Dev+Ops

Working towards Continuous Delivery

xero Beautiful accounting software

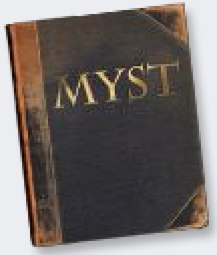
Intro

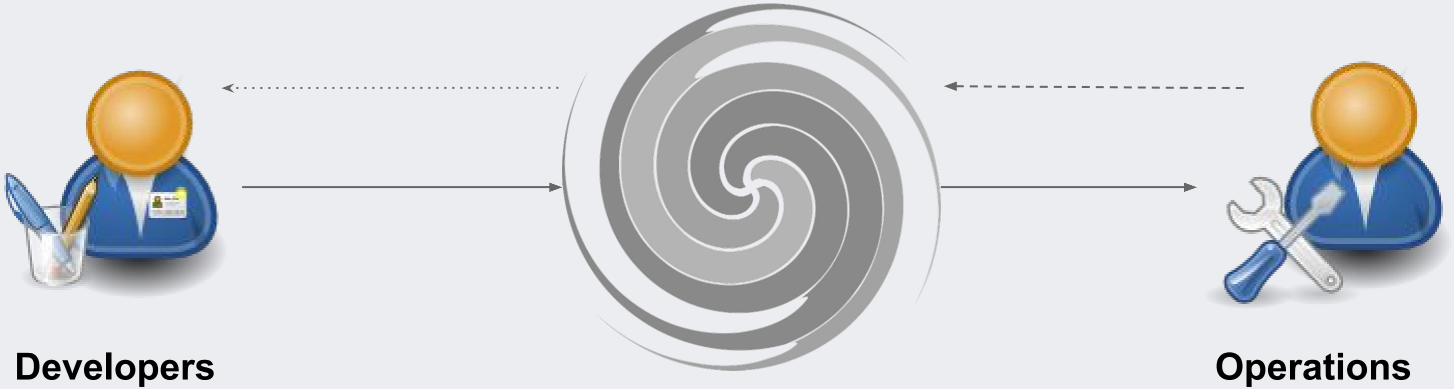
- Product Owner - Xero
- DevOps Team Leader - Xero
- Release Manager - Gameloft
- MultiPlayer Team Lead - Microgaming

> “There should be two tasks for a human being to perform to deploy software into an environment:
> 1- Pick the version and environment
> 2- Press the “deploy” button.”

David Farley - Continuous Delivery

Back in the day....





Developers

- Project Requirements
- Write Code
- Test Code

Process Blackhole

- Little or no feedback
- Tensions

Operations

- Infrastructure Requirements
- Maintain
- Deploy Code

Development Improvements (CI)

“Continuous Integration is a software development practice where members of a team integrate their work frequently.”

“The whole point of continuous integration is to find problems as soon as you can.”

http://www.martinfowler.com/articles/continuousIntegration.html

Martin Flower, 2006

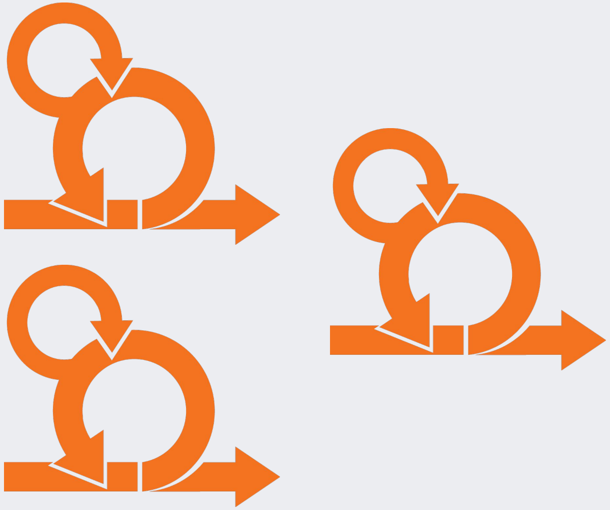
Development Improvements (Agile)

- Individuals and interactions over processes and tools
- Working software over comprehensive documentation
- Customer collaboration over contract negotiation
- Responding to change over following a plan

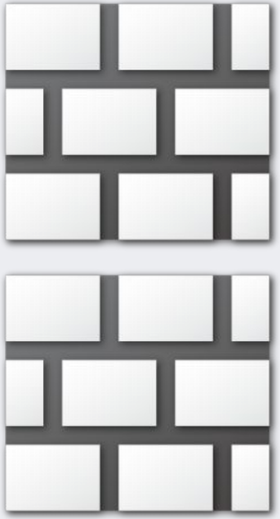
*That is, while there is value in the items on the right, we value the items on the left more.

Agile and Operations...oh boy

Multiple Development Teams



Release 1.0, 1.1, 2.0, 2.4
Every 2 weeks

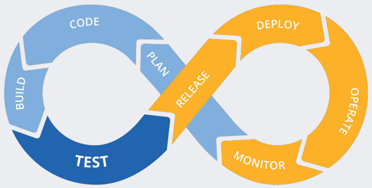


One Operations Team

Release once a month

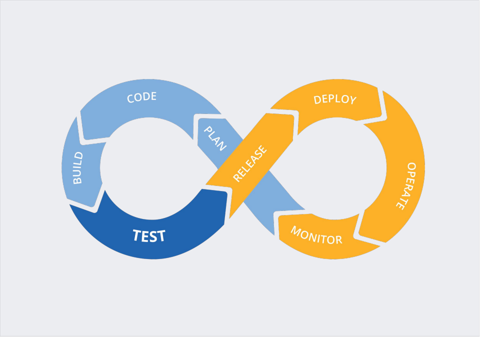
Solutions

- Throw more people at the problem!!
- Slow Development down!!
- Get Operations to be Agile!!
- Just stop shipping code and maintain the servers!!



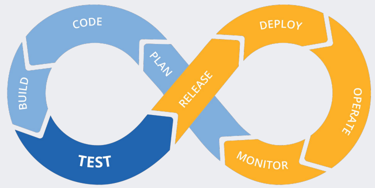
And then DevOps arrived

- 1 team to Plan, Dev, Test, Release, Deploy and Monitor
- 1 Autonomous, cross functional team
  - Developers
  - Testers
  - Infrastructure Engineers
- “Own” their infrastructure
- High Trust environment



What is DevOps?

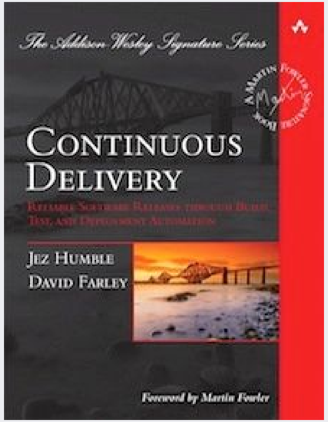
- Autonomous cross functional teams that can deploy when they need to
- Development and Operations working together



What DevOps is not!

- A central team in an organization
- An excuse to hit every problem with a hammer
- A reason to forget about Security, Redundancy and Uptime

Continuous Delivery



The Addison Wesley Signature Series

Continuous Delivery

Reliable Software Releases through Build, Test, and Deployment Automation

Jez Humble
David Farley

Foreword by Martin Fowler

Continuous Integration + Continuous Deployment

DevOps Metrics

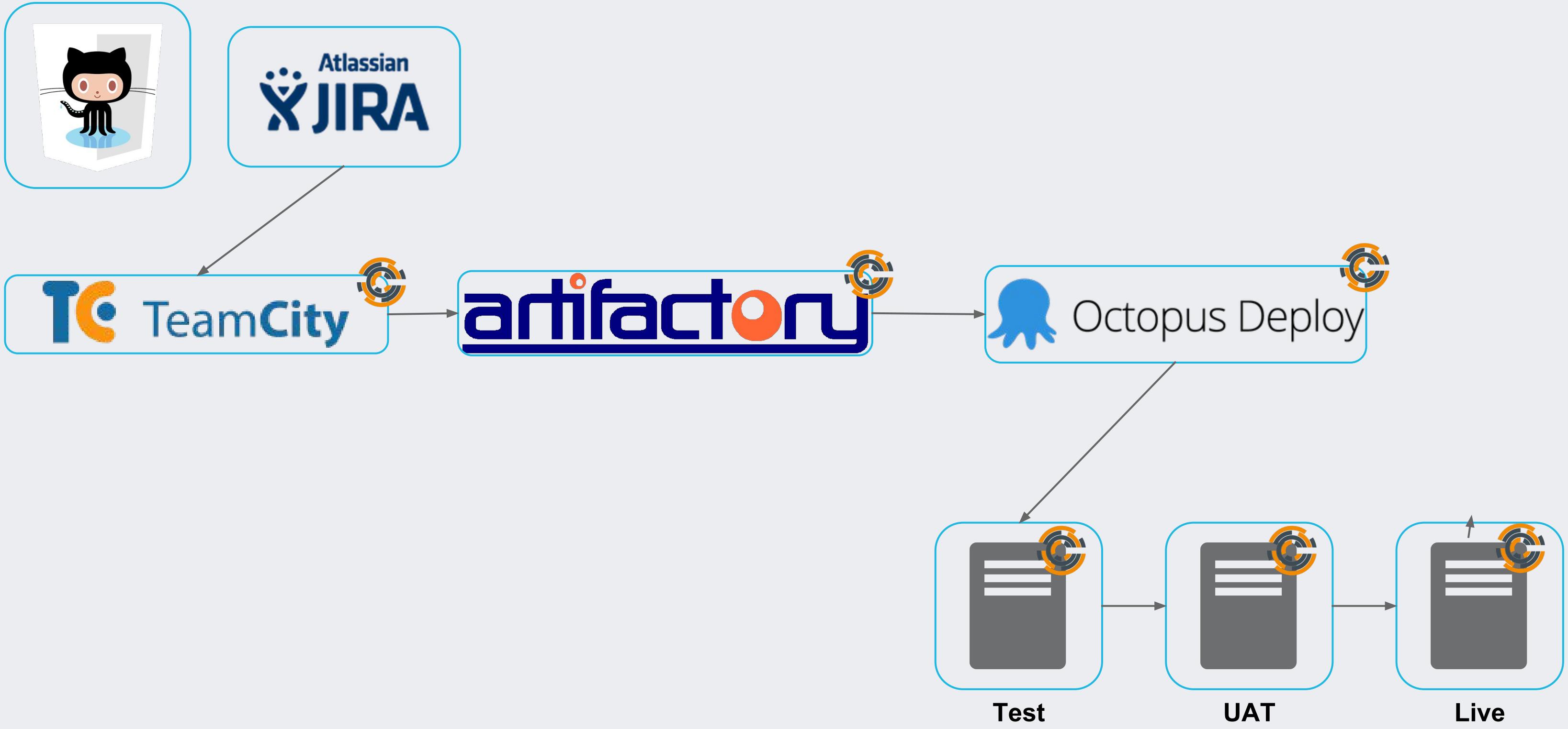
- Deployment (or Change) Frequency
  - How fast can you ship change?
- Change Lead Time
  - Total time of development to deployment.
- Change Failure Rate
  - How many times does a deployment fail?
- Mean Time To Recover
  - How fast can we recover from failure?

http://devops.com/2015/01/26/metrics-devops/

DevOps Tools

- Continuous Integration
    - TeamCity
    - Jenkins
    - Travis
- Issue Tracking
    - Jira
    - Fogbugz
    - GitHub Issues
- Continuous Deployment
    - GoCD
    - OctopusDeploy
    - AWS CodeDeploy
- Configuration State Management
    - Chef
    - Puppet

Example CI/CD Pipeline



The Cloud...feels like cheating

amazon
web services™

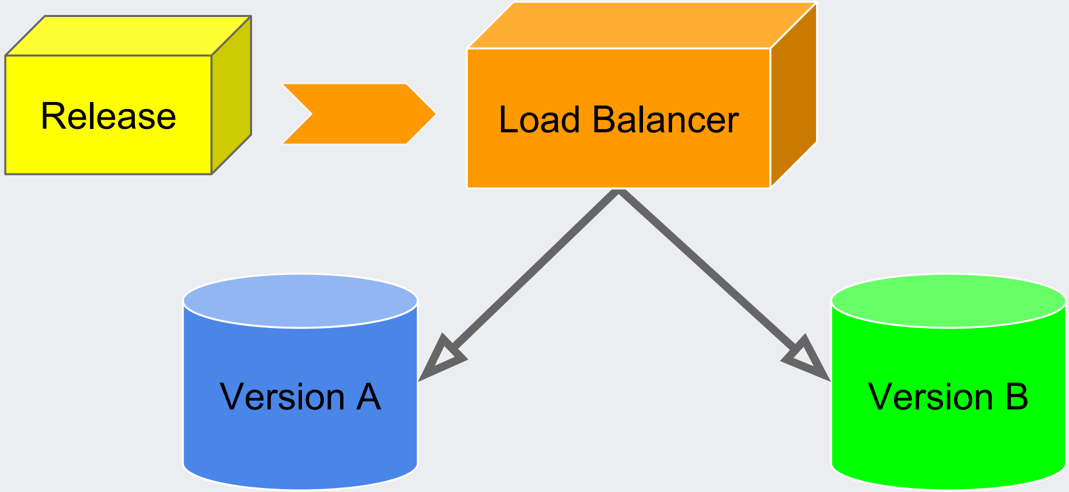
Microsoft
Azure

Google Cloud Platform

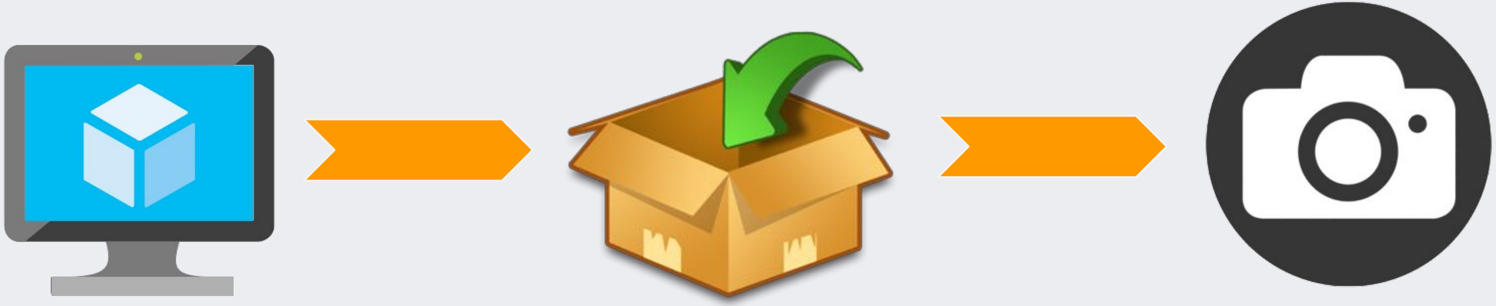
Deployment Techniques

- Blue/Green Deployments
- VM Baking
- Always Rolling Forward

Blue/Green



VM Baking



VM Spin Up

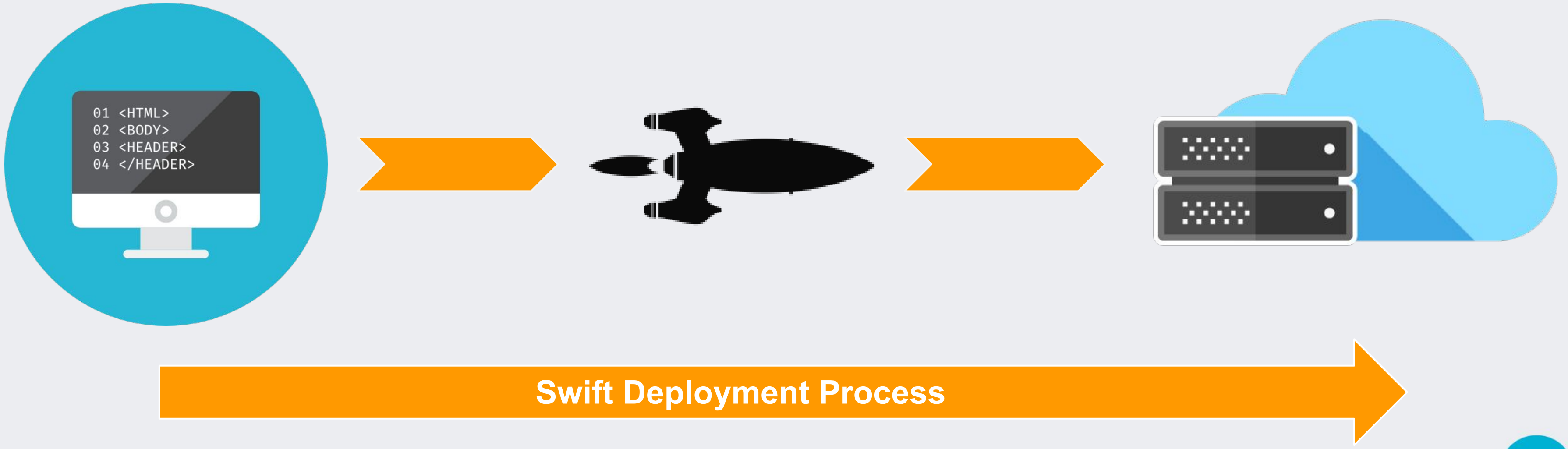
Install Software

Snapshot & Store

Rolling Forward

"Continuous Delivery aims to make releases boring, so we can deliver frequently and get fast feedback on what users care about."

https://www.thoughtworks.com/continuous-delivery



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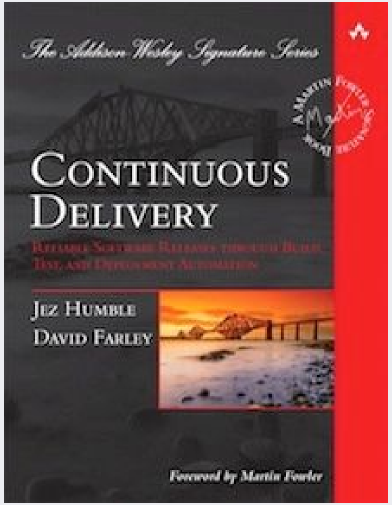
Q&A

Required Reading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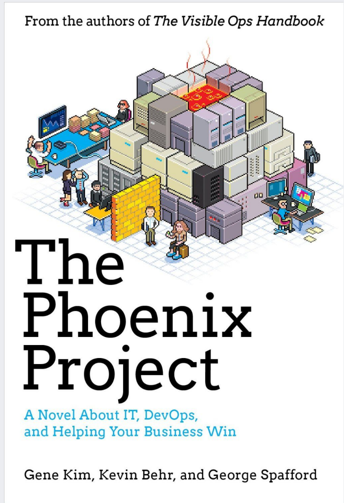
From the authors of The Visible Ops Handbook
The Phoenix Project
A Novel About IT, DevOps, and Helping Your Business Win
Gene Kim, Kevin Behr, and George Spafford