

Cloud Native Promises in the Land of Continuously Delivered Microservices

Dec 2015

Conclusions

- You need to make better software- you're either becoming a software company, or losing to someone who is
- The “cloud native” patterns:
 - Why - Continuous Delivery
 - What – Microservices
 - How - DevOps
- An *ad hoc* platform can't keep the promises you need

Hello!



- [@cote](#) – Director, Technical Marketing at Pivotal for Pivotal Cloud Foundry
- Former industry analyst at 451 Research and RedMonk
- Corporate Strategy & M&A at Dell
- Software developer
- Podcasts: cote.io/podcasts
- More: <http://cote.io> or cote@pivotal.io

Make
better
software



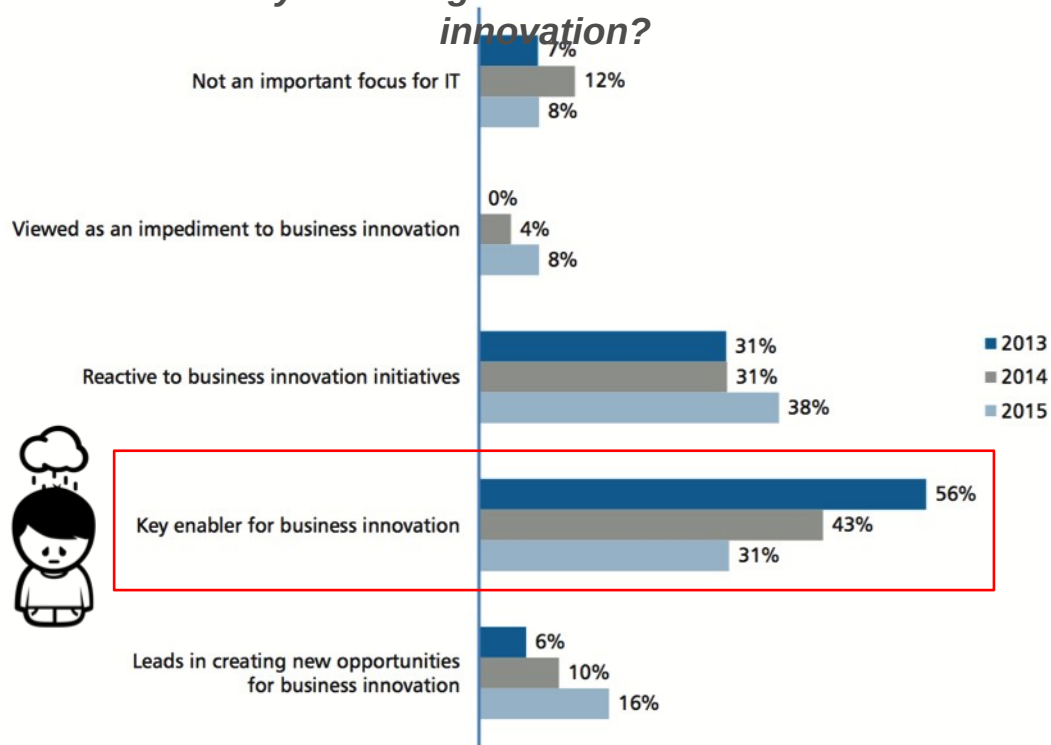
“Silicon Valley is coming....
We are going to work hard to make our services as seamless and competitive as theirs.”

[-Jamie Dimon, CEO@JPMC,
2015 letter to shareholders](#)

An IT capabilities apocalypse is coming

By 2015, 75% of applications supporting digital businesses will be “build” vs “buy”

What is your IT organization's role in business innovation?



CLOUD & DEVOPS WILL SAVE US!



How to draw an owl



1. Draw some circles



2. Draw the rest of the owl

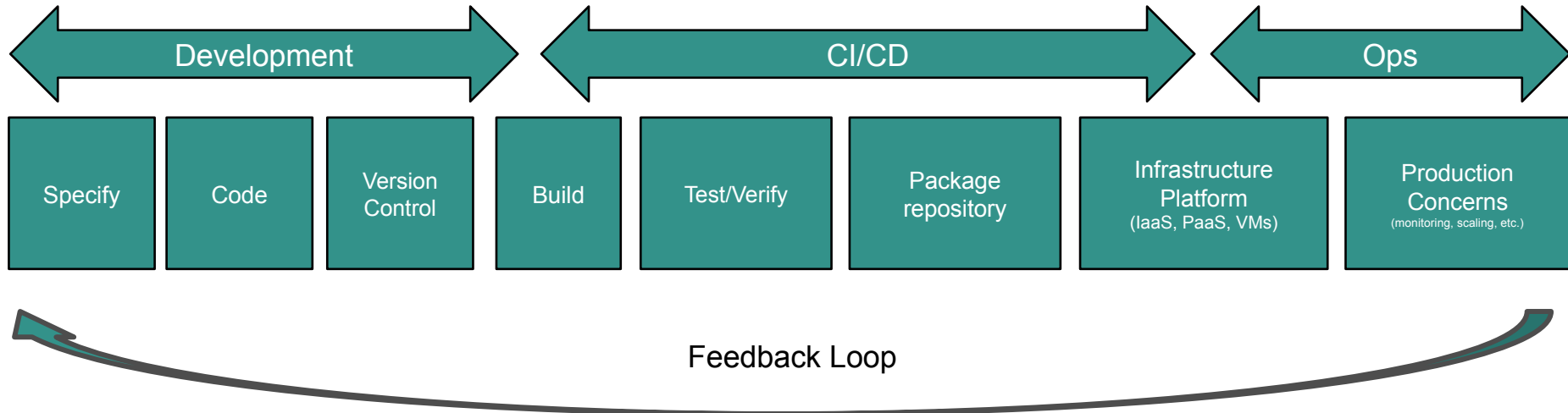


“We estimate that, by 2018, 90 percent of I&O organizations attempting to use DevOps without specifically addressing their cultural foundations will fail.”

- [Ian Head, Gartner, April 2015](#)

The Cloud Native Advantage

The Why - Continuous delivery



The What - Microservices

If every service has to be updated in concert, it's not loosely coupled!

Loosely coupled service oriented
architecture with bounded contexts

If you have to know about surrounding services you don't have a bounded context.

The benefits of microservices, the problems

Benefits

- Decoupling service releases, teams
- Faster innovation cycles
- Composite applications vs. monolithic apps

Problems

- The one about the murder mystery
- Incompatible APIs
- You still need other people to do work

It's worth solving the problems if you want the benefits...and it's possible!

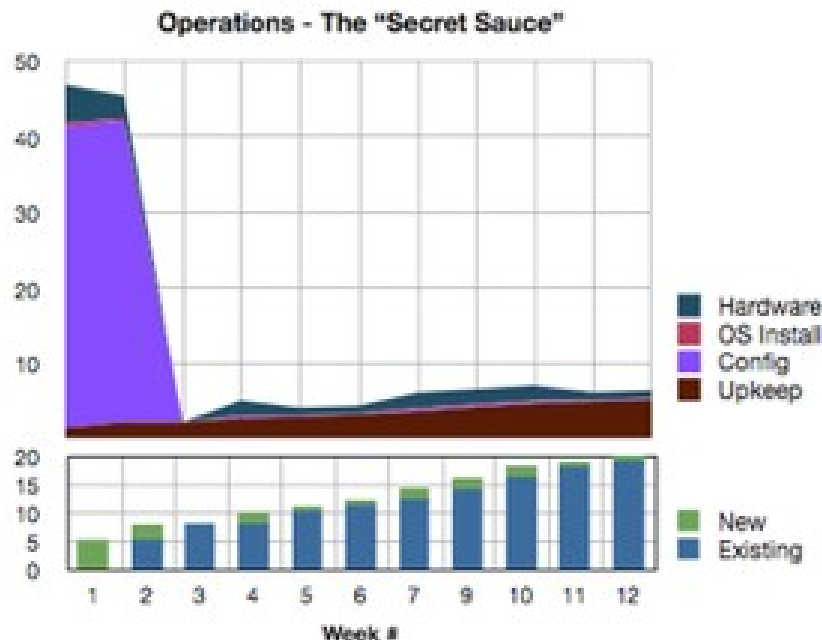
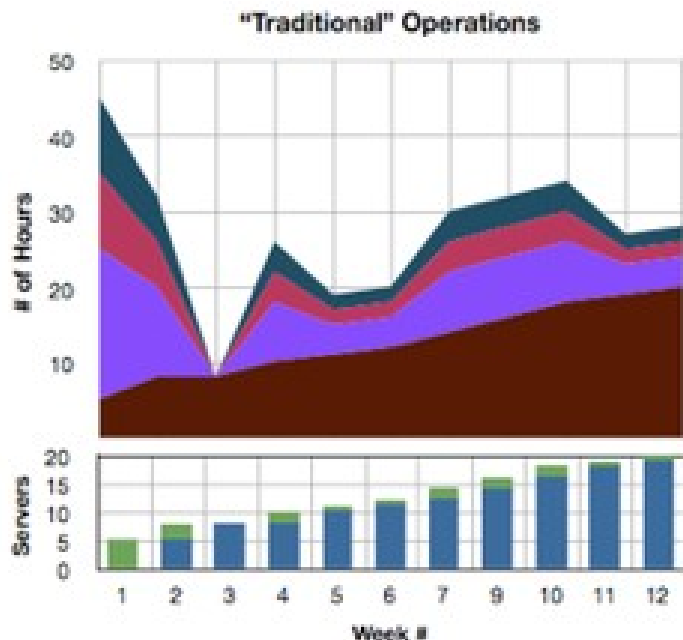
The How - DevOps

1. Delivering software that runs on the Internet (mobile, web, etc.)
2. The pipeline is the factory, from concept, to code, to production
3. Faster turns, while maintaining quality, uptime, performance
 - Lean approach to entire process
 - Shorten time to customer value
 - Keep the site up, resilience vs. failure

Consequence: requires Development & Operations to combine

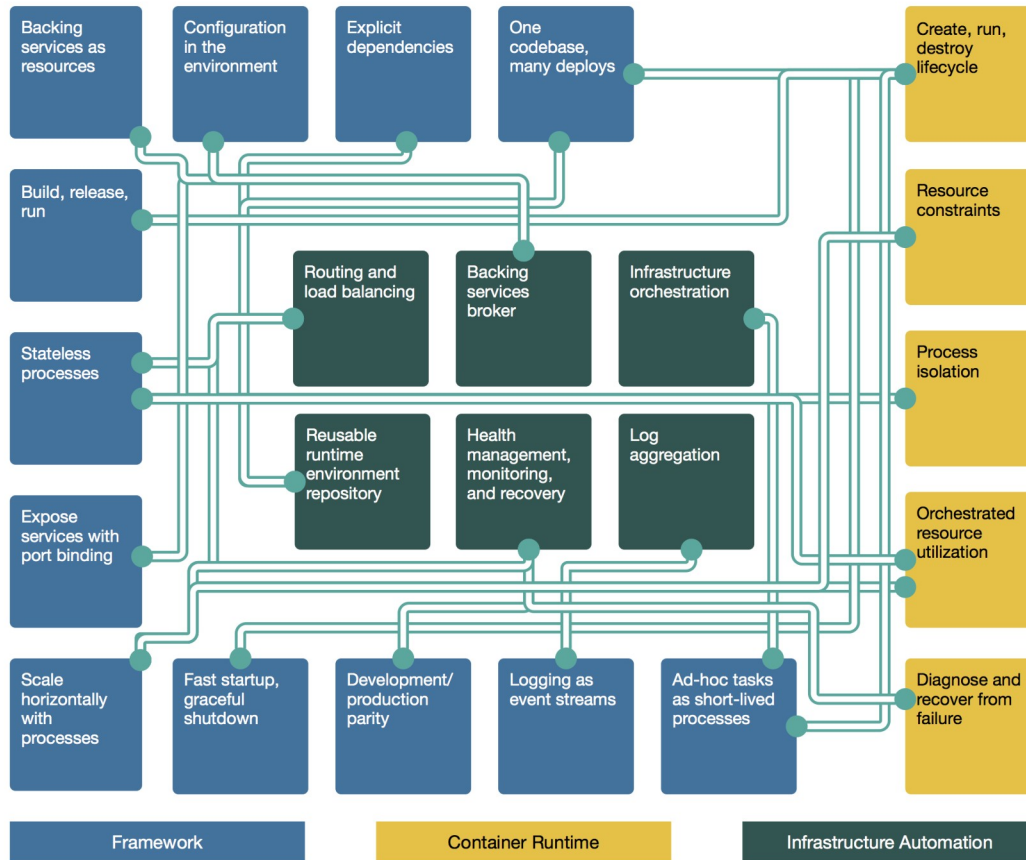
A platform for
keeping
promises

Operations is the secret sauce



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

What a cloud native platform does



Source: [Casey West's cloud native piece in O'Reilly Radar](#), August 2015. See also Wikibon's recent report, ["Technical Dive into Cloud Native Application Platforms"](#), September, 2015.

Culture



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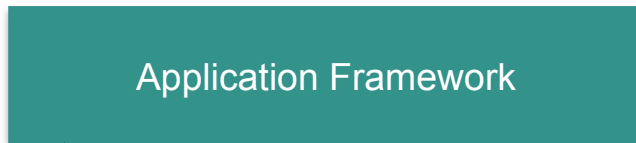


Ops

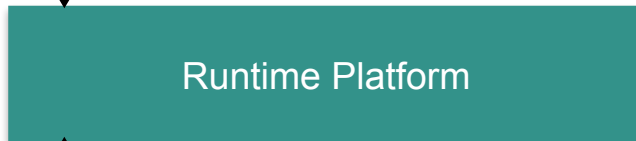


IT
Ops

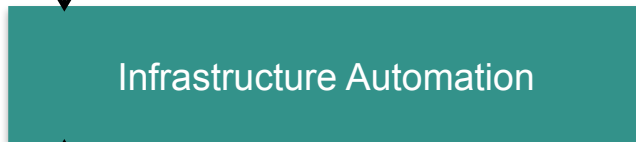
Cloud Native Framework



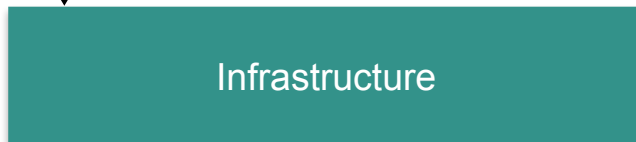
Contract: 12 factor app



Contract: BOSH Release



Contract: Cloud Provider Interface



Tools



Spring Cloud



Spring Boot



Cloud Foundry



BOSH



AWS



VMware



OpenStack

Pivotal

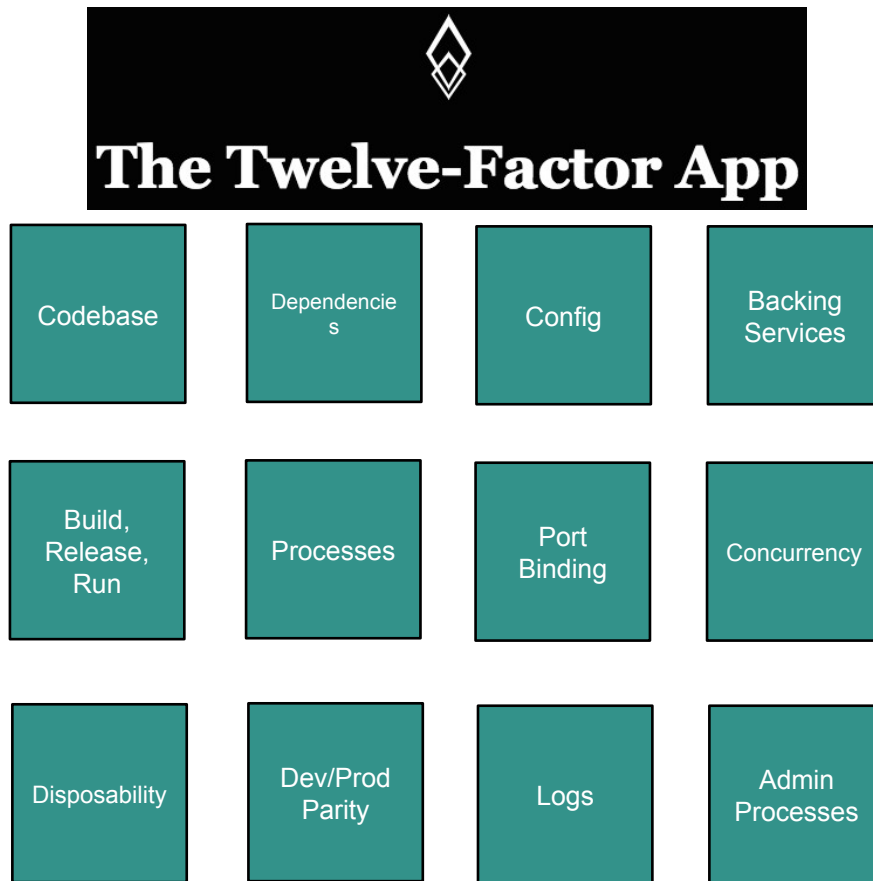
The infrastructure promises you need

- Canary deployment
- Configuration changes
- Rolling upgrades
- Health checks and remediation
- Scale out/scale in
- Across multiple IaaS

The Runtime Platform promises you need

- Role based access to resources
- Run code on demand
- Coordinate cross service configurations
- Route public requests
- Read and write persistent data
- Add and remove resources
- Record internal and external events
- Isolate resources and failures
- Measure performance/health
- Detect and determine failure (plan & provoke failure)
- Recover failures
- Work tomorrow

The Application Framework promises



The platform for keeping promises

Culture



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Ops

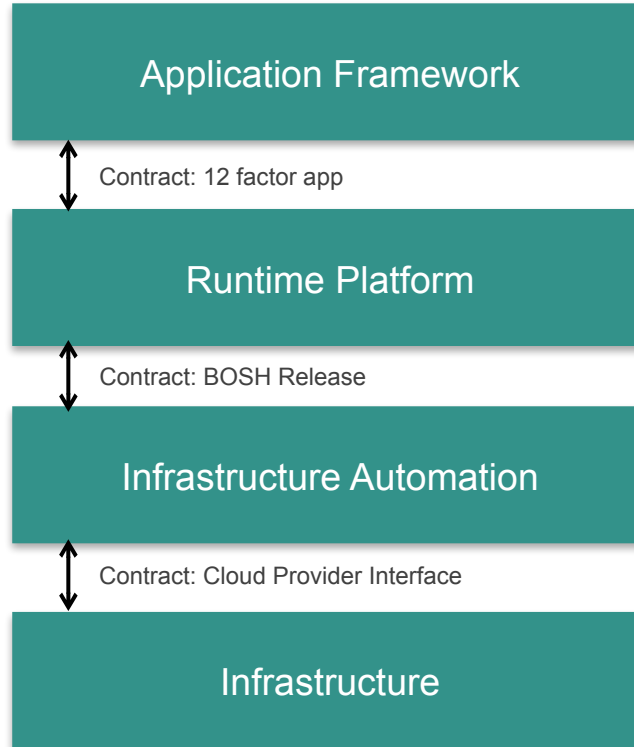


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IT
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Cloud Native Framework



Tools



Spring Cloud



Spring Boot



Cloud Foundry



BOSH



amazon
web services™



vmware



openstack

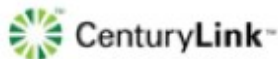
Pivotal

Pivotal Cloud Foundry

Worldwide cross industry adoption



Mercedes-Benz



And
many
more...

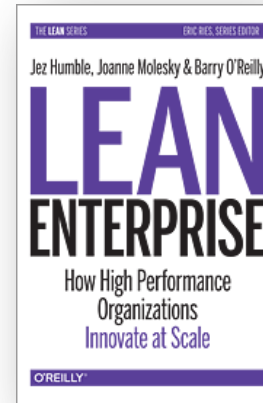
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More details...



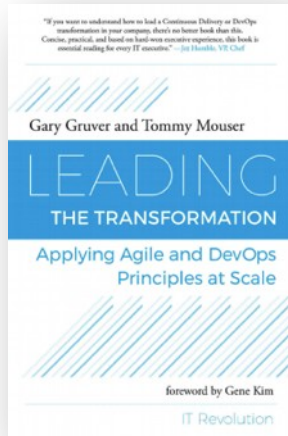
Cloud Native Journey Series

Covers tactics for new and legacy projects, and IT dept. transformation.



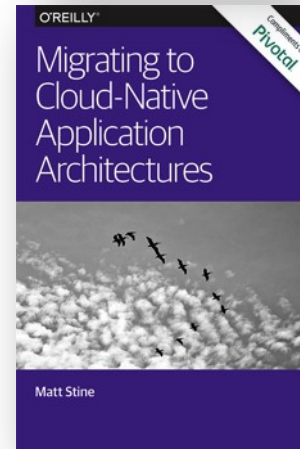
Lean Enterprise

Great omnibus of transforming how your organization uses IT, full of tactics, sources, and examples.



Leading the Transformation (2015)

Excellent overview of goals and management tactics for doing Agile and DevOps in larger organizations



Migrating to Cloud-Native Application Architectures (2015)

) Motivations and methods for moving to microservices and cloud-native patterns. Free!

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

- *The Agile Manifesto*, 2001

Thanks!

[@cote | cote@pivotal.io](#)

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