



# Platform Engineering XXL

oder:

Wie wir eine CI/CD Plattform für  
30.000+ Entwickler:innen bauen  
und betreiben

Dirk Lehmann (he/him), SAP  
November 30, 2023

Public



# About Me



With SAP since 2001



Implemented the first daily delivery process at SAP (2014)



Current job: Solution Manager for internal development platform



SAP Contact person for german language user group (DSAG) for the topic “DevOps”



Co-Organizer DevOpsDays Zurich (16.-17.04. 2024 – Winterthur, CH)  
<https://devopsdays.ch>



Conference speaker  
<https://doergn.github.io/>



1 Wife, 2 Kids



[@doergn@mastodon.social](https://@doergn@mastodon.social)

Public



# SAP Facts



Founded 1972



Enterprise software solutions

- Tailored for 26 industries
- Offered in 180 countries (in 30+ languages)



105.328 employees worldwide (30.06.2023)

- 36.100 (34.2%) employees in Research and Development (30.06.2023)



Programming languages

- ABAP (Advanced Business Application Programming)
  - Own proprietary language and technology stack in (mainly) core ERP suite
- Non-ABAP
  - Java ~30%
  - JavaScript ~15%



Delivery channels

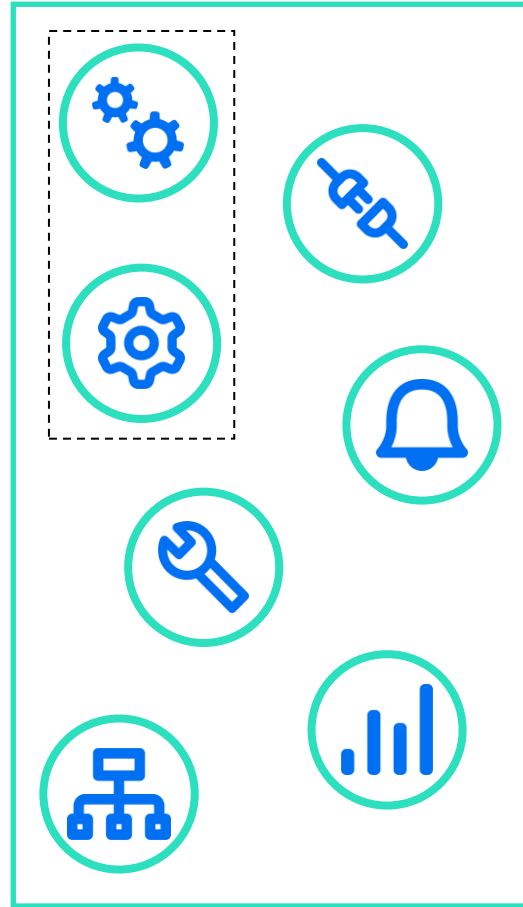
- On premise, Cloud, Hybrid, Mobile
- Multi-Cloud Strategy (Hyperscalers + own 52 Data Centers)

```
1 CLASS zbp_generate_bookings_xxx DEFINITION
2   PUBLIC
3   FINAL
4   CREATE PUBLIC .
5
6   PUBLIC SECTION.
7     INTERFACES if_oo_adt_classrun.
8   PROTECTED SECTION.
9   PRIVATE SECTION.
10  ENDCLASS.
11
12
13 CLASS zbp_generate_bookings_xxx IMPLEMENTATION.
14
15   METHOD if_oo_adt_classrun~main.
16     DATA:it_bookings TYPE TABLE OF ztbooking_xxx.
17
18     *   read current timestamp
19     GET TIME STAMP FIELD DATA(zv_tsl).
20     *   fill internal table (itab)
21     it_bookings = VALUE #(
22       ( booking = '1' customername = 'Buchholm' numberofp
23         country = 'Germany' dateofbooking = '20180213125959'
24       ( booking = '2' customername = 'Jeremias' numberofp
25         country = 'USA' dateofbooking = '20180313125959' da
26     ).
27
28     *   Delete the possible entries in the database table - in c
29     DELETE FROM ztbooking_xxx.
30     *   insert the new table entries
31     INSERT ztbooking_xxx FROM TABLE @it_bookings.
32
33     *   check the result
34     SELECT * FROM ztbooking_xxx INTO TABLE @it_bookings.
35     out->write( sy-dbcnt ).
36     out->write( 'data inserted successfully!' ).
37
38   ENDMETHOD.
39
40  ENDCLASS.
```

# The Situation of a Development Team



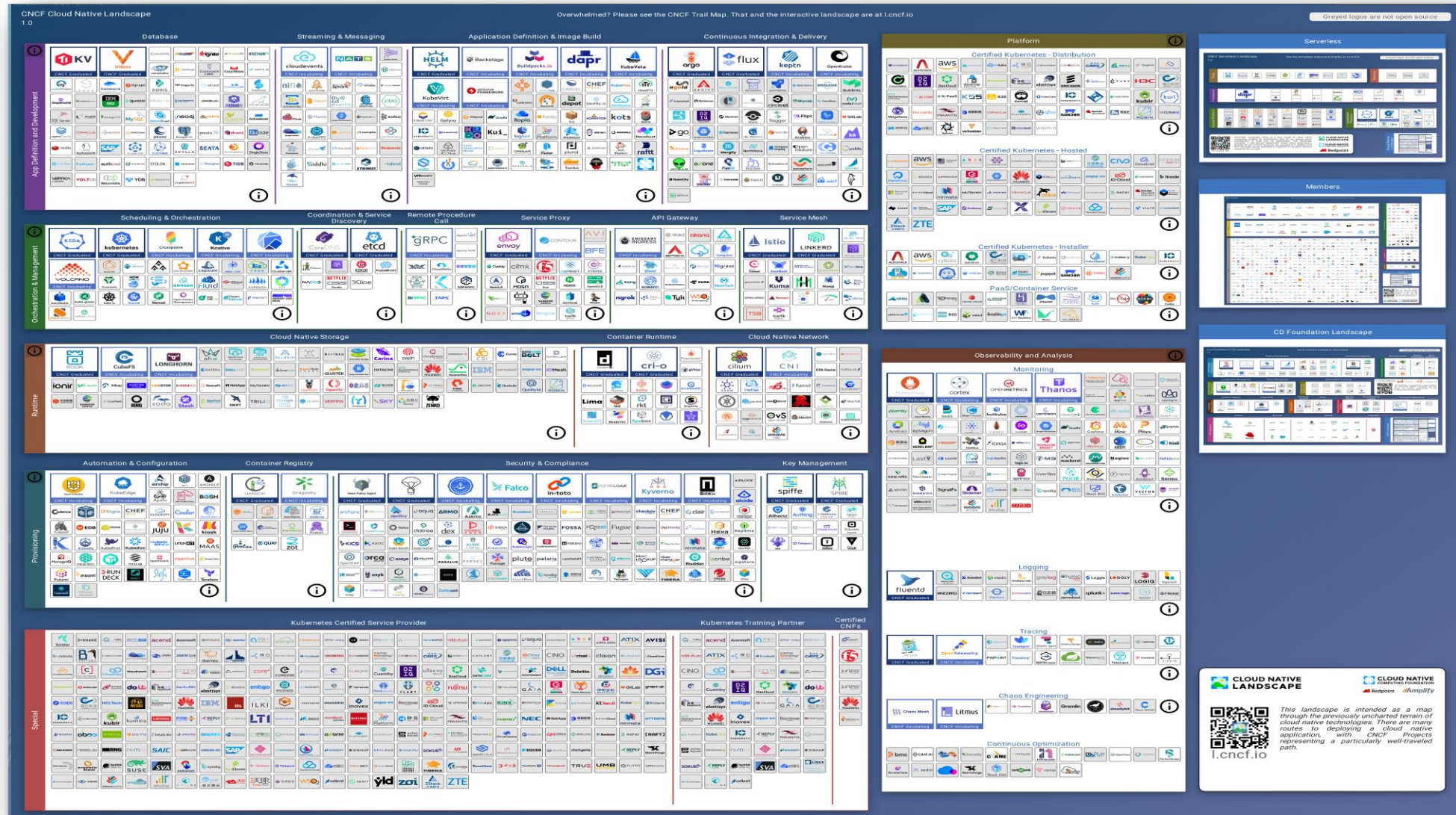
Development  
Team



Tools



# Normal Tools. Just Innocent Tools.

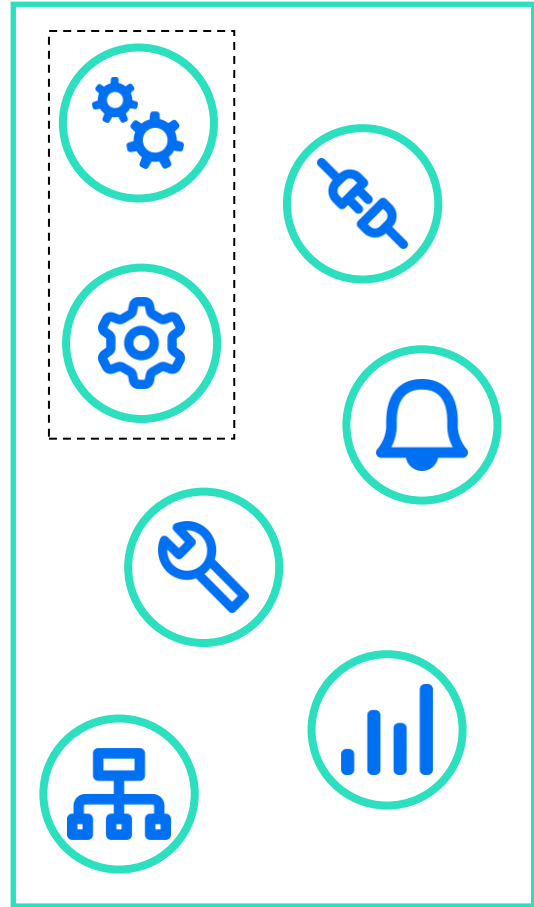


Source: Cloud Native Computing Foundation, [CNCF Landscape](#), Oct. 2020

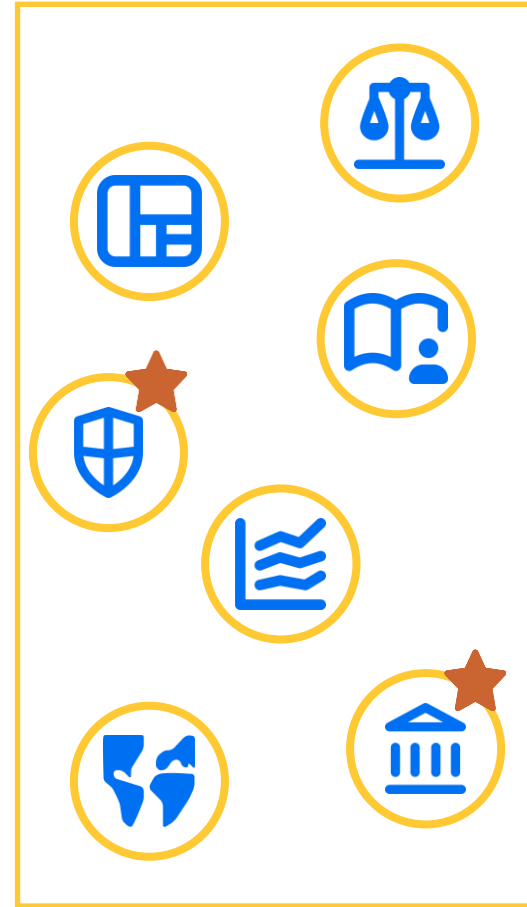
# The Situation of a Development Team



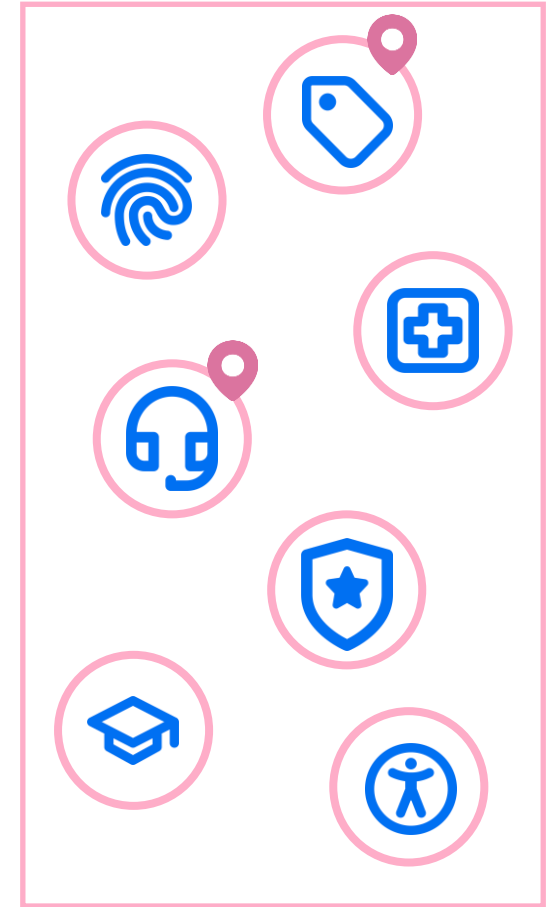
Development  
Team



Tools



Processes

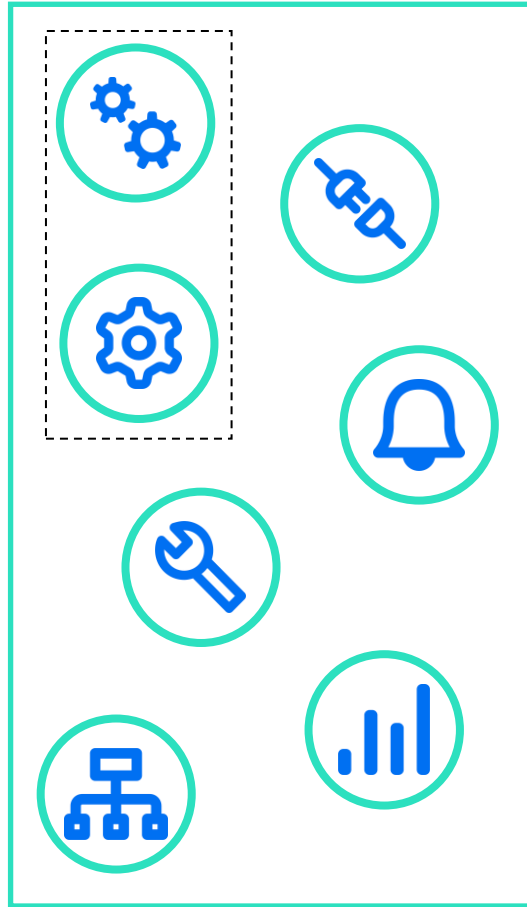


Guidelines

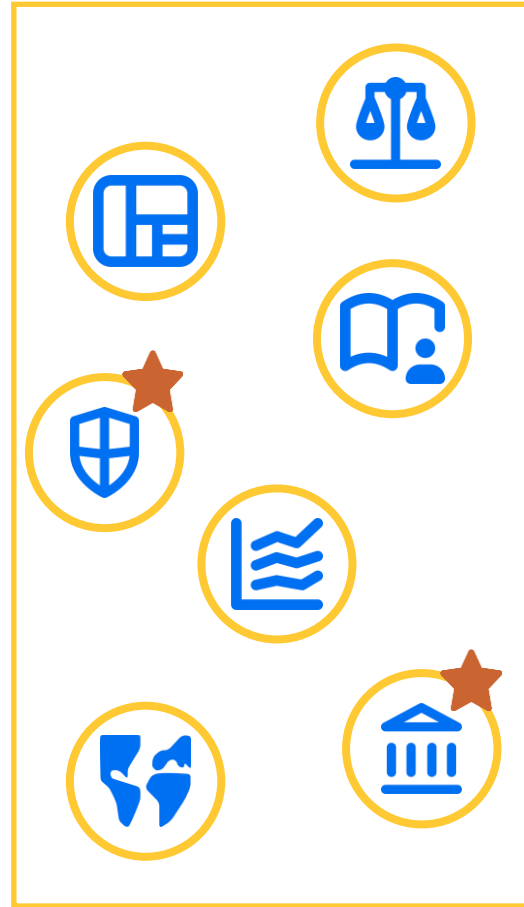
# The Situation of a Development Team



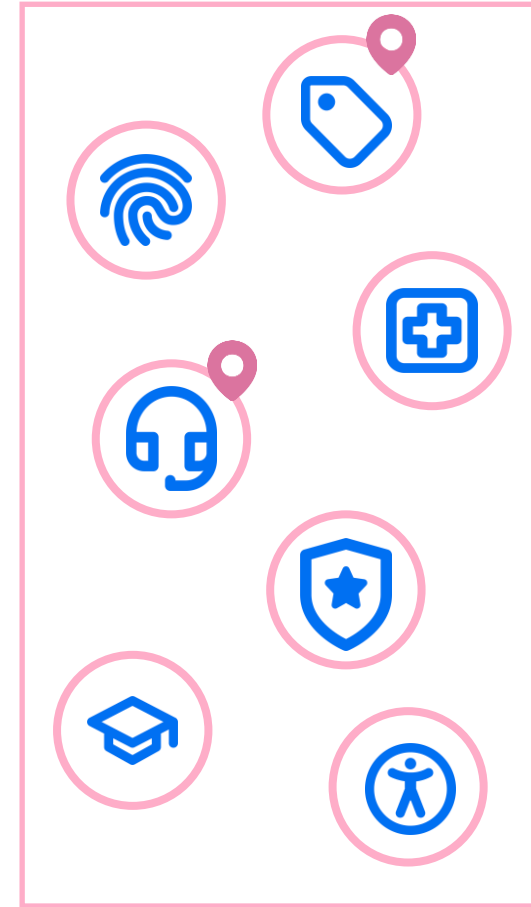
Development  
Team



Tools

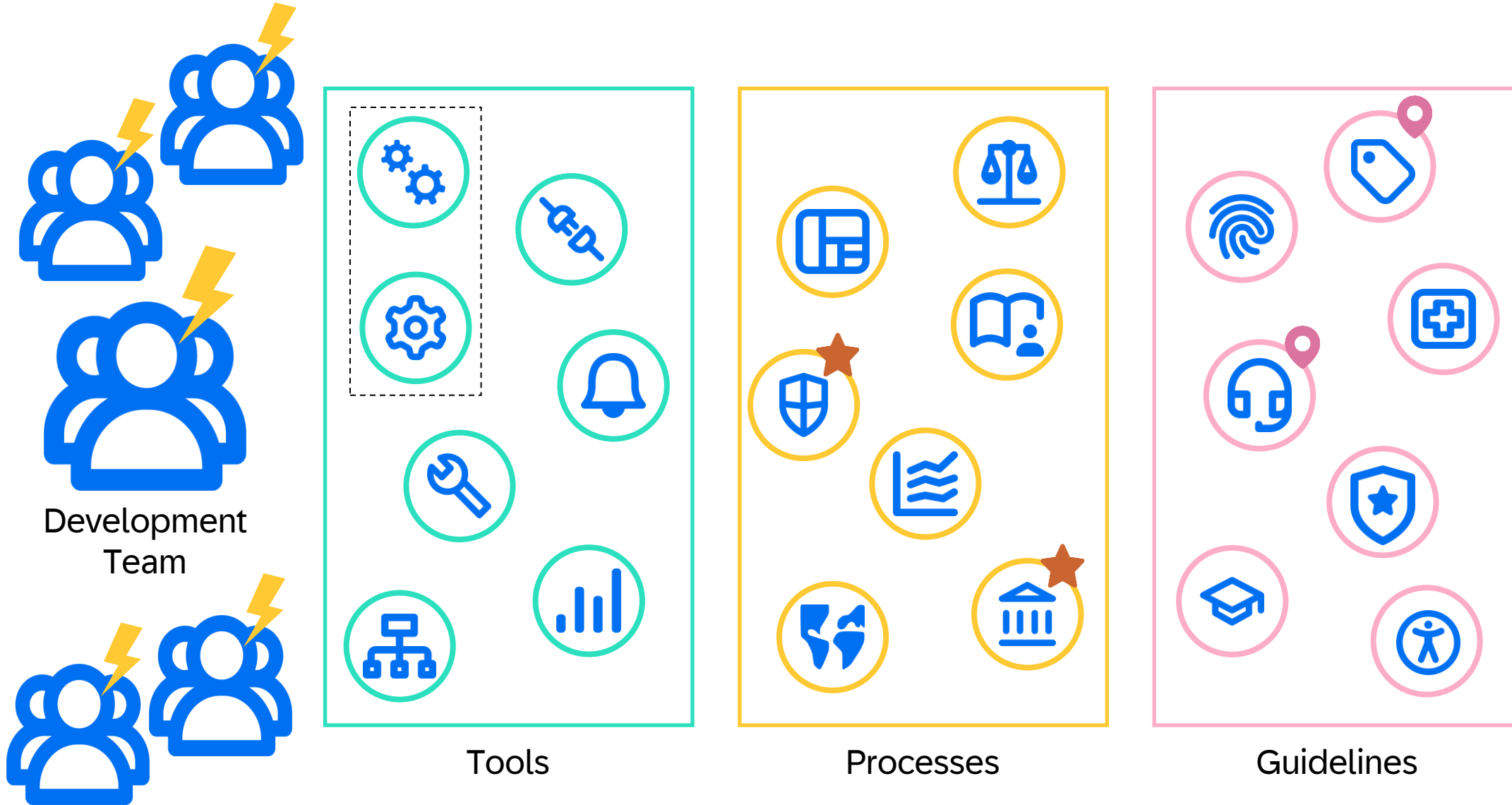


Processes



Guidelines

# The Situation of a Development Team





# Platform Engineering



# Platform Engineering – A Manifestation of DevOps

## Technology Radar

An opinionated guide to today's technology landscape

“The adoption of cloud and DevOps, while increasing the productivity of teams who can now move more quickly with reduced dependency on centralized operations teams and infrastructure, also has constrained teams who lack the skills to self-manage a full application and operations stack. Some organizations have tackled this challenge by creating **platform engineering product teams**. These teams operate an internal platform which **enables delivery teams to self-service deploy and operate systems with reduced lead time and stack complexity**. The emphasis here is on API-driven self-service and supporting tools, with delivery teams still responsible for supporting what they deploy onto the platform.”

- [Thoughtworks Technology Radar 2017](#)

“**A digital platform** is a foundation of **self-service APIs, tools, services, knowledge and support** which are arranged as a **compelling internal product**. Autonomous delivery teams **can make use** of the platform to deliver product features at a higher pace, with reduced co-ordination.”

- [Evan Bottcher, Thoughtworks, 2018](#)

# Internal Developer Platform (IDP)



## **Internal**

Targeting enterprise's internal users only



## **Self service**

Users access capabilities autonomously



## **User experience**

Central Access point to documentation, support, tools, ...



## **Tool catalog**

Comprehensive tools as part of aligned toolchains



## **Paved Roads (Golden Paths)**

Drive standardization and leverage best practices



## **Compliance**

Ensures rules and standards of the organization by default



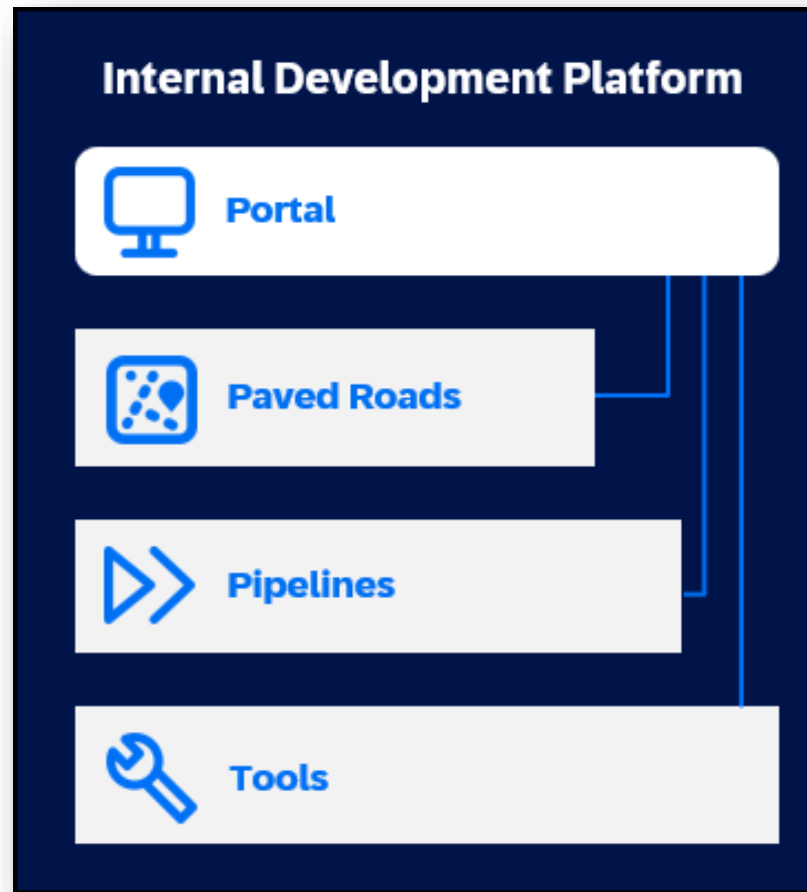
## **APIs**

Capabilities are composable (and optional)

# SAP's Internal Development Platform

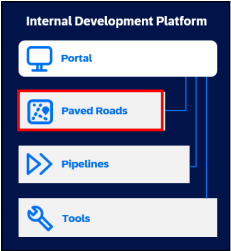


# SAP's Internal Development Platform



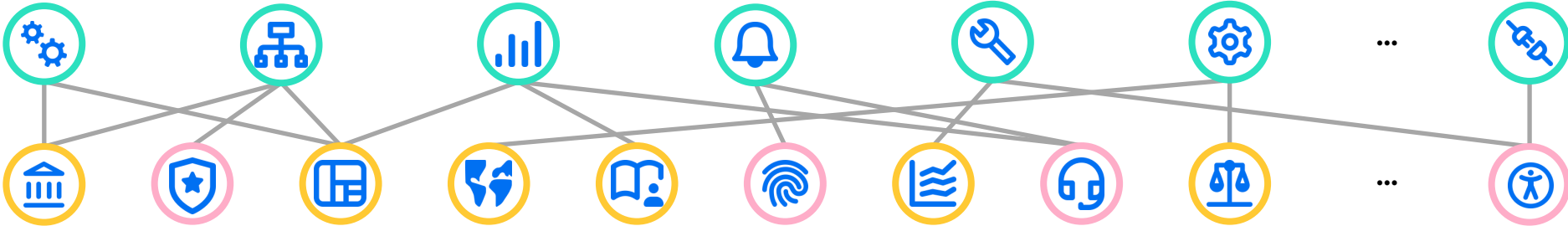


# Paved Roads

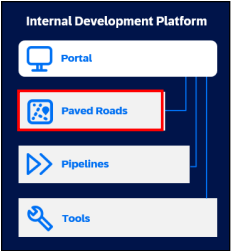


Tools

Processes & Guidelines



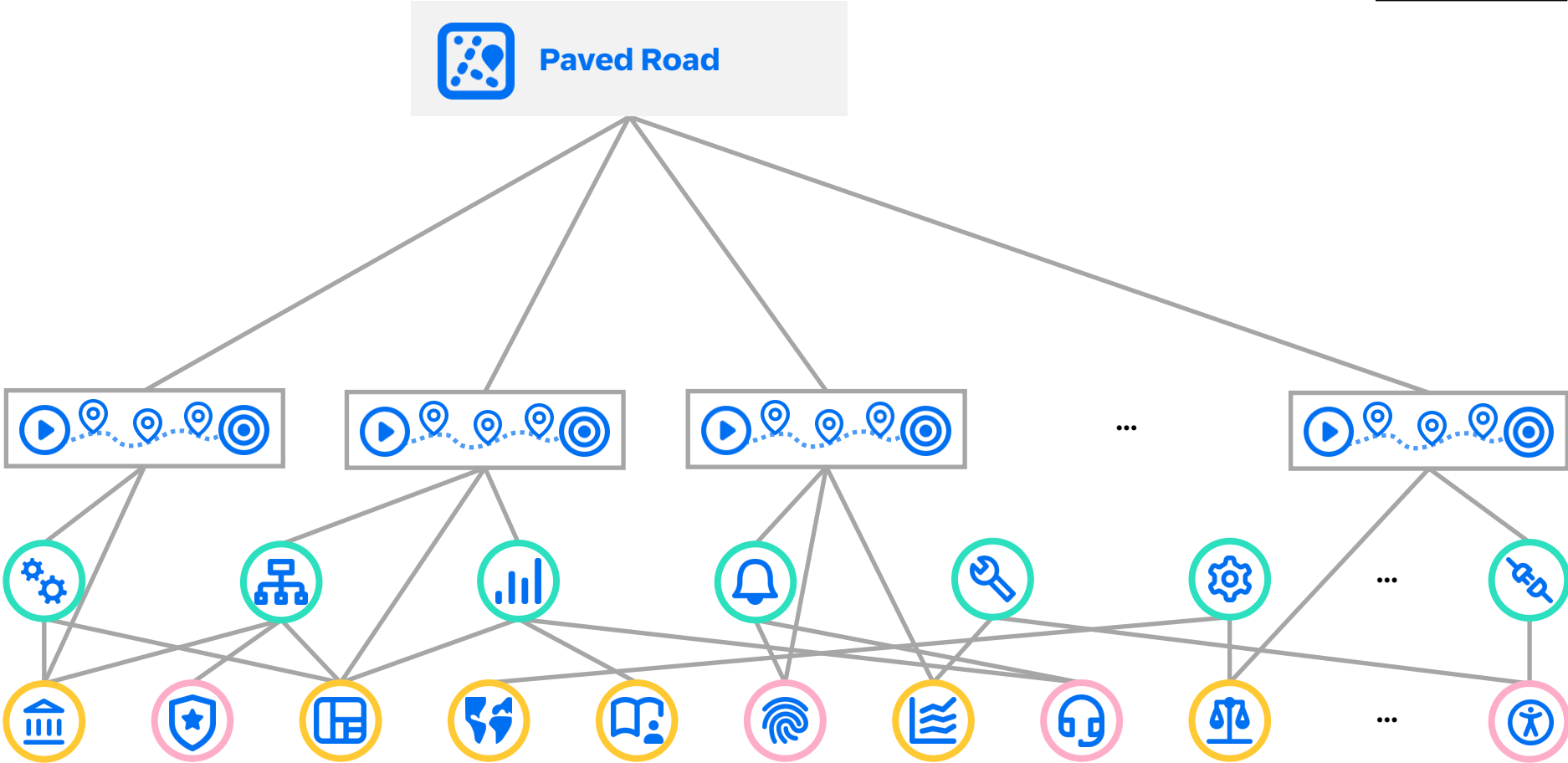
# Paved Roads



Development  
Procedures

Tools

Processes & Guidelines



# Learnings from SAP's Internal Development Platform (so far)



## Put responsibility into one organization

Distributed setting causes lot of (unnecessary) friction



## Paved Roads / Golden Paths are your friend

Help to get systemic view



## It's a marathon

It takes times to change status quo



## KPI reporting is difficult

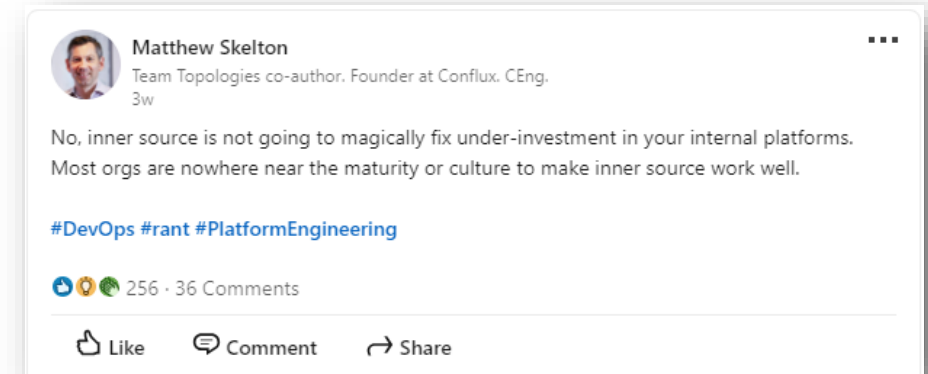
Which KPI indicates platform success?



## Requires proper staffing

Dedicated people to work on the platform.

Inner source won't solve the problem



Source: [LinkedIn post by Matthew Skelton](#), Sep. 2023



## Trust

Reliability and ability to execute is key

# Learnings from SAP's Internal Development Platform (so far)



## Share a vision

For customers and  
platform team members

### Vision of Hyperspace – Engineer POV

Scene 01



Timur gets disrupted by an urgent incident. He was actually finishing his day. Now he has to do a nightshift.

Scene 02



The day after, Timur meets his friend Paul for an after-work drink. Timur has to vent his frustration.

Scene 03



Paul explains what his life looks like since he uses Hyperspace. He can track all his changes and gets notified immediately if something went wrong.

Scene 04



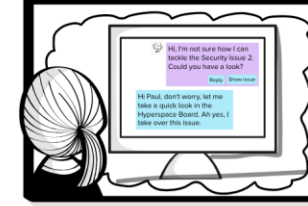
Paul has an overview of all tasks related to this change sorted by relevance. He even gets recommendations how to tackle them.

Scene 05



In case Paul don't know how to resolve an issue, he can easily request help from an Expert.

Scene 06



The security expert Ema gets notified. And takes over Paul's issue.

Scene 07



Paul explains how his life changed to the good. Timur gains hope and can't wait to discuss Hyperspace with his teammates.

# Thank you.

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