



Pivotal

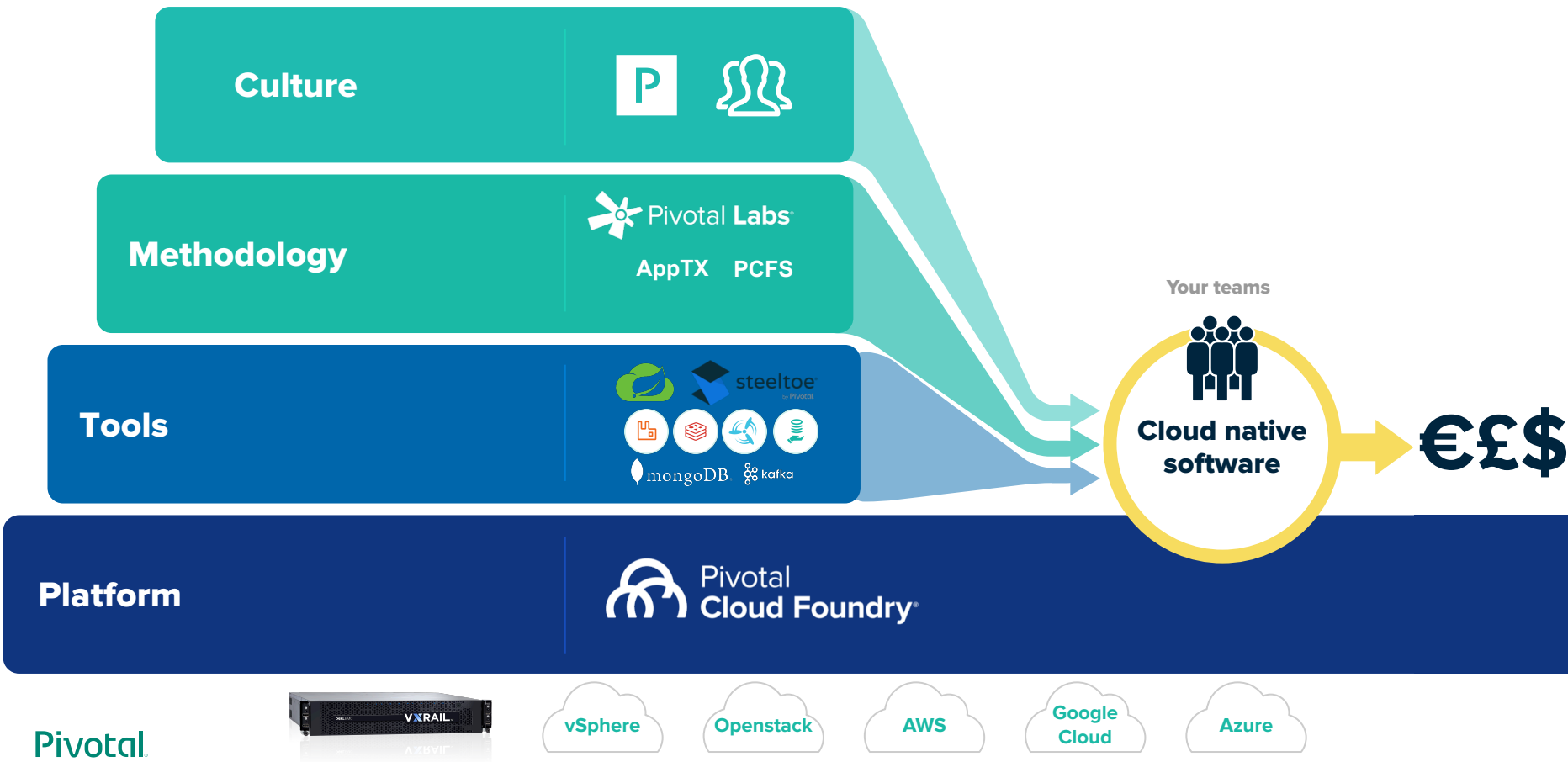
Better Software is Better than Worse Software

Jan, 2019

@cote

cote.coffee/bettersoftware

Becoming product-centric by increasing dev productivity & ops efficiency



Enterprises are transforming with Pivotal

AUTO & TRANSPORTATION



INDUSTRIAL & BUSINESS SVCS.



FINANCIAL SERVICES



HEALTHCARE & INSURANCE



TECHNOLOGY & MEDIA

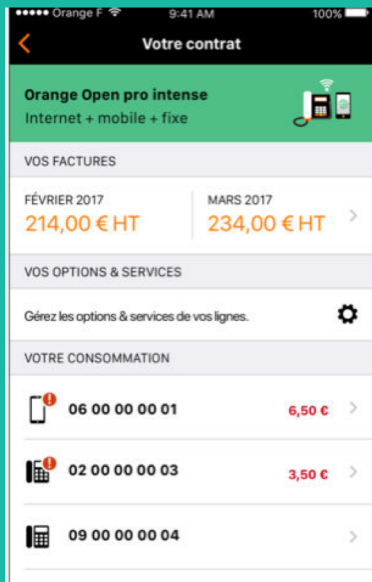


CONSUMER & COMMUNICATIONS



“Our developers are now totally focused on our customers and the user experience.”

Xavier Perret, Orange France



Pivotal

Orange France: Delivering new business application in 1/3 time

Challenge

- Needed to improve digital experience, reduce support calls and release software faster to meet customer expectations.

Solution

- Developed Orange Pro with Pivotal Labs running on Pivotal Cloud Foundry.
- Delivered working application in 1/3 the usual time, continuously iterating based on user feedback.

Benefits

- 50% of B2B customers using app after 9 months.
- Customer-centric software development permeating rest of company.

Source: <https://content.pivotal.io/podcasts/going-cloud-native-at-orange-france-ep-53>

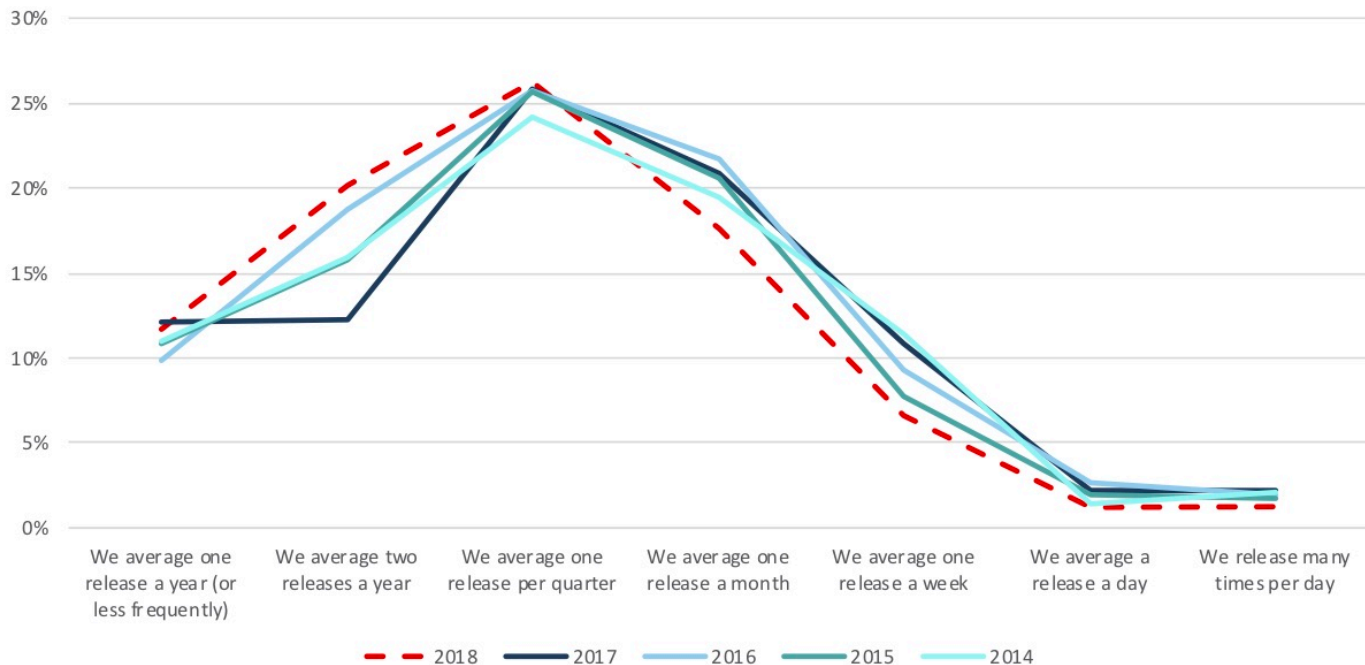


HA HA!



BUSINESS

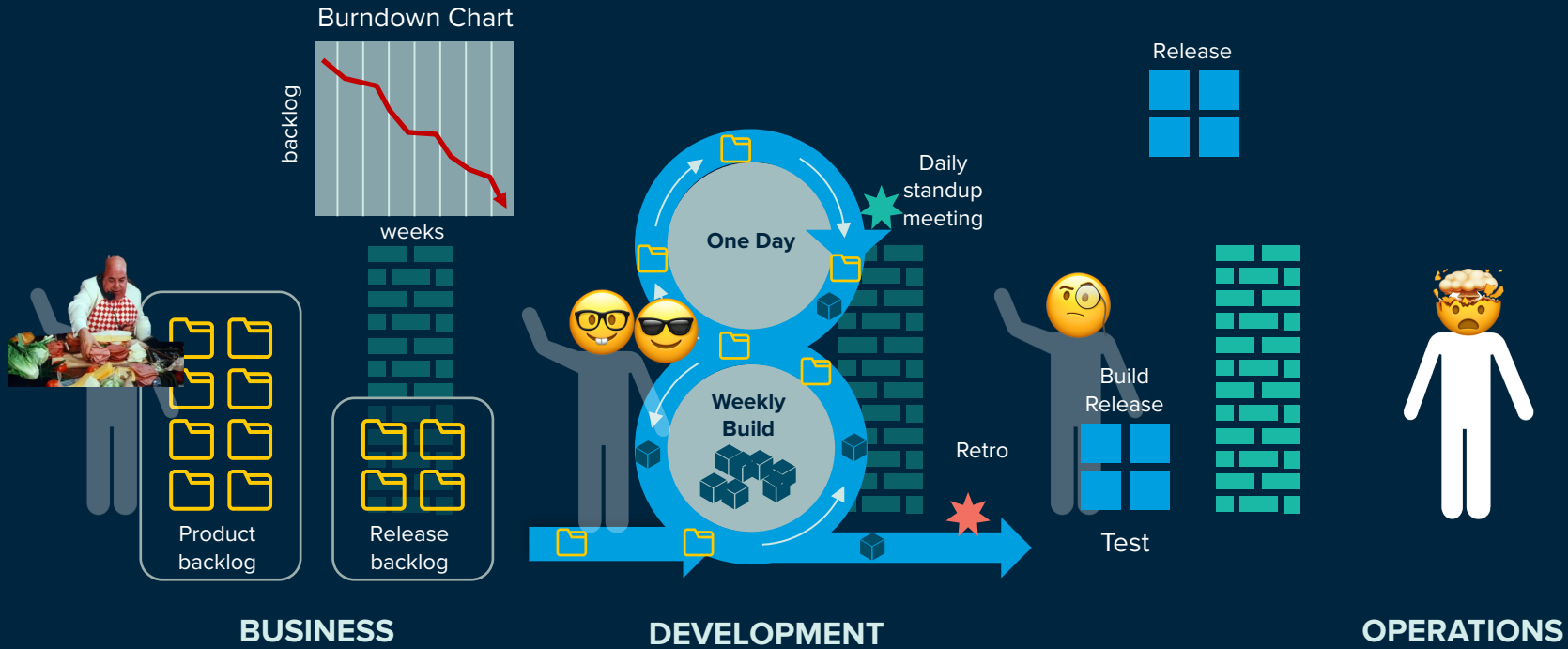
“How often does your team or teams release applications?”



Base (2018): 3,228 Developers

Base: 546-719 Developers who work for a software company, for internal IT, or in technology services

Source: Forrester Business Technographics Developer Survey, 2014-2018.



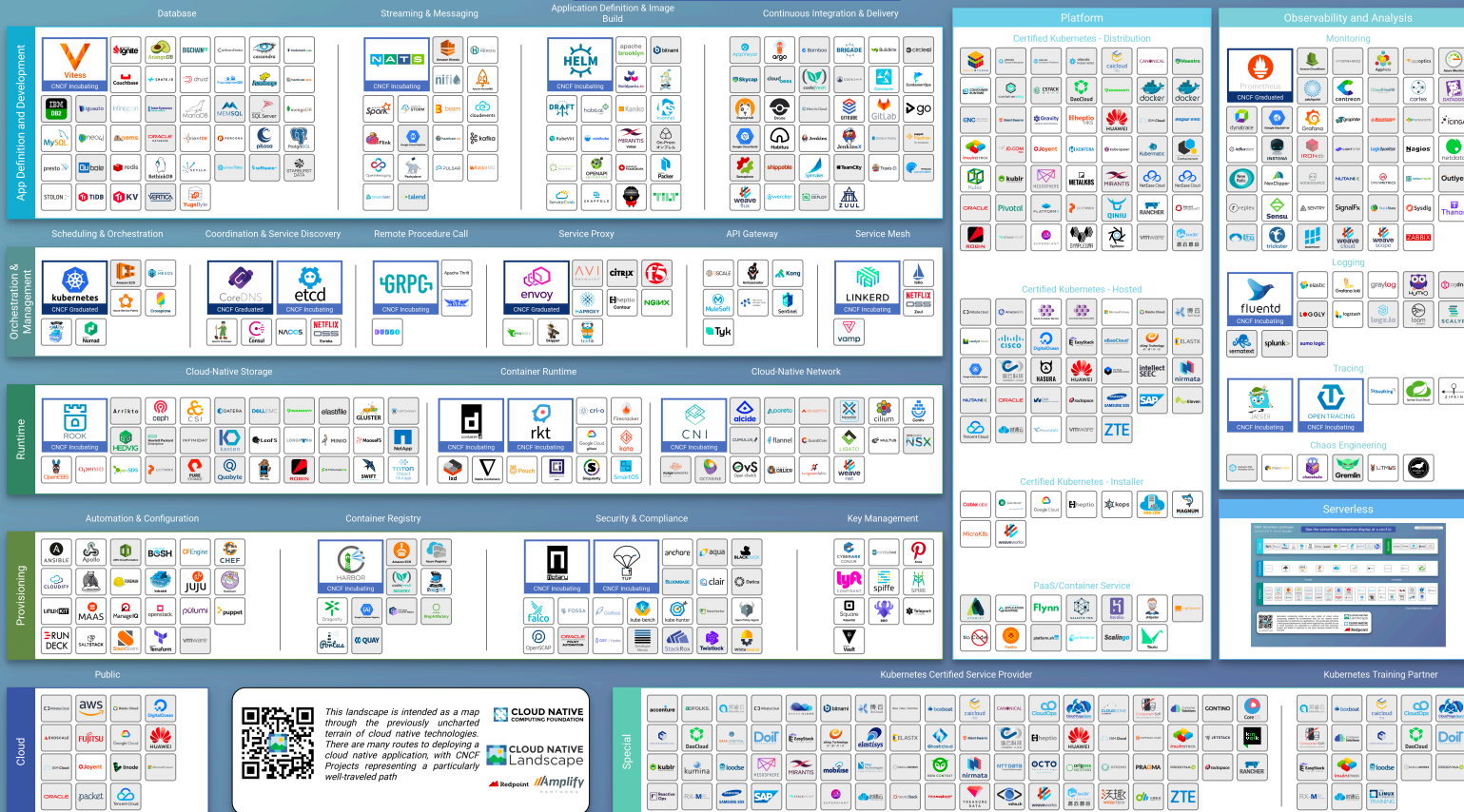

```

apiVersion: v1
kind: Service
metadata:
  name: mysql
spec:
  ports:
    - port: 3306
      protocol: TCP
  selector:
    app: mysql

apiVersion:
extensions/v1beta1
kind: ReplicaSet
metadata:
  name: mysql
  labels:
    app: mysql
spec:
  replicas: 1
  selector:
    matchLabels:
      app: mysql
  template:
    metadata:
      labels:
        app: mysql
    spec:
      containers:
        - name: database
          image: mysql:5.6
          resources:
            requests:
              cpu: 1
              memory: 1Gi
          livenessProbe:
            tcpSocket:
              port: 3306
          ports:
            - containerPort: 3306
          env:
            - name: MYSQL_ROOT_PASSWORD
              valueFrom:
                secretKeyRef:
                  name: mysqlsecret
                  key: database.password
            - name: MYSQL_USER
              valueFrom:
                secretKeyRef:
                  name: mysqlsecret
                  key: database.username
            - name: MYSQL_PASSWORD
              valueFrom:
                secretKeyRef:
                  name: mysqlsecret
                  key: database.password
        - name: MYSQL_DATABASE
          valueFrom:
            secretKeyRef:
              name: mysqlsecret
              key: database.name
          volumeMounts:
            - name: database
              mountPath: /var/lib/mysql
          volumes:
            - name: database
              persistentVolumeClaim:
                claimName: database

apiVersion: v1
kind: PersistentVolume
metadata:
  name: database
  labels:
    volume: mysqlvolume
spec:
  accessModes:
    - ReadWriteMany
  capacity:
    storage: 1Gi
  hostPath:
    path: /data/pv0002/

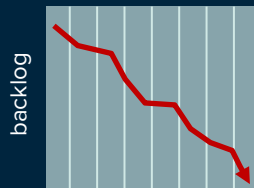
```



This landscape is intended as a map through the previously uncharted terrain of cloud native technologies. There are many routes to deploying a cloud native application, with CNCF Projects representing a particularly well-traveled path



Burndown Chart



weeks

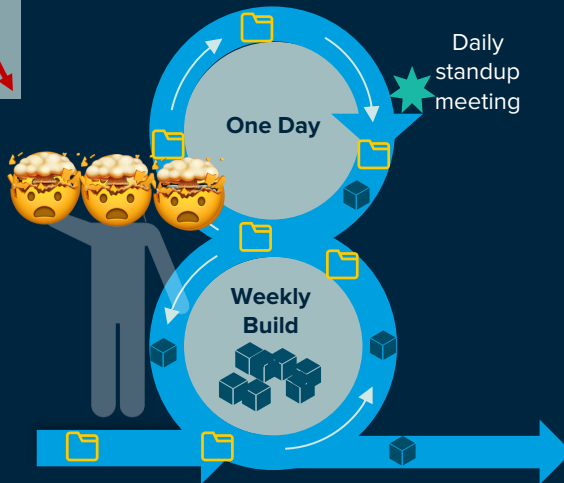


Product
backlog



Release
backlog

BUSINESS

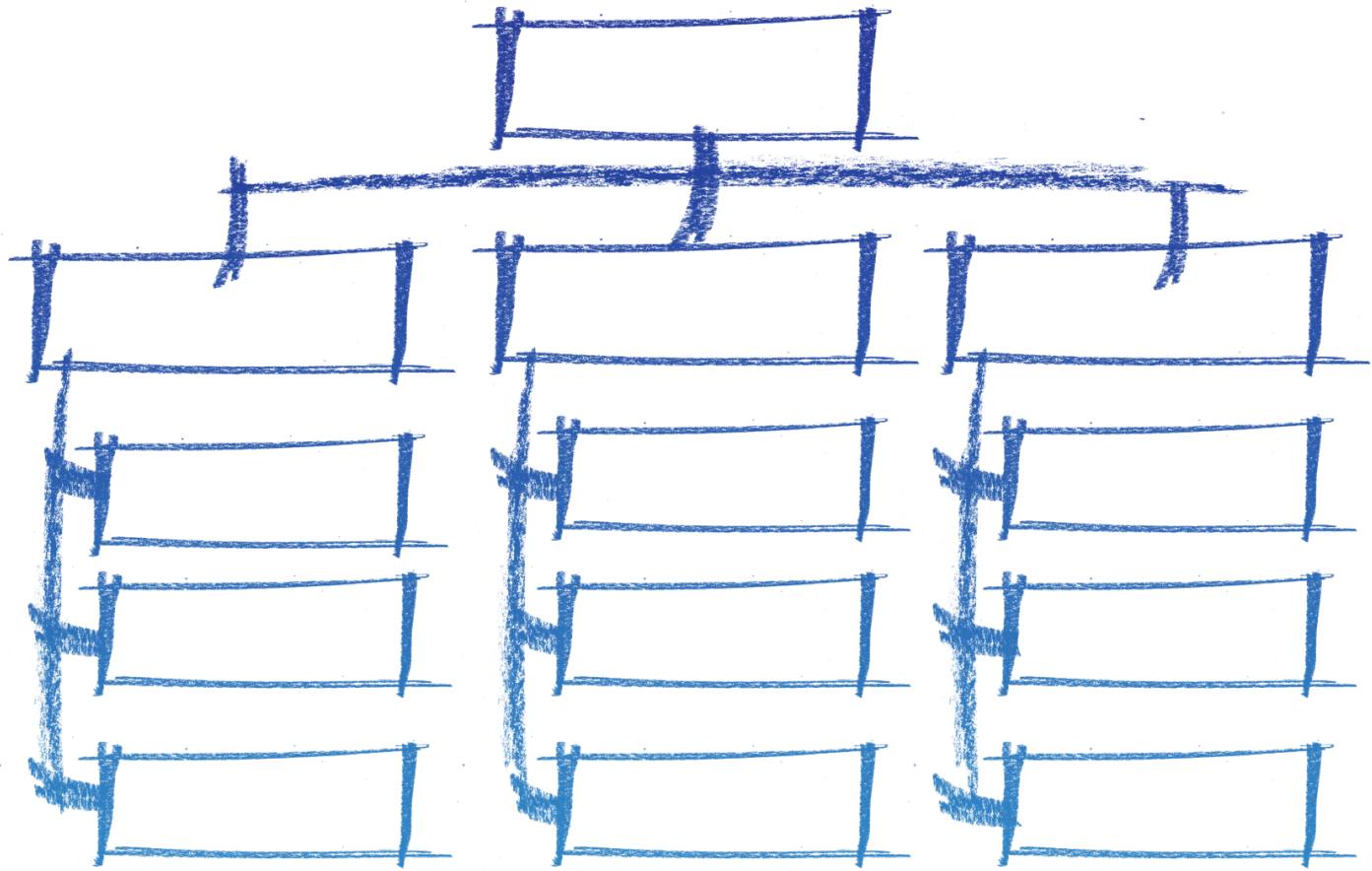


DEVELOPMENT

```
apiVersion: v1
kind: Service
metadata:
  name: mysql
spec:
  ports:
    - port: 3306
      protocol: TCP
  selector:
    app: mysql

apiVersion: extensions/v1beta1
kind: ReplicaSet
metadata:
  name: mysql
labels:
  app: mysql
spec:
  replicas: 1
  selector:
    matchLabels:
      app: mysql
  template:
    metadata:
      labels:
        app: mysql
    spec:
      containers:
```





Organizing for outcomes

“The Business”



Corporate strategy, revenue goals, mission, etc.

Leadership, EAs, etc.

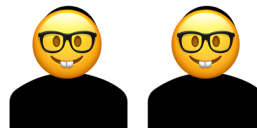


Culture, process, methodology, governance, compensation, etc.

Product teams

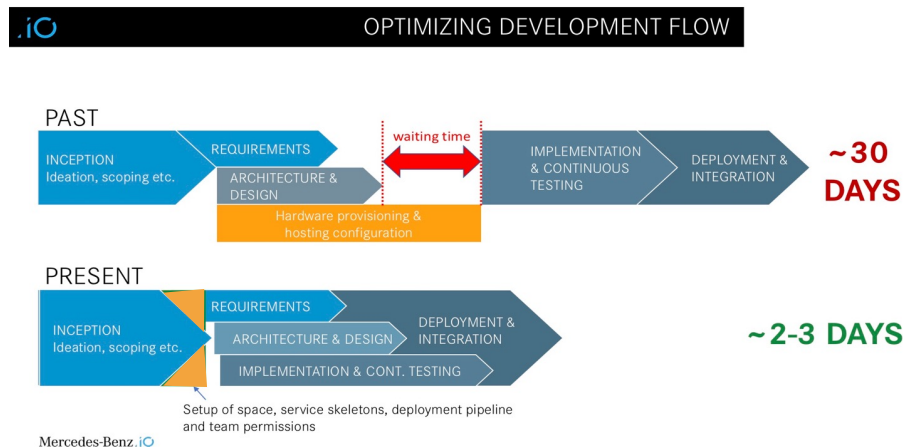


Platform Engineers



Private or public IaaS

Platform as a Product by removing toil



DAIMLER

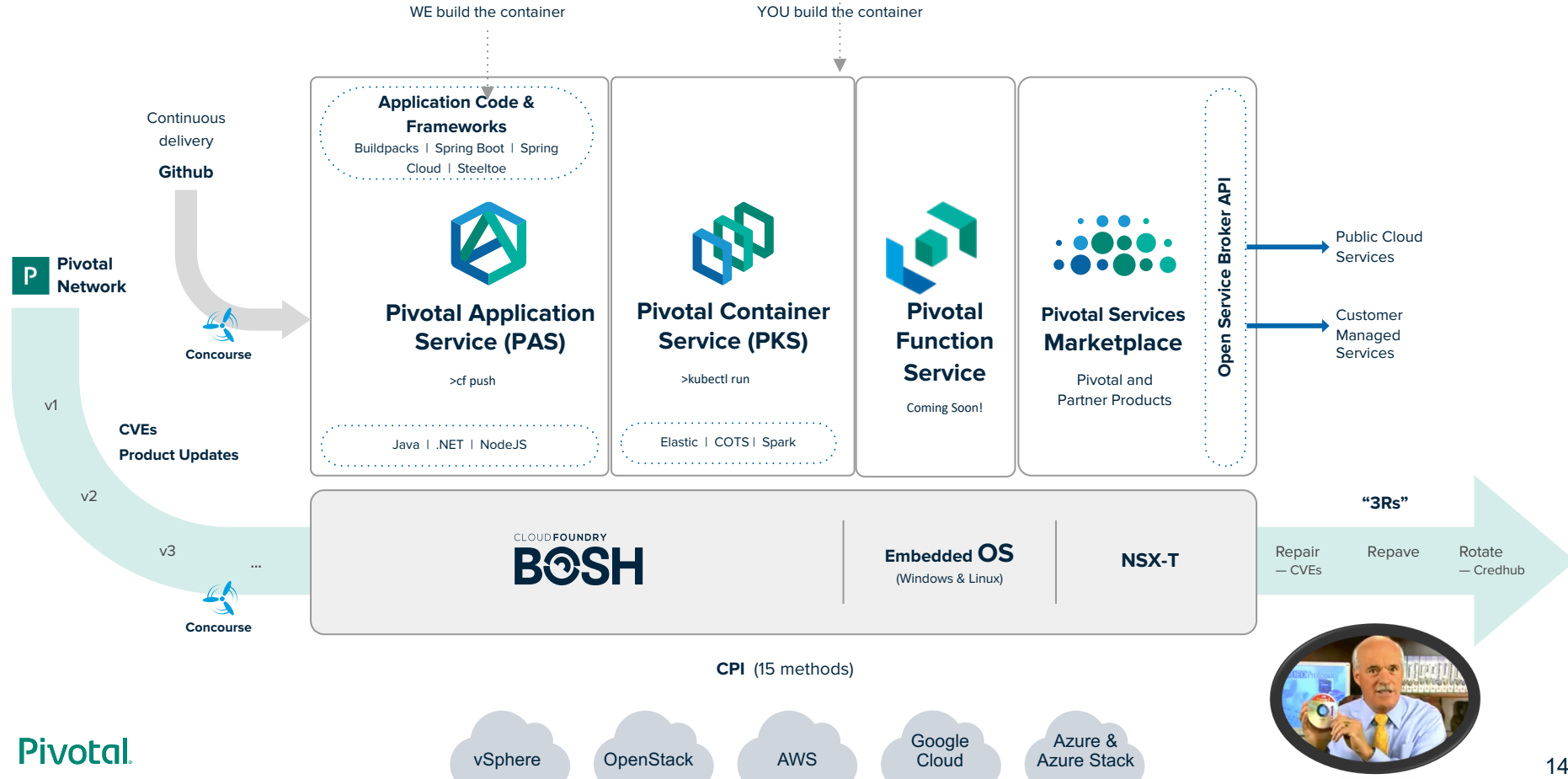
Functions

- Removes toil with automation & programming
- Stands up & manages the platform
- Creates shared services/middleware/etc.
- Consults with initial projects

Insane staff efficiency

- T-Mobile USA: 8 ops to 300 developers, 11k containers
- Dick's Sporting Goods: 6 ops to 120 devs.

A consistent platform (with less yaml)



“The Business”



Corporate strategy, revenue goals, mission, etc.

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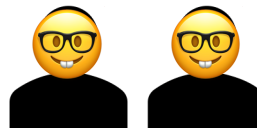


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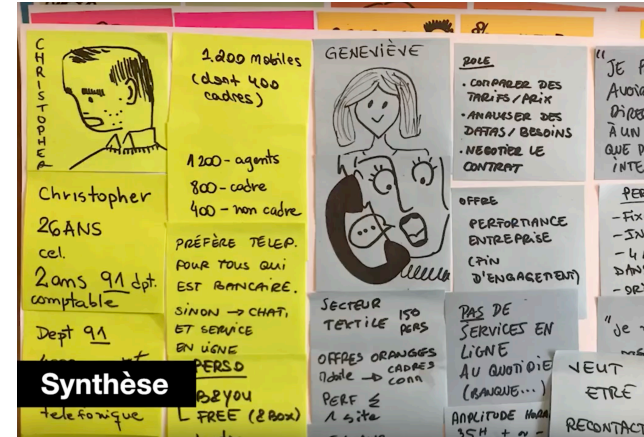
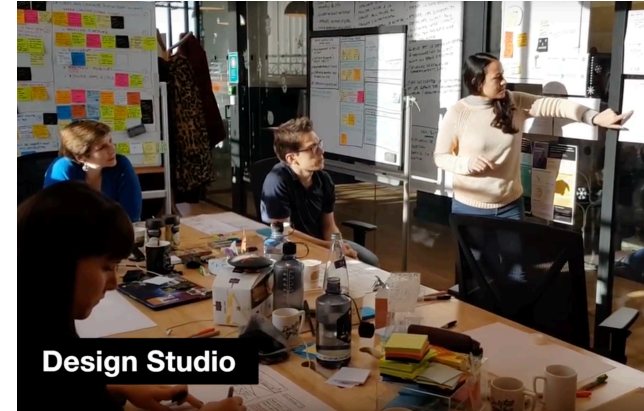
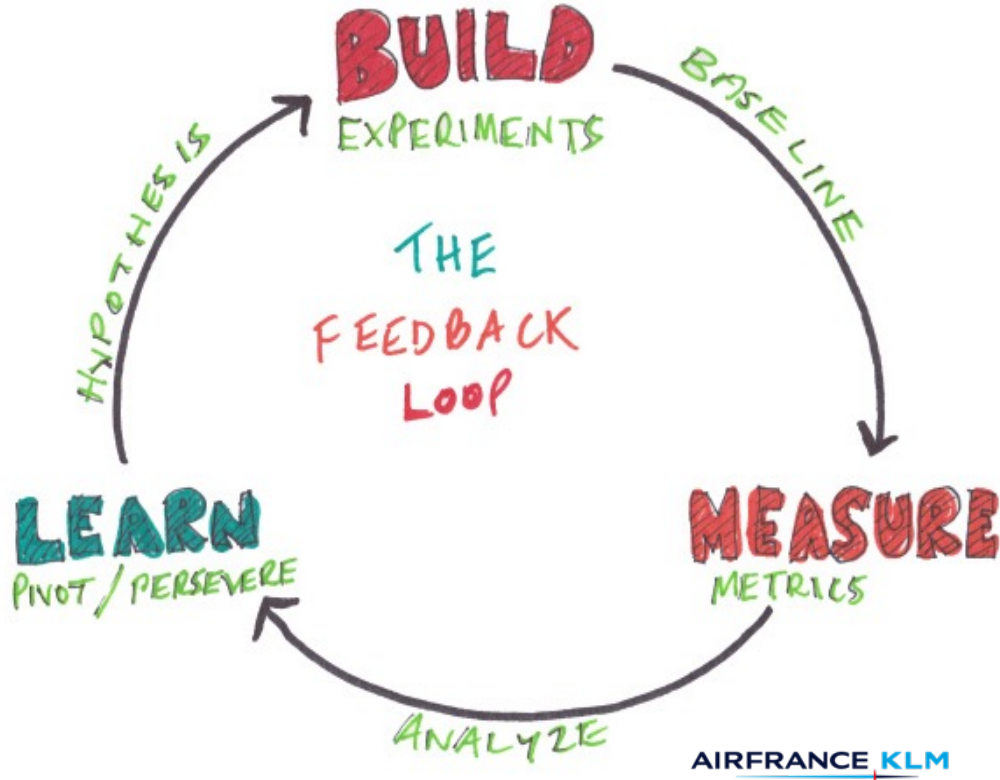


Platform Engineers



☁️ Private or public IaaS ☁️

A consistent product process



From 37% availability to \$440m in back taxes

Before

Overview by Year			
YEAR	STATUS	AMOUNT	
2014	Balance Due	\$644	>
2013	Taxes Paid	\$685	>
2012	Refund/Applied	\$100	>
2011	No Information Available	--	

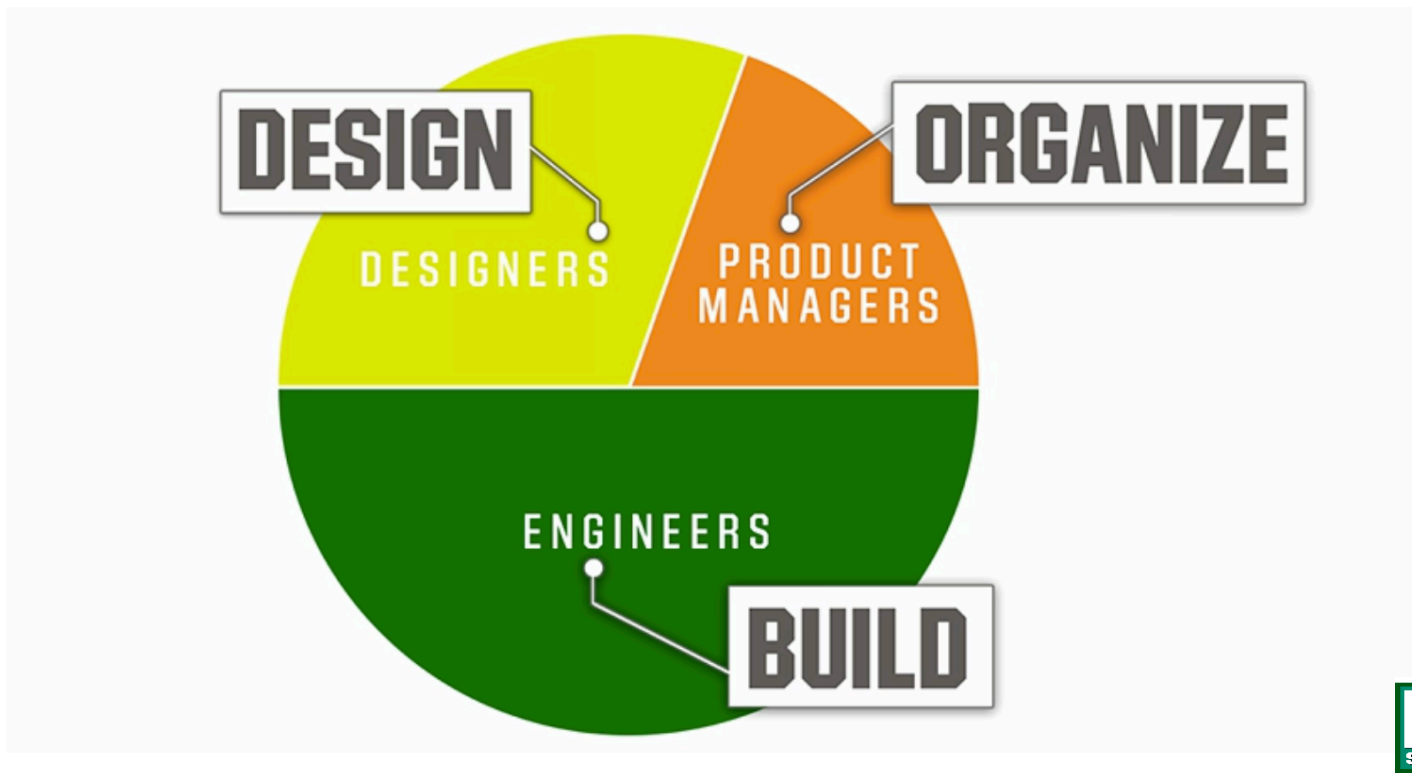
After

Overview by Year	
YEAR	BALANCE DUE
2014	\$644.00 ➤
2013	\$0.00
2012	\$0.00
2011	No Return on File ➤

- User-centric, small batch
- Only 37% of calls answered, shrinking budgets
- From 2 year to 9 week releases
- 2m+ users paid \$440m in taxes



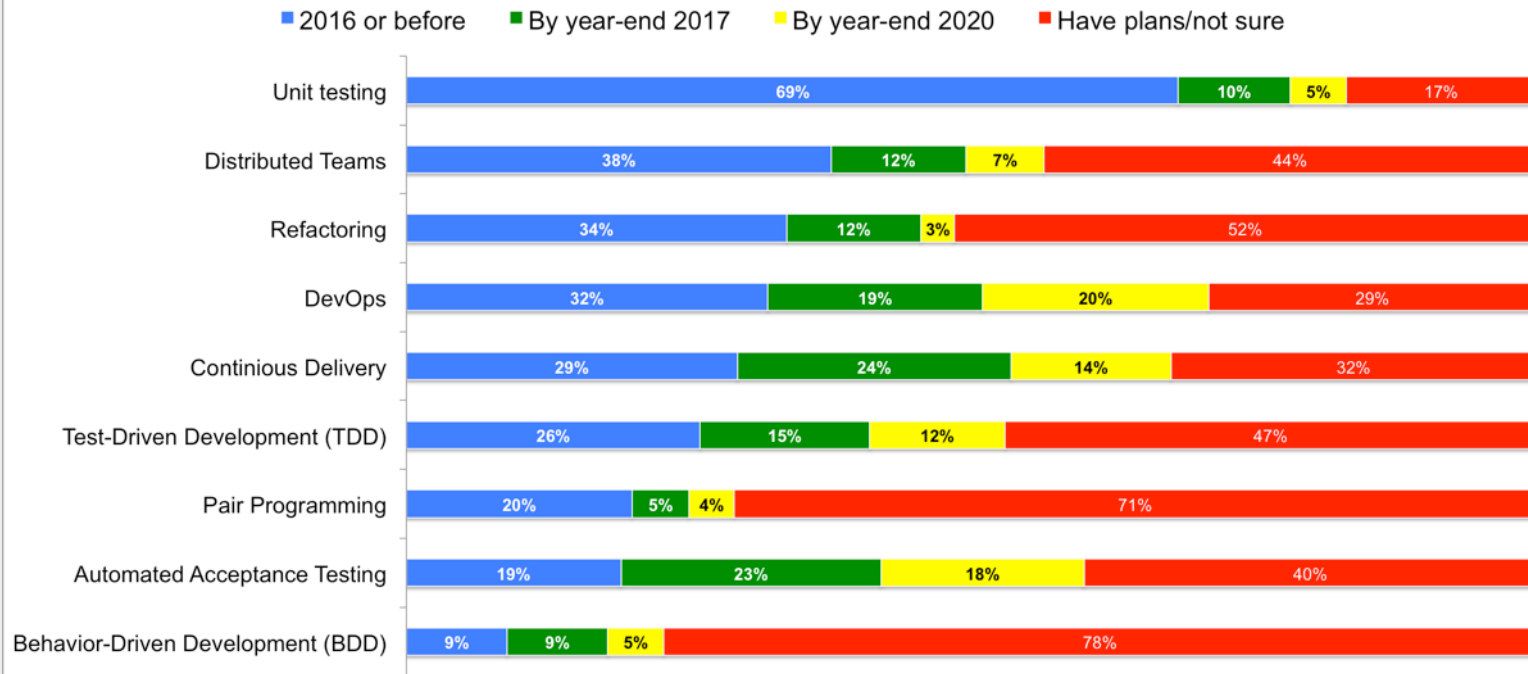
Product centric, balanced teams



25+ years later, agile practices are still not standard

When did or will your organization begin to use each of the following agile enterprise practices?

Base: n=176 Gartner Research Members, survey conducted Oct. 2016



From coding 20% of the time coding to coding 90% of the time



An agile methodology, proven over 25+ years:

- Balanced teams w/all roles needed, dedicated to the product
- Paired programming, & beyond
- Test-driven Development
- Short iterations
- Continuous Integration & Continuous Delivery

start. spring. io



“The Business”



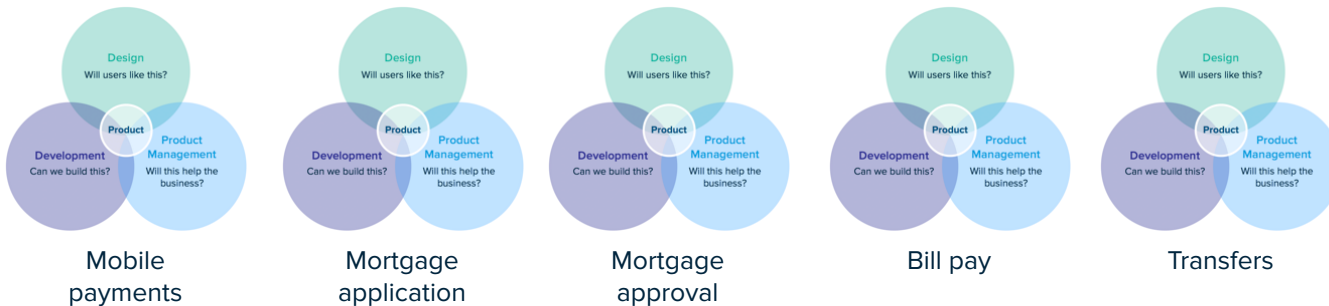
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Leadership, EAs, etc.

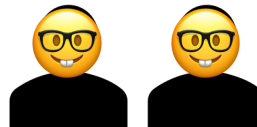


Culture, process, methodology, governance, compensation, etc.

Product teams



Platform Engineers



☁️ Private or public IaaS ☁️

~~SPREAD~~
~~ANARCHY~~

DON'T Tell Me
What To Do!!

“Executive sponsorship for us was absolutely critical. Without that we could not have gotten anywhere that we needed to be.”



Brendan Aye

T-Mobile

Small batch management

- Create a culture of innovation, risk taking, and focusing on people (“users”)
- Give product teams autonomy, trust, and voice
- Establish trust by doing what you say, delegating, and celebrating failure learning.
- Feedback loop: surveys (ENPS), silence, churn, results.
- Giving feedback: OKRs, praising process & stories, not just schedule

“The Business”



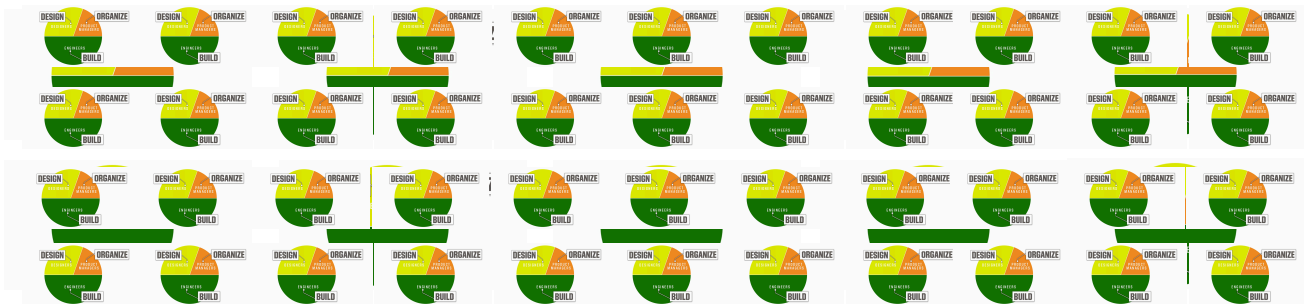
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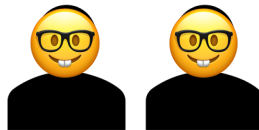


Culture, process, methodology, governance, compensation, etc.

Product teams



Platform Engineers



☁ Private or public IaaS ☁

A new business in 6 months, doubling avg. sales rate



Liberty Mutual Insurance



Comcast: 83% increase in release velocity from average 3-4 months to 15 days

Boeing: 80% reduction in 'time to value'

Verizon: 87% reduction in 'time to value'; 93% reduction in environment setup time

Allstate: Developers spending 80% of time coding vs. 20% (4X improvement)

Scotiabank: 3X product deploys per month

Liberty Mutual: Revenue-generating MVP in one month; 1K production deploys per day across 600 applications

Mercedes-Benz: 90% improvement in release velocity from ~30 days to 2-3 days

Verizon: 96% improvement in patching frequency, from patching every 6 months to weekly

Express Scripts: 89% reduction in security patching lead time from 45 days to 5 days

Comcast: 1,500 developers supported by 4 operators; ~375 developers per operator

Comcast: 47% reduction in 'mean time to repair' (MTTR); 44% reduction in product defect incident frequency; 81% reduction in customer-facing downtime

T-Mobile: 83% reduction in product defect incident frequency; 67% reduction in time to resolve incidents

Boeing: 6X (600%) improvement in asset utilization

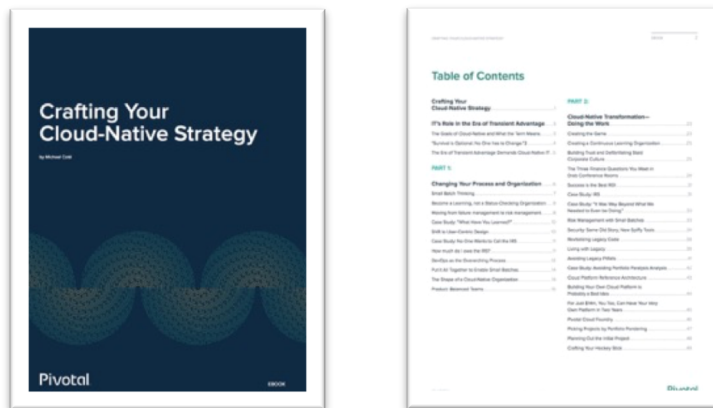
Scotiabank: In 10 months, scaled to 29 teams in 4 countries with 3X product deploys per month

T-Mobile: 43% improvement in application response time



“We are uncovering better ways of developing software by doing it and helping others do it.”

- [The Agile Manifesto](#), 2001



<http://cote.coffee/bettersoftware/>

SpringOne Platform

by Pivotal.

2019



**Austin
Texas**

**Austin Convention Center
October 7–10**