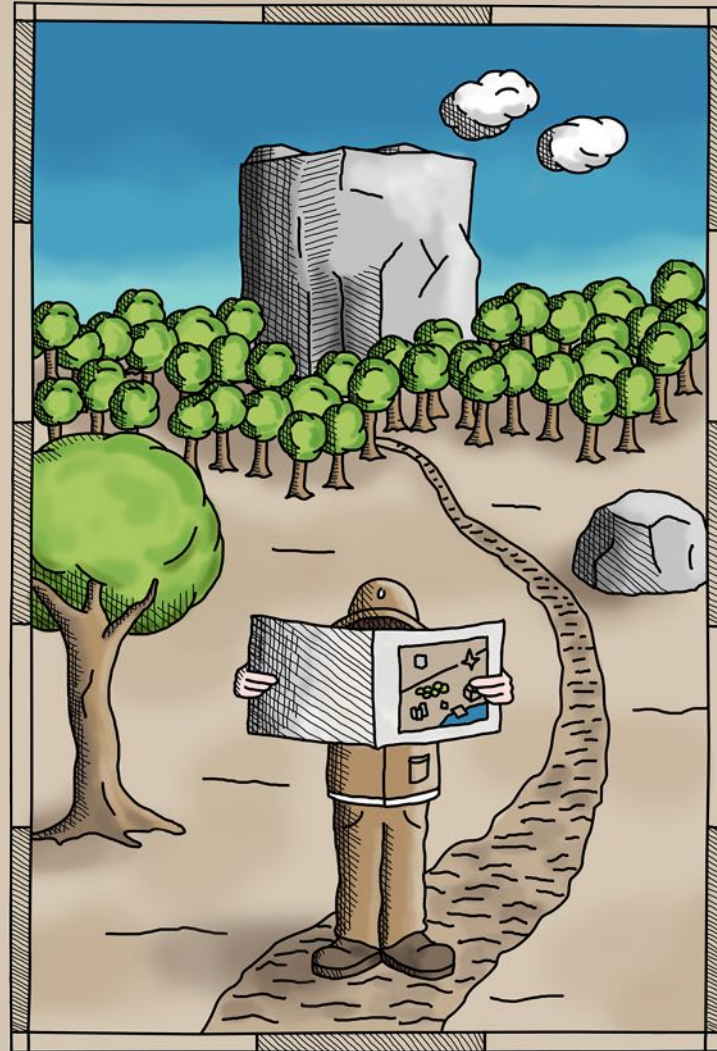


Vom
Monolithen



zu

Microservices



3.500 DM-MÄRKTE

1.900 Deutschland

1.600 Österreich & verbundene Länder



1.200.000 APP INSTALLATIONEN

iOS & Android



1.500.000 COUPONING- REQUESTS

pro Tag



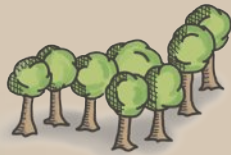
14 MICROSERVICES

bilden das Couponing-Backend





**Entstehung
Monolith**



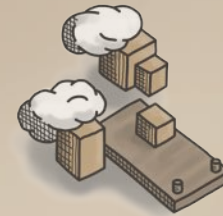
Microservices
bei dm



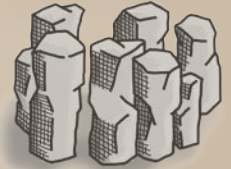
Der erste PAC
Microservice



Lessons Learned



Ausblick

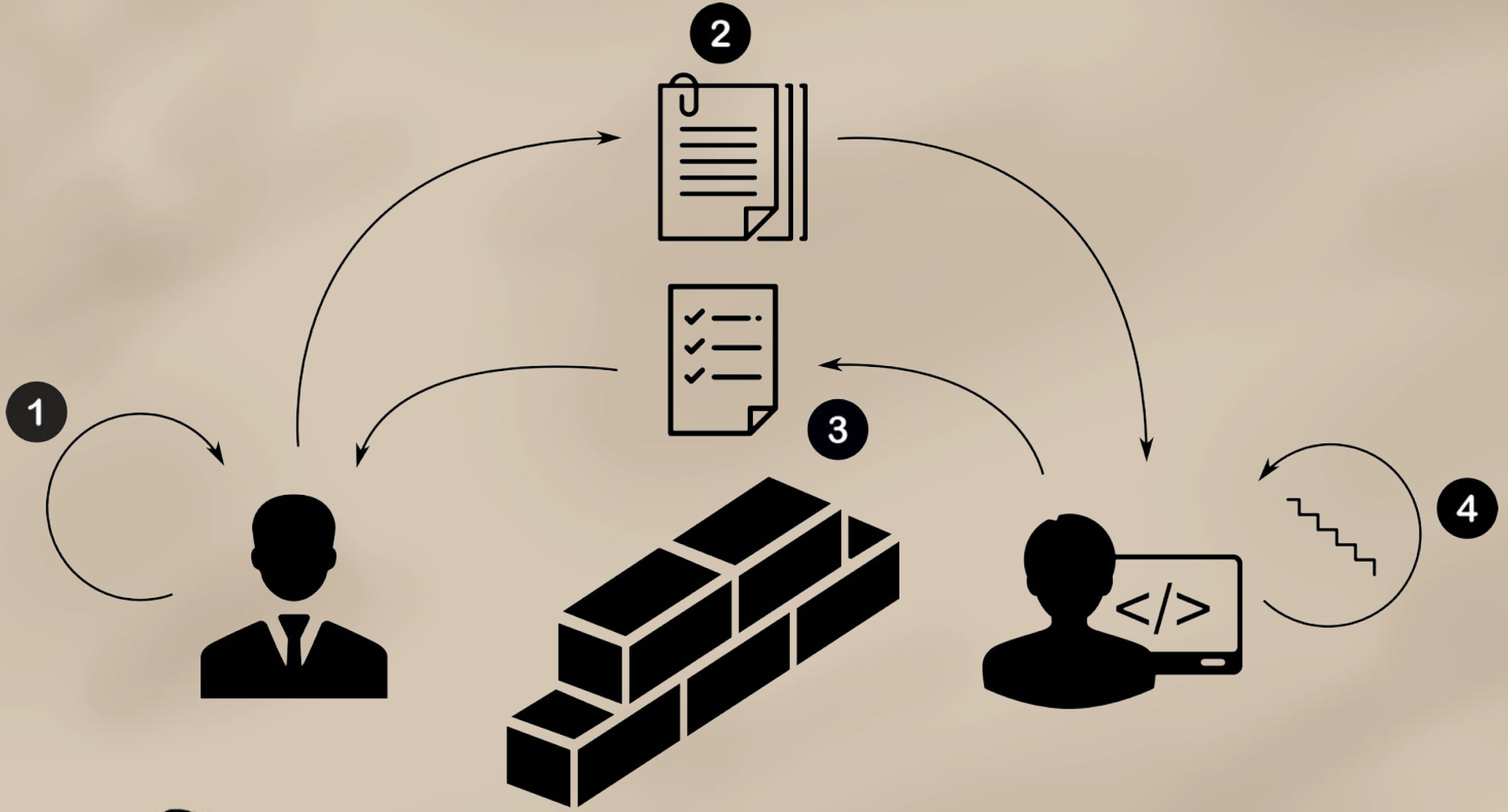


Fazit



WARUM SIND WIR HIER?





AGILER ENTWICKLUNGSPROZESS



- Iterative Auslieferung
- Kontinuierlicher Feedbackzyklus
- Ausrichtung Produktvision



HOHER AUTOMATISIERUNGSGRAD

durch "neue" Technologien

- Spring Boot
- systemd
- Docker
- Kubernetes



DAS TEAM

PAC



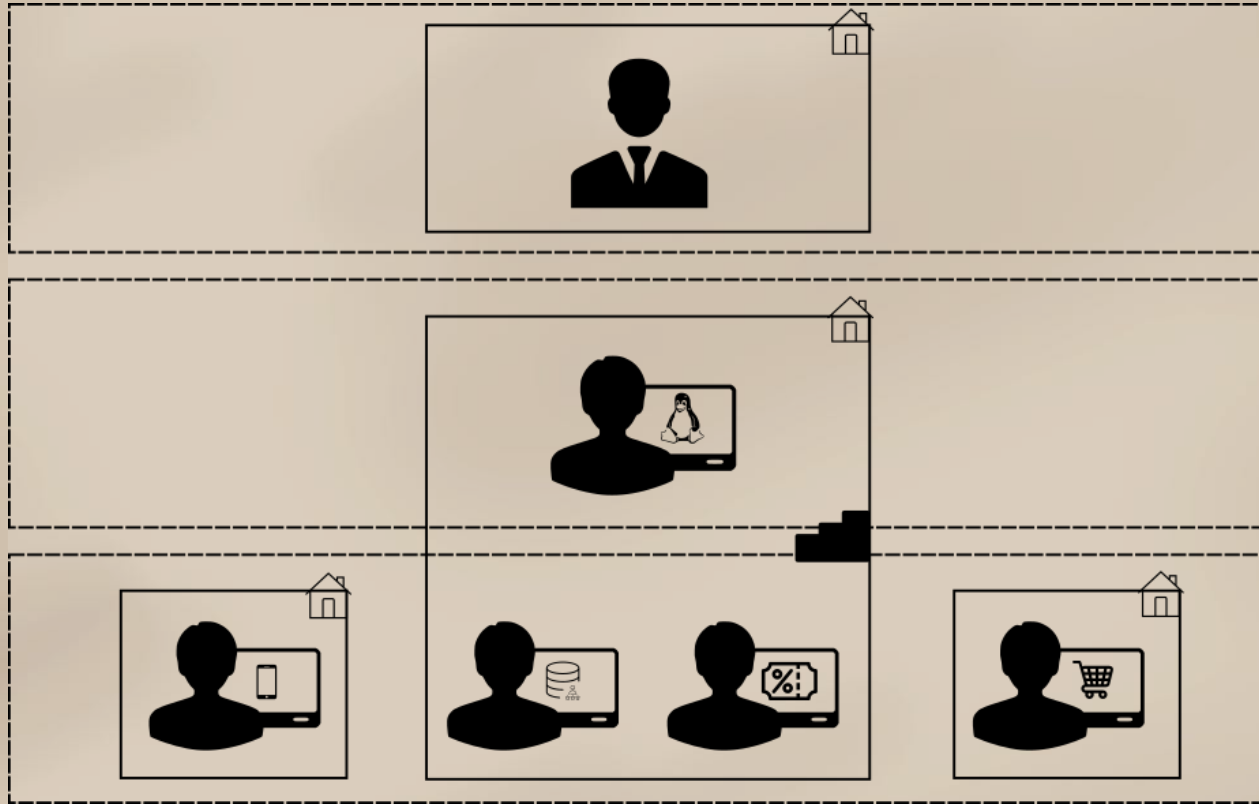
dm

— & —

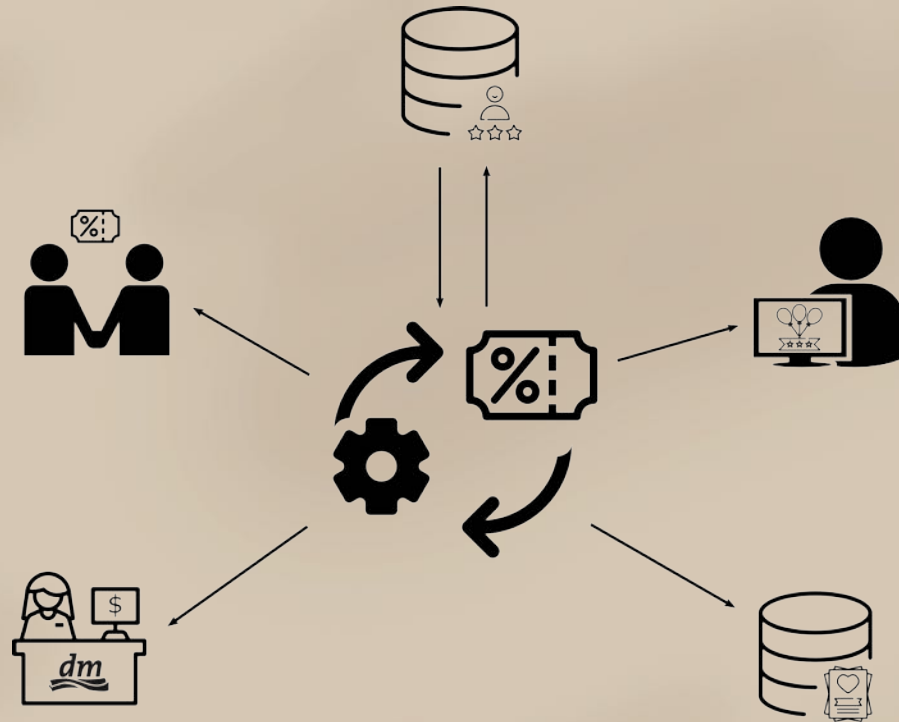
S

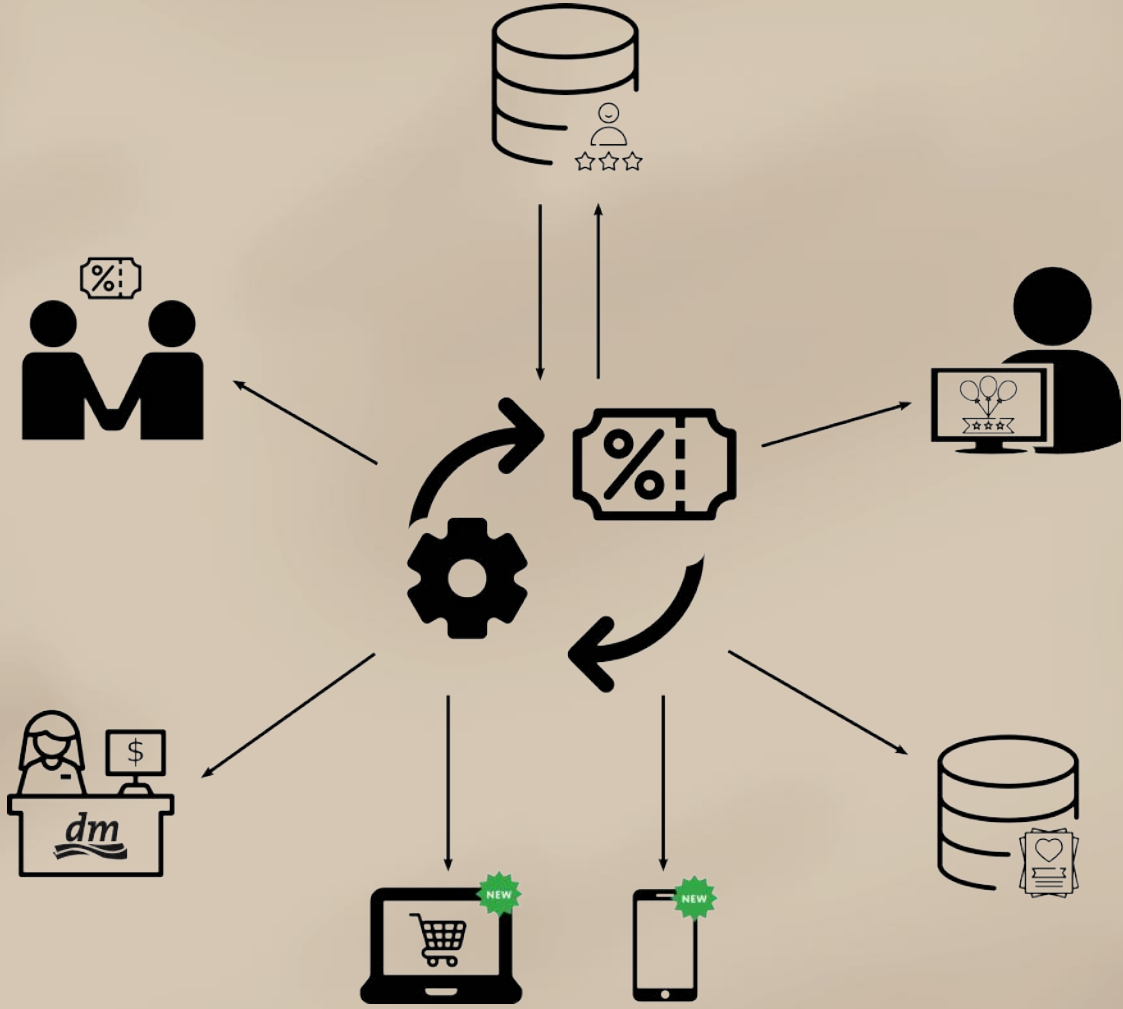
synyx



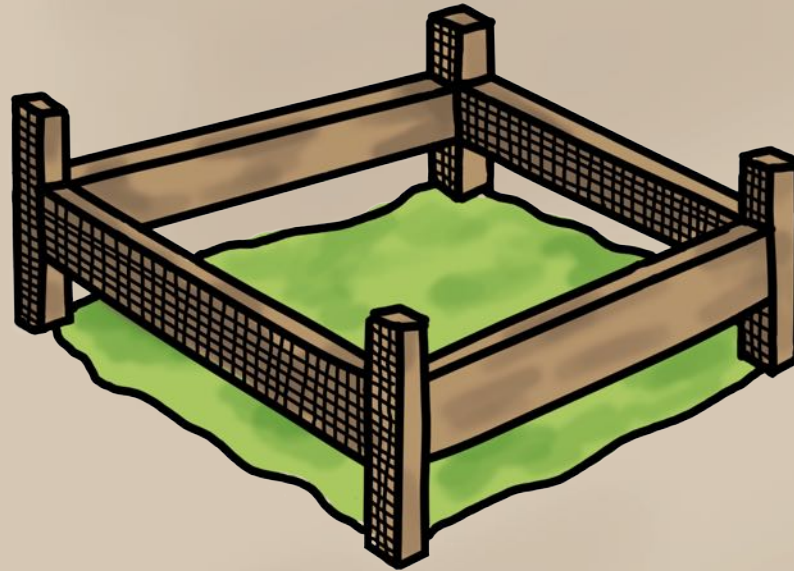


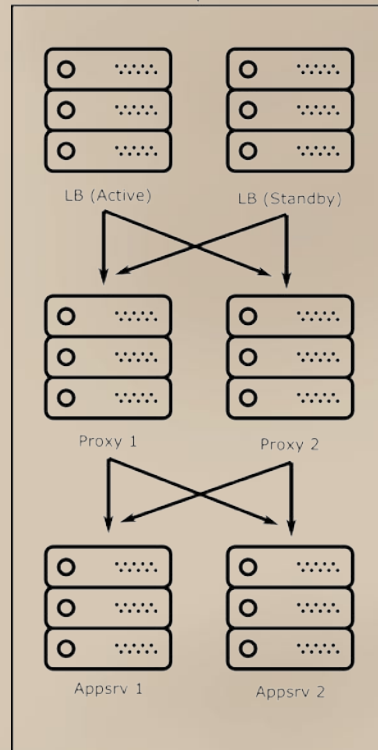
SYSTEMKONTEXT





VORAUSSETZUNGEN





Software-Loadbalancer

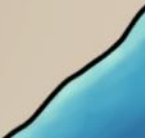
- * keepalived
- * ein active und ein standby

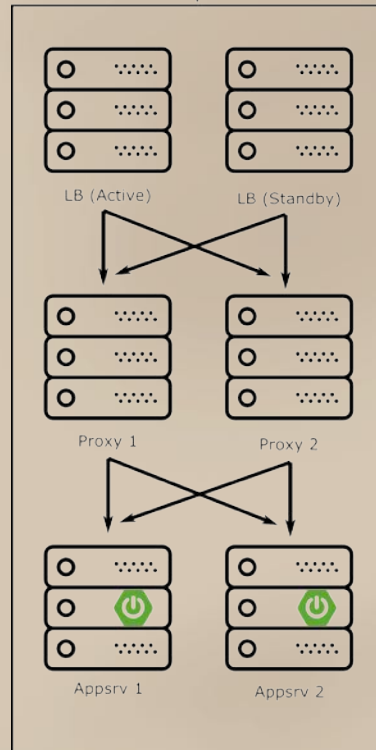
Proxy

- * Varnish
- * Apache

Applikationsserver

- * Apache
- * Tomcat





Software-Loadbalancer

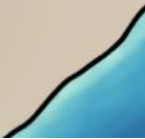
- * keepalived
- * active/standby

Proxy

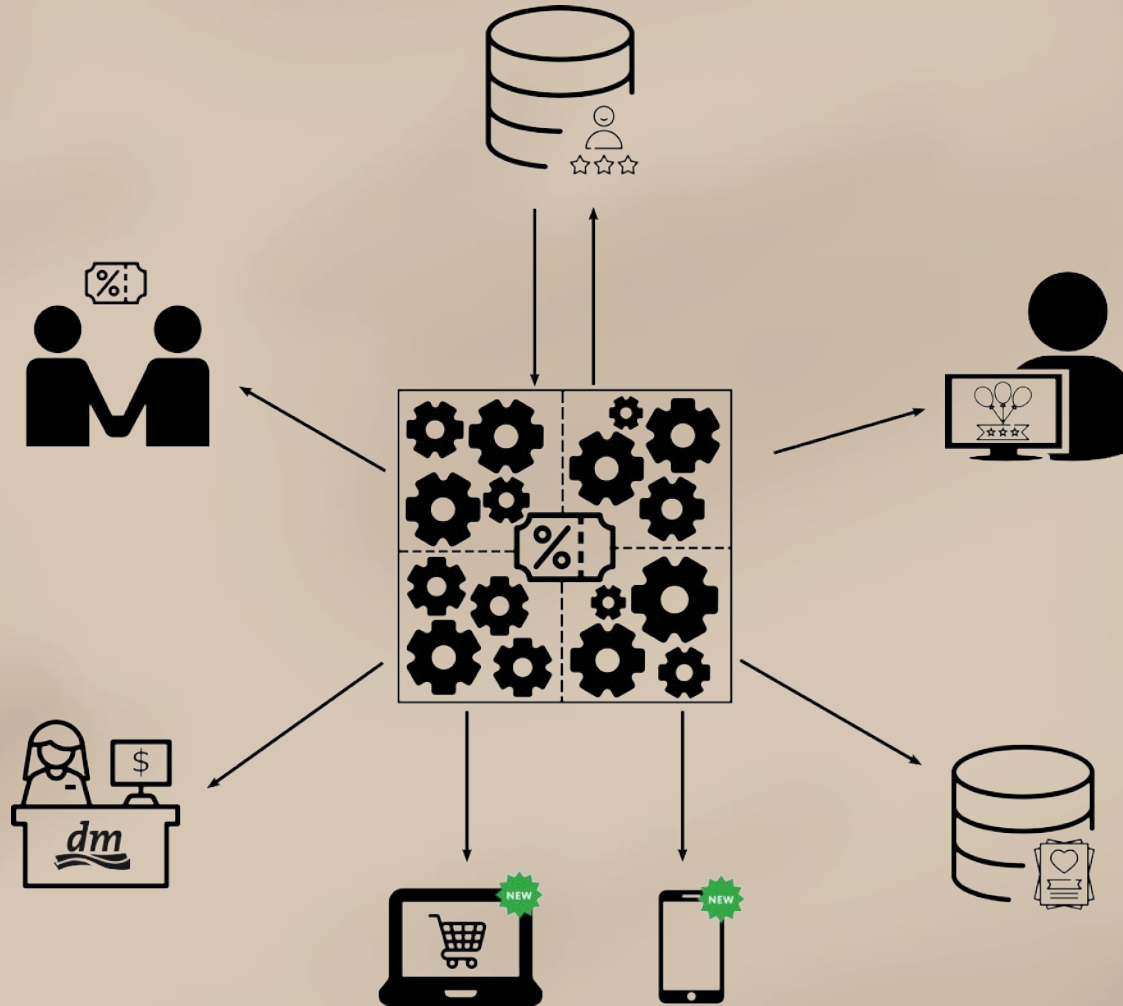
- * Varnish
- * Apache

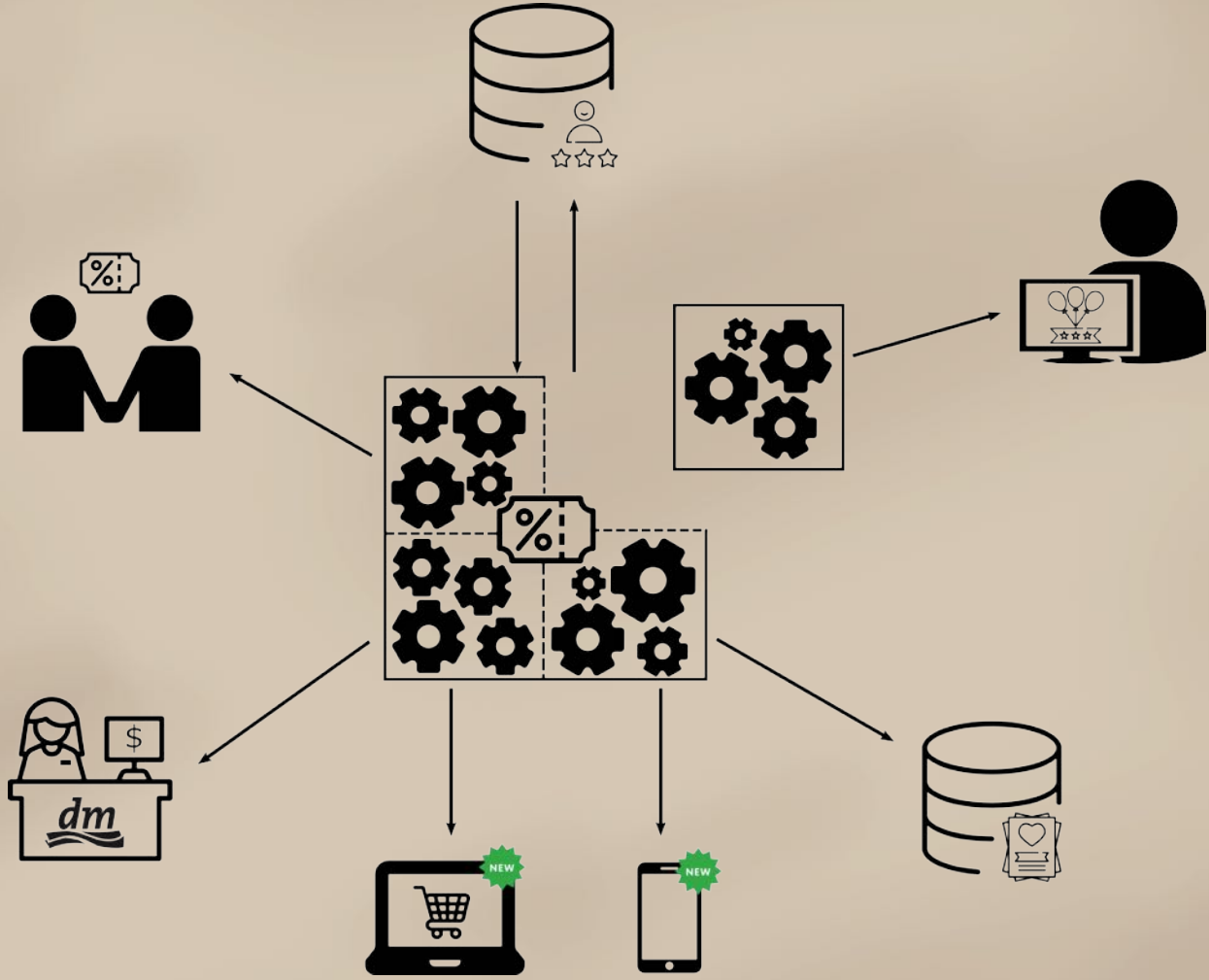
Applikationsserver

- * Apache
- * Tomcat



MODULARISIERUNG





UND TÄGLICH GRÜSST...

- die Wartbarkeit
- die Erweiterbarkeit





Entstehung
Monolith



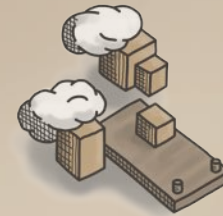
**Microservices
bei dm**



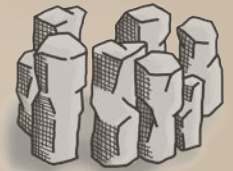
Der erste PAC
Microservice



Lessons Learned



Ausblick



Fazit



DIE ERSTEN MICROSERVICES BEI DM

HOMEPAGE/SHOP

Startschuss der Microservice Architektur bei dm



2 MONOLITHEN



SPRING CLOUD

Umsetzung der Microservice Architektur Patterns



SERVICE DISCOVERY



CLIENTSIDE LOADBALANCING

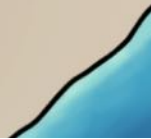
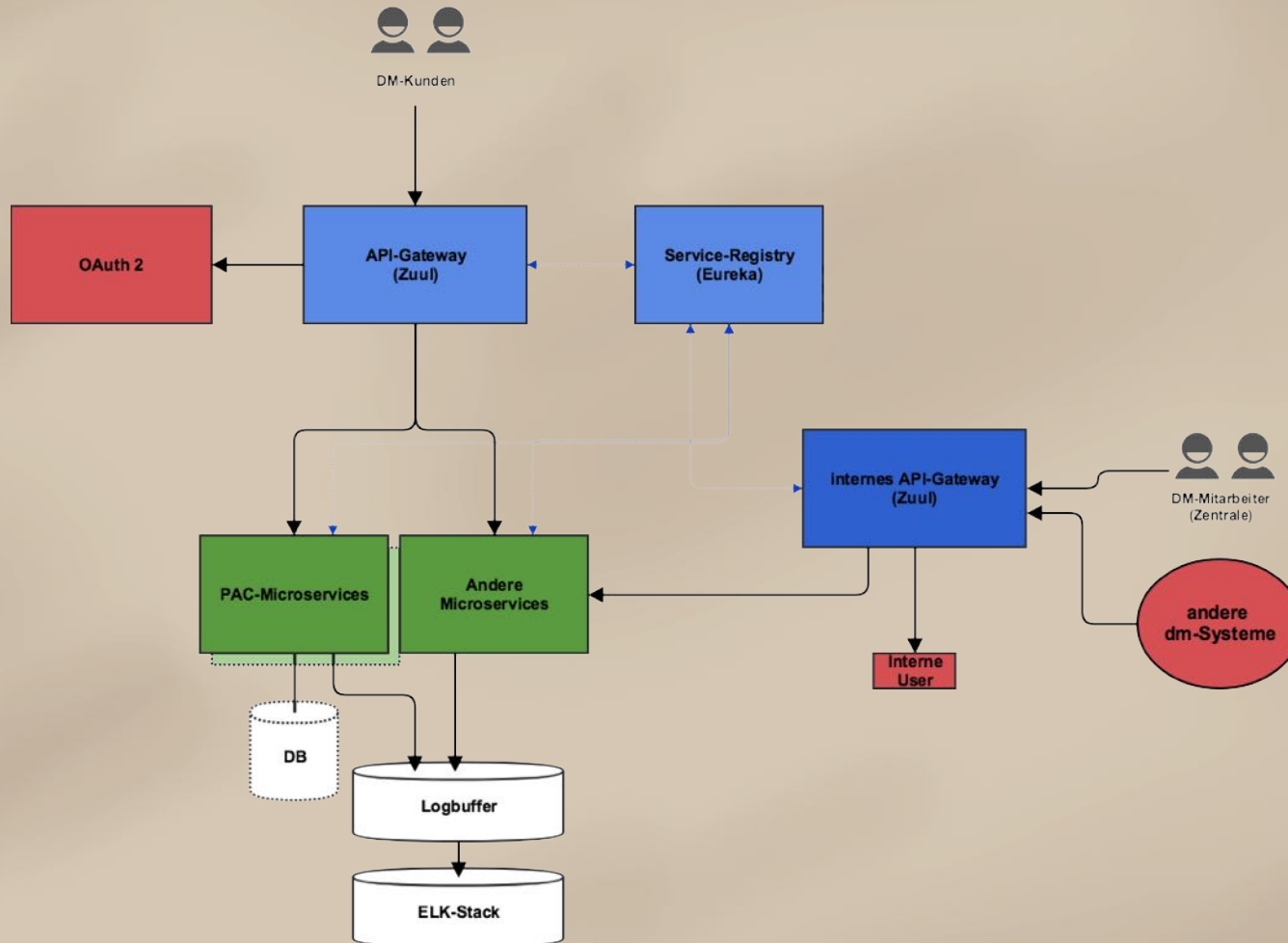


API GATEWAY

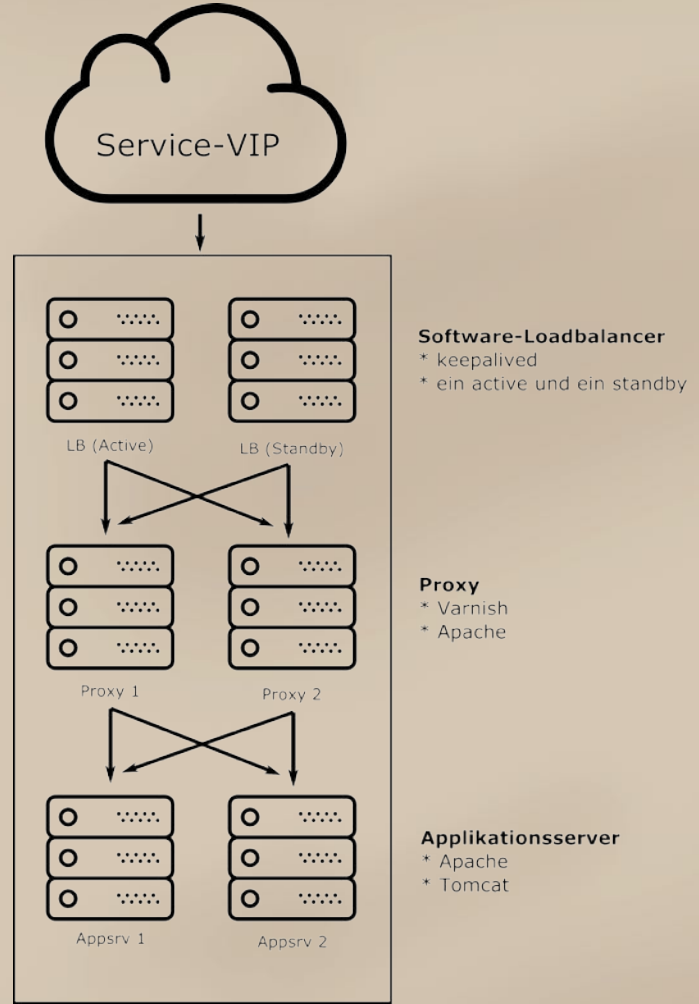


CIRCUITBREAKER





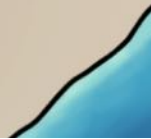
EINE SCHLANKERE INFRASTRUKTUR

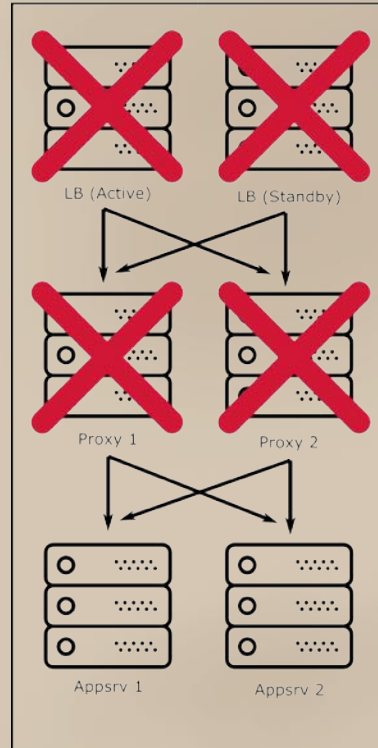


Software-Loadbalancer
* keepalived
* ein active und ein standby

Proxy
* Varnish
* Apache

Applikationsserver
* Apache
* Tomcat





Software-Loadbalancer

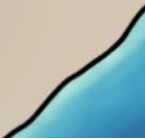
- * keepalived
- * active/standby

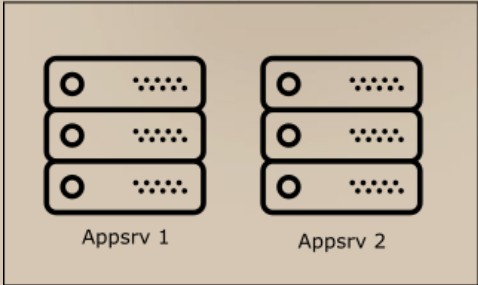
Proxy

- * Varnish
- * Apache

Applikationsserver

- * Apache
- * Tomcat





Applikationsserver

- * Apache
- * Tomcat





Entstehung
Monolith



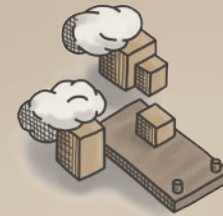
Microservices
bei dm



**Der erste PAC
Microservice**



Lessons Learned



Ausblick



Fazit



MICROSERVICES BEI PAC

10 MODULE

Größe des Monolithen vor Migration



DM GLÜCKSKIND APP

Erster Usecase für PAC Microservice





The image shows a smartphone screen displaying a coupon management interface. At the top, the title 'Coupons' is centered in a dark blue header. Below the header, there are two tabs: 'Nicht aktiviert (1)' and 'Aktiviert (2)'. The 'Aktiviert (2)' tab is selected. The main content area lists two coupons. The first coupon is for 'Pampers Baby-Dry Pants', marked as 'NEU' (New). It features a small image of the product and a red banner indicating a benefit of 'Vorteil: 3,00 €'. A dark blue button labeled 'AKTIVIEREN' (Activate) is positioned to the right of the benefit. A hand icon is shown tapping this button. The second coupon is for 'Hipp Babysanft Ge Nacht Bad', also marked as 'NEU'. It features a small image of the product and a red banner indicating a benefit of 'Vorteil:'. The bottom of the screen is a dark red banner with the text 'Coupons aktivieren' in white, followed by the instruction 'Aktivieren Sie Ihre Coupons, um sie zum Kundencode hinzuzufügen.' in white text.

Coupons

Nicht aktiviert (1) Aktiviert (2)

NEU Pampers Baby-Dry Pants

Vorteil: **3,00 €** **AKTIVIEREN**

NEU Hipp Babysanft Ge Nacht Bad

Vorteil:

Coupons aktivieren
Aktivieren Sie Ihre Coupons, um sie zum Kundencode hinzuzufügen.



MIGRATION DES MODULS



END 2 END TESTS

Geben Sicherheit... sind aber selbst schwer zu maintainen



INFRASTRUKTUR

Mit 10 WTFs/Minute unterwegs



MICROSERVICES BEI PAC

DER ERSTE MICROSERVICE STEHT



ABER...

Man fühlt sich etwas wie im Blindflug



METRICS





ELK, ACTUATOR, TELEGRAF, INFLUXDB, GRAFANA



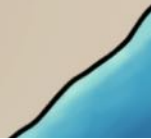
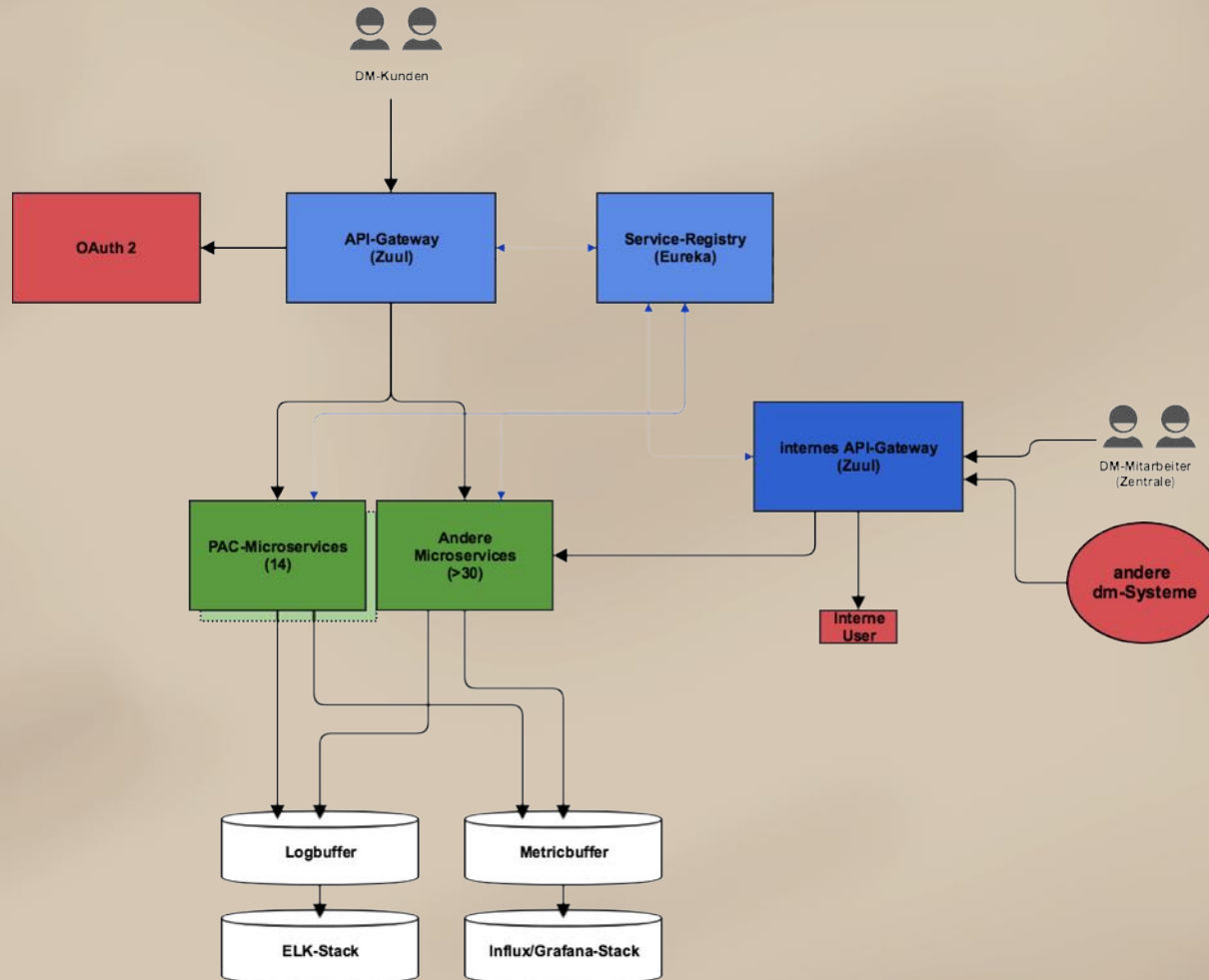
EINER IST KEINER

**IMMER MEHR MICROSERVICES
ENTSTEHEN**



BEDEUTUNG DES MONOLITHEN SINKT





FINETUNING





Entstehung
Monolith



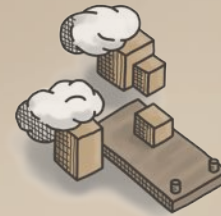
Microservices
bei dm



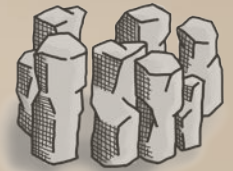
Der erste PAC
Microservice



Lessons Learned



Ausblick



Fazit



LESSONS LEARNED (TECH.)

API GATEWAY PATTERN



DEPENDENCY HELL



408

Request Timeout



LESSONS LEARNED (ORG.)

NEUES TEAM FÜR ONLINESHOP



DEVOPS FÜR DEN BEREICH



DEVOPS KULTUR



BENEFITS

MEHR MACHT DEN DEVS



UNABHÄNGIGE SKALIERUNG



UNABHÄNGIGES DEPLOYMENT



PROBLEME SCHNELLER LOKALISIERBAR





Entstehung
Monolith



Microservices
bei dm



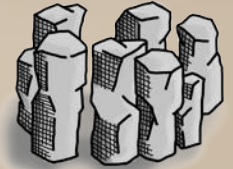
Der erste PAC
Microservice



Lessons Learned



Ausblick



Fazit



AUSBLICK

BUZZWORD BINGO



DOCKER



(PRIVATE) CLOUD



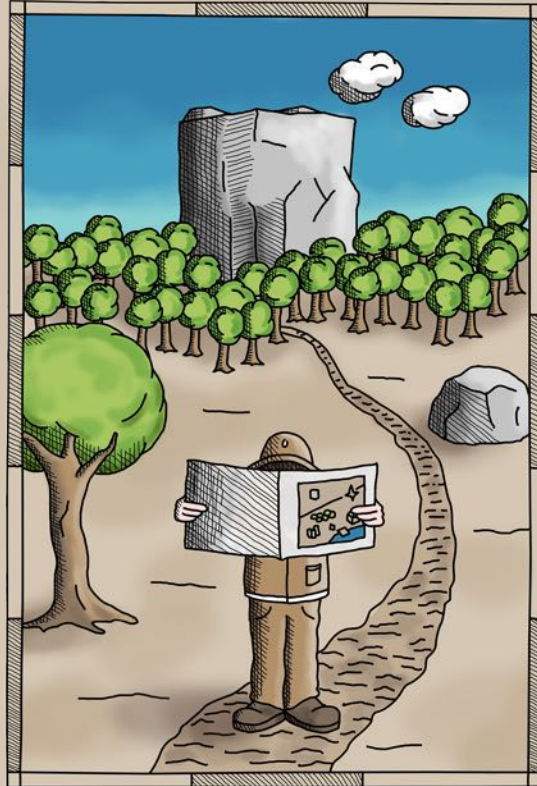
EVENT-DRIVEN MICROSERVICES



FAZIT



Vom
Manolithen



zu
Microservices



Slides:

<https://synyx.github.io/monolith2microservices/>

