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Compliant by Default Continuous Delivery at DB Systel

DB Systel
Moving the digital future. Together.

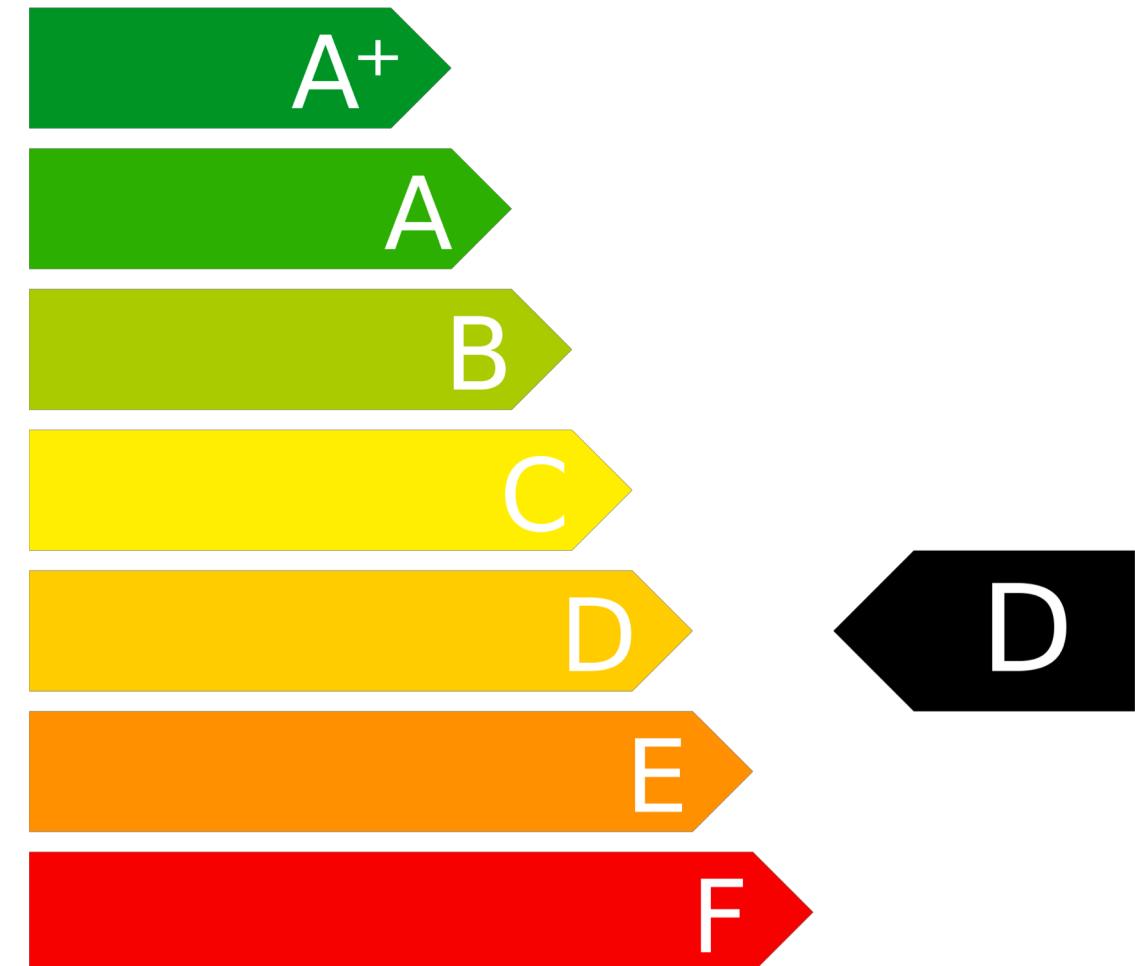
DB Systel GmbH | Schlomo Schapiro & Hendrik Pahl | @schlomoschapiro & @hendrik_pahl | 14.11.2018



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» Continuous
Lifecycle » 2018

Why?



Company efficiency to delivery customer value?

How?

Customer Obsession

100%
focus on
customer
value

Customer
uses our
product

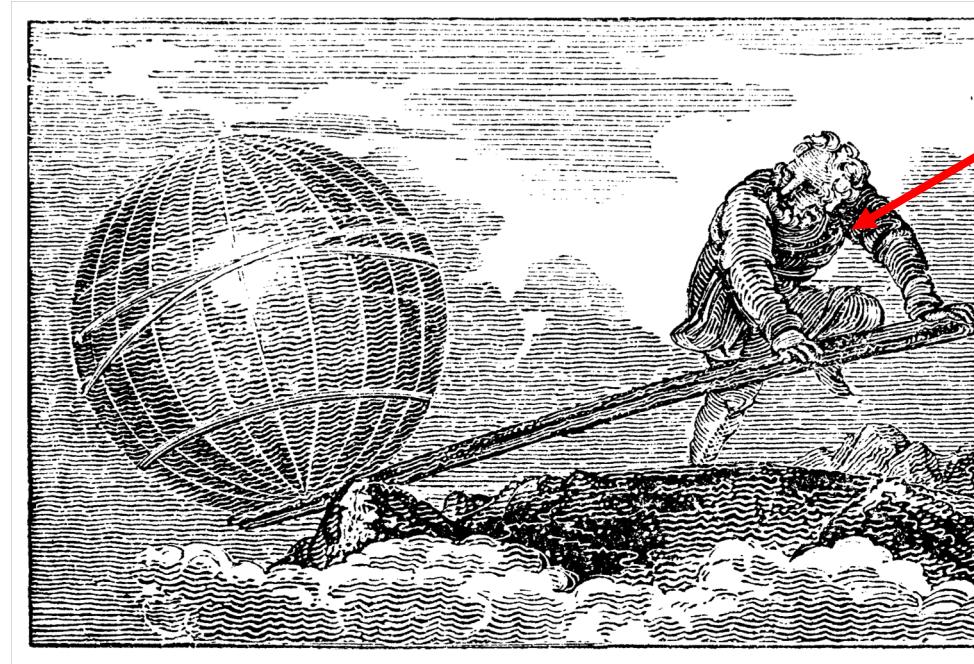
Customer
pays for
our product

We are
valuable



Jeff Bezos: 2016 Letter to Shareholders
<https://www.amazon.com/p/feature/z609g6sysxur57t>

Biggest Contribution to Customer Value



Engineer

**DevOps Productivity =
Company Efficiency to
Delivery Customer Value**

DevOps Engineers as „Customers“

Customer: Everybody who codes (Dev, Ops, PO ...)

- Value:**
- Quickly
 - Simple
 - Tested
 - Secure
 - Compliant
 - Traceable
 - With support & consulting
 - Without deep knowledge everywhere
 - Easy multi vendor

User Experience for „Engineer“ Customers:

Developer Experience

How?

DevOps

DevOps is

... if every person uses the same tool for the same job

... codified knowledge - everybody contributes his part to common automation

... if all people have the same privileges in their tooling

... if human error is equally possible for Dev and Ops

... replacing people interfaces by automated decisions and processes

bit.ly/5pdops

... a result

How?

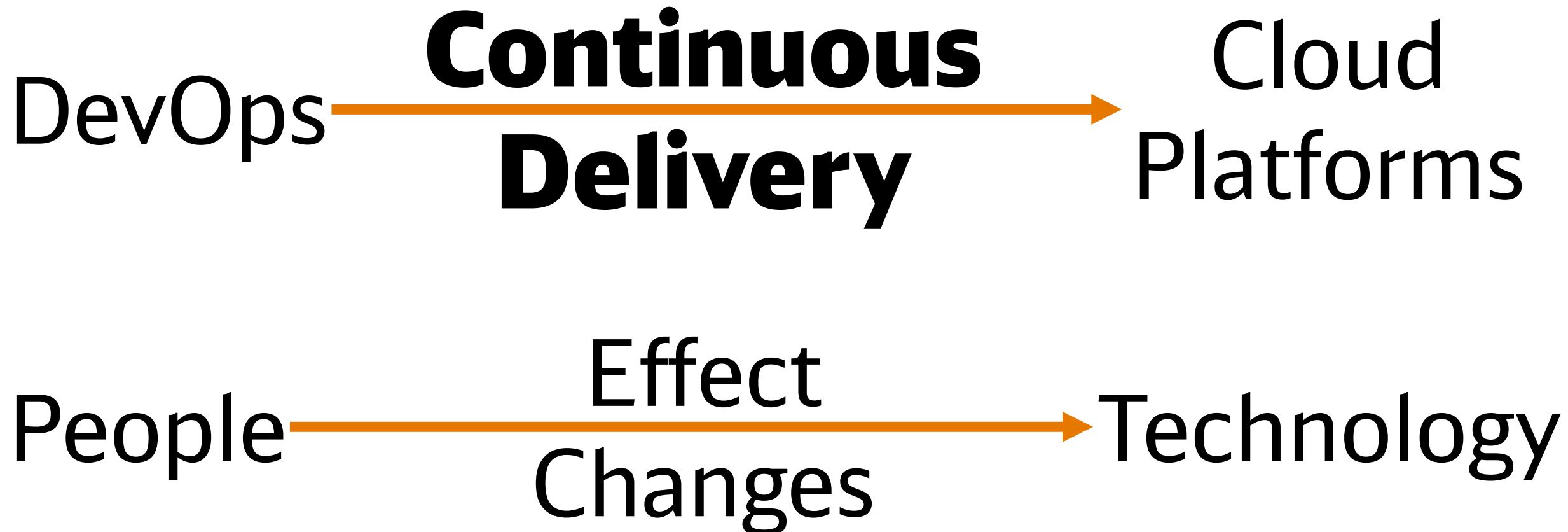
Cloud Platforms

In your Data Center:

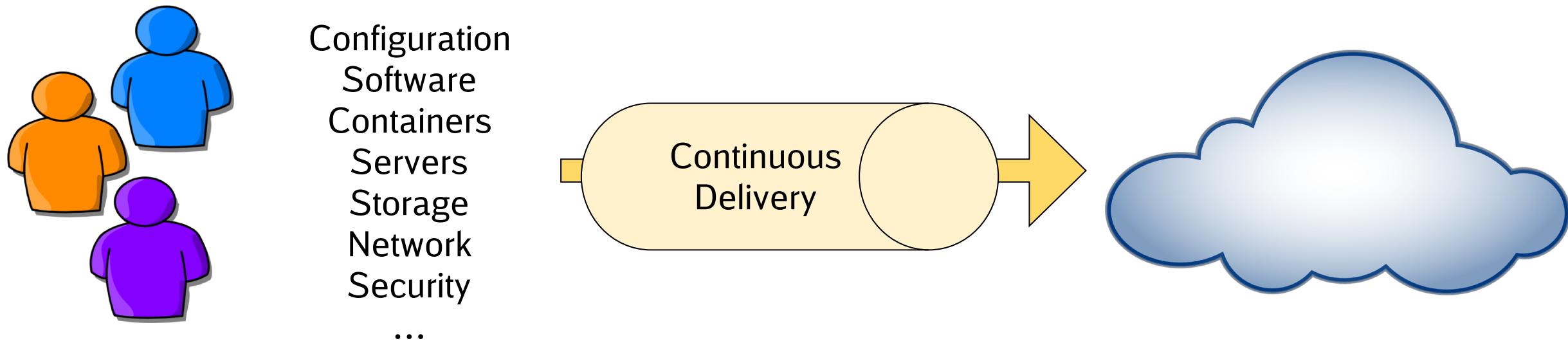
- do you have an API for every function?
- can you provide „just enough“ resources and scale up/down without delays?
- can you scale costs by usage and achieve full cost transparency?

Good cloud platforms can be built on-premise, require extreme scale out.

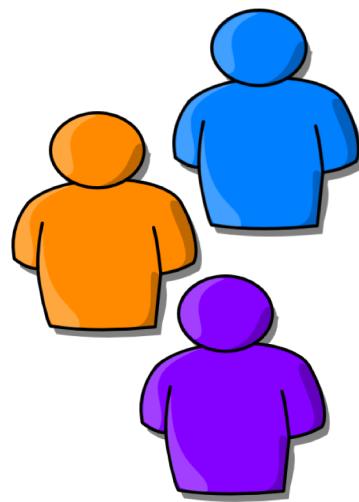
How?



DevOps Vision



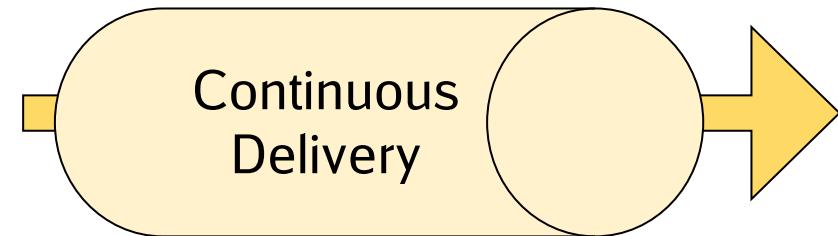
DevOps Vision



Dev,
Ops,
PO,



GIT Repo

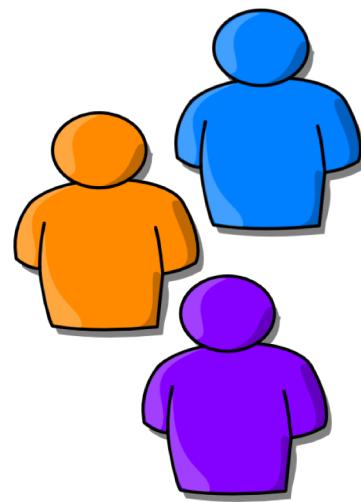


Automation



All Infrastructure
Environments und
Cloud Platforms
AWS, OpenShift, Azure, DB ...

Value for Engineers



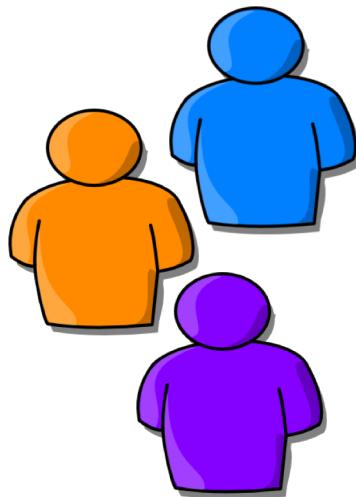
Code, Config &
declarative
Description
of all
Components in
all
Infrastructure
Environments

Continuous
Delivery



Value for Engineers

support & consulting



Code, Config &
declarative
Description
of all
Components in
all
Infrastructure
Environments

without deep knowledge

Continuous
Delivery

simple

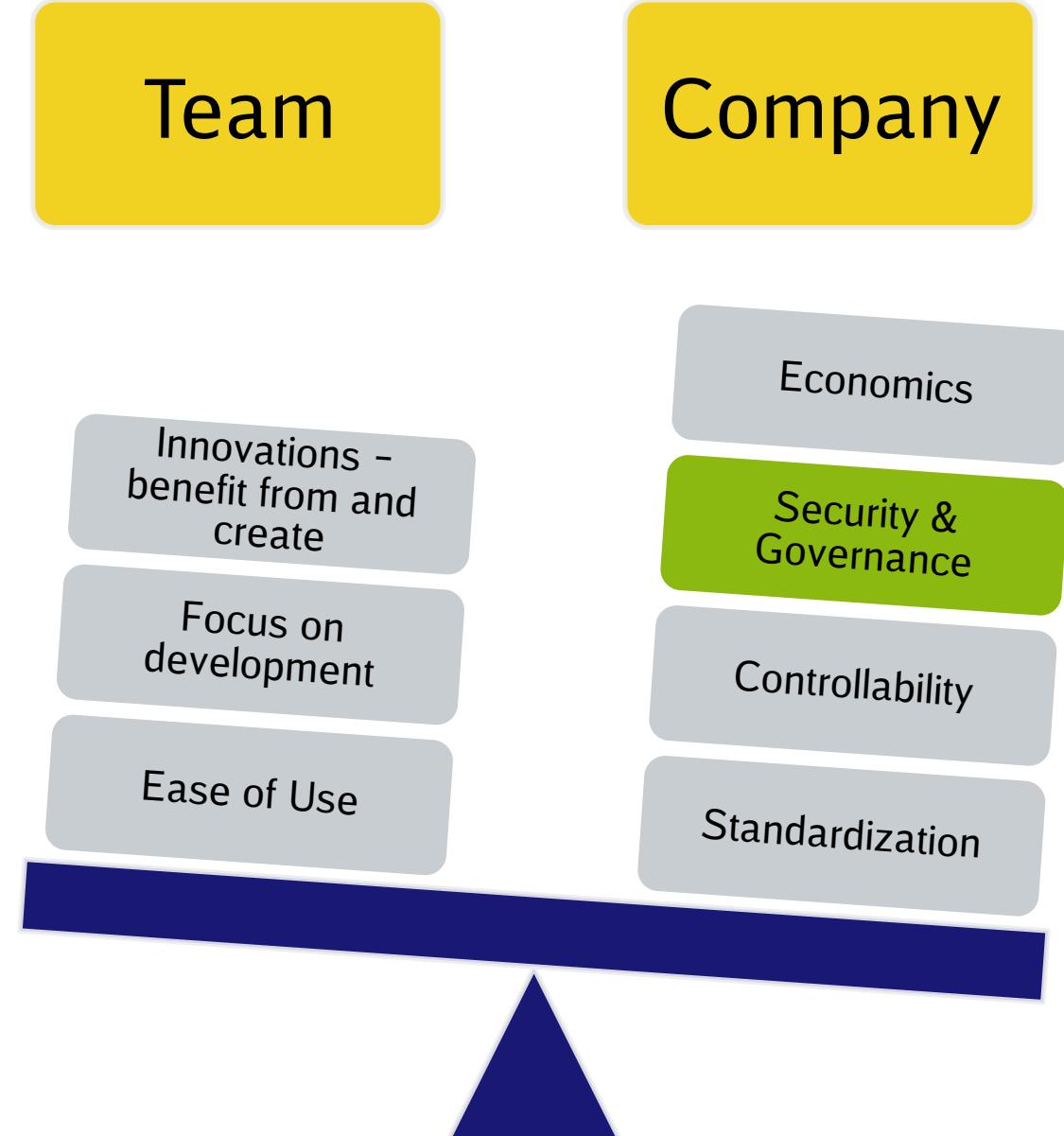
traceable

secure
compliant

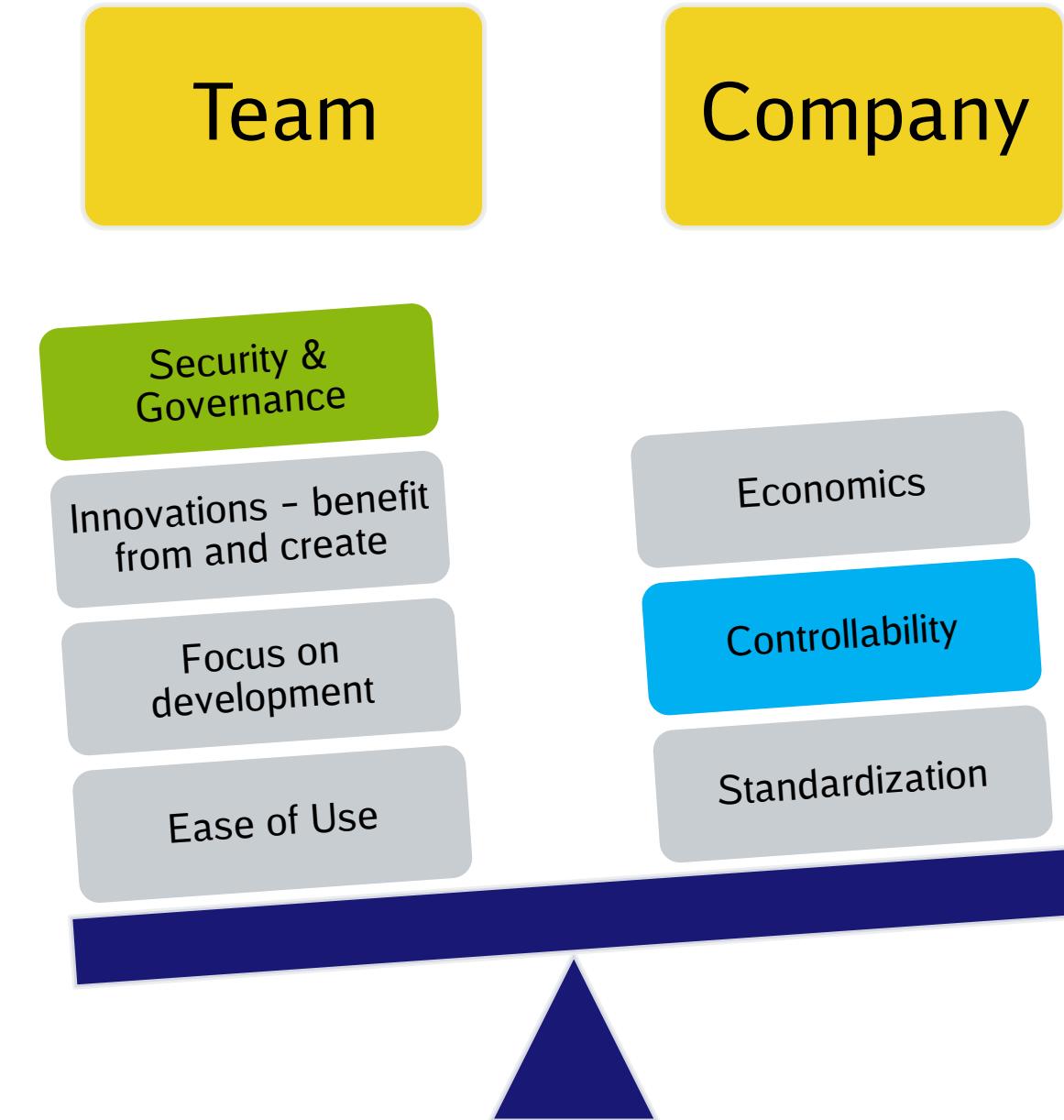
tested

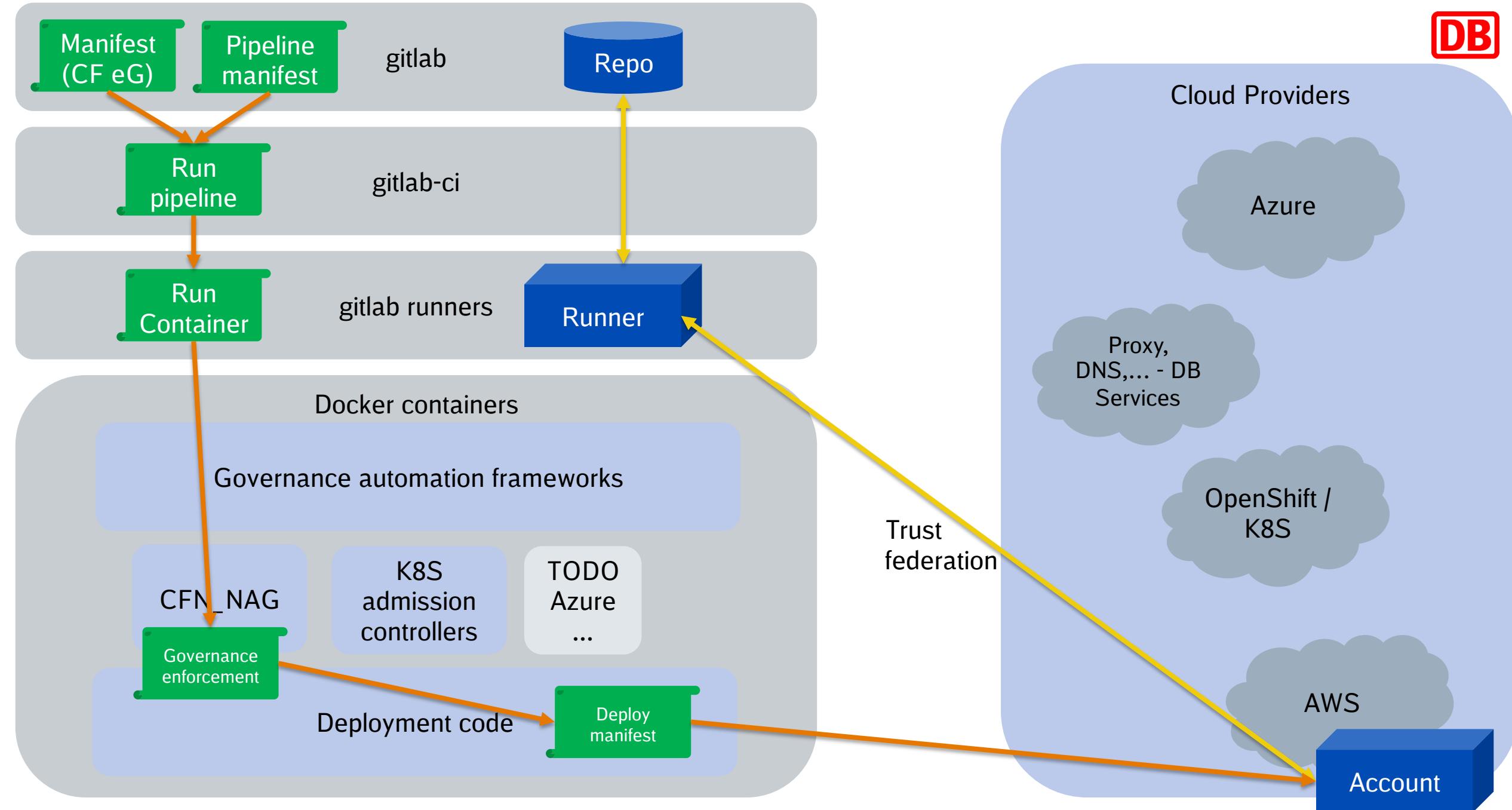
multi vendor

Accountability vs. Responsibility



Tilt the scale by creating a product - Continuous Delivery as-a-Service (CDaaS)





CloudFormation Deployment

```
stages:
  - test
  - prod

test:
  stage: test
  image: dpt-docker-prod-local.bahnhub.tech.rz.db.de/cdaas_aws_deploy
  script:
    - stacks-test.yml
  tags:
    - test

prod:
  stage: prod
  image: dpt-docker-prod-local.bahnhub.tech.rz.db.de/cdaas_aws_deploy
  script:
    - stacks-prod.yml
  tags:
    - prod
```

- CF-Deployment takes 7 lines
- Governance & Security checking implicitly included
- **Declarative Description**
User doesn't need to know „how it works“

CloudFormation Deployment

```
| FAIL F22
| Resources: ["MyDB"]
| RDS instance should not be publicly accessible
|
|   script:
|     - stacks-test.yml
|   tags:
|     - test
|
prod:
  stage: prod
  image: dpt-docker-prod-local.bahnhub.tech.rz.db.de/cdaas_aws_deploy
  script:
    - stacks-prod.yml
  tags:
    - prod
```

```
Failures count: 13
Warnings count: 5

Validation failed. Aborting...

ERROR: Job failed: exit code 1
```

Starting deployment...

02.05.2018 16:49:09 INFO: Creating stack cdaasdemo91 (RDS-positive-test.template) with parameters:

Parameter	Value
ApplicationTechName	CDaaS
CostReference	I-030831-08-002
Creator	DanielLentz
KmsKeyId	arn:aws:kms:eu-central-1:108406022355:key/5d637584-0528-477c-9c95-4f1c228f7323
MasterUserPassword	***
MasterUsername	***

02.05.2018 16:49:13 INFO: Stack create started

02.05.2018 16:49:13 INFO: cdaasdemo91 MySubnetGroup: CREATE_IN_PROGRESS

02.05.2018 16:49:13 INFO: cdaasdemo91 DBEC2SecurityGroup: CREATE_IN_PROGRESS

02.05.2018 16:49:23 INFO: cdaasdemo91 MySubnetGroup: CREATE_IN_PROGRESS (Resource creation Initiated)

02.05.2018 16:49:23 INFO: cdaasdemo91 MySubnetGroup: CREATE_COMPLETE

02.05.2018 16:52:06 INFO: cdaasdemo91 DBEC2SecurityGroup: CREATE_IN_PROGRESS (Resource creation Initiated)

02.05.2018 16:52:06 INFO: cdaasdemo91 DBEC2SecurityGroup: CREATE_COMPLETE

02.05.2018 16:52:06 INFO: cdaasdemo91 MyDB: CREATE_IN_PROGRESS

02.05.2018 16:52:16 INFO: cdaasdemo91 MyDB: CREATE_IN_PROGRESS (Resource creation Initiated)

02.05.2018 16:58:04 INFO: cdaasdemo91 MyDB: CREATE_COMPLETE

02.05.2018 16:58:04 INFO: Stack create completed after 531s

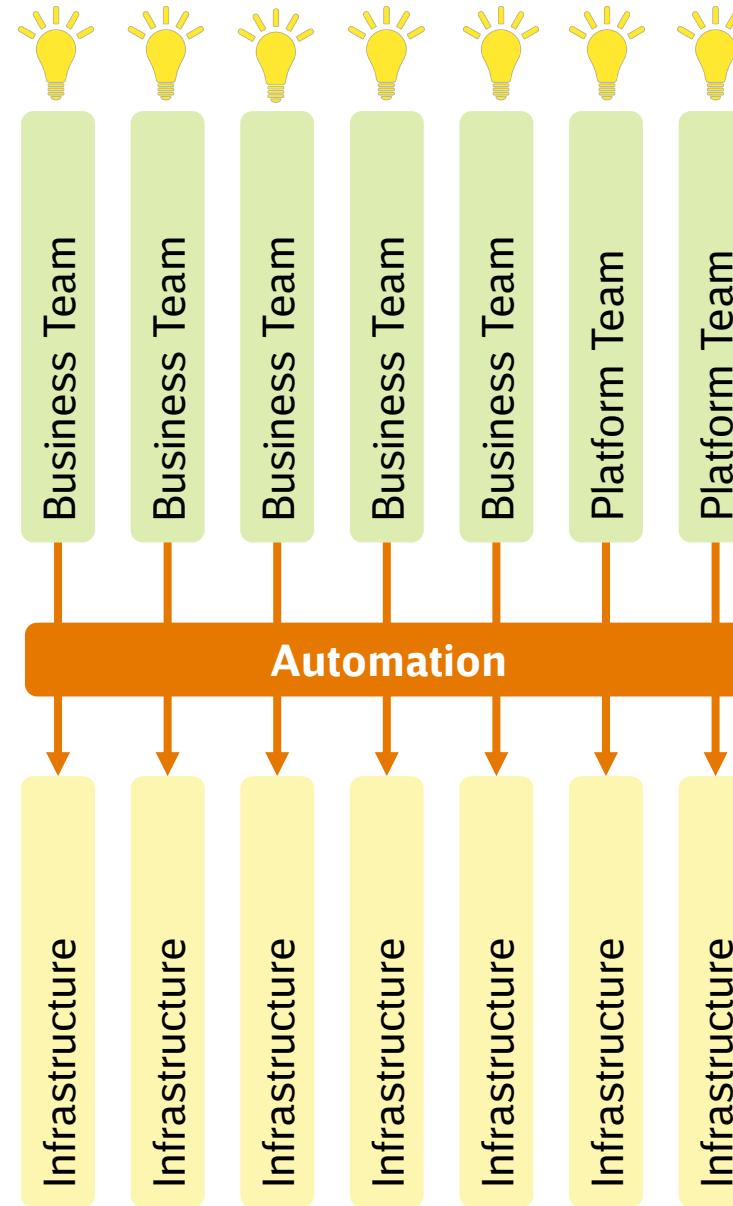
02.05.2018 16:58:04 INFO: Create completed for cdaasdemo91 with outputs:

Output	Value
JDBCConnectionString	jdbc:mysql://cm8h9zpjrexkoh.cii10fpngte1.eu-central-1.rds.amazonaws.com:3306

Job succeeded

From JDBC connection strings to Developer Productivity: The big picture

The result:



DevOps
+
Continuous
Delivery
+
Cloud
Platforms

DB

We Can Do It!



We Can Do It!



How to start?

- Set a **goal**, e.g. „2 deployments per day“
 - Identify **impediments**
 - Replace impediments through **automation**
 - Believe that you can **do it**, let failure make you stronger
 - Repeat until done
-
- Build tools that are useful **products**:
 - Continuous Delivery as a Service
 - Cloud Platform as a Service
 - Proxy, DNS ... as a Service
 - Company concerns (security, governance, compliance) must be part of the continuous delivery pipeline

Time for Questions & Answers

Slides

go.schapiro.org/slides

DevOps

bit.ly/5pdops

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Du bist Spezialist

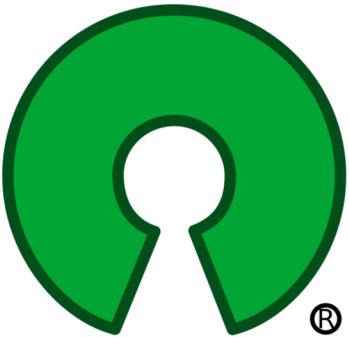
– aber nicht von gestern.

Wir suchen Dich im CTO Bereich als

| **Open Source Steward**

| **Chefarchitekt**

in Frankfurt, Erfurt oder Berlin



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Schlomo Schapiro, DB Systel GmbH



Du bist Spezialist

– aber nicht von gestern.

Wir suchen Dich als

| **DevOps Engineer**

| **Kubernetes Expert**

| **Full Stack Developer**

in Berlin, Erfurt oder Frankfurt



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Slides

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