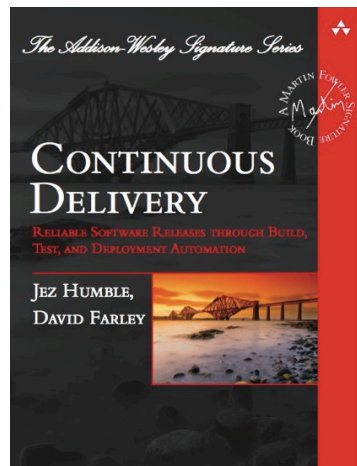


# Continuous Delivery

from pain delivery to continuous delivery



# Why to talk about continuous delivery?



# Why to talk about continuous delivery?



ops... we are not  
alone there...



# Why to talk about continuous delivery?



ops... we are not  
alone there...

bazaarvoice: BRANCHEN ▼

Home > Produkte > Ask & Answer

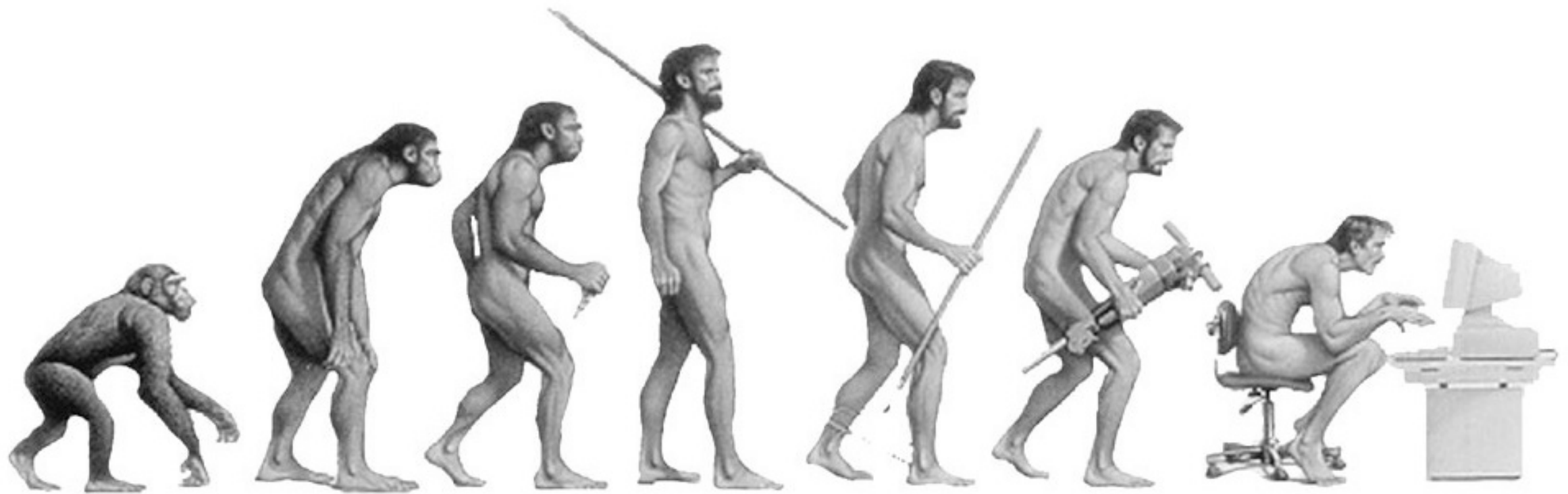
**Ask & Answer**



and we are not the only  
company with great ideas  
and cool product names...



# innovating and evolving businesses



flickr.com



# customers expecting constant feature updates



flickr.com

questback

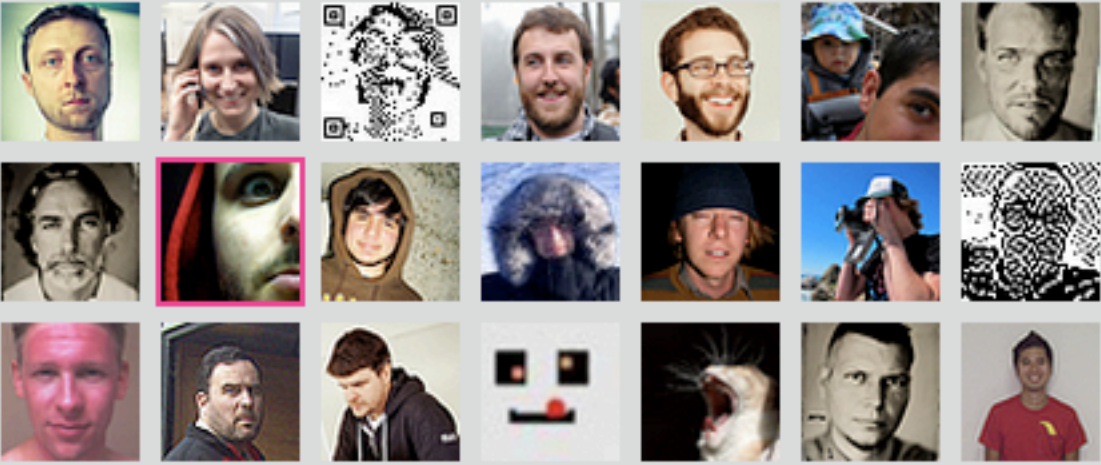


# the problem

The most important problem that we face as software professionals is this:  
If somebody thinks of a good idea, how do we deliver it to users as quickly as possible?

Continuous Delivery: Jez Humble

FEATURING



*Flickr was last deployed 8 hours ago, including 7 changes by 3 people.*

*In the last week there were 123 deploys of 530 changes by 24 people.*



code.flickr.com



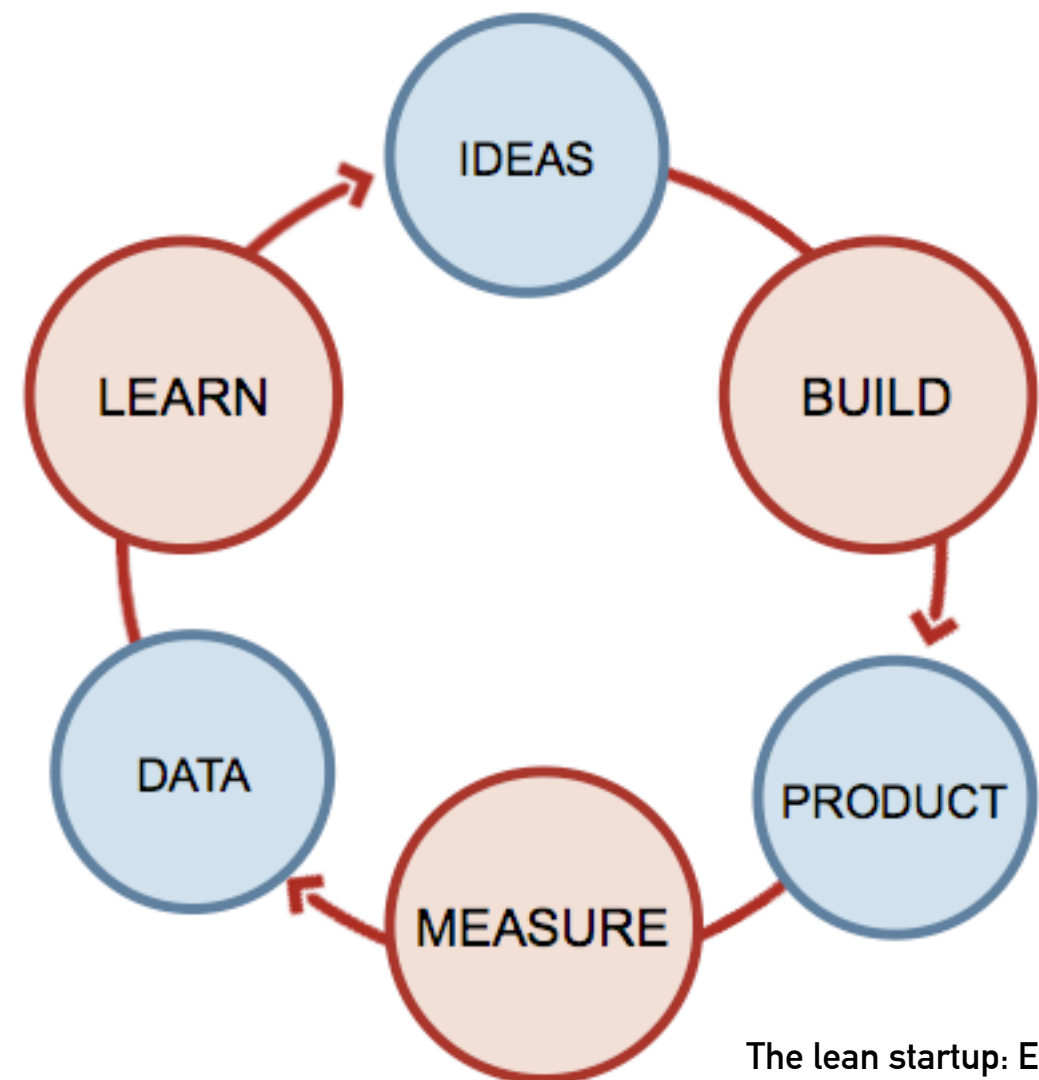
# releasing frequently

## feedback from users

create hypothesis

deliver minimum viable product

get feedback



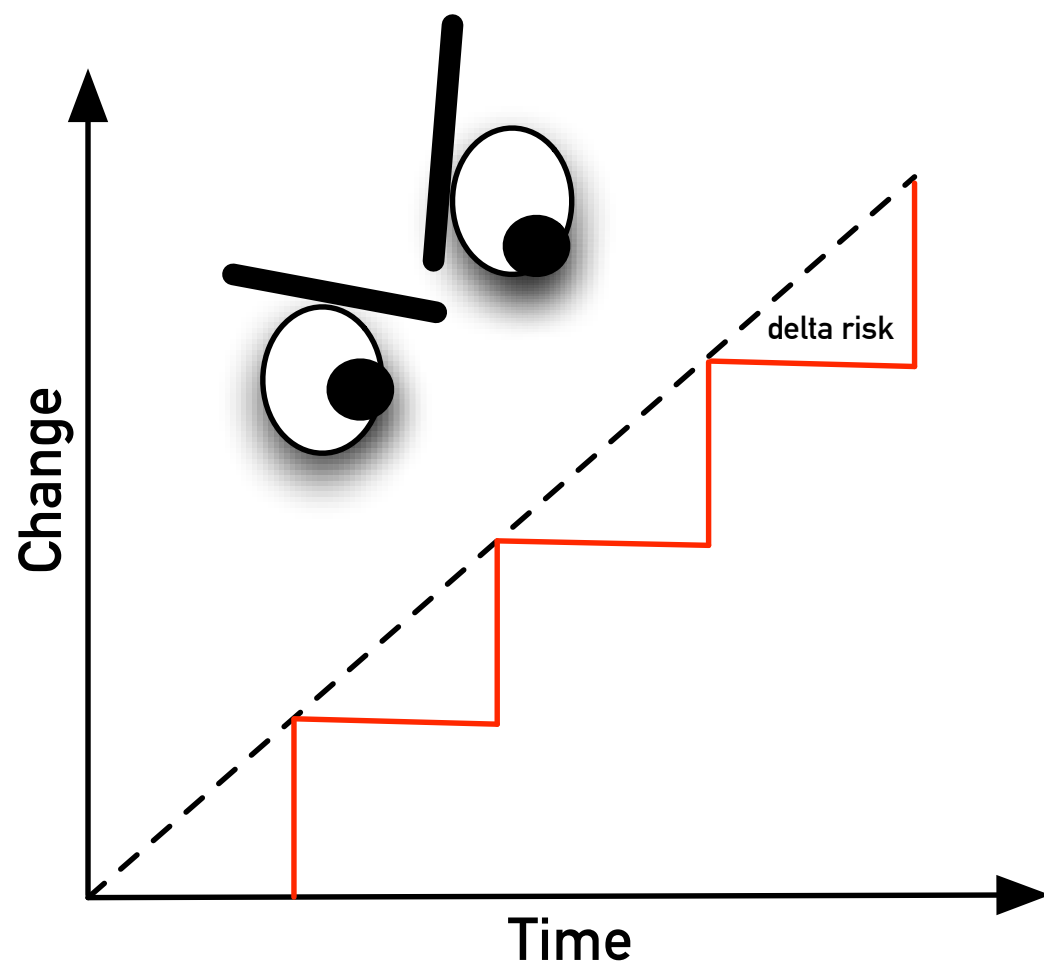
The lean startup: Eric Ries





# releasing frequently

## reduce risk of release

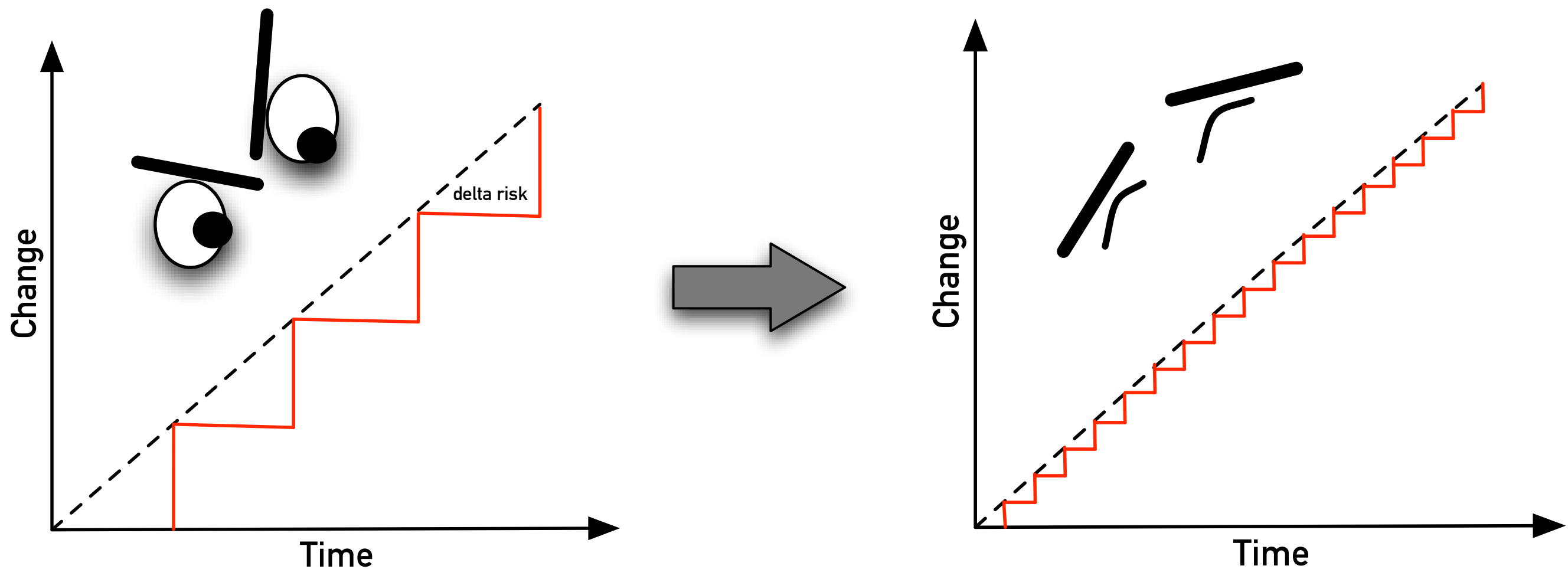


Ops metametrics: John Allspaw



# releasing frequently

reduce risk of release

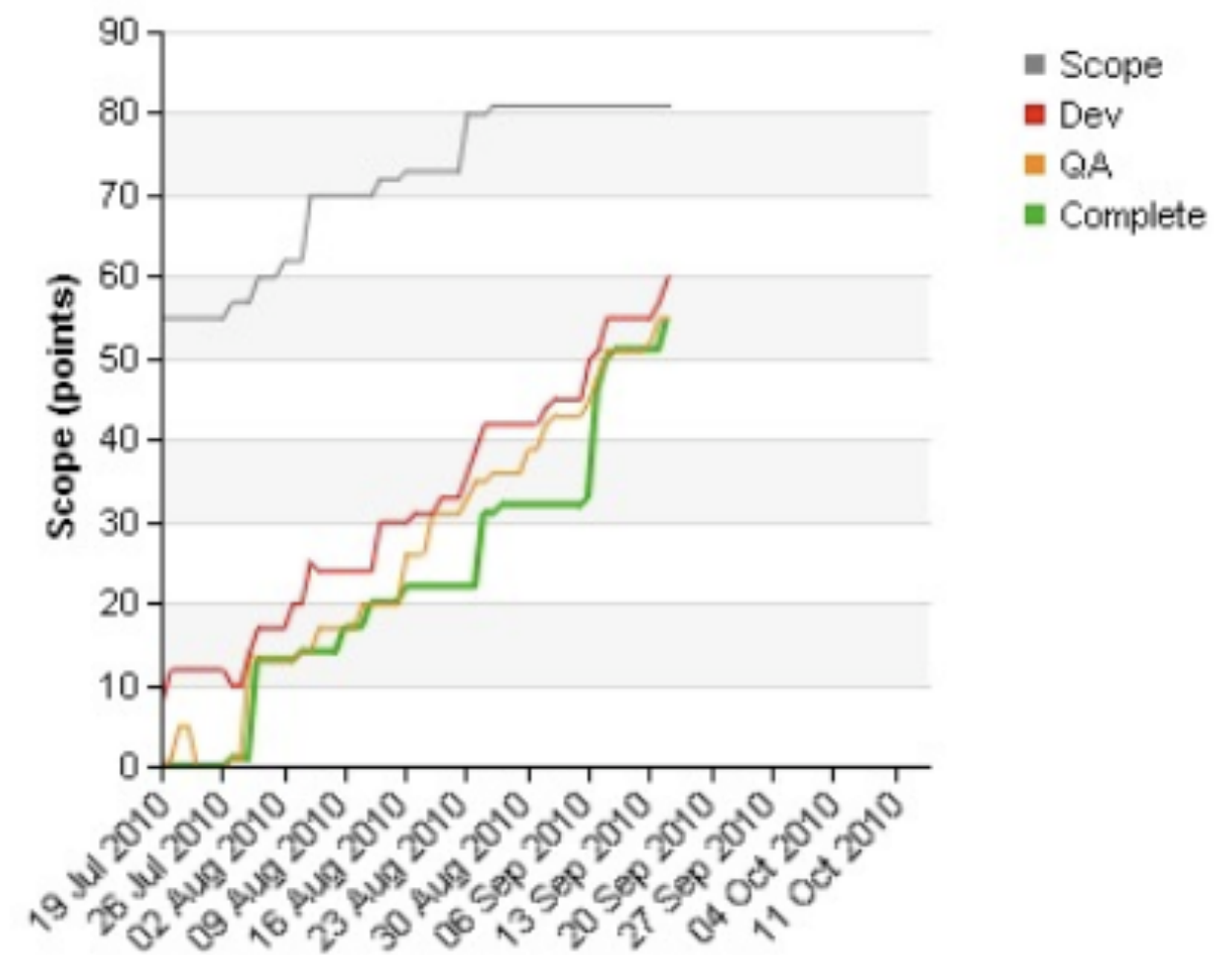


Ops metametrics: John Allspaw



# releasing frequently

real project progress



Continuous Delivery: Jez Humble



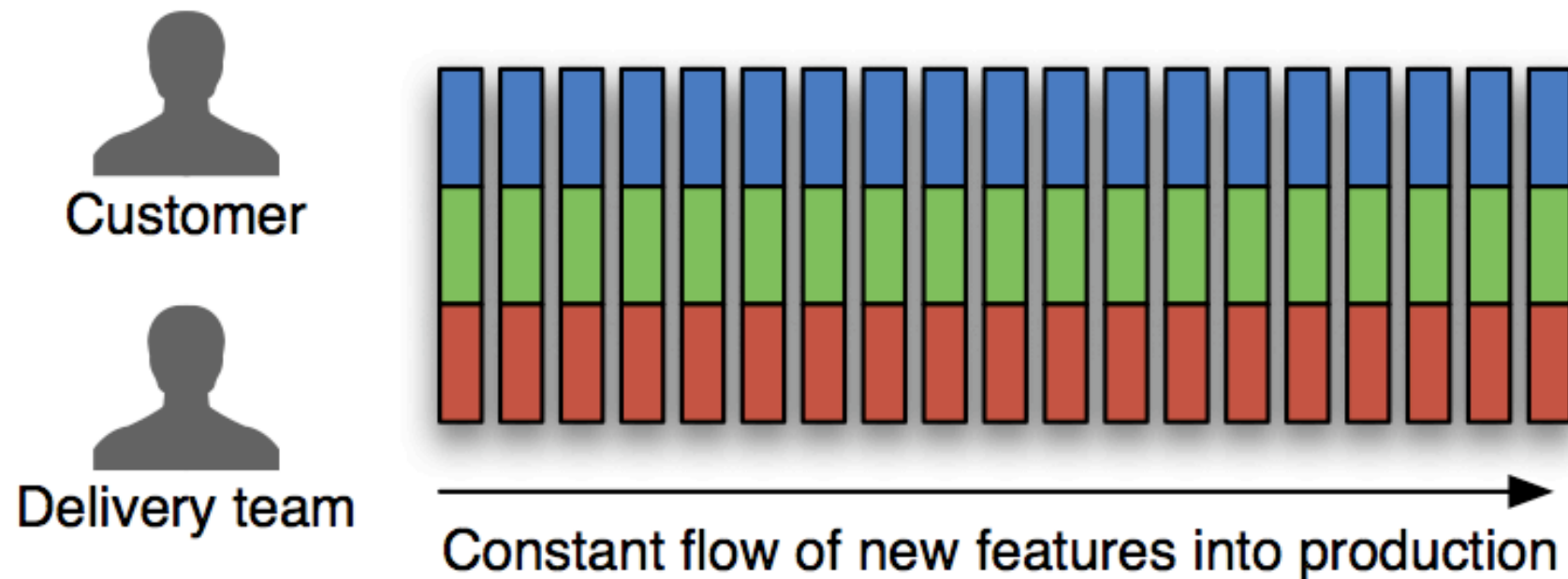
# production-ready software

**Fast, automated feedback on the production readiness of our applications every time there is a change - to code, infrastructure, or configuration.**

Continuous Delivery: Jez Humble



# continuous delivery



Continuous Delivery: Jez Humble

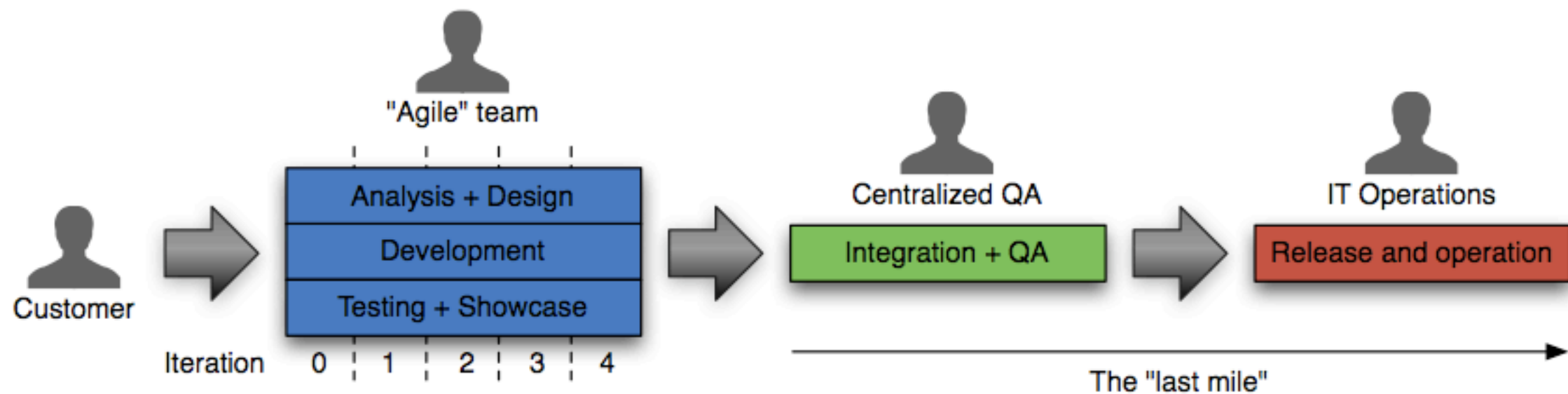
software always production-ready

automate the „last mile“ to allow rapid, reliable feedback deployment at the push of a button

constant measurement and optimization of the delivery process



# the „last mile“



Continuous Delivery: Jez Humble



# continuous delivery



flickr.com

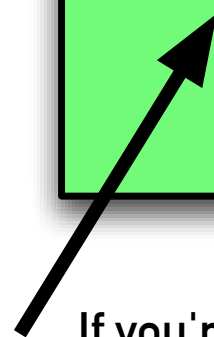
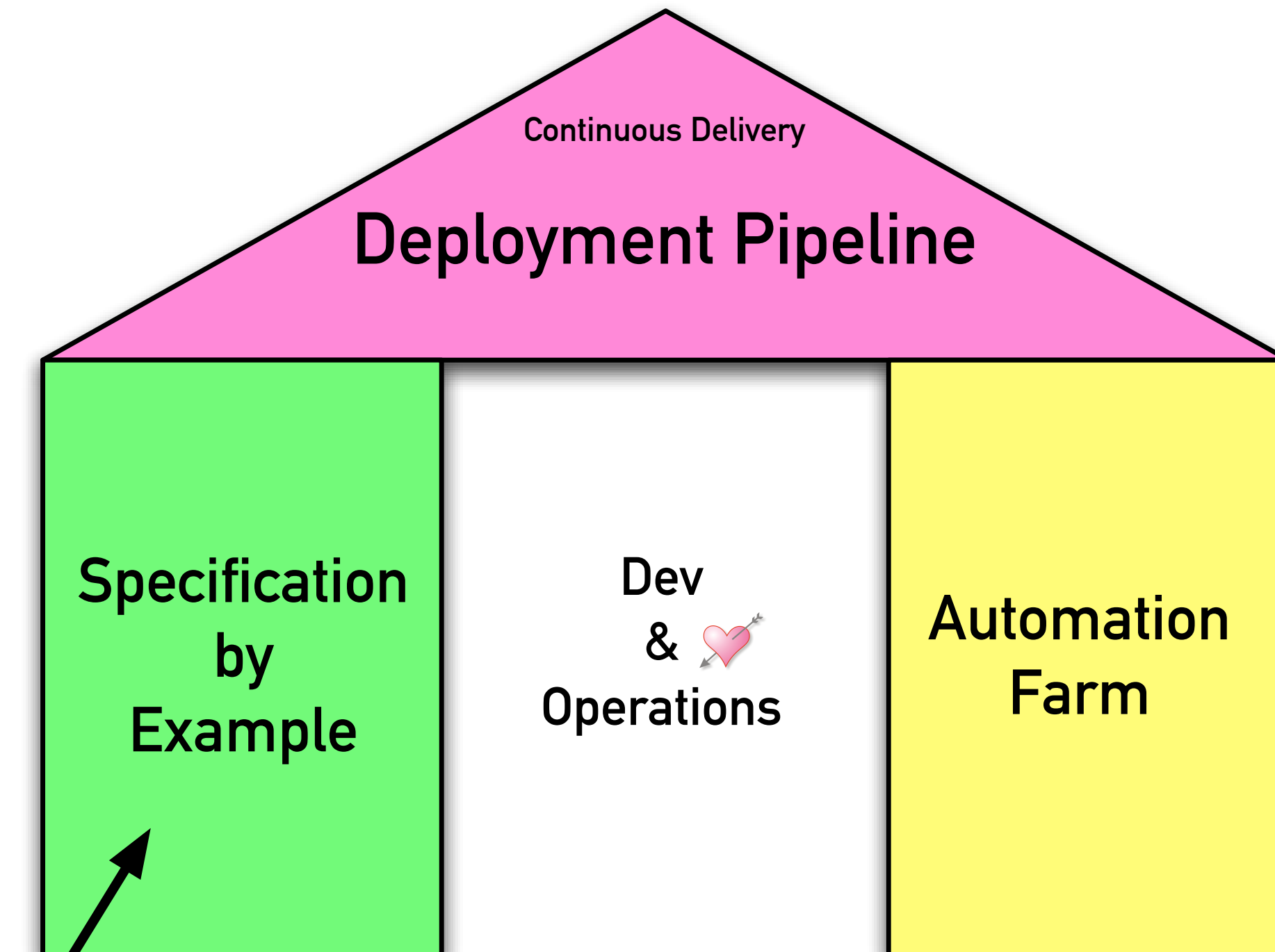
power in the hands of the business

**releases tied to business needs, not  
operational constraints !**

imperative for strategic decisions

huge advantage in comparison with the concurrents





If you're intestered come to  
my next techtalk !



# deployment pipeline

an automated implementation of our  
system's build, deploy, test, release process

**control** **feedback**  
**visibility**

generated with wordle



# ask this question

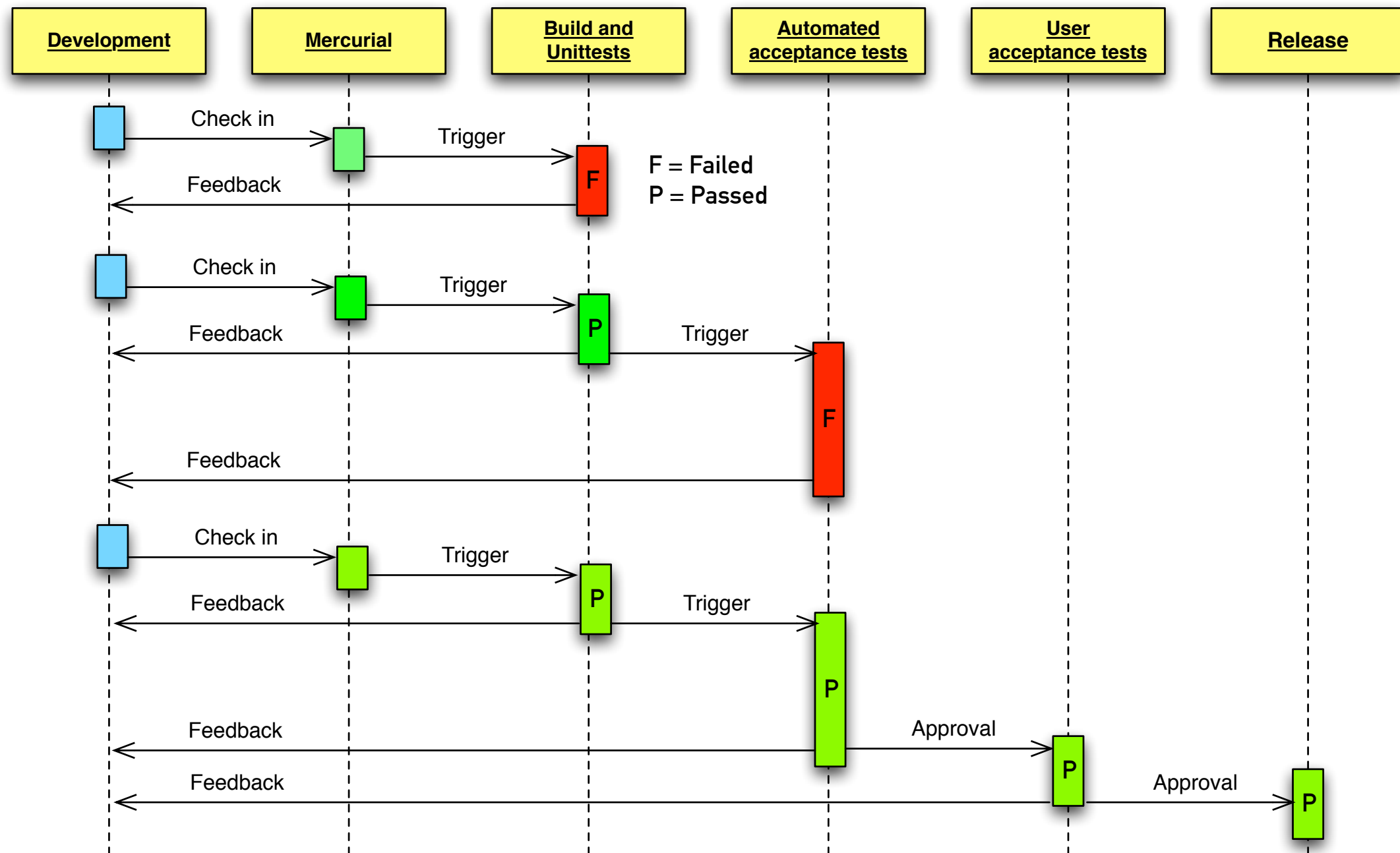
**„How long would it take your organization to deploy a change that involves just one single line of code?“**

**„Do you do this on a repeatable, reliable basis?“**

Mary and Tom Poppendieck: Implementing lean software development



# deployment pipeline



Continuous Delivery: Jez Humble



# the release candidate



Every change creates a build that will, rather like some mythical hero, pass through a sequence of tests of, and challenges to, its viability as a production release

As the build passes each test of its fitness, confidence in it increases

The main goal: save the princess in the production castle

Continuous Delivery: Jez Humble



# by the way: save the princess

*deployinator*

logged in as: [ekastner](#) [switch] QA: [25145-trunk-20100518-220720-UTC](#) Princess: [25145-trunk-20100518-220720-UTC](#)  
Production: [25145-trunk-20100518-220720-UTC](#)

## Deploy to QA (Trunk)

deploying revision: [25159](#)

Message:

Push to QA →

## Princess is in the other castle



deploying version: [25145-trunk-20100518-220720-UTC](#)

Save the Princess

## Deploy to Production

deploying version: [25145-trunk-20100518-220720-UTC](#)

PROD!!! →

Important links:

## Log

[Commits since last prod deploy !!](#)

☒ Auto scroll command output?

Add an arbitrary log message:

PROJECT-### to link to jira and add a comment

log

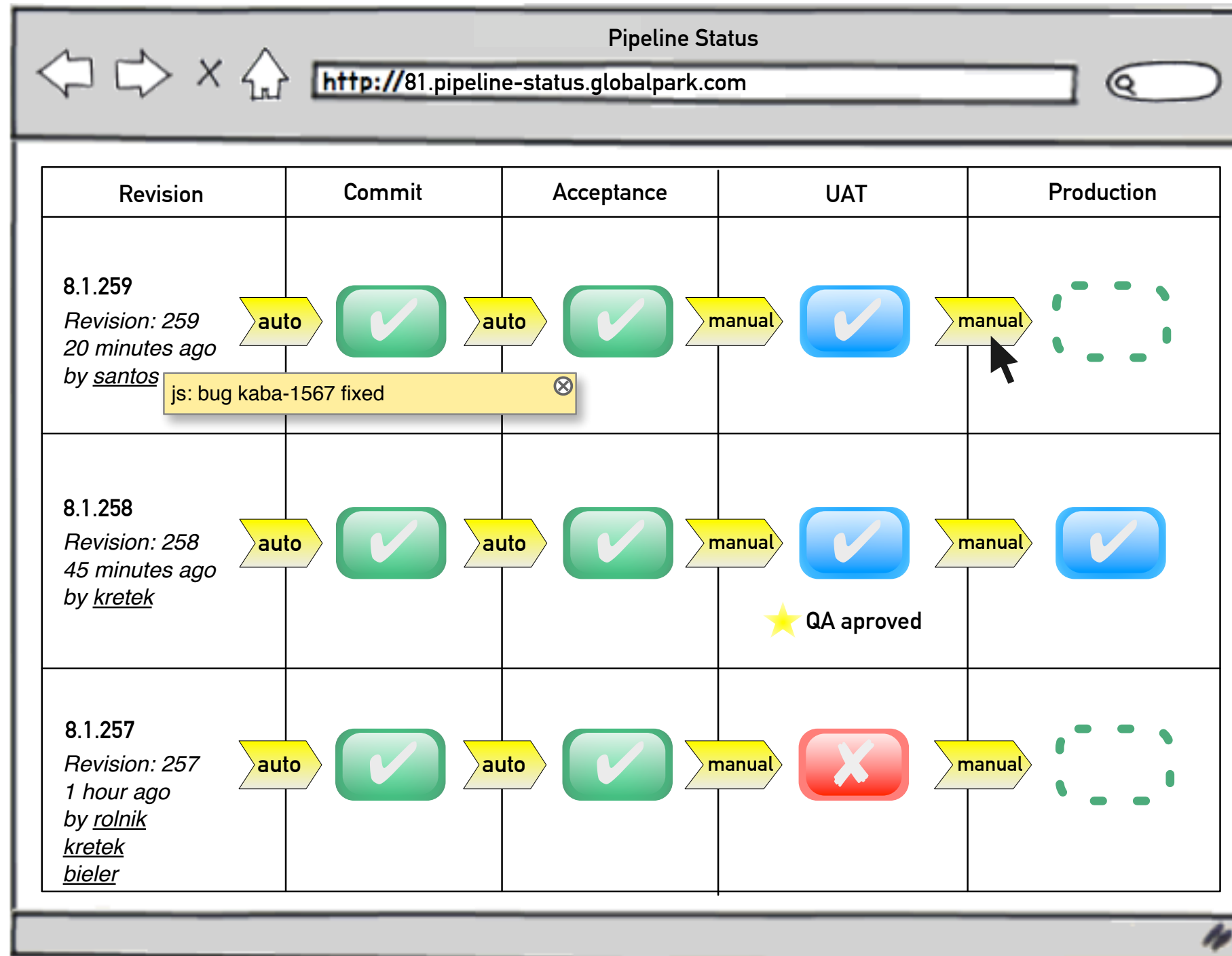
- [ web ] | 2010-05-18 22:20:50 | PRODUCTION | sandrews | Production Deploy: old 25134, new: 25145 [diff](#)
- [ web ] | 2010-05-18 22:18:00 | PRINCESS | sandrews | Princess Deploy: old: 25144, new: 25145 [diff](#)
- [ web ] | 2010-05-18 22:17:22 | QA | sandrews | kyles bug fix old: , new: 25145 [diff](#)
- [ web ] | 2010-05-18 22:12:03 | QA | sandrews | pushing again -- banned user cache busting old: , new: 25144 [diff](#)
- [ web ] | 2010-05-18 22:06:39 | PRINCESS | sandrews | Princess Deploy: old: 25134, new:
- [ web ] | 2010-05-18 22:02:36 | QA | sandrews |  old: 25134, new: 25144 [diff](#)
- [ web ] | 2010-05-18 20:56:50 | PRODUCTION | cmunns | Production Deploy: old 25134, new: 25134 [diff](#)
- [ web ] | 2010-05-18 20:49:02 | PRODUCTION | cmunns | Production Deploy: old 25134, new: 25134 [diff](#)
- [ web ] | 2010-05-18 20:44:43 | PRODUCTION | ahashim | Production Deploy: old 25030, new: 25134 [diff](#)
- [ web ] | 2010-05-18 20:41:17 | PRINCESS | ahashim | Princess Deploy: old: 25030, new: 25134 [diff](#)
- [ web ] | 2010-05-18 20:40:38 | QA | ahashim | peanut butter jelly time!!!! old: 25030, new: 25134 [diff](#)
- [ web ] | 2010-05-17 16:23:26 | PRODUCTION | sandrews | Production Deploy: old 24951, new: 25030 [diff](#)
- [ web ] | 2010-05-17 16:12:12 | PRINCESS | sandrews | Princess Deploy: old: 24951, new: 25030 [diff](#)
- [ web ] | 2010-05-17 16:08:05 | QA | sandrews | kissmetrics amongst others old: 24951, new: 25030 [diff](#)
- [ web ] | 2010-05-14 20:16:47 | PRODUCTION | zgarrett | Production Deploy: old 24884, new: 24951 [diff](#)

<https://github.com/etsy/deployinator>





# deployment pipeline





# self service deployment

Self-Service Deployment

http://self-service-deployment.globalpark.com

Host

bremen

Environment

192.121.8.122 (Nintendo)

Available Releases

About this environment

Current EFS Version: 8.1

Initial EFS version: 7.1

Current Release: 81.258

Last Release: 81.250

Name: nintendo.globalpark.com

Upgrade, update status

8.2 ✓

8.3 ✗

9.0 ✓

9.1 ✗

re-run check update script

[see error log](#)

checking...

config...

more...

# principles

Create a Repeatable, Reliable Process for Releasing Software

Automate Almost Everything

Keep Everything in Version Control

If It Hurts, Do It More Frequently, and Bring the Pain Forward

Build Quality In

Done Means Released

Everybody Is Responsible for the Delivery Process

Continuous Improvement

Continuous Delivery: Jez Humble



# practices

only deploy your binaries once

deploy the same way to every enviroment

smoke test your deployments

keep your environments similar

if anything fails, stop the line

prerequisite 

Everybody checks in to mainline

Continuous Delivery: Jez Humble



# deployment != release

## feature toggles

### config file

```
[featureToggles]
wobblyFoobars: true
flightyForkHandles: false
```

### some.php

```
<?if ($wobblyFoobars) {?>
    ... various UI elements
<?}?>
```

### other.php

```
$fork_handle = ($featureConfig->isOn('flightyForkHandles')) ?
    new flightyForkHandler(aCandle) :
    new forkHandler(aCandle);
```



# deployment != release

## feature flags

### Feature Flip

You can temporarily turn all these features off: [IGNORE ALL](#)

| url param                                                         | config name                           | kind         | status                       | change?                  |
|-------------------------------------------------------------------|---------------------------------------|--------------|------------------------------|--------------------------|
| <b>explore_search</b><br>Turns on the new full width search page. | \$cfg[disable_feature_explore_search] | feature_flag | <b>ENABLED FOR THIS HOST</b> | -                        |
| <b>Unicorn Polo</b><br>Very secret; ask Dunstan.                  | \$cfg[enable_unicorn_polo]            | feature_flag | <b>ENABLED</b>               | <a href="#">turn off</a> |
| <b>Hot Tub Time Machine</b><br>Not as fun as it sounds.           | \$cfg[enable_hot_tub]                 | feature_flag | <b>DISABLED</b>              | <a href="#">turn off</a> |

code.flickr.com

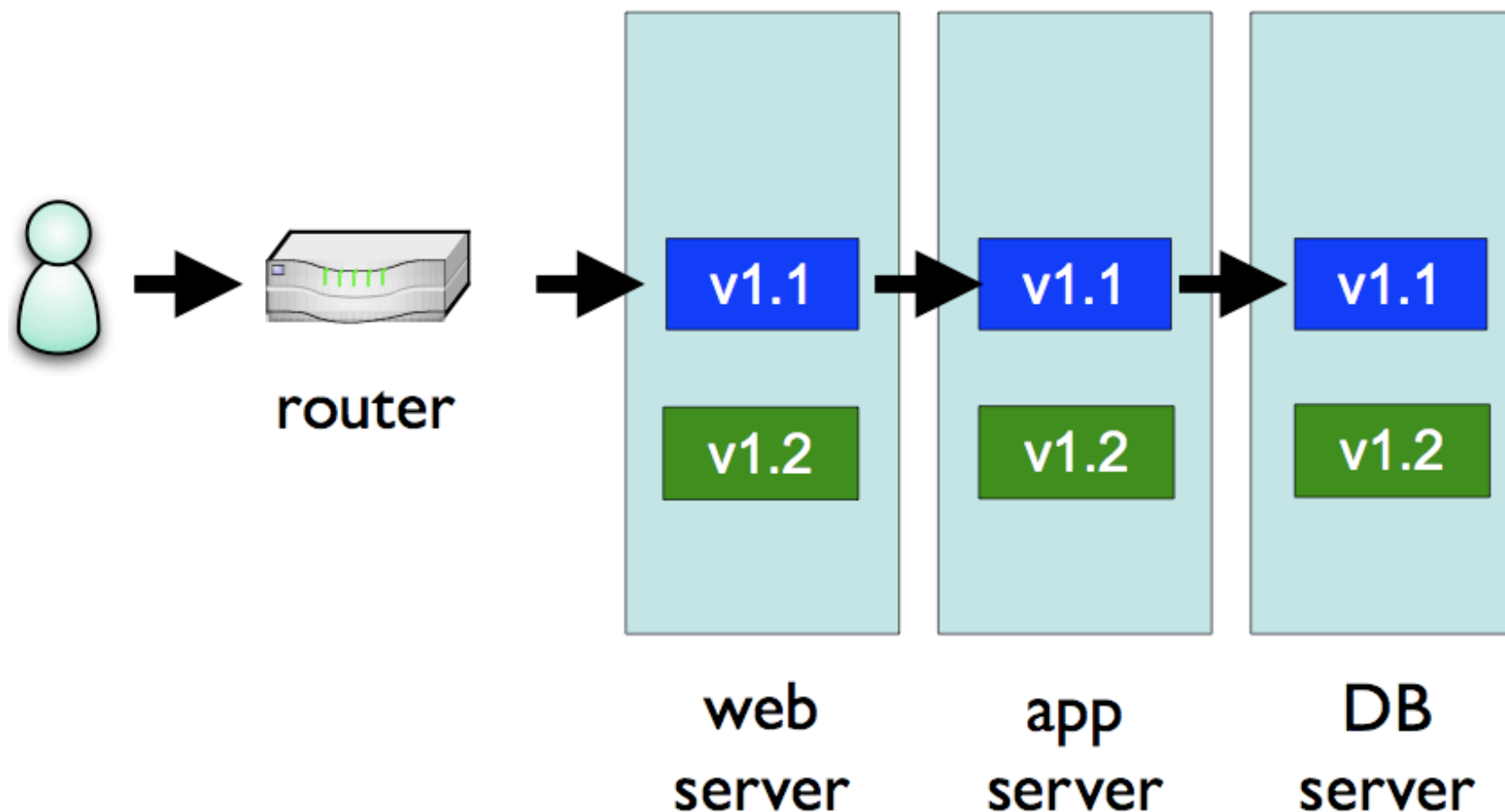


**deployment != release**  
**blue-green deployments**



# deployment != release

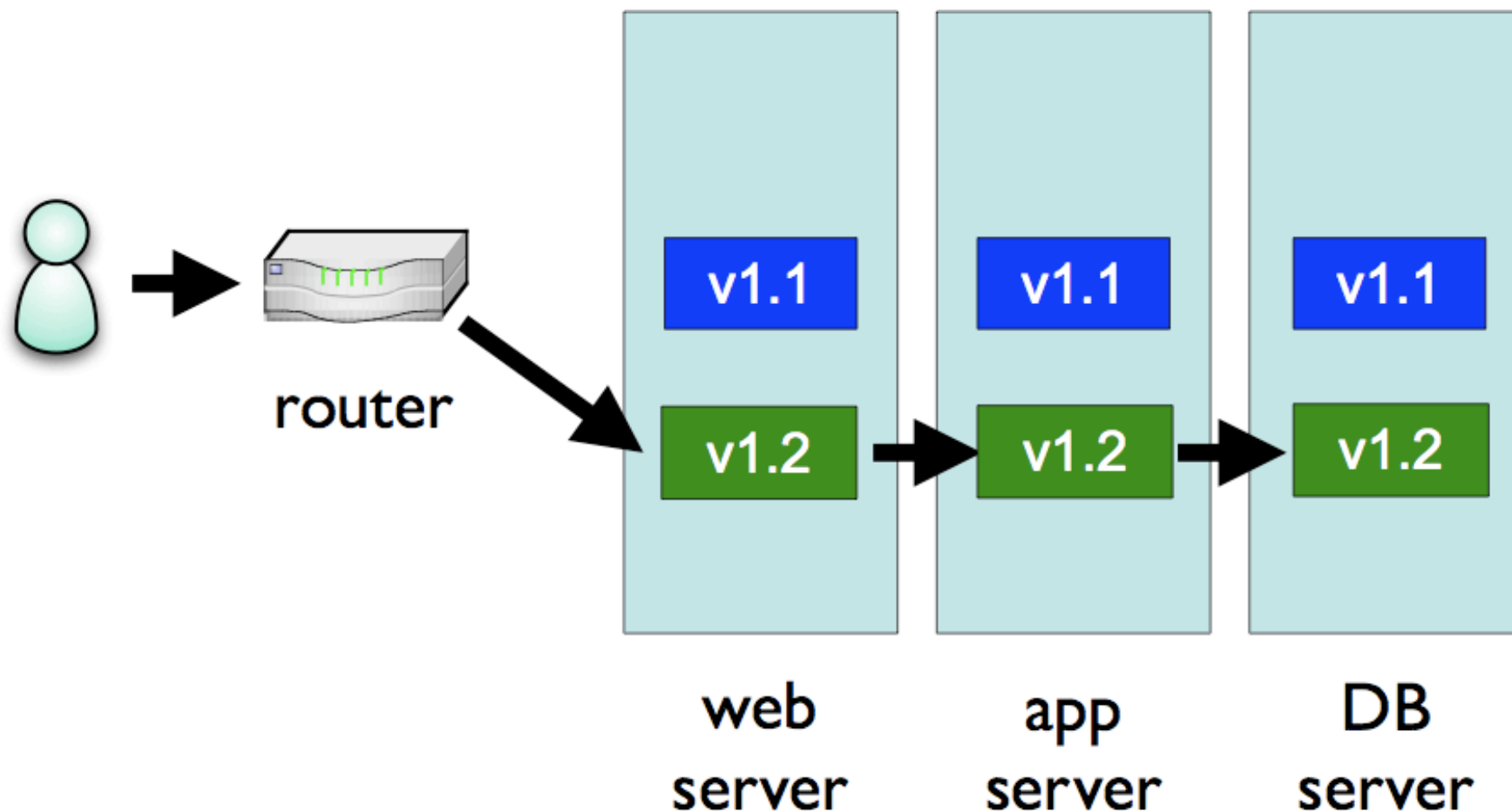
## blue-green deployments





# deployment != release

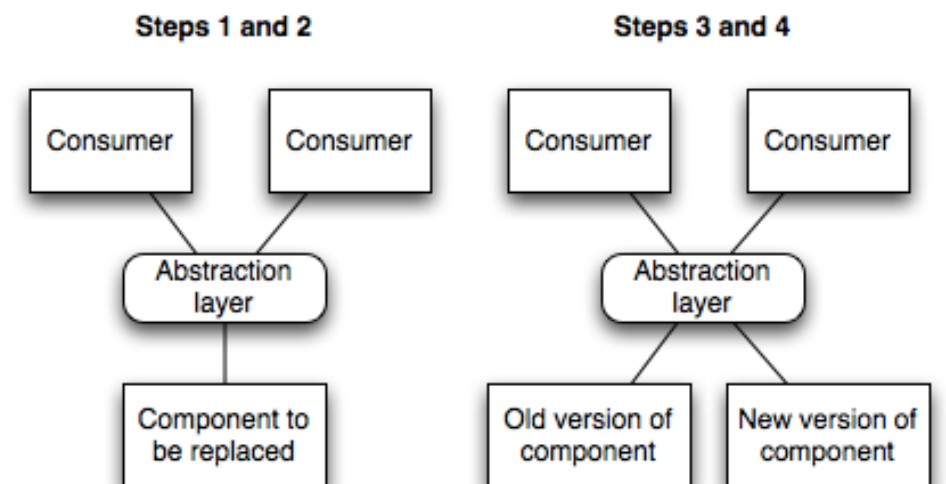
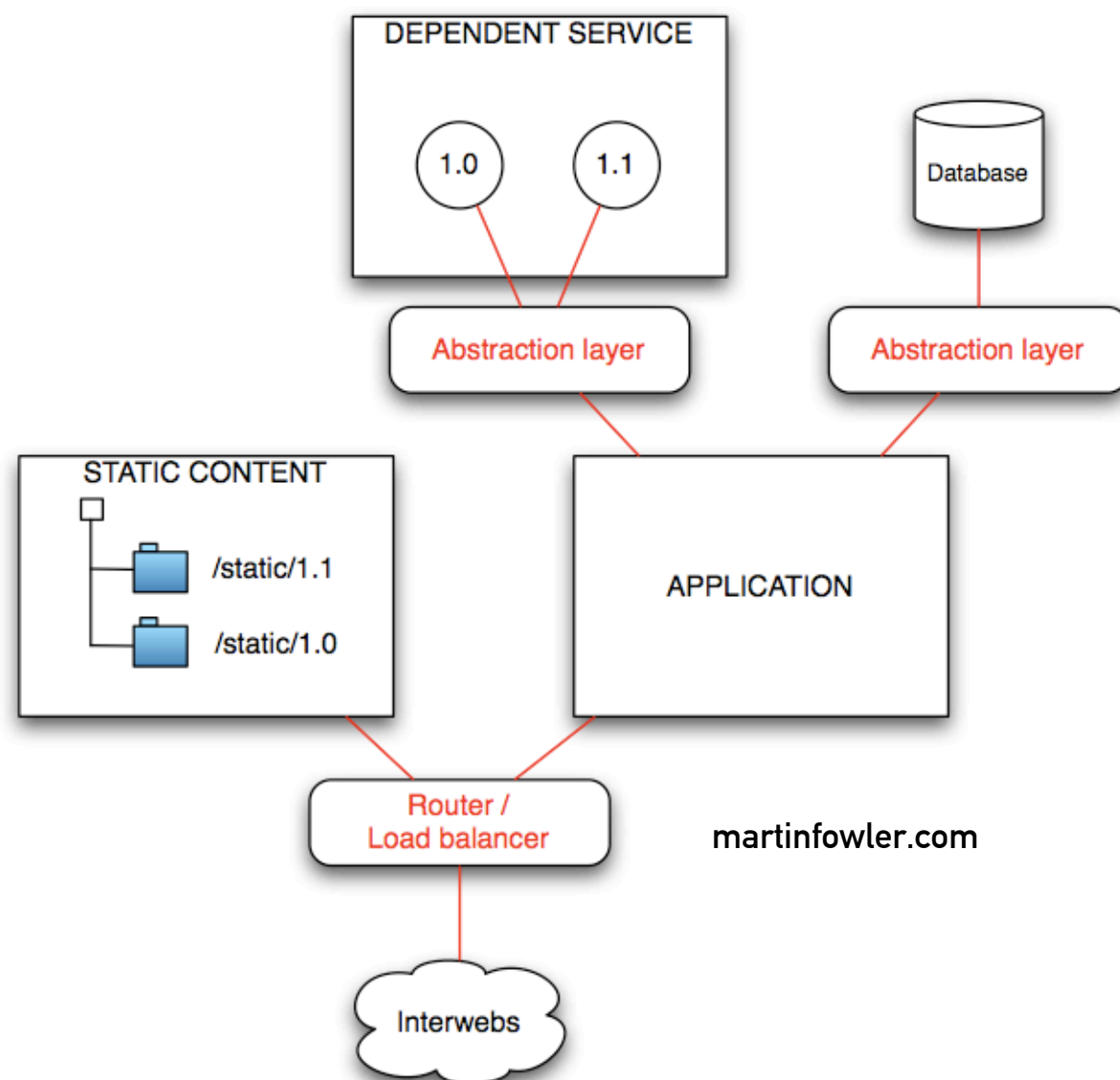
## blue-green deployments





# deployment != release

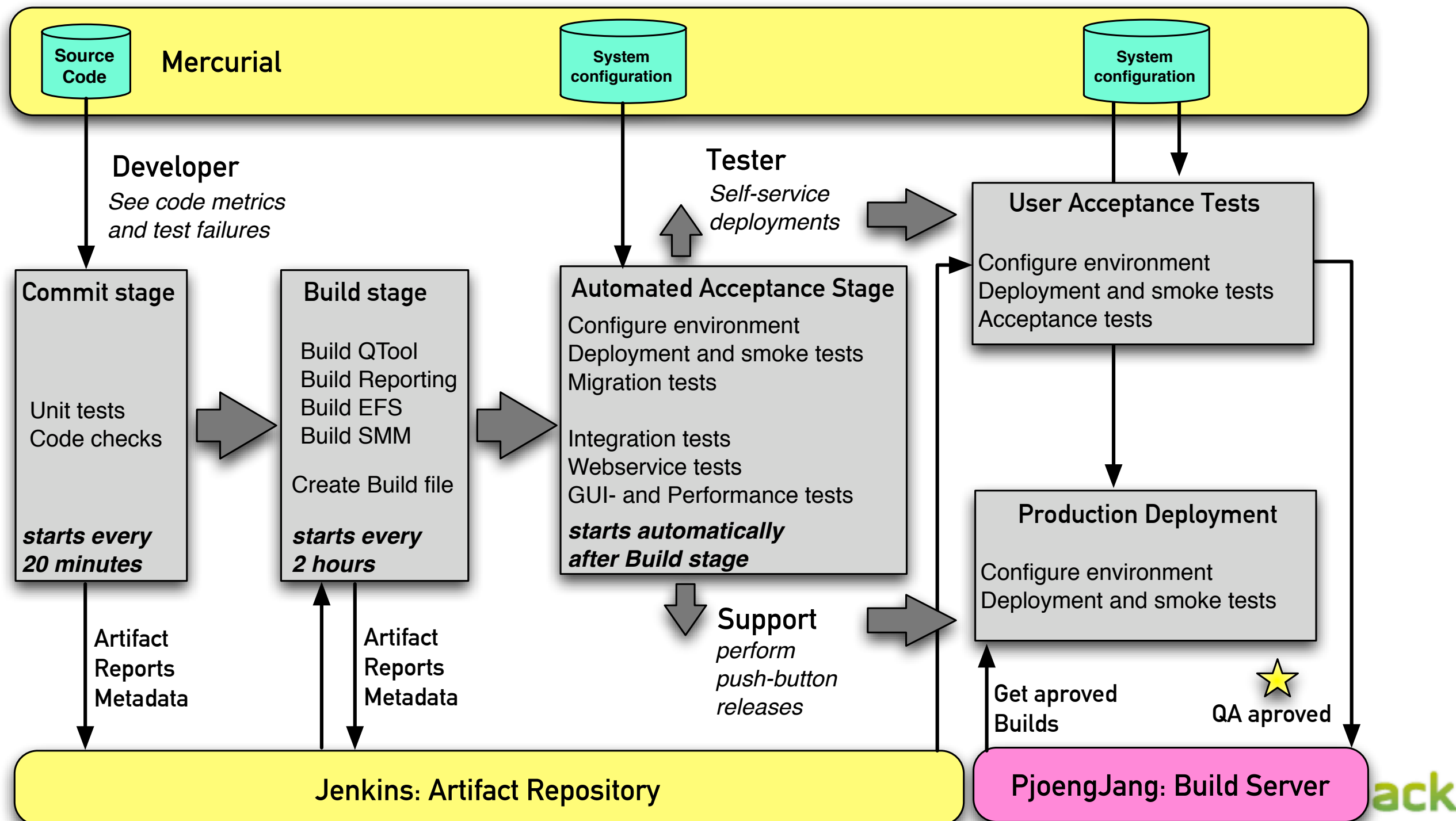
## branch by abstraction



continuousdelivery.com



# deployment pipeline @ questback germany



# automation farm

## live demo



**final words**

**people are the key**

**let's change the world**

**thank you!**

