

ThoughtWorks®

AWS Microservices Web Day

WO MICROSERVICES WIRKLICH SINN MACHEN

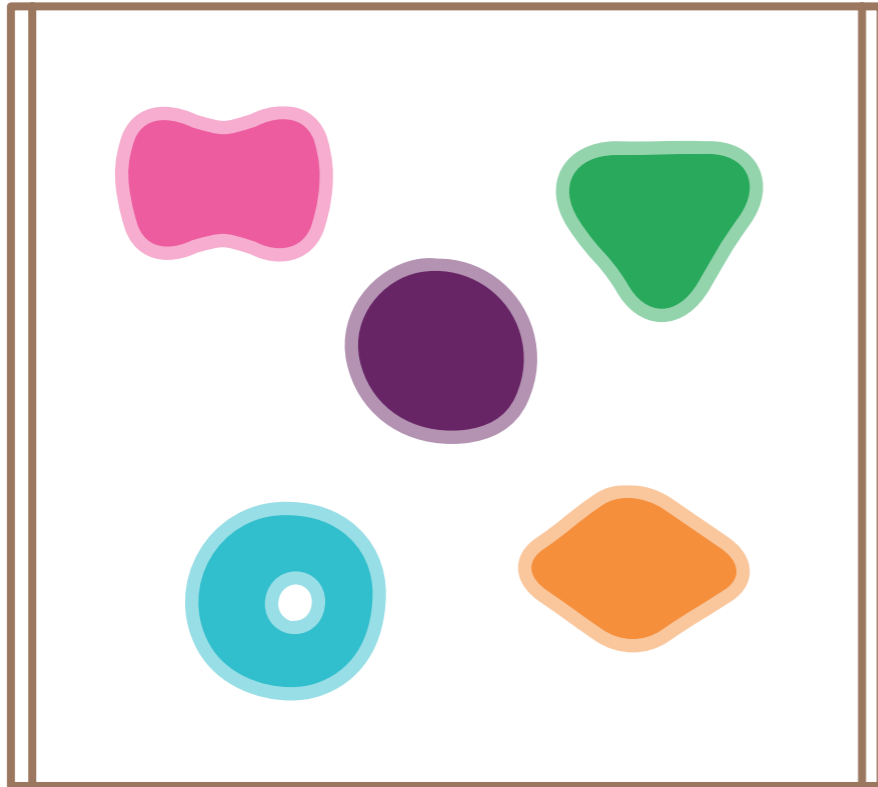
Erik Dörnenburg

ThoughtWorks Deutschland GmbH

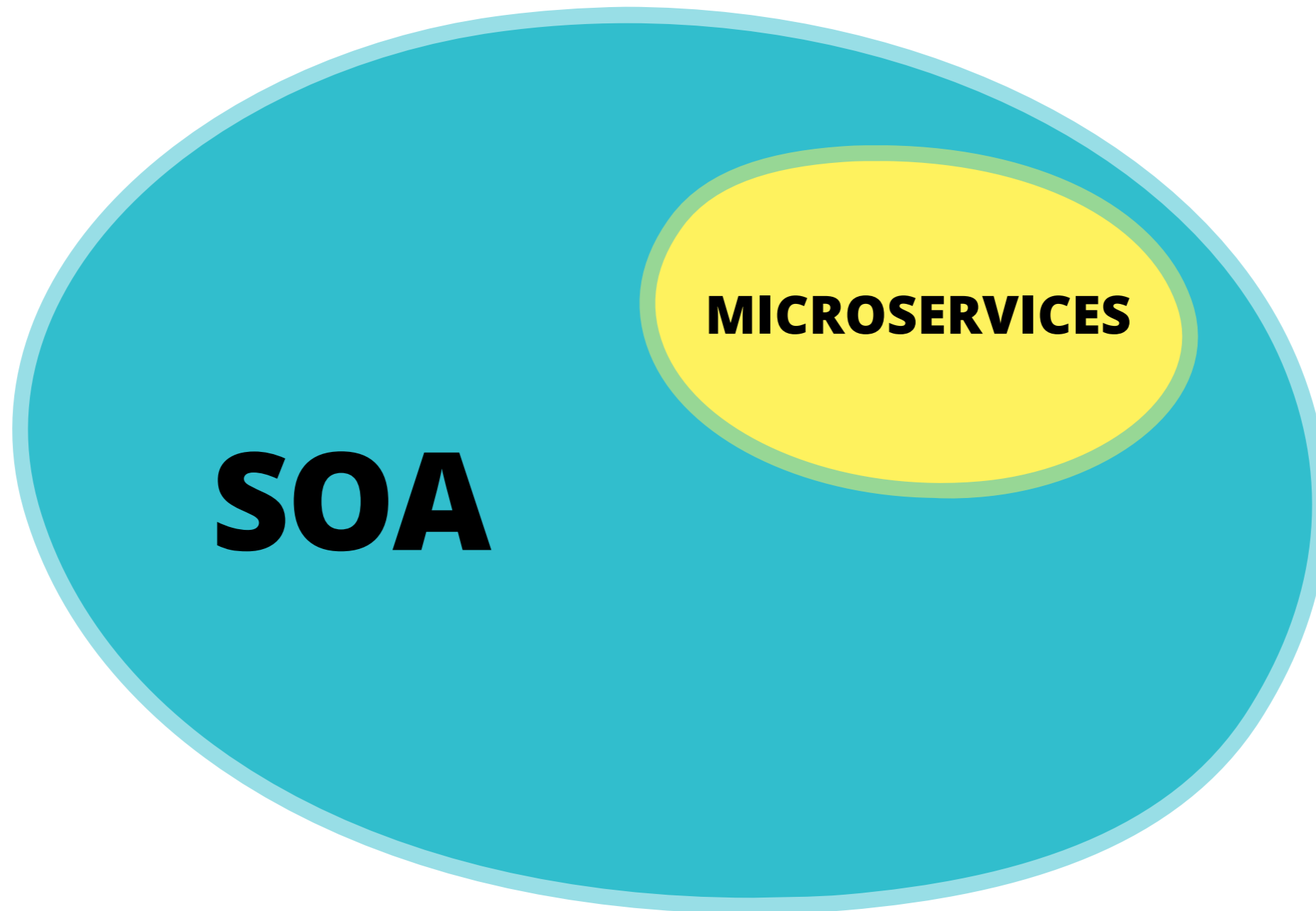
erik@thoughtworks.com

@erikdoe

MICROSERVICES UND MONOLITHEN



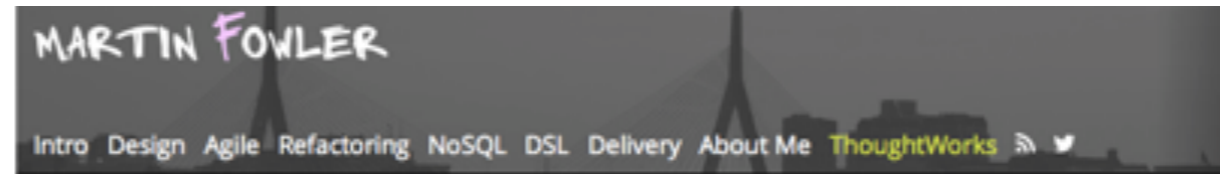
SERVICE-ORIENTED ARCHITECTURES (SOA)



DIE DEFINITION VON "MICROSERVICES"



CHARAKTERISTIKEN VON MICROSERVICES



Microservices

The term "Microservice Architecture" has sprung up over the last few years to describe a particular way of designing software applications as suites of independently deployable services. While there is no precise definition of this architectural style, there are certain common characteristics around organization around business capability, automated deployment, intelligence in the endpoints, and decentralized control of languages and data.

25 March 2014



James Lewis

James Lewis is a Principal Consultant at ThoughtWorks and member of the Technology Advisory

Board. James' interest in building applications out of small collaborating services stems from a background in integrating enterprise systems at scale. He's built a number of systems using microservices and has been an active participant in the growing community for a couple of years.



Martin Fowler

Martin Fowler is an author, speaker, and general loud-mouth on software development. He's long been puzzled

by the problem of how to componentize software systems. Having heard more

Contents

- Characteristics of a Microservice Architecture
 - Componentization via Services
 - Organized around Business Capabilities
 - Products not Projects
 - Smart endpoints and dumb pipes
 - Decentralized Governance
 - Decentralized Data Management
 - Infrastructure Automation
 - Design for failure
 - Evolutionary Design
- Are Microservices the Future?

Sidebars

- How big is a microservice?
- Microservices and SOA
 - Many languages, many options
 - Battle-tested standards and enforced standards
 - Make it easy to do the right thing
 - The circuit breaker and production ready code
 - Synchronous calls considered harmful

<http://martinfowler.com/articles/microservices.html>

CHARACTERISTICS OF MICROSERVICES

1. Componentisation via services
2. Organised around business capabilities
3. Products not Projects
4. Smart endpoints and dumb pipes
5. Decentralised governance
6. Decentralised data management
7. Infrastructure automation
8. Design for failure
9. Evolutionary design

CHARAKTERISTIKEN VON MICROSERVICES

1. Komponenten als Services

CHARAKTERISTIKEN VON MICROSERVICES

1. Komponenten als Services
2. Nach Geschäftsstrukturen organisiert

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3. Produktorientierung über Projektfokus

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6. **Dezentralisiertes Datenmanagement**

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7. **Infrastrukturautomatisierung**

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WIE GROSS IST EIN MICROSERVICE?

Zwei-Pizza Teams

“Fits in my head”

15 Personen, 6 Monate, 10 Services

30 Personen, 60 Services

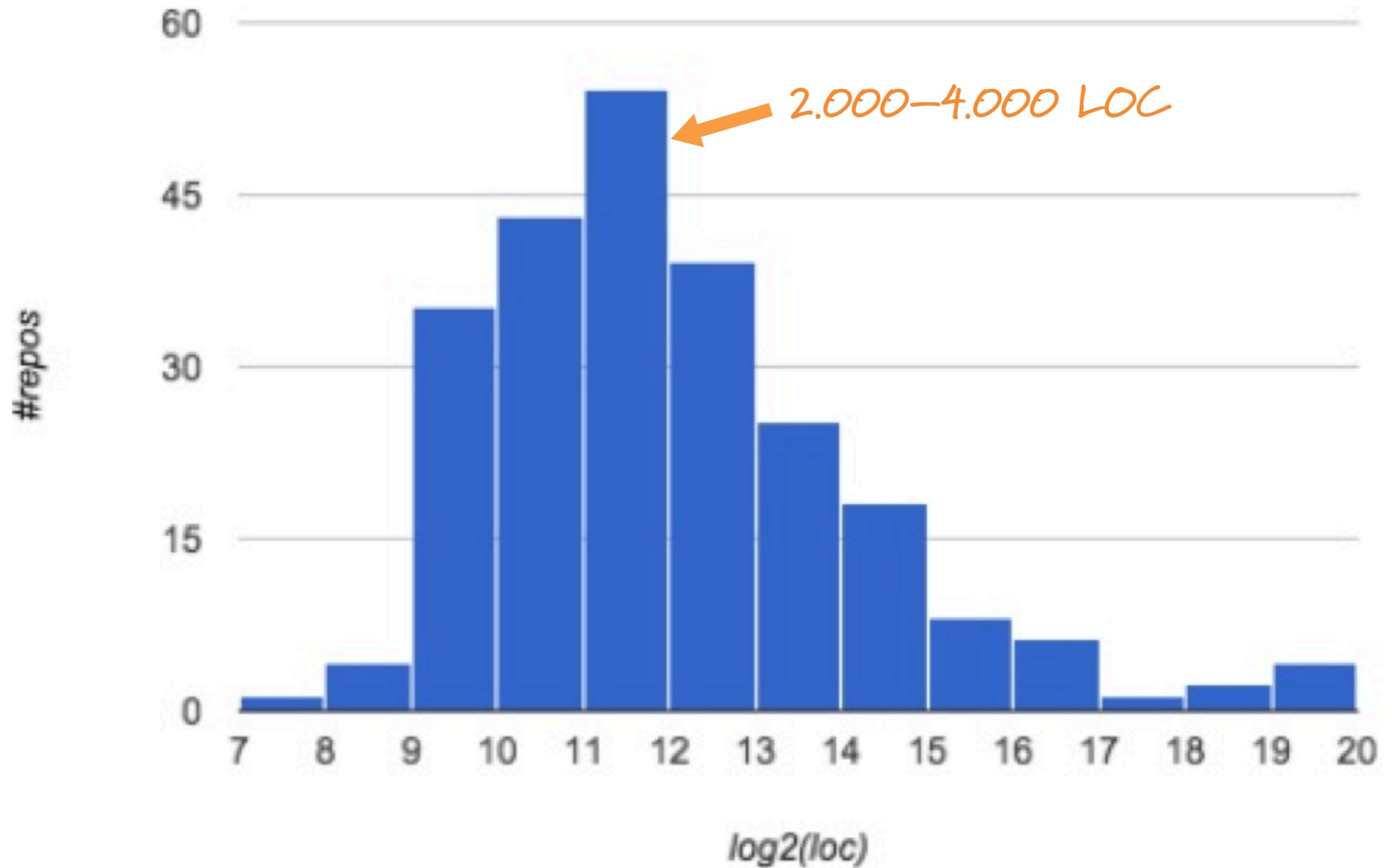
60 Personen, 20 Services

6 Teams, 40 Personen, 9 Services

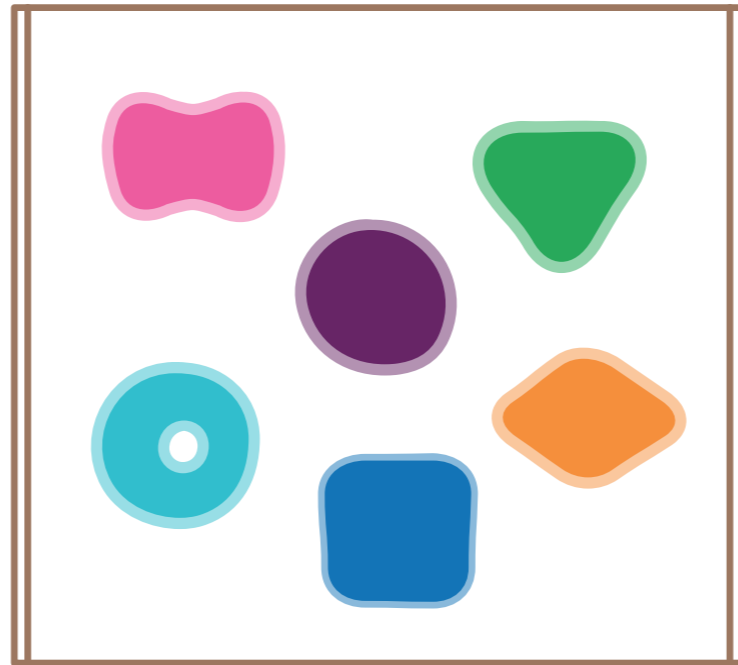
AUTOSCOUT24

SERVICE	GRÖSSE
priceestimation	~ 3.700 LOC
home	~ 2.900 LOC
classified-search	~ 2.300 LOC
classified-detail	~ 1.650 LOC
watchlist	~ 1.600 LOC
list-classifieds	~ 1.100 LOC
private-seller-contact-data	~ 1.050 LOC
cms-contentservice	~ 836 LOC
contentservice	~ 400 LOC

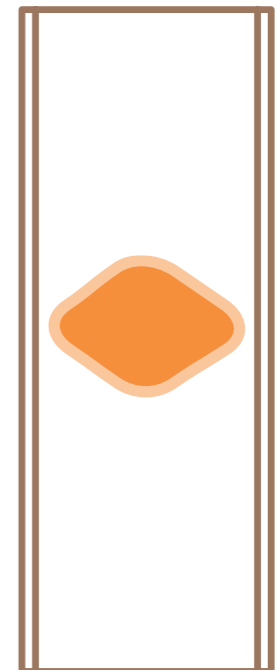
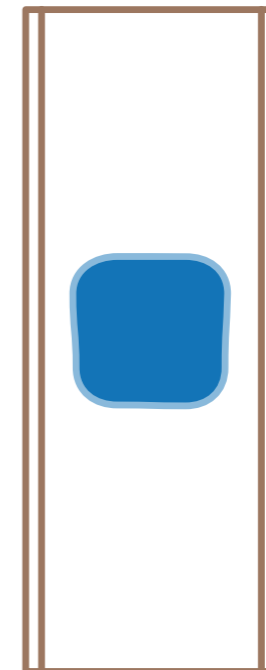
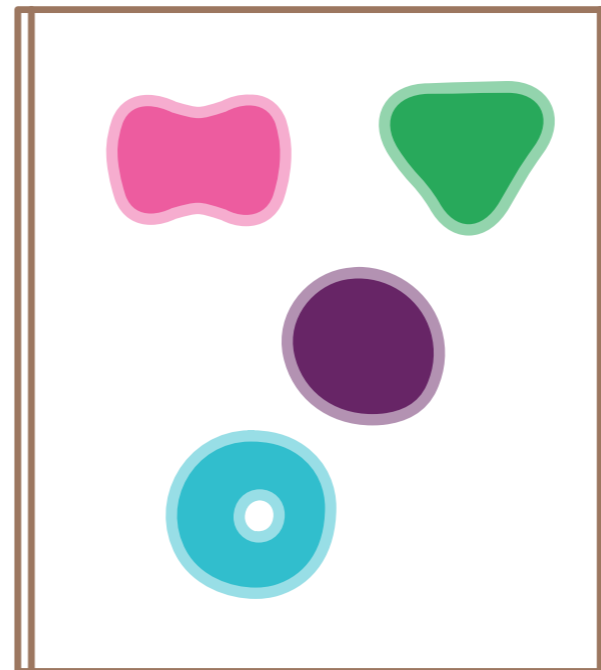
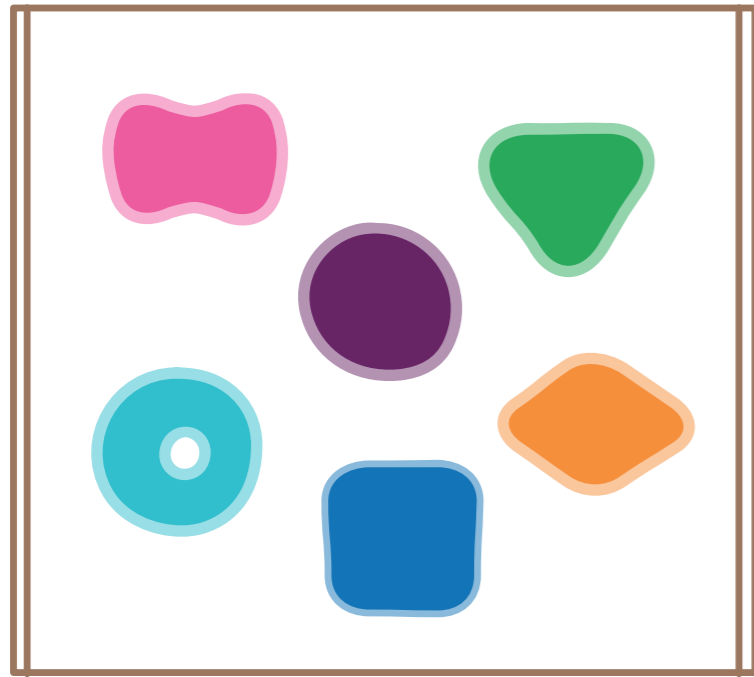
LOC per service (logarithmic)



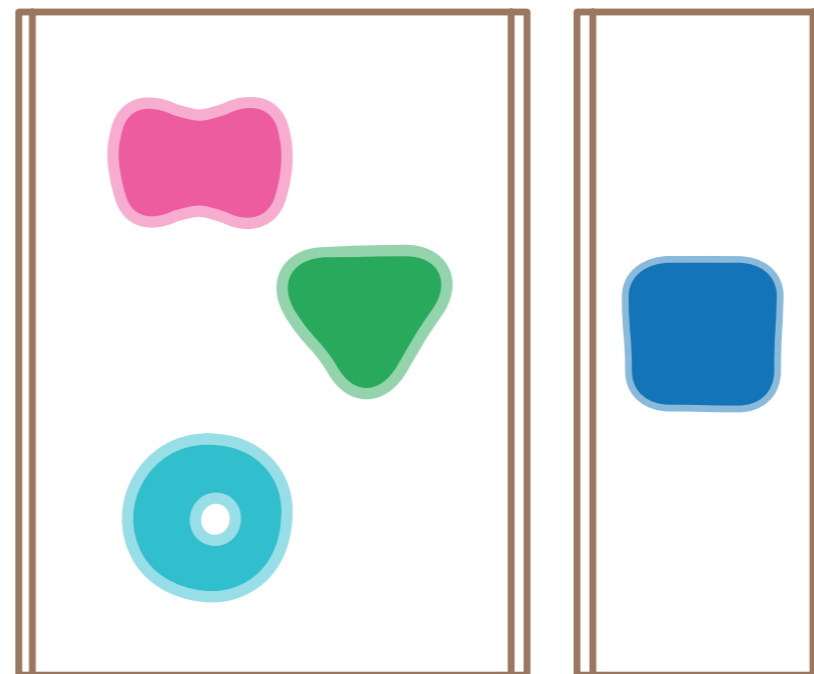
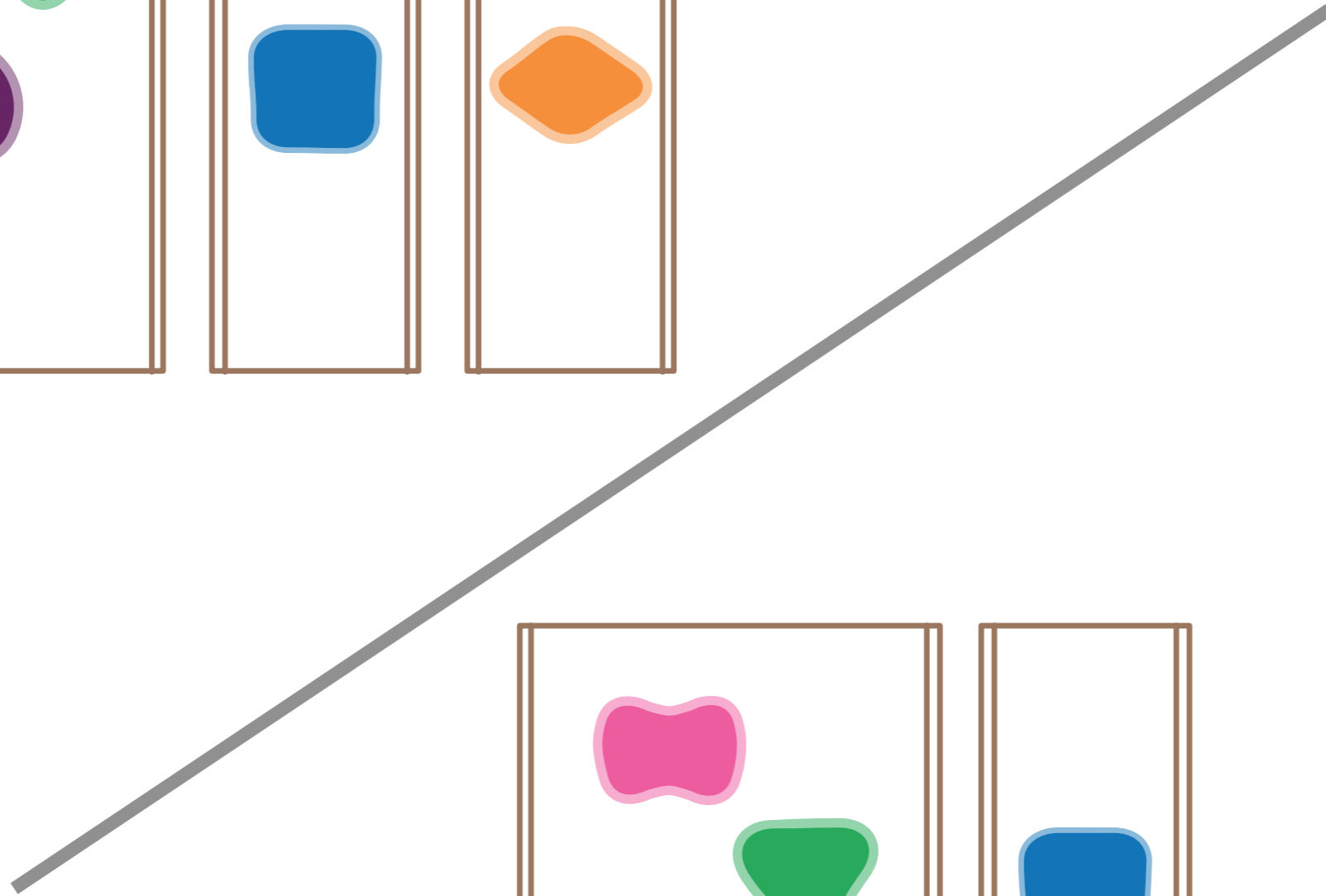
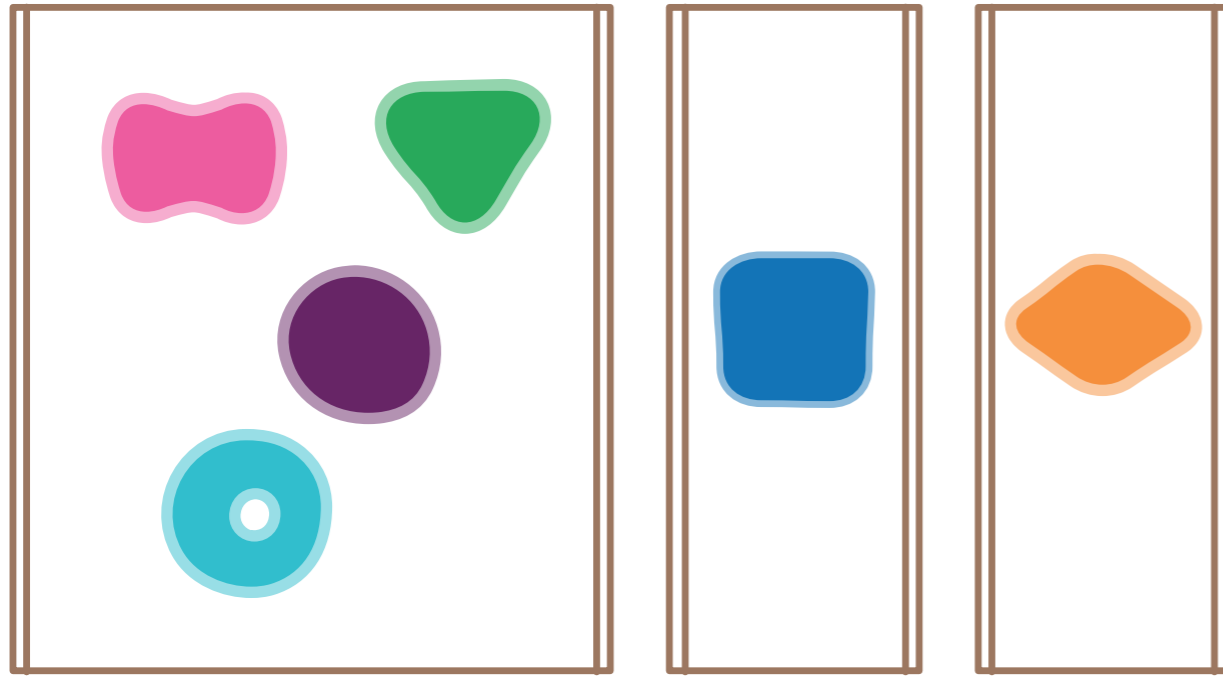
AUTOSCOUT24 VOR 5 JAHREN



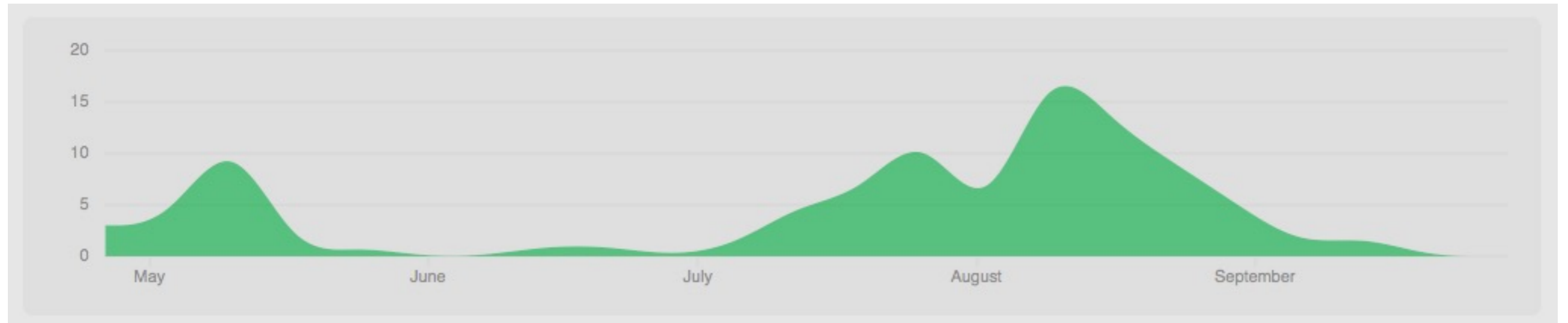
SWIMLANES



AWS UND MICROSERVICES

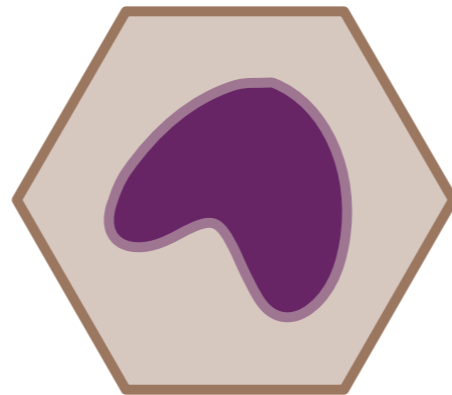


TATSU SERVICE TEMPLATE



117 Commits, 14 Contributors, 16 Pull Requests

DEPLOYMENT



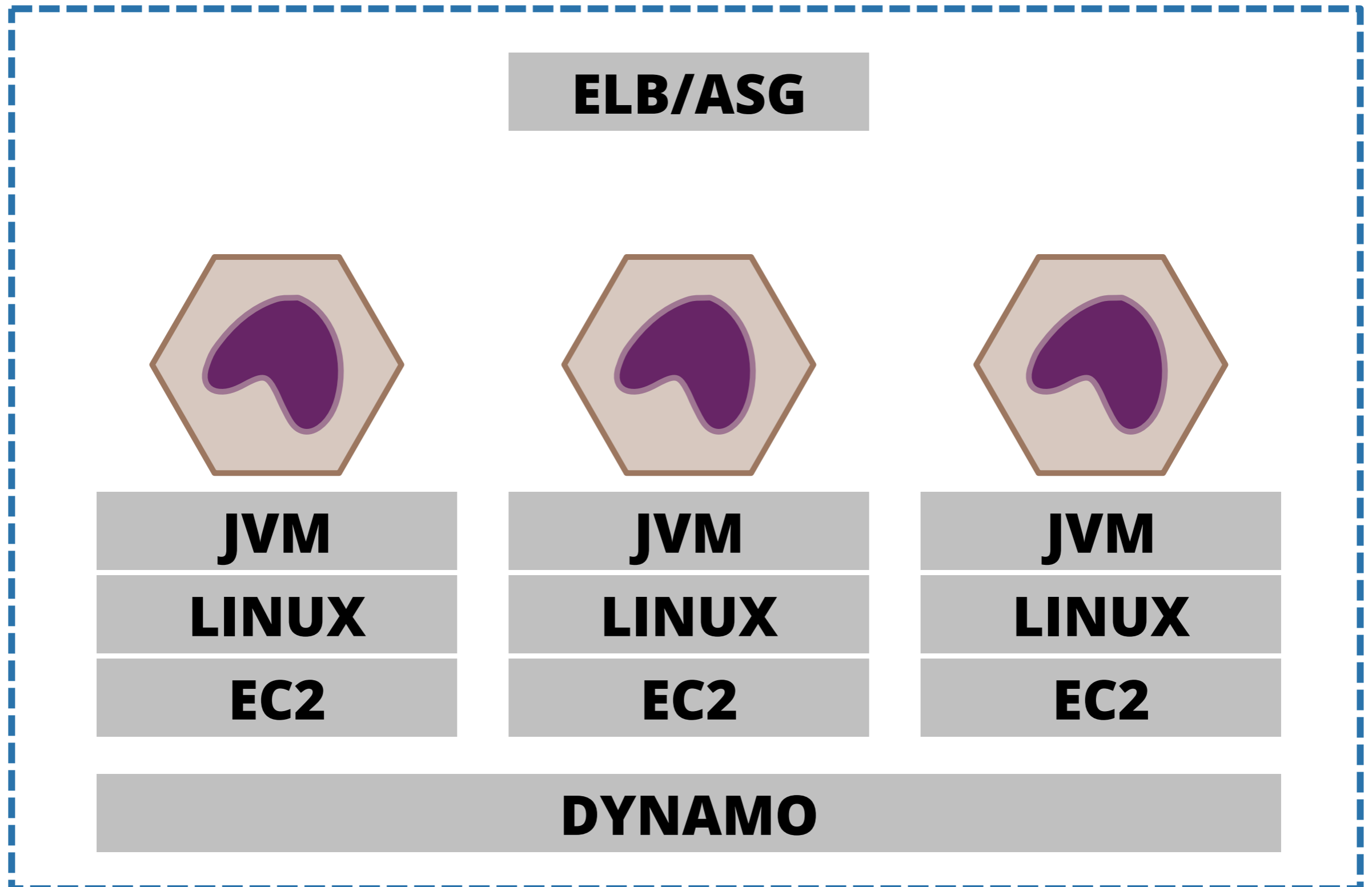
JVM

LINUX

EC2

DYNAMO

DEPLOYMENT



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ERFOLGSFAKTOREN

“We are that tall!”

WE ARE THAT TALL!

You must be
this tall to use
Microservices



Schnelle Provisionierung

Monitoring

Schnelles Deployment

DevOps Kultur

ERFOLGSFAKTOREN

“We are that tall!”

Unternehmenskultur

Keine Angst vor Veränderung + Geduld

Monolith

Cloud

CLOUD IST...

On-demand self-service

Broad network access

Resource pooling

Rapid elasticity

Measured service

<http://csrc.nist.gov/publications/nistpubs/800-145/SP800-145.pdf>

VIELEN DANK

*Erik Dörnenburg
ThoughtWorks Deutschland GmbH
erik@thoughtworks.com
@erikdoe*

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