

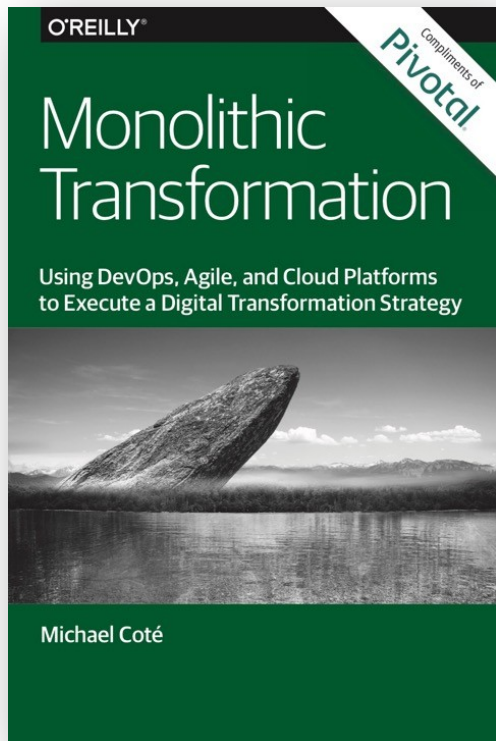
Pivotal

Platform as a Product

Taking the ops out of dev

May, 2019

@cote

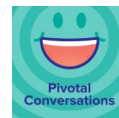


<https://cote.io/books>

Pivotal

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Pivotal™



The Register®

RedMonk 451 Research®



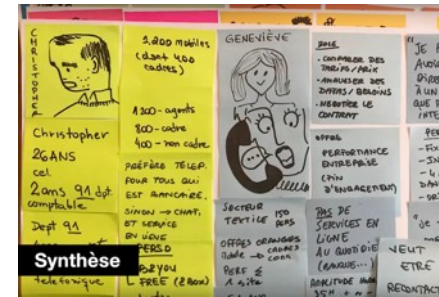
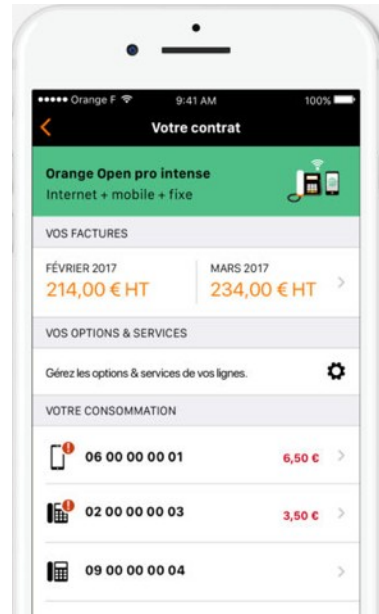
bmc software

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

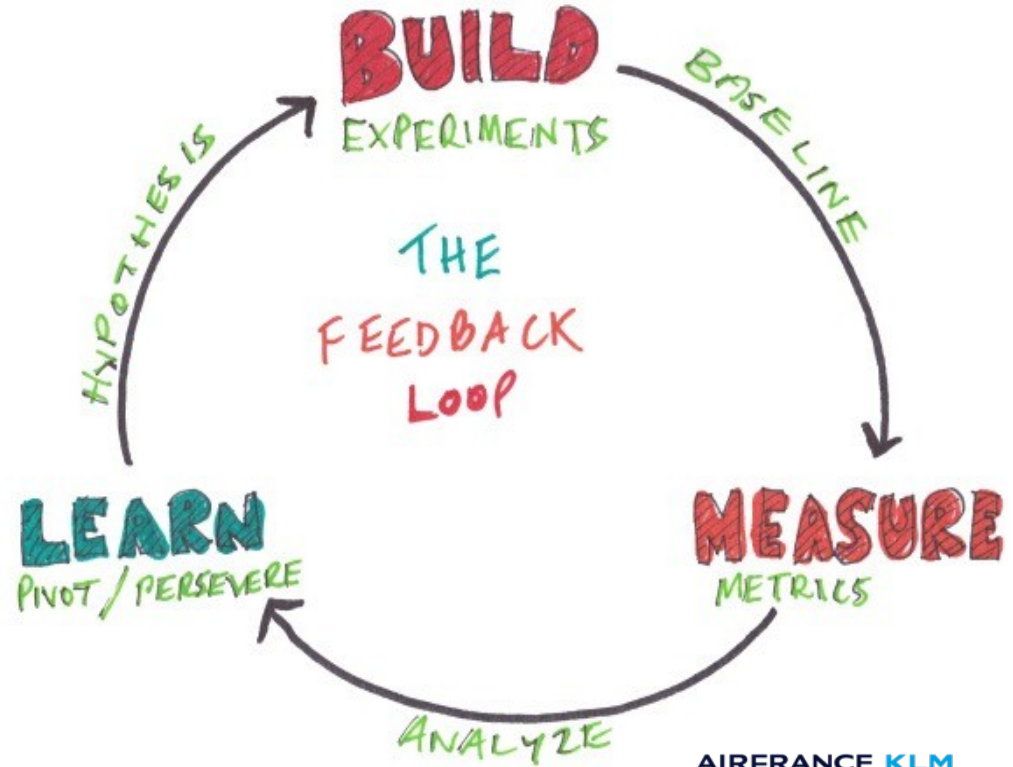
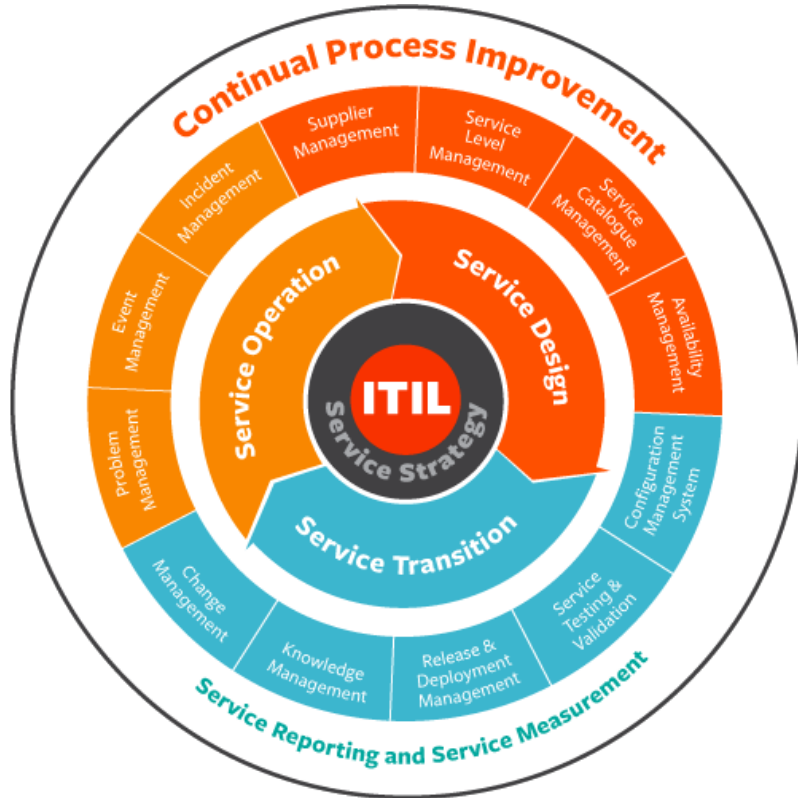
Xavier Perret, Orange France



A new business app in 1/3 less time, used by 50% of customers

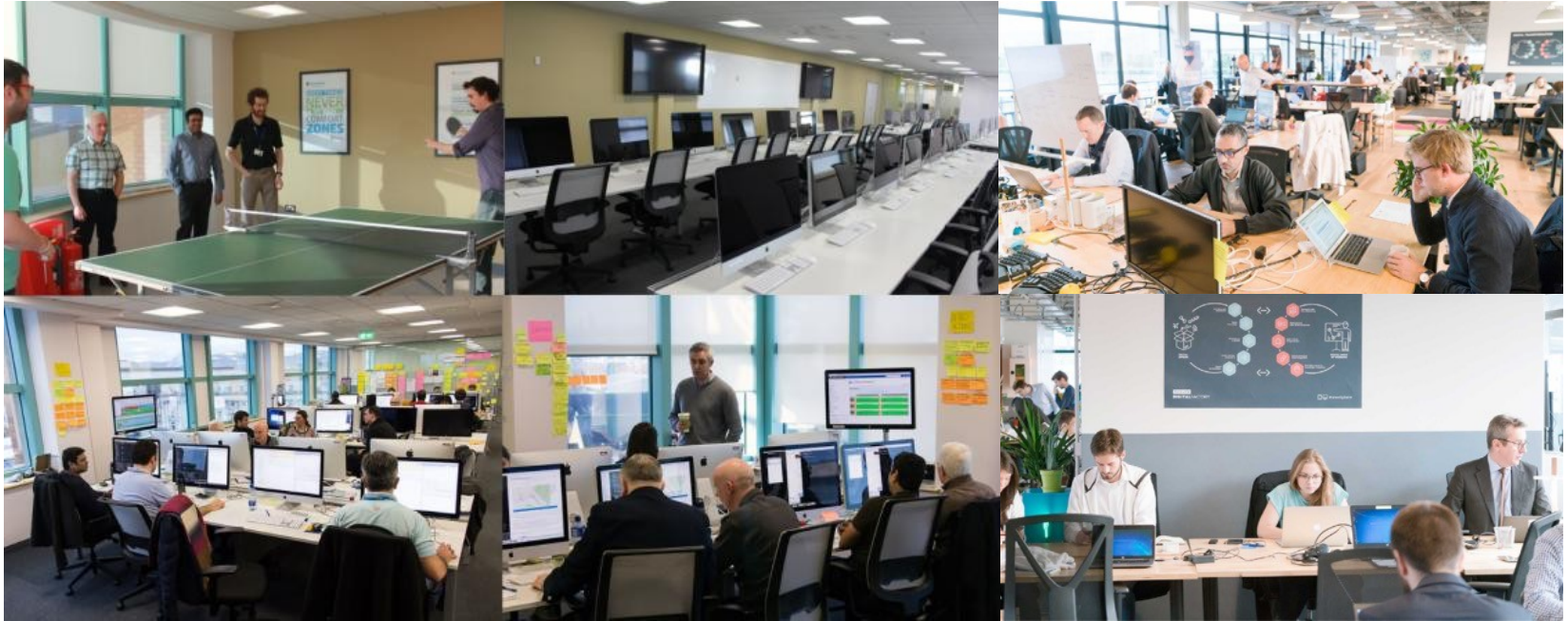


Shift from *Service* Delivery to *Product* Delivery



AIRFRANCE KLM

Balanced teams using weekly releases to production create better software

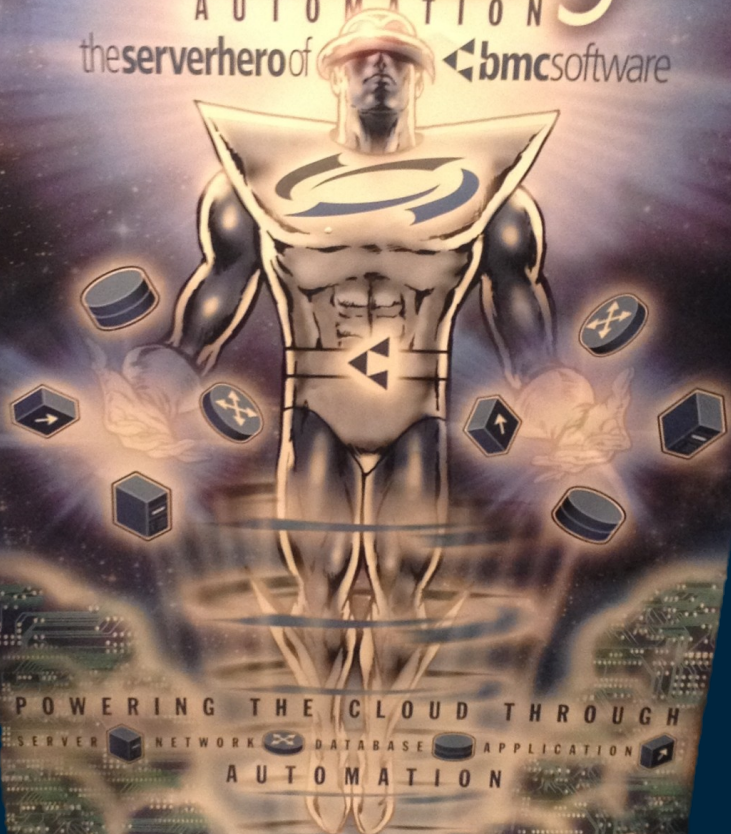


The rise & fall of DevOps

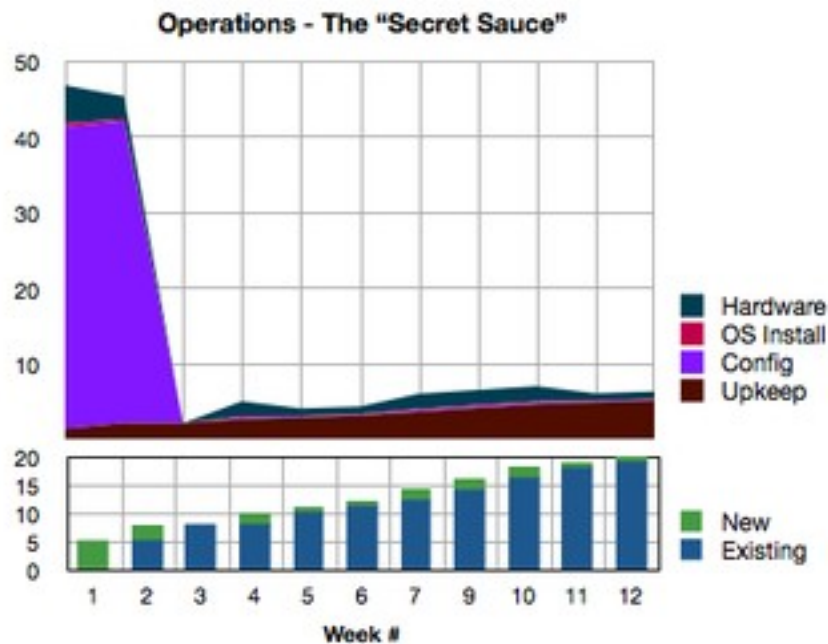
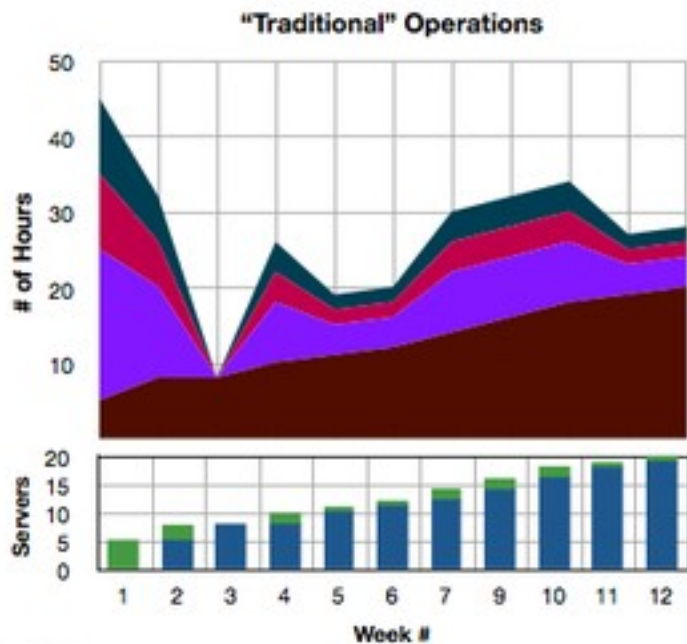
BladeLogic

AUTOMATION

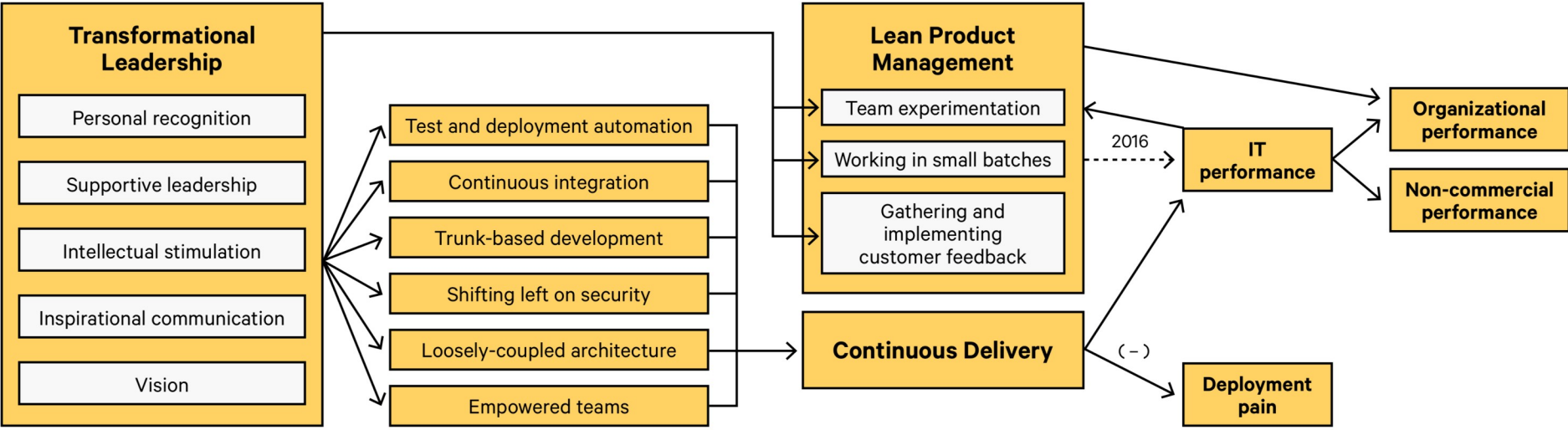
the server hero of  bmcsoftware



POWERING THE CLOUD THROUGH
SERVER  NETWORK  DATABASE  APPLICATION 
AUTOMATION



(<http://radar.oreilly.com/archives/2007/10/operations-advantage.html>)



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



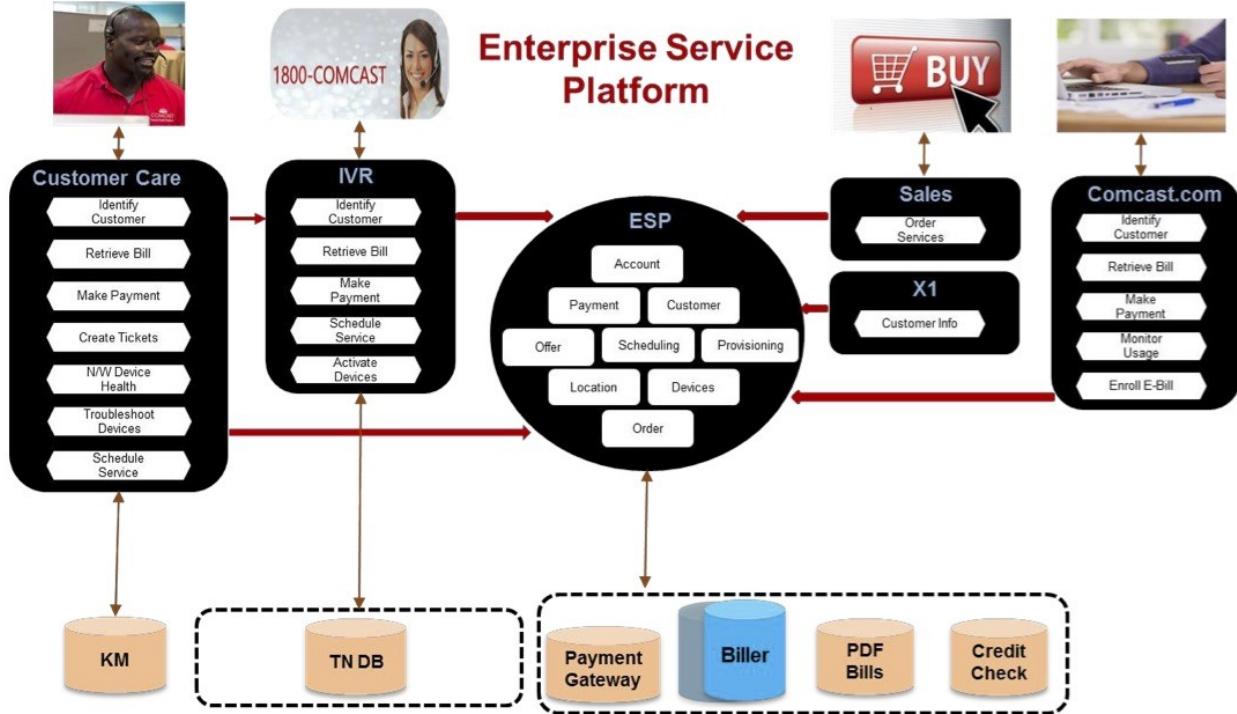
Base (2018): 3,228 Developers

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.

“The code to accomplish these tasks might be dozens of lines of JavaScript, which would be a trivial amount of development compared to what it takes to set up the servers with the proper environment to run the code”

What is ESP?



- **Monolithic SOA powering the Comcast Back Office**
- **65+ services**
- **250M+ transactions/day**
- **200+ internal and external consumers**
- **150+ back ends**
- **256+ servers**
- **50+ Domains**
- **1,000+ JVMs**

Standardize on a platform

Less yaml coding

@mattjcurry

Previously Director, Cloud Engineering, Allstate

<https://twitter.com/mattjcurry/status/1017953790345875456>

July 2018

..developer should have to do the least amount of work possible to deploy to the platform.

..just push from the CI tool without worrying about change tickets, security scanning, or approvals because it all happened through automation.

..Operational readiness, compliance, logging, monitoring, paging and notifications, etc should all be automatic.

..Developers want to focus on delivering value as much as anyone else in the

company. Get them out of administrivia. I

assure you that they will buy into an

The centralized everything

Infrastructure		Operations	Deployment	Backing Services	Security
Container Orchestration		Service Monitoring and Dependency Management	Lifecycle Management Deploy Patch Upgrade Retire	HTTP / Reverse Proxy	Control Plane Audit & Compliance
Infrastructure Orchestration		Inventory, Capacity, and Management	Release Packaging, Management & Deployment	Application Runtime	Security Event & Incident Management
Service Discovery		Event Management and Routing	CI/CD Orchestration	In-Memory Object Cache	Secrets Management
Configuration Management		Persistent Team Chat	TDD Frameworks	Search	Certificate Management
Core IaaS		Metrics & Logging Analytics & Visualization	Container Registry/Artifact Repository	Messaging	Identity Management
NAT	DNS	Log Aggregation, Indexing & Search	Standard Builds & Configurations	NoSQL Document Store	Threat & Vulnerability Scanning
SDN	IPAM				
Firewalls	WAN & VPN	Metrics Collection, Storage & Retrieval	Source Control Management	NoSQL Key/Value Store	Network Security
Storage	Load Balancers				
Compute	Network				

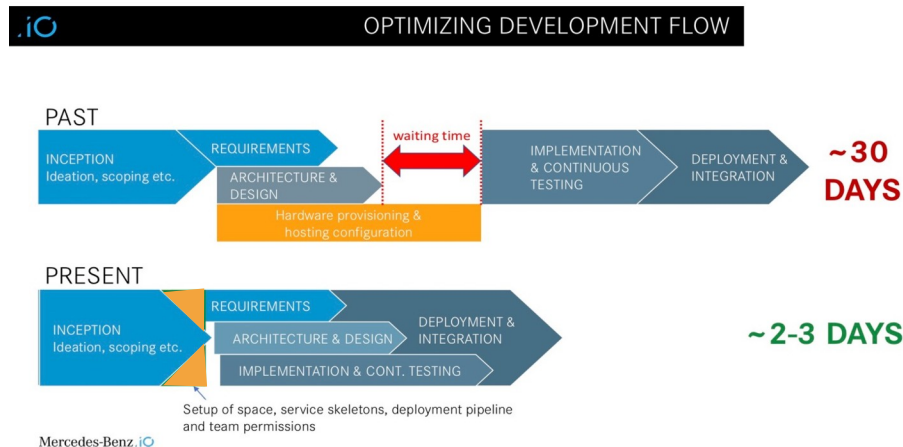


“The promise we made to our developers is that life will get simpler.”

Vincent Oostindië, Rabobank



Finding toil: what does it take to deploy one line of code?



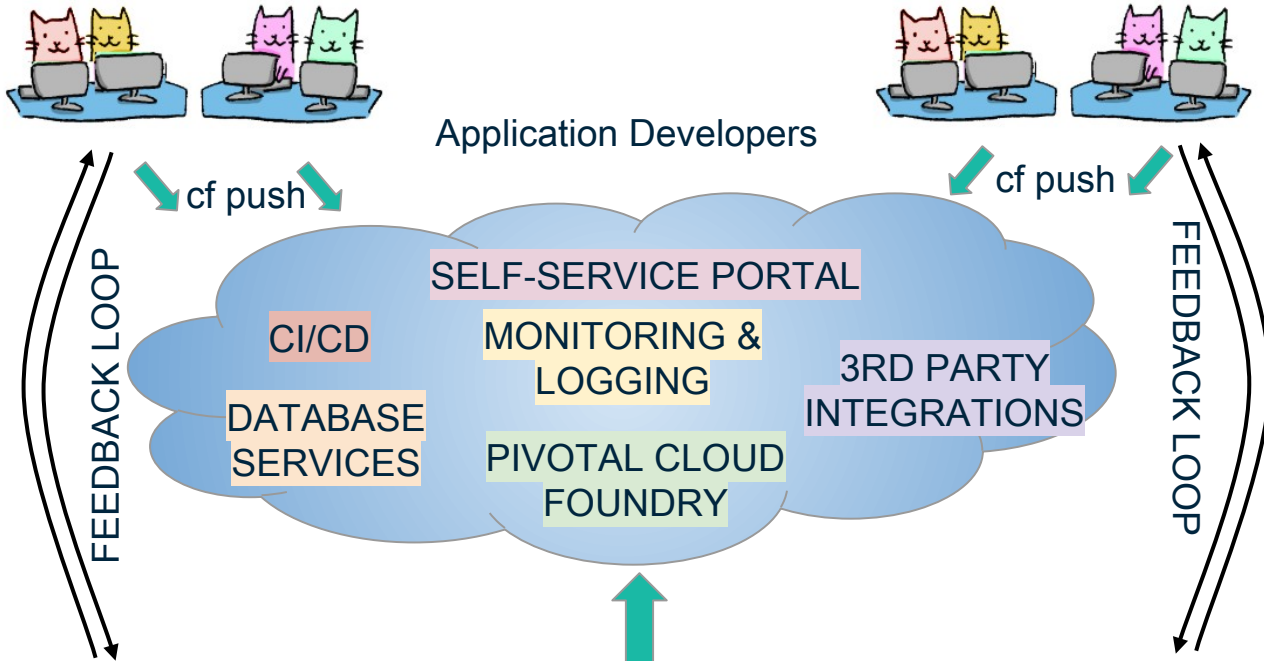
DAIMLER

Functions

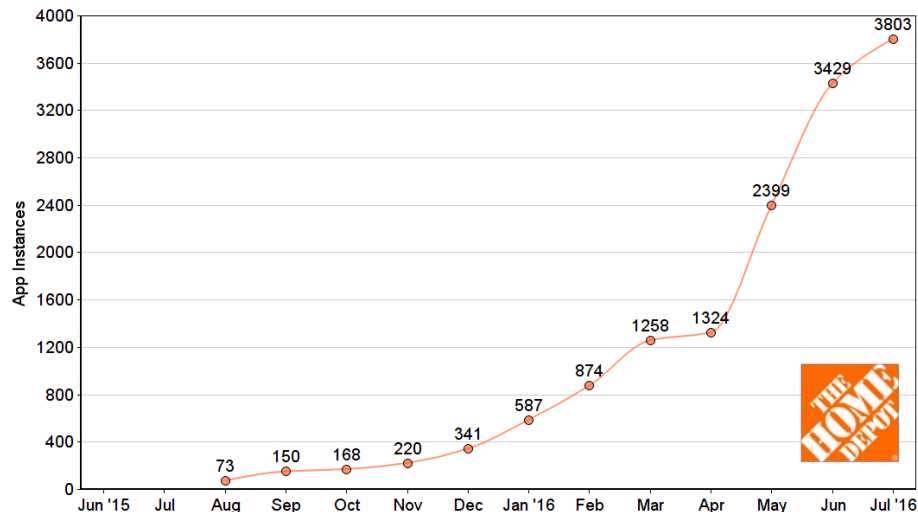
- Removes toil with automation & programming
- Stands up & manages the platform
- Creates shared services/middleware/etc.

Insane staff efficiency

- T-Mobile USA: 8 ops to 300 developers, 11k containers.
- Dick's Sporting Goods: 6 ops to 120 devs.
- Well Fargo: repaves production every 3 days



Rolling it out, ongoing management



Instances

● Start delivering a new platform capability with Pivotal at my location and/or a Pivotal office

Launch the platform capability

Build a balanced product team, get app into production.

Pivotal platform dojo

PKS small deploy

Platform health check

● Ingrain reliability practices in my team, with Pivotal's help

Extend the platform

Launch more capabilities, cement culture and practices

Pivotal platform dojo

Platform health check

● Scale delivery of the platform with my team at my location

Use the platform at scale

Culture established, Pivotal ramps down

Pivotal platform dojo

Dedicated support engineer/Customer reliability engineers

Sources: [Home Depot meetup, Oct 2015](#); [Humana at CF Summit 2015](#); ["Getting started," Coté, Oct 2016](#); [Comcast's Christopher Tretna at SP1 2016](#); ["Cloud-Native at Home Depot, With Tony McCulley"](#); ["Bottom Up Enterprise Transformation," Kyle Campos, CSAA Insurance, CF Summit EU, Oct 2017](#). Number of AI's equates to ~130 apps composed on ~900 services.

Budget for initial consulting

Organizational Learning



- Spend lots of time initially working with product teams
- You're often the most qualified to know the platform and even how to program for it
- Budget this time and staffing in, don't get shocked by actuals versus long-term dev-ops

Labs, factories, CoE's, whatever...but brand your platform



- **It's important to make a brand, this is a product.**
- **Internal conference, training, etc.**
- **Stickers & t-shirts, even!**

What does successful platform as a product look like?

Strong Executive Sponsorship with a well communicated vision

A Fully Dedicated and Balanced Team
(Product Owner/Product Manager, Platform Engineers)

Empowered to:

- Define Product Strategy
- Prioritize Backlog
- Release Updates & Patches to Platform
- Challenge Legacy Processes
- Focus on Reliability

By:

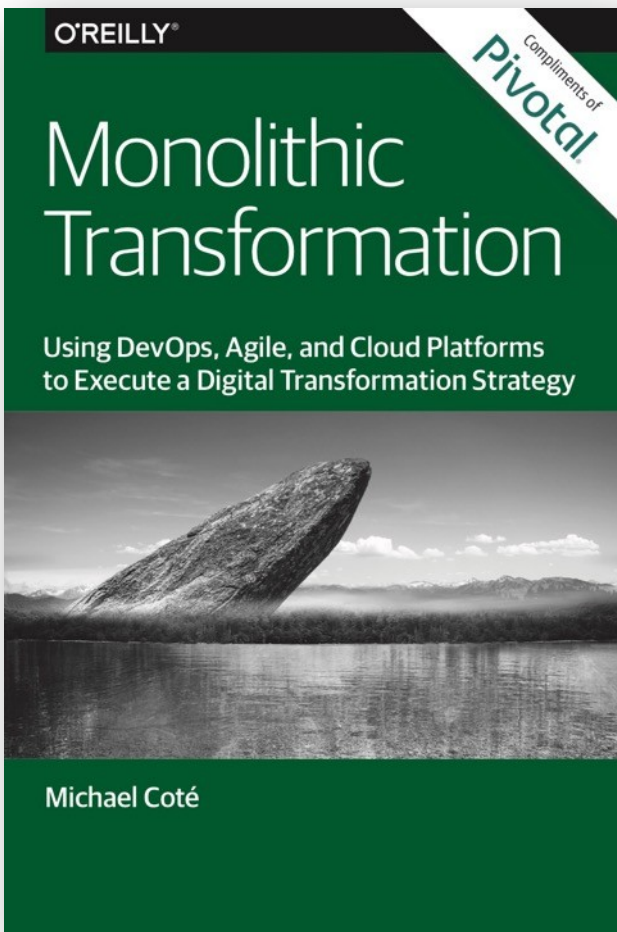
- Speaking Directly to Developers
- Conducting Hypothesis Driven Experiments
- Using Quick Feedback Loops
- Making Metric Driven Decisions

Resulting In:

- Solutions to Real Business & Customer Problems
- Minimizing Waste
- Increased Velocity
- Maximized ROI
- Good Product/Market Fit

Gartner recommends creating dedicated platform teams to continuously build, support and improve the shared platforms available through the self-service portal. In the 2019 Gartner DevOps Survey, 60% of respondents whose organization is currently using the platform team structure for its DevOps use the product and structure report a significantly higher level of average customer satisfaction (59% saying customers are “highly satisfied”). They also reported a significantly higher degree of average success in scaling DevOps (59.5% saying “very successful”) as compared to those not using a product and platform structure.

Free download
at pivotal.io



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

@cote | cote@pivotal.io




Pivotal Cloud Foundry®



Spring Boot
(or whatever else)



Application Code & Frameworks
Buildpacks | Spring Boot | Spring Cloud | Steeltoe



Pivotal Application Service (PAS)
>cf push

Java | .NET | NodeJS



Pivotal Container Service (PKS)
>kubectl run

Elastic | COTS | Spark



Pivotal Function Service
Knative & Istio



Pivotal Services Marketplace
Pivotal and Partner products

Open Service Broker API

CLOUDFOUNDRY **BOSH**

Embedded OS
(Windows & Linux)

NSX-T

CPI (15 methods)

Pivotal.



- 400% toil reduction**
- 47% reduction MTTR**
- 11.5k prod deploys a month**
- 81% reduction in downtime**
- 18,000 containers, 1,700 devs supported by 10 ops**