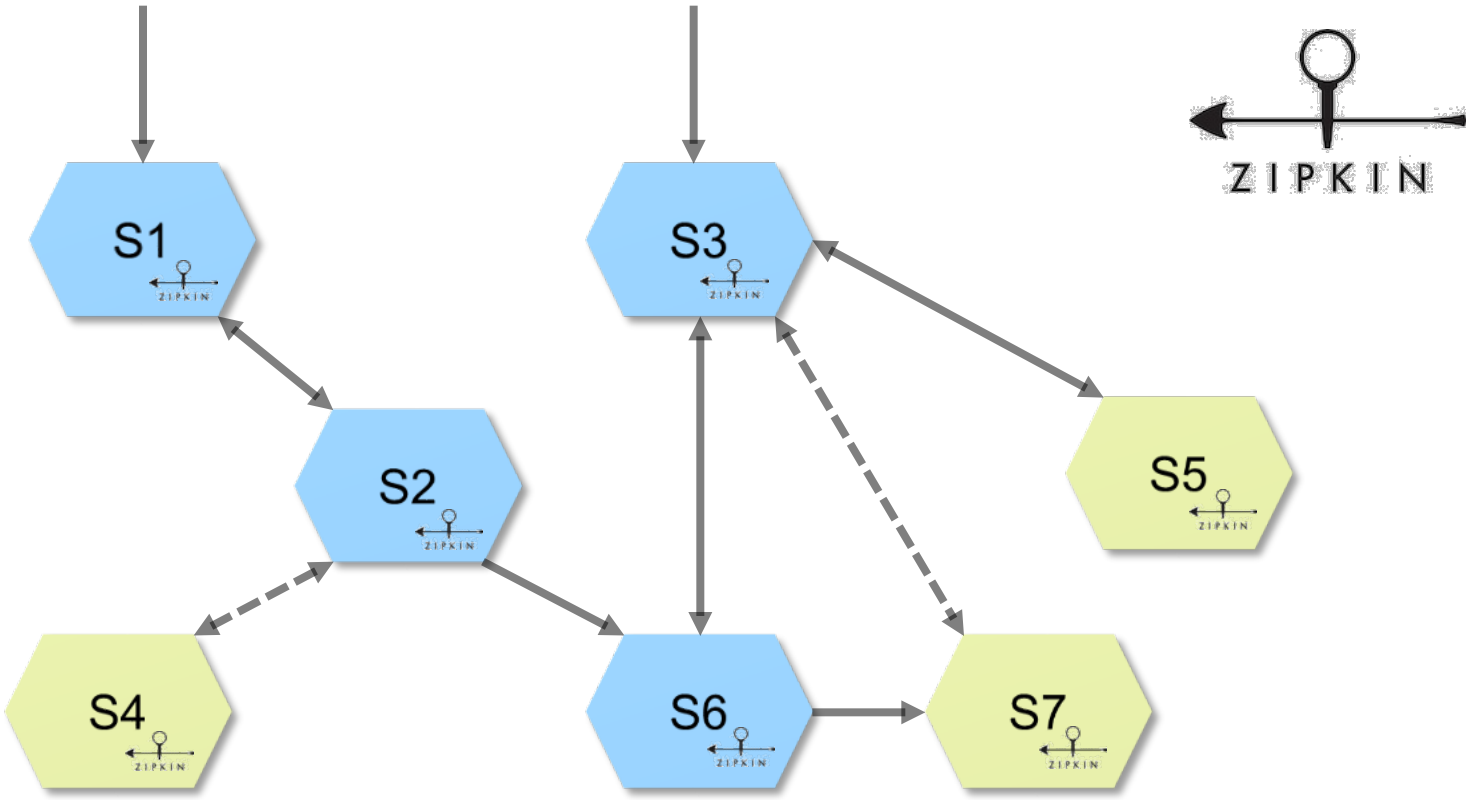
Research Questions

Approach

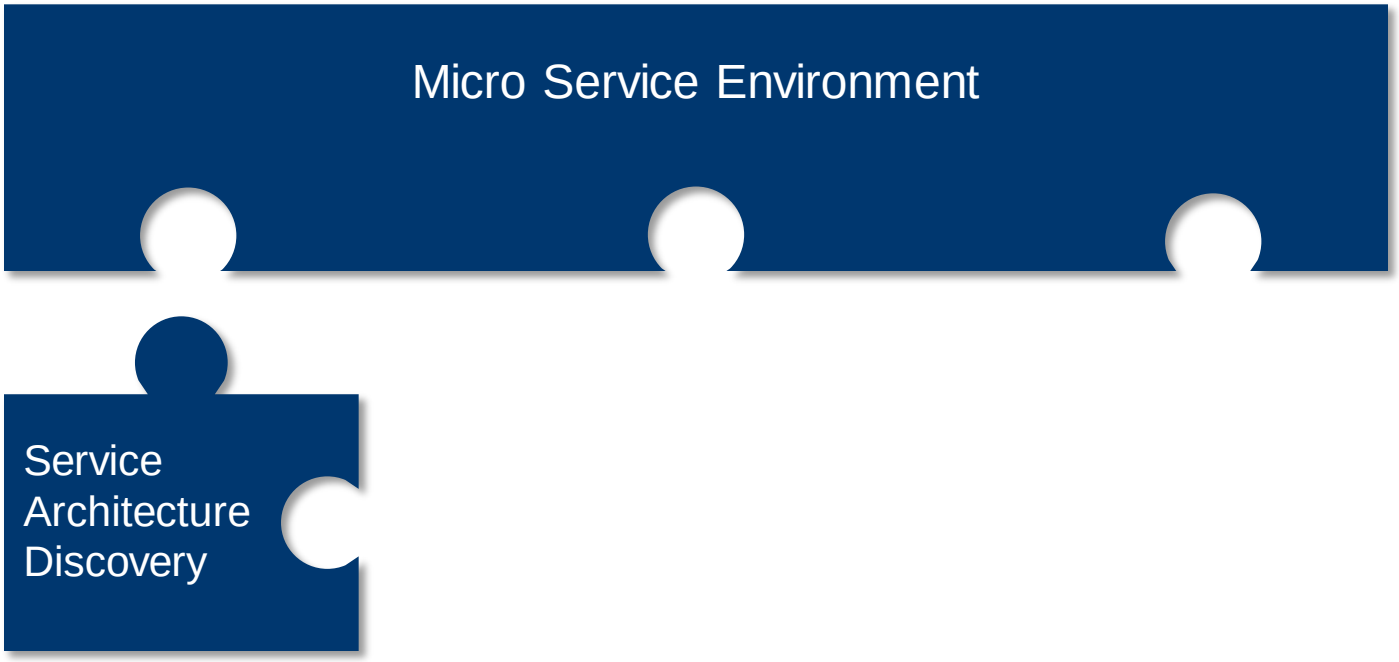
Timeline



Motivation
Micro Service Architecture

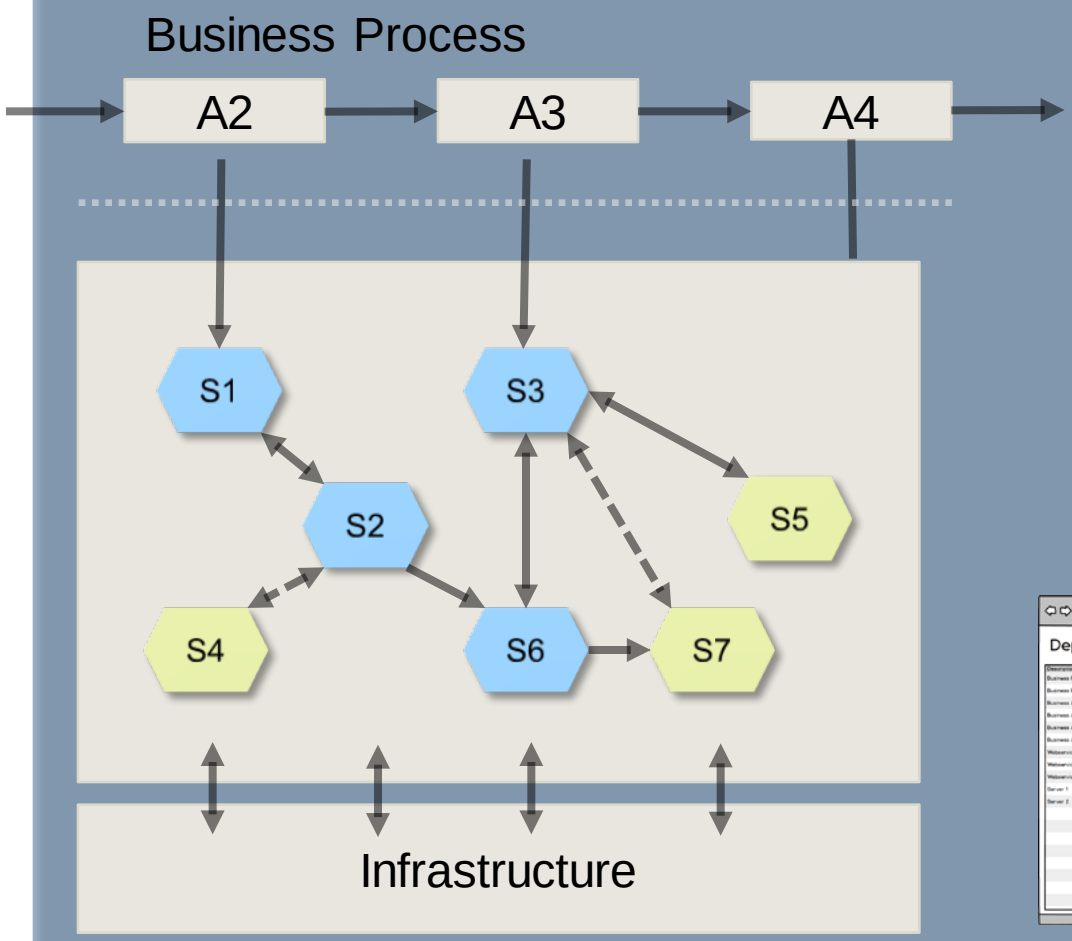


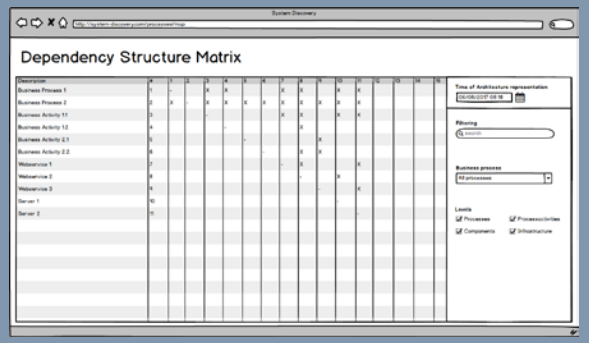
Motivation
Architecture Discovery



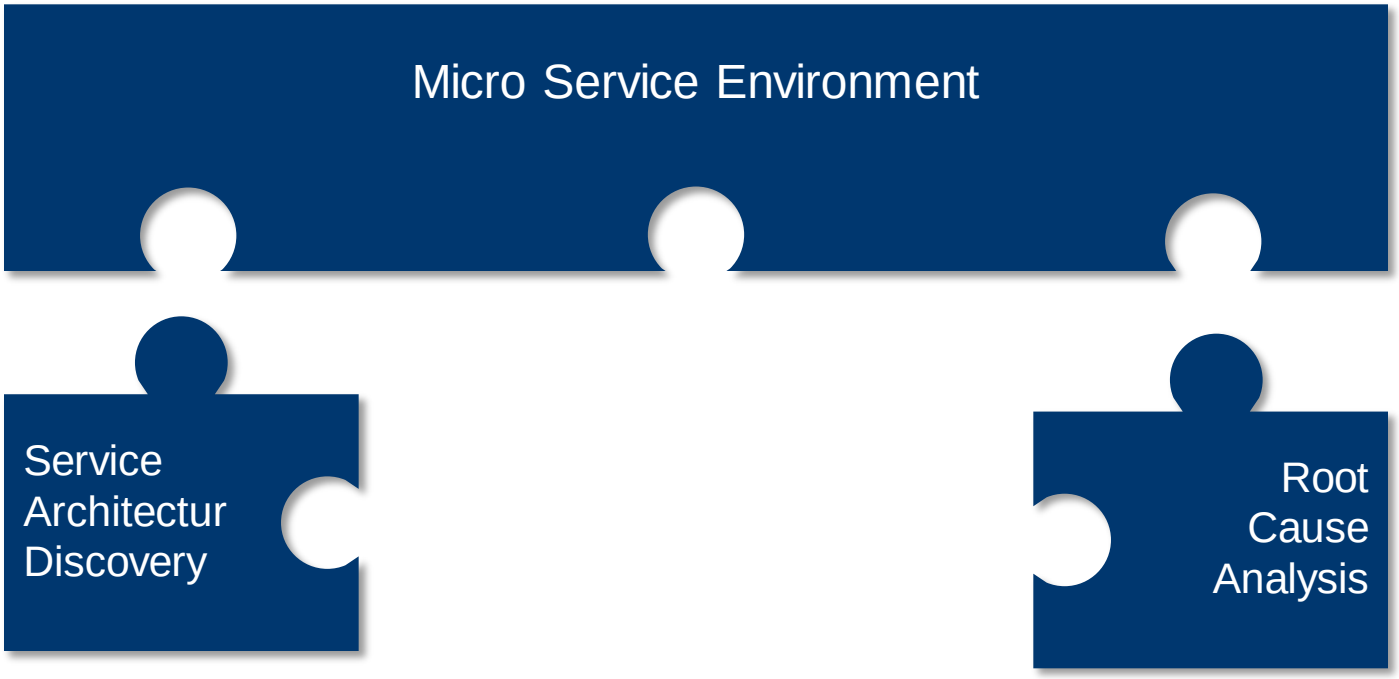
Motivation
Architecture Discovery

Micro Services



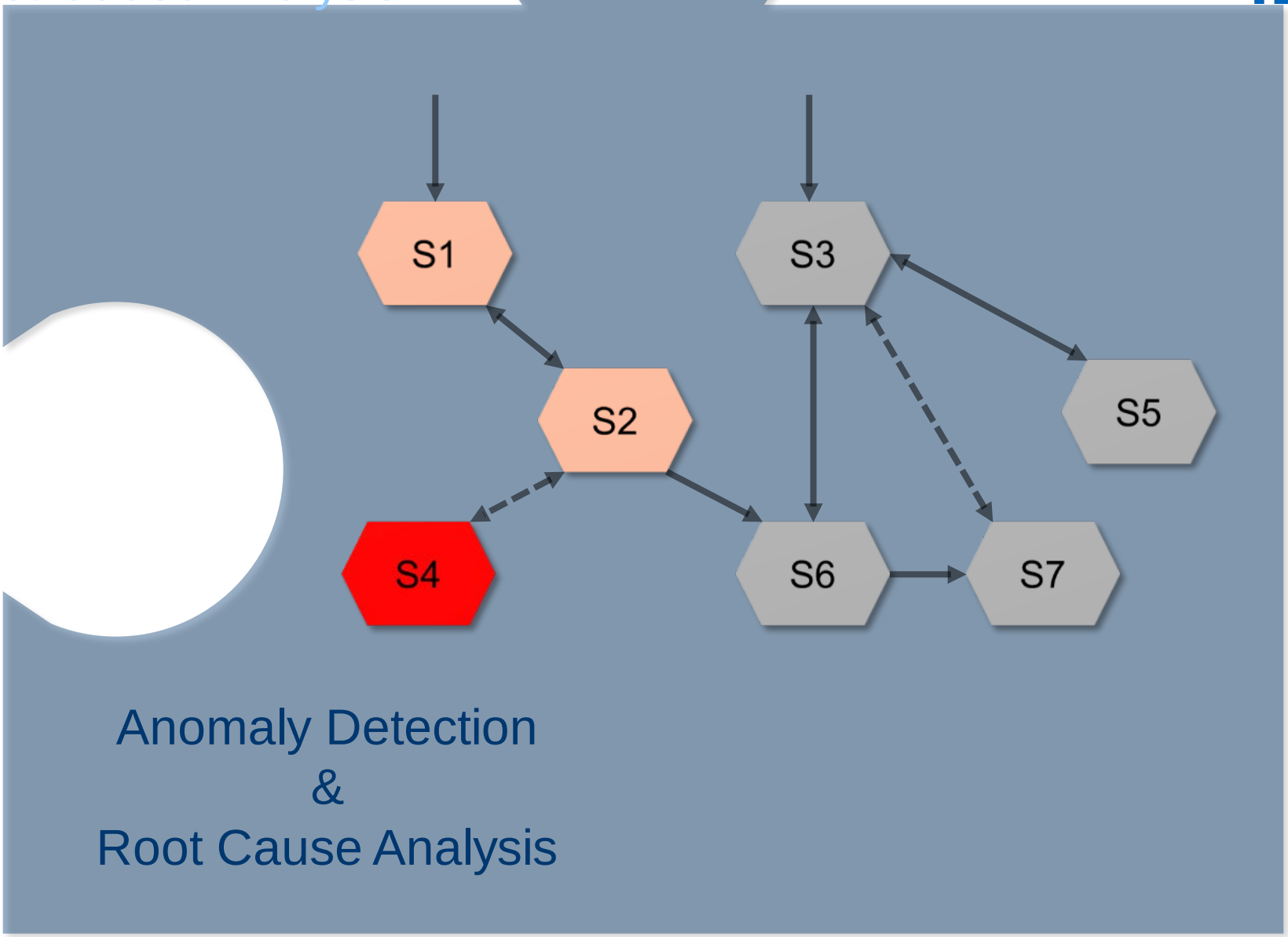


Motivation
Root Cause Analysis

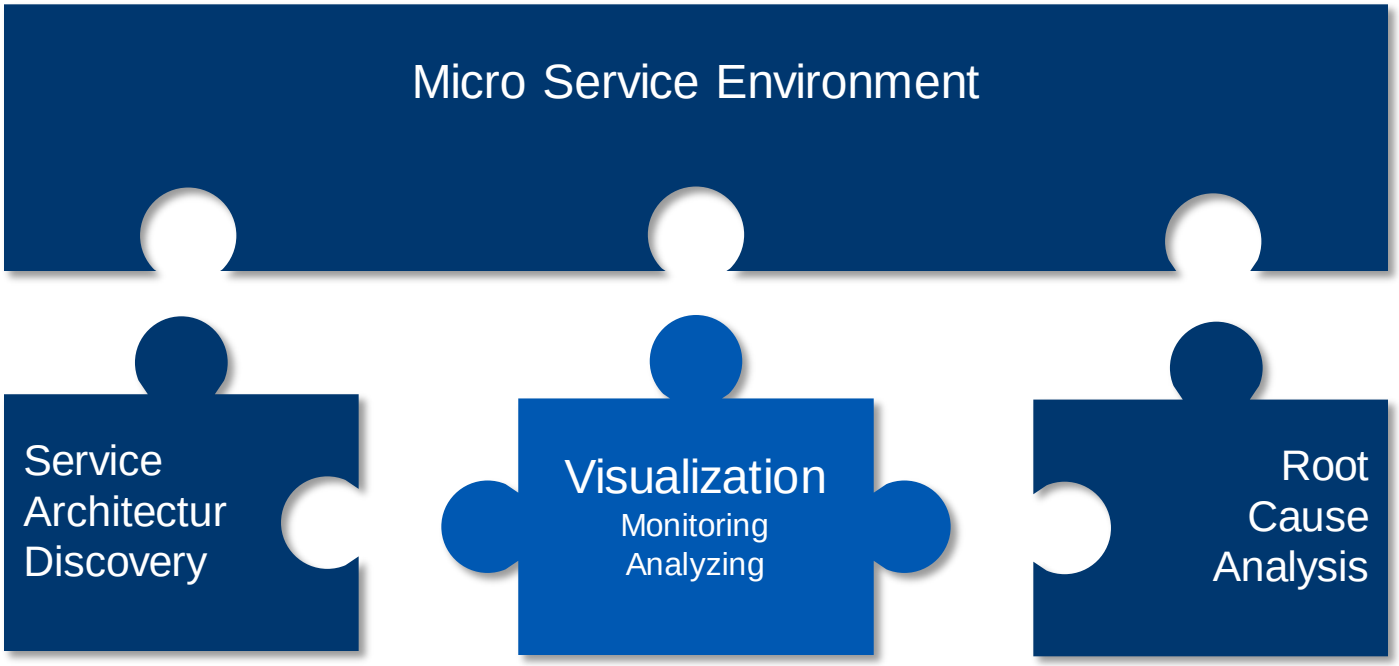


Motivation
Root Cause Analysis

Micro Services



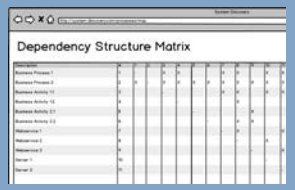
Motivation
Problem Statement



Motivation
Problem Statement

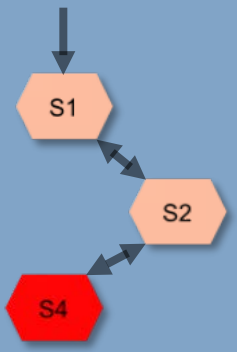
Micro Services

Architecture Discovery



Monitoring

Analyze



Anomaly Detection

Micro Services

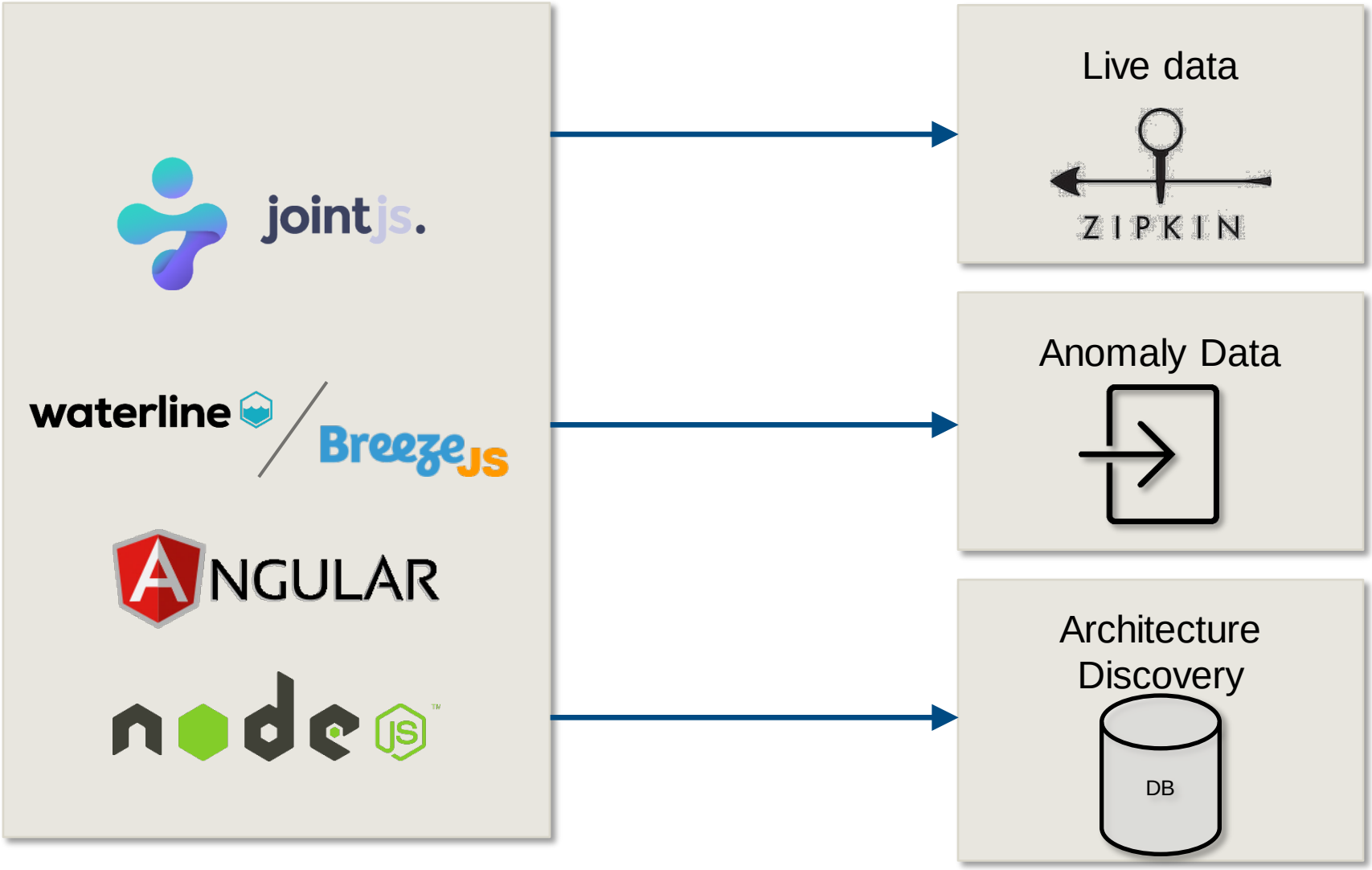
Research questions

Architecture Discovery

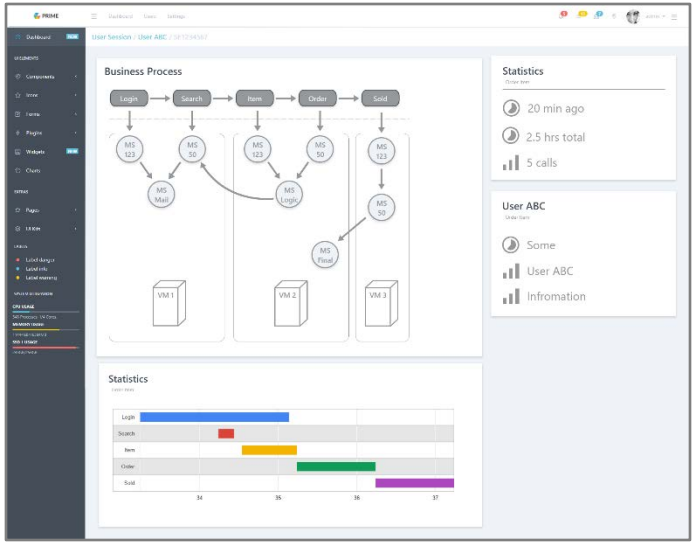
Anomaly Detection

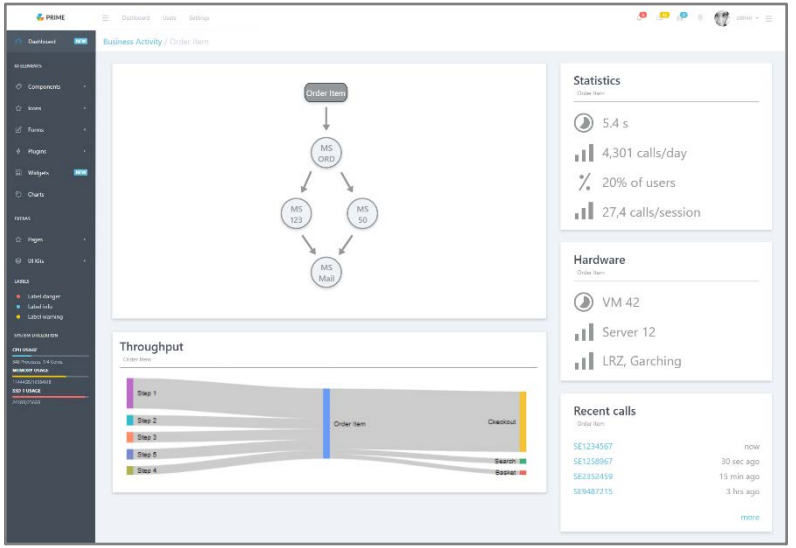
1. How to effectively visualize the relations between Business Activities and Micro Services?
2. Which criteria are suitable to position Micro Services meaningful in a directed Graph?
3. How can the results of a root cause analysis and its impact be effectively displayed in context?
4. Which methods are suitable for displaying larger Micro Service Networks in a manageable manner?
   (clustering, filtering, etc.)

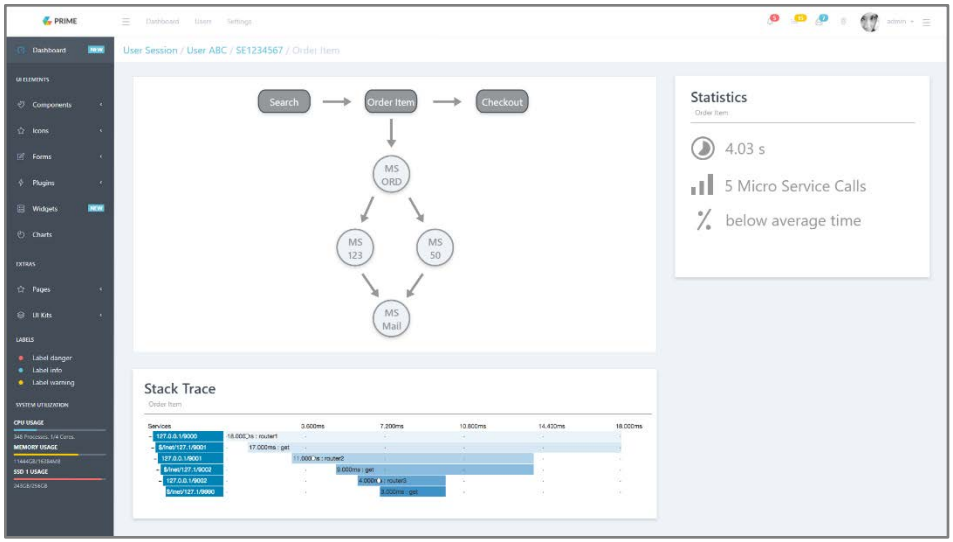
Approach
Architecture



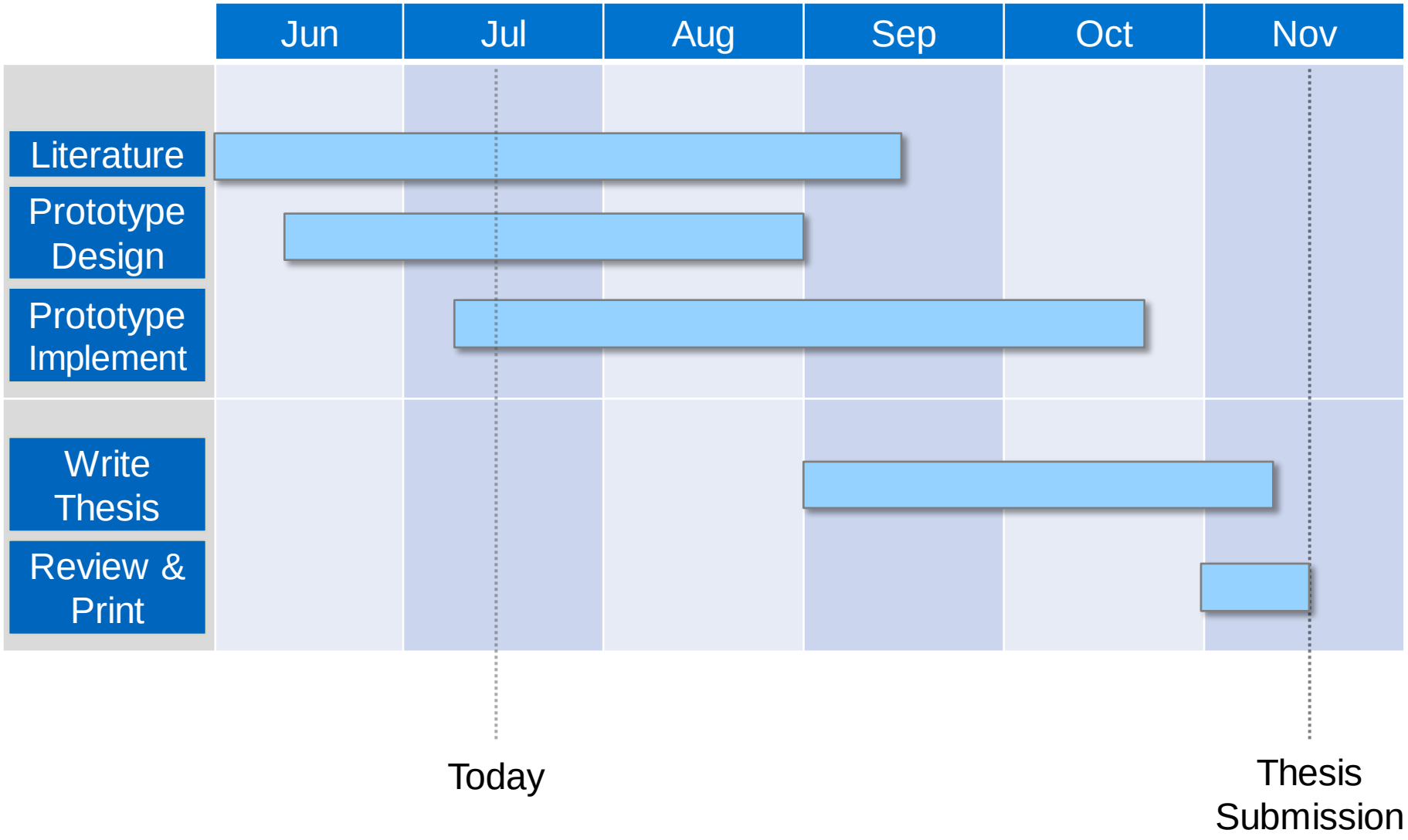
Approach
Mockup

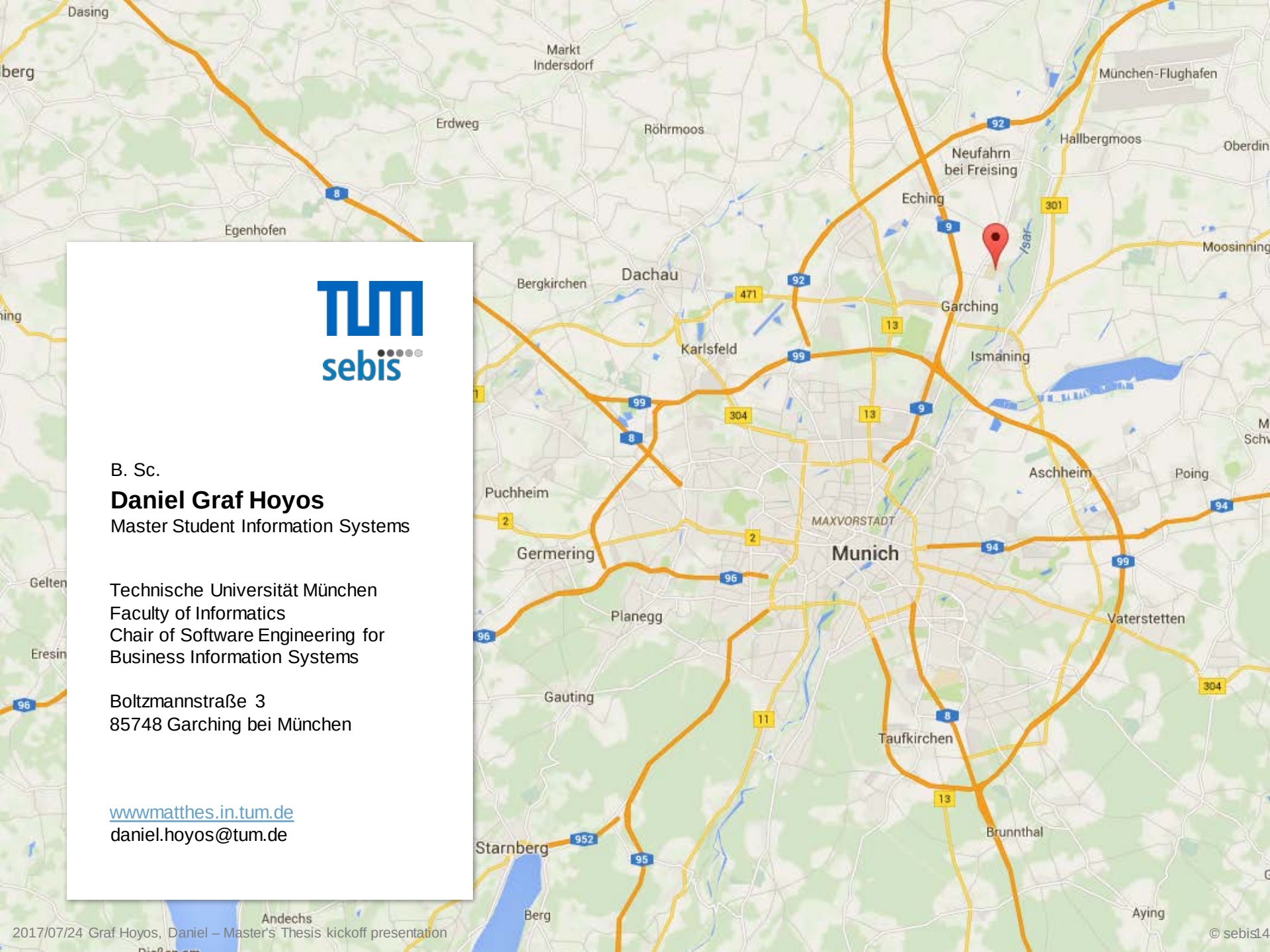






Timeline





B. Sc.

Daniel Graf Hoyos

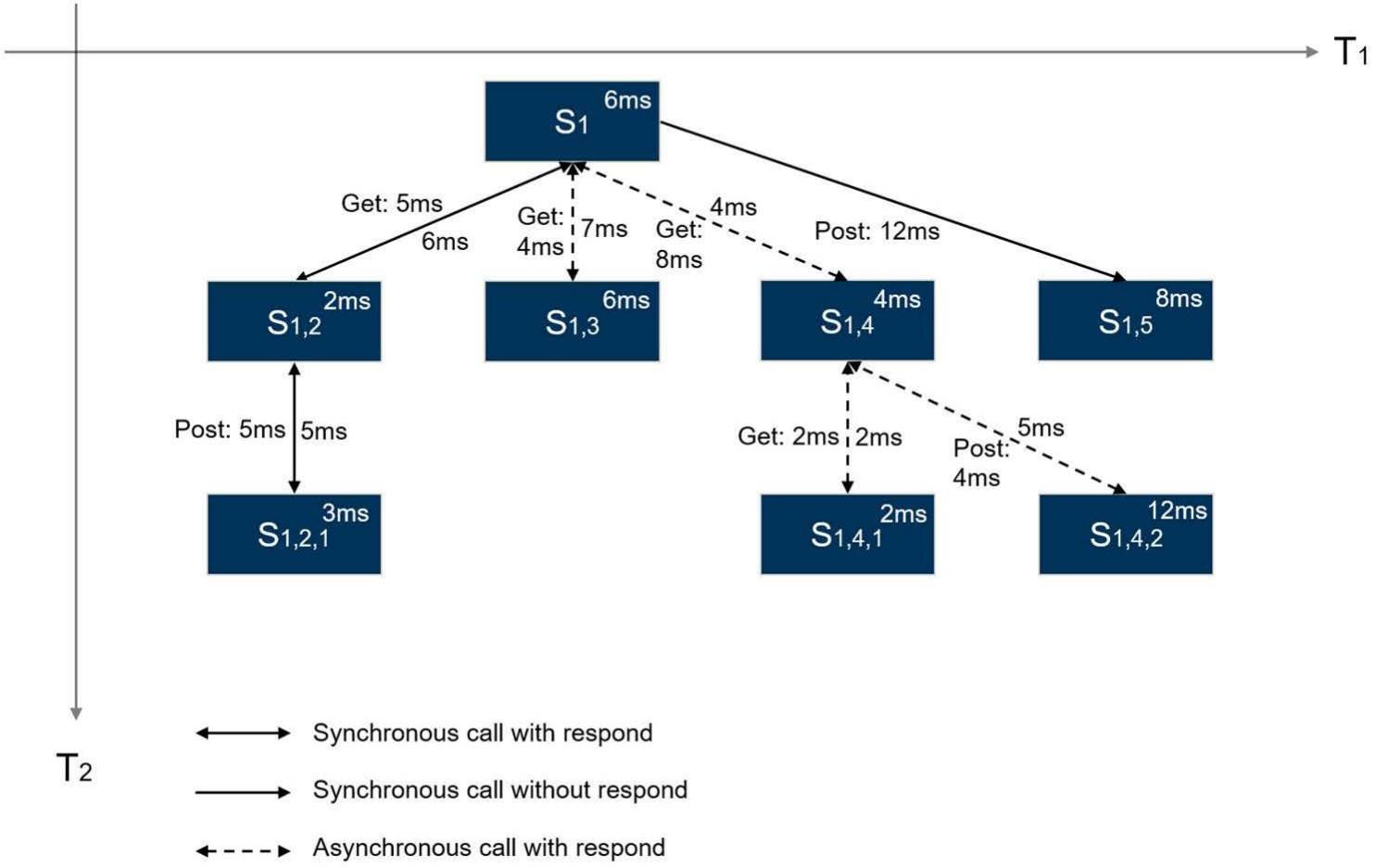
Master Student Information Systems

Technische Universität München
Faculty of Informatics
Chair of Software Engineering for Business Information Systems

Boltzmannstraße 3
85748 Garching bei München

wwwmatthes.in.tum.de
daniel.hoyos@tum.de

Backup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T2
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Get: 5ms
6ms
Get: 4ms
7ms
Get: 8ms
4ms
Post: 12ms
S1,2 2ms
S1,3 6ms
S1,4 4ms
S1,5 8ms
Post: 5ms
5ms
Get: 2ms
2ms
Post: 4ms
5ms
S1,2,1 3ms
S1,4,1 2ms
S1,4,2 12ms
Synchronous call with respond
Synchronous call without respond
Asynchronous call with respond