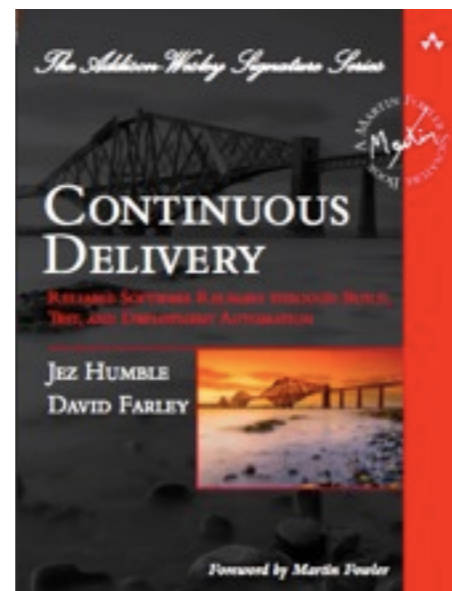
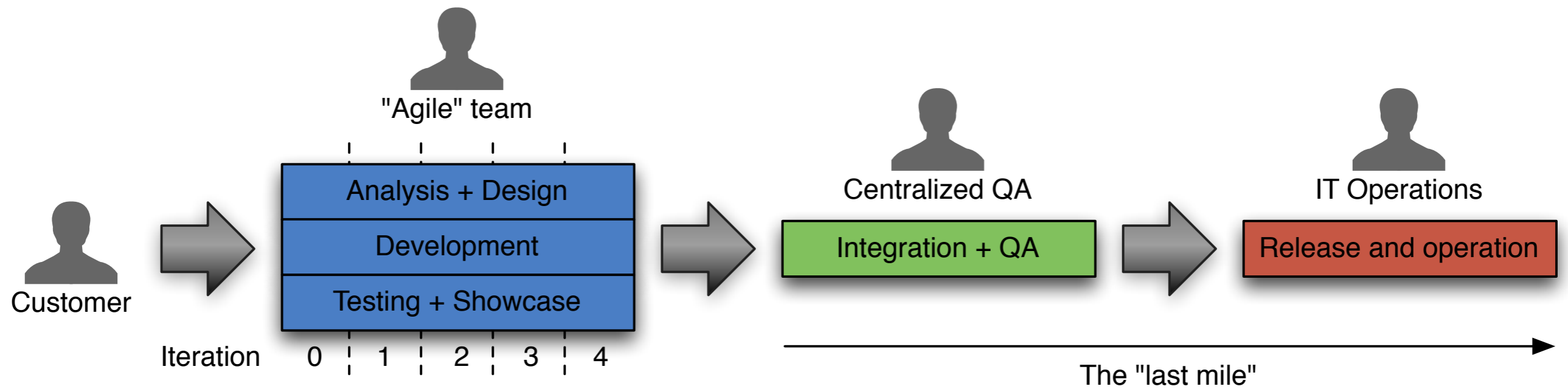


# Continuous Delivery



Jez Humble, ThoughtWorks Studios  
@jezhumble #continuousdelivery  
DevOpsDays, Hamburg

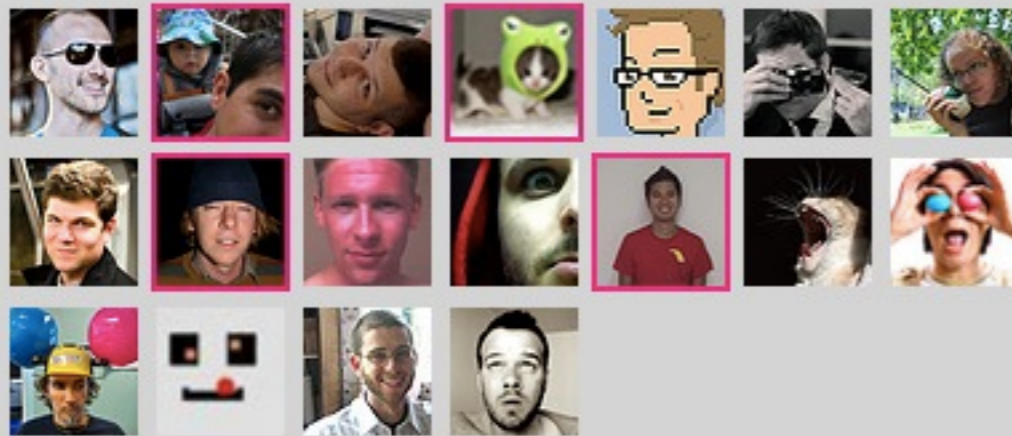
# Agile 101



# web 2.0

disrupting traditional businesses

## FEATURING



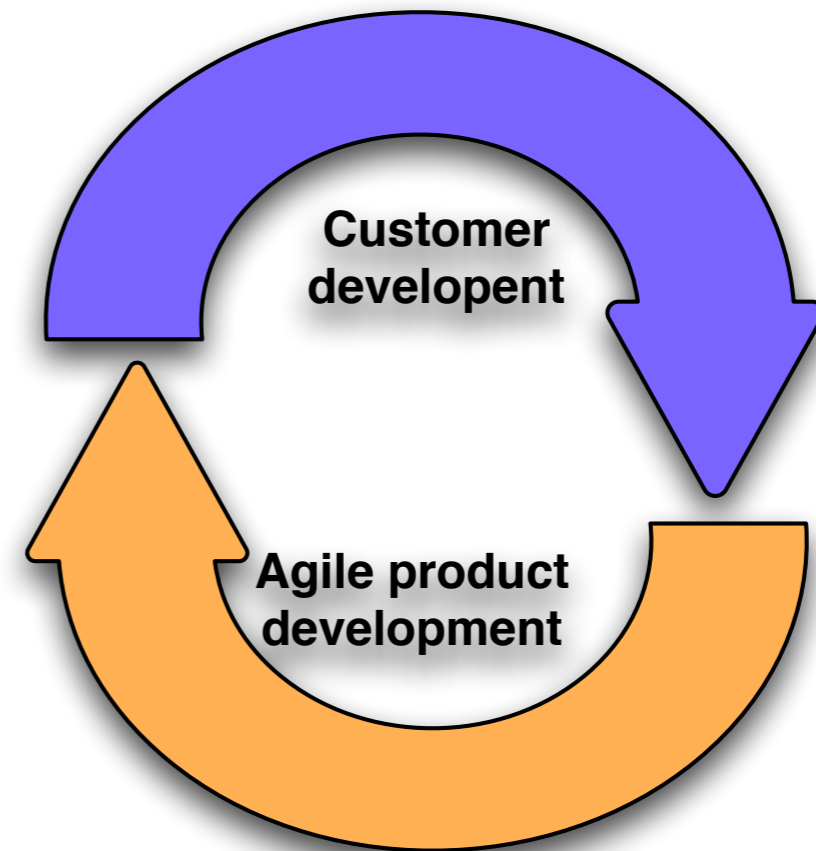
*Flickr was last deployed 12 hours ago, including 9 changes by 5 people.*

*In the last week there were 54 deploys of 636 changes by 23 people.*

<http://code.flickr.com/>

# releasing frequently

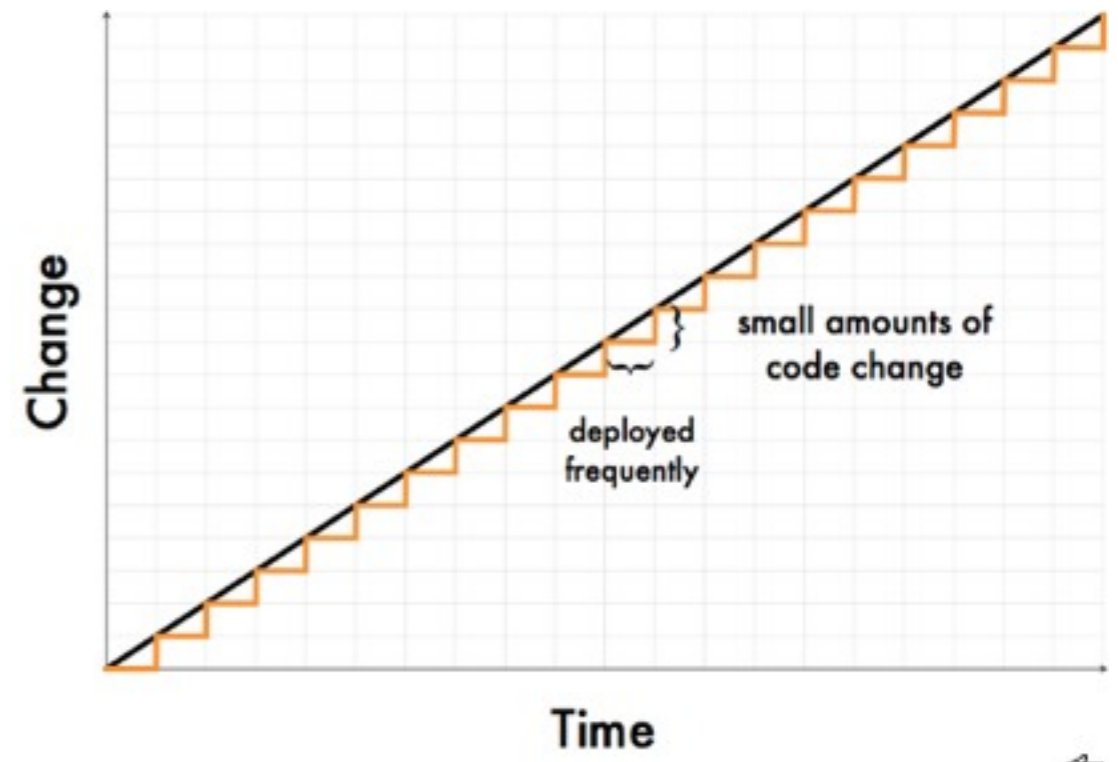
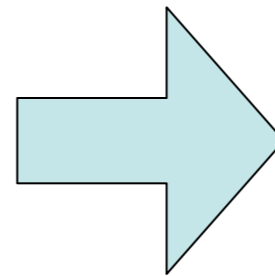
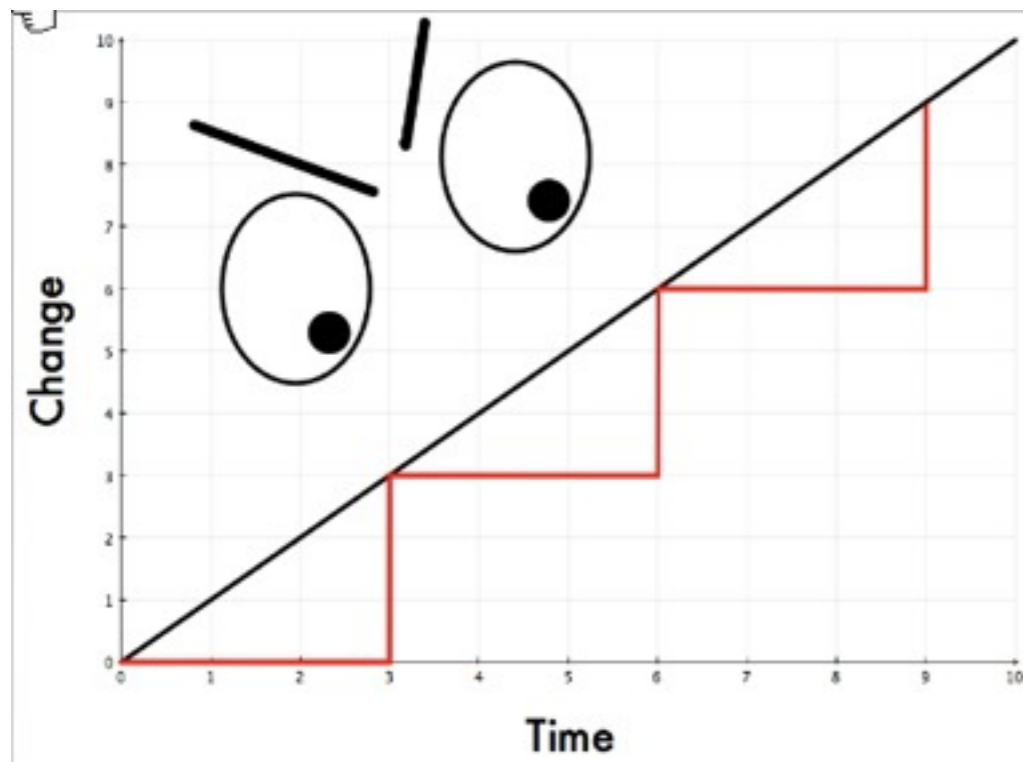
feedback from users



Eric Ries, "The Lean Startup" <http://bit.ly/8ZoX5F>

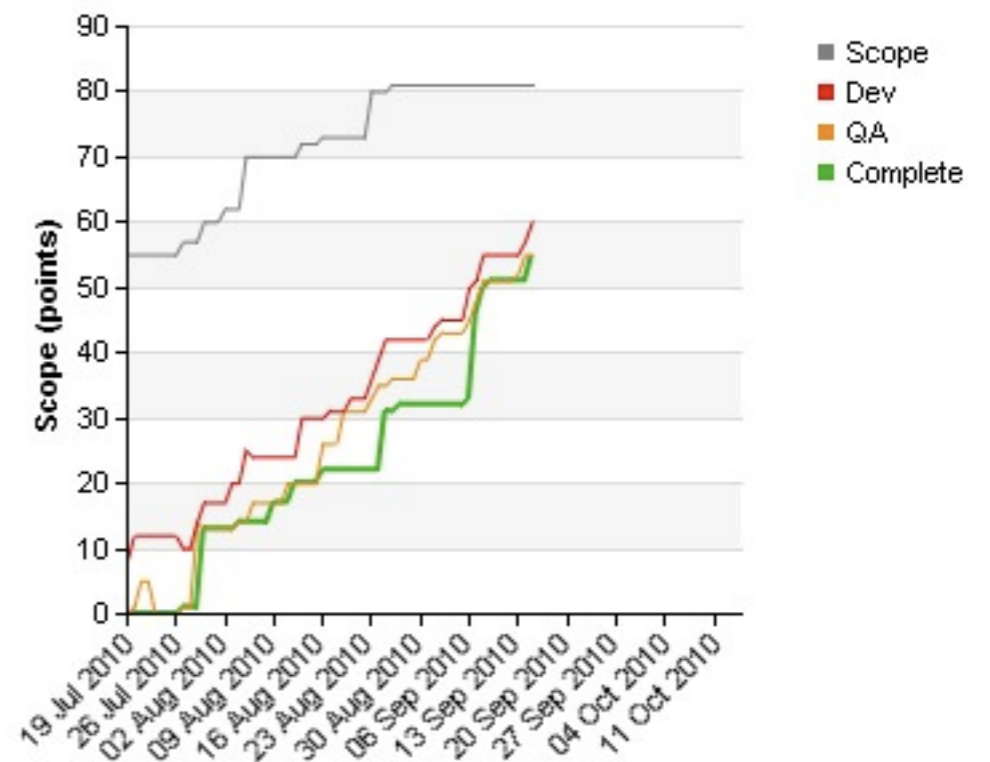
# releasing frequently

feedback from users  
reduce risk of release



# releasing frequently

feedback from users  
reduce risk of release  
real project progress



# agile manifesto

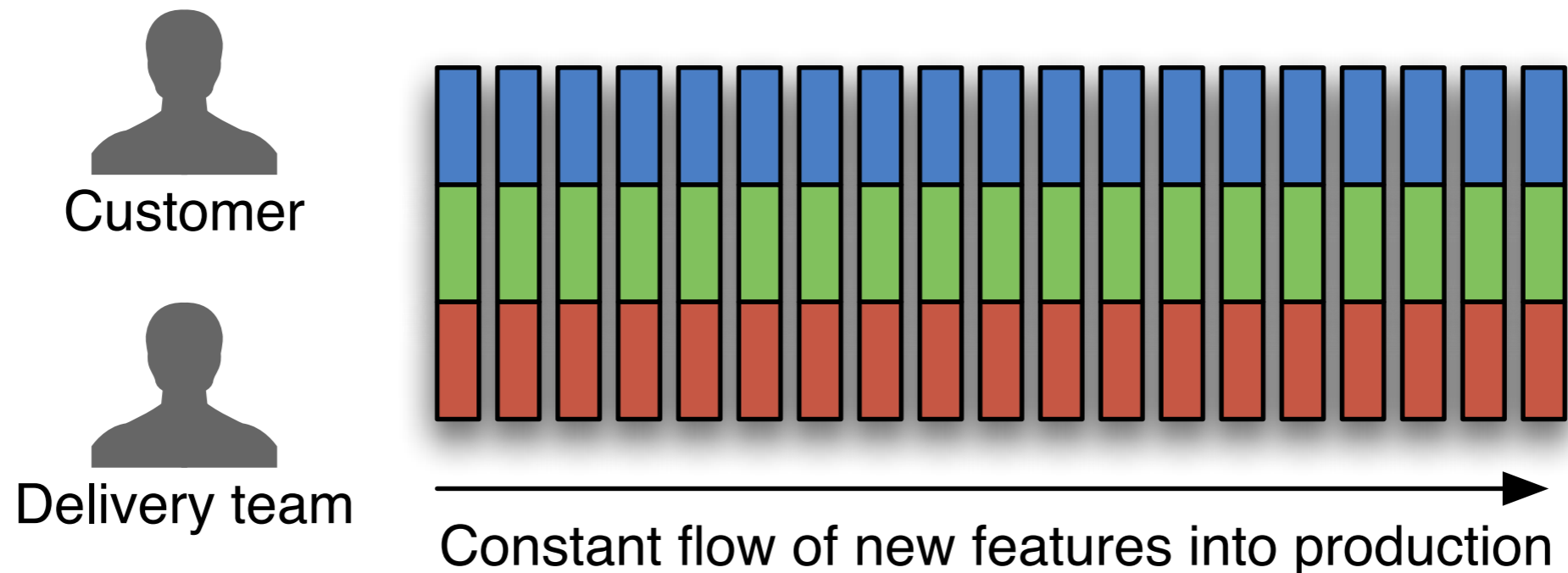
Our highest priority is to satisfy the customer through early and **continuous delivery** of **valuable software**

# production-ready software

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



# continuous delivery



Software always production ready

Releases tied to business needs, not operational constraints

# enterprise lean startups

Business units act as VCs

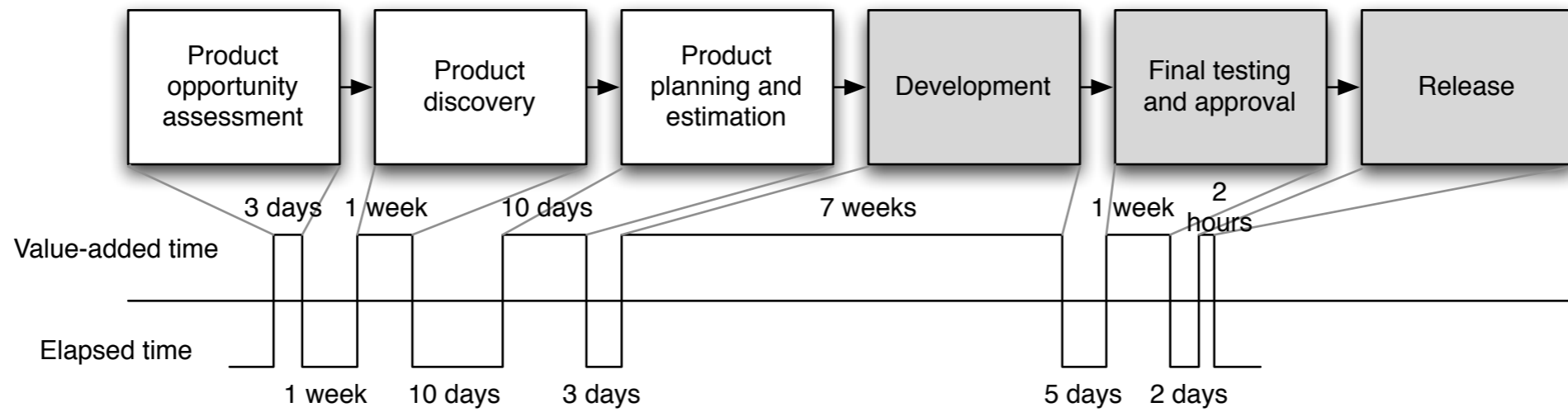
Products, not projects

Completely cross-functional teams

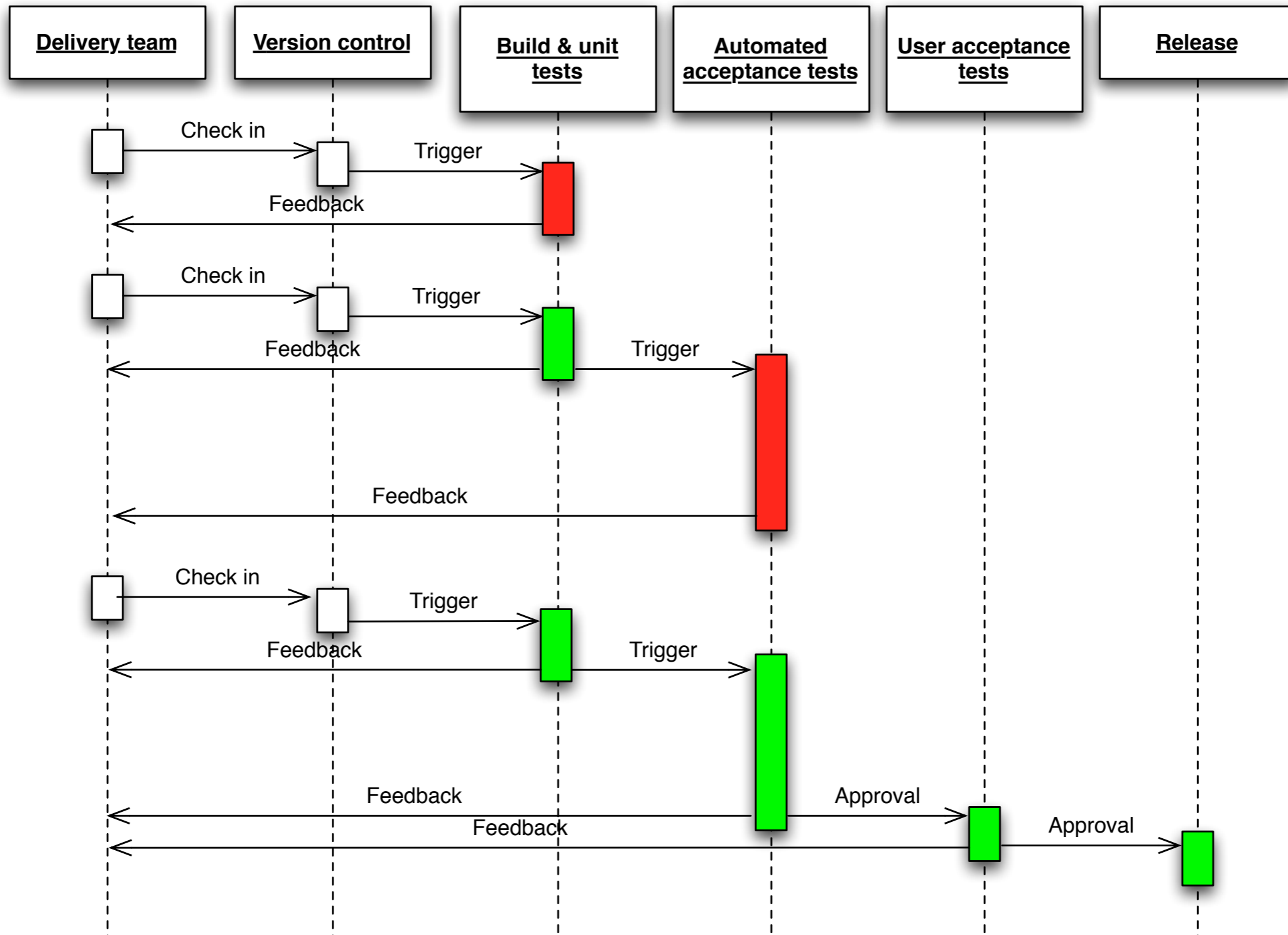
Works great with many small, distributed teams  
and RESTful architecture

BUT...

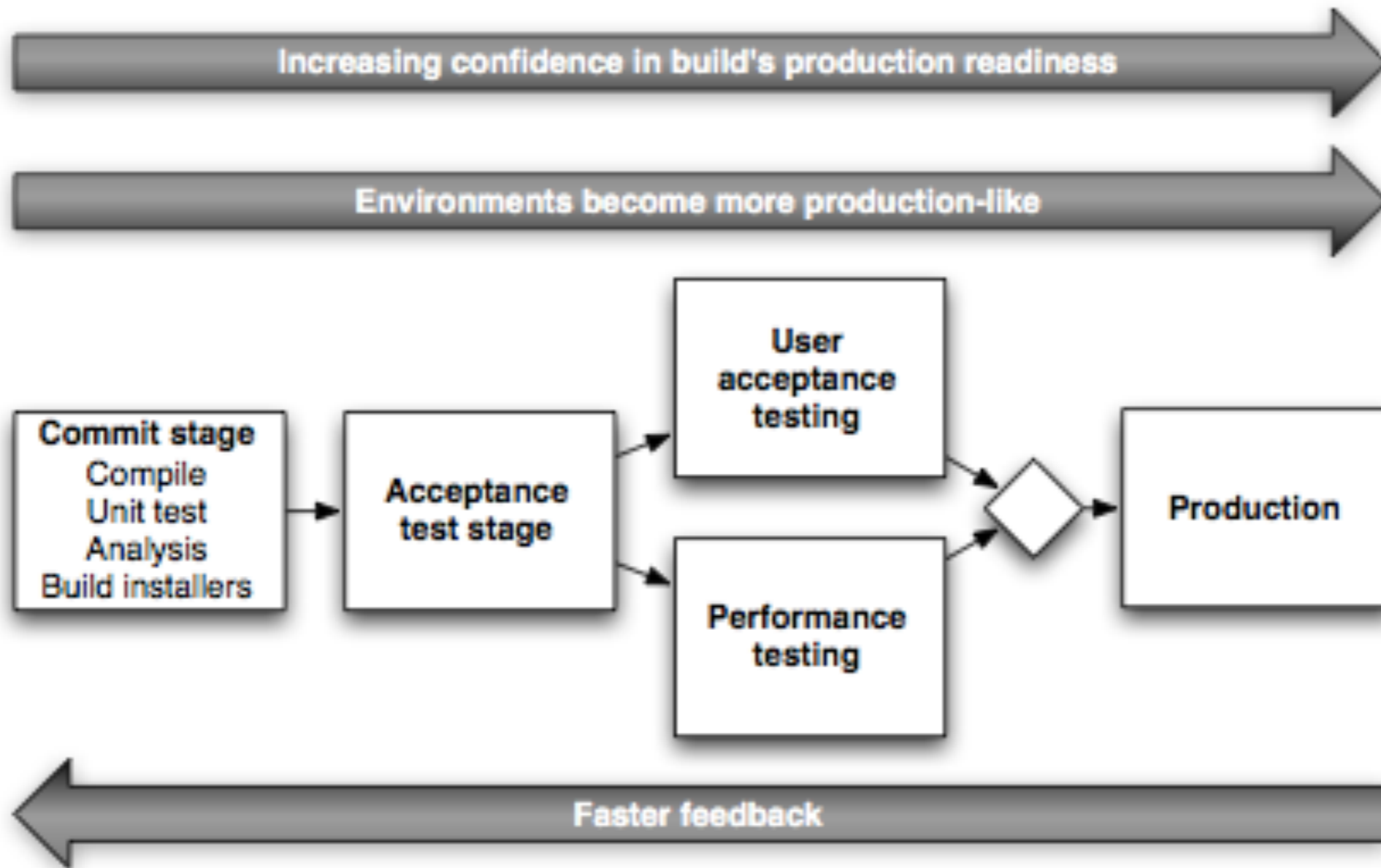
# value stream mapping



# deployment pipeline



# deployment pipeline



# deployment pipeline

	Build	Container	Browser	UAT	Prod		
<b>1.2.33</b> revision: 35 1 day ago by demo		auto		auto		manual	
<b>1.2.32</b> revision: 34 1 day ago by demo		auto		auto		manual	
<b>1.2.31</b> revision: 33 6 days ago by demo		auto		auto		manual	
<b>1.2.30</b> revision: 32 7 days ago by demo		auto		auto		manual	
<b>1.2.29</b> revision: 31		auto		auto		manual	
<b>Subversion - <a href="http://chistdcrsdmo01/svn/demo/trunk/">http://chistdcrsdmo01/svn/demo/trunk/</a></b> demo #12 Made some changes to import 30		auto	auto	manual		manual	
revision: 30 13 days ago by demo		auto	auto	manual		manual	

# principles

- create a repeatable, reliable process for releasing software
- automate almost everything
- keep everything in version control
- if it hurts, do it more often, and bring the pain forward
- build quality in
- done means released
- everybody is responsible for delivery
- continuous improvement

# ask this question

- “How long would it take your organization to deploy a change that involved just one single line of code? Do you do this on a repeatable, reliable basis?”
- What gets in the way of getting software out of the door?



# practices

only build your binaries once

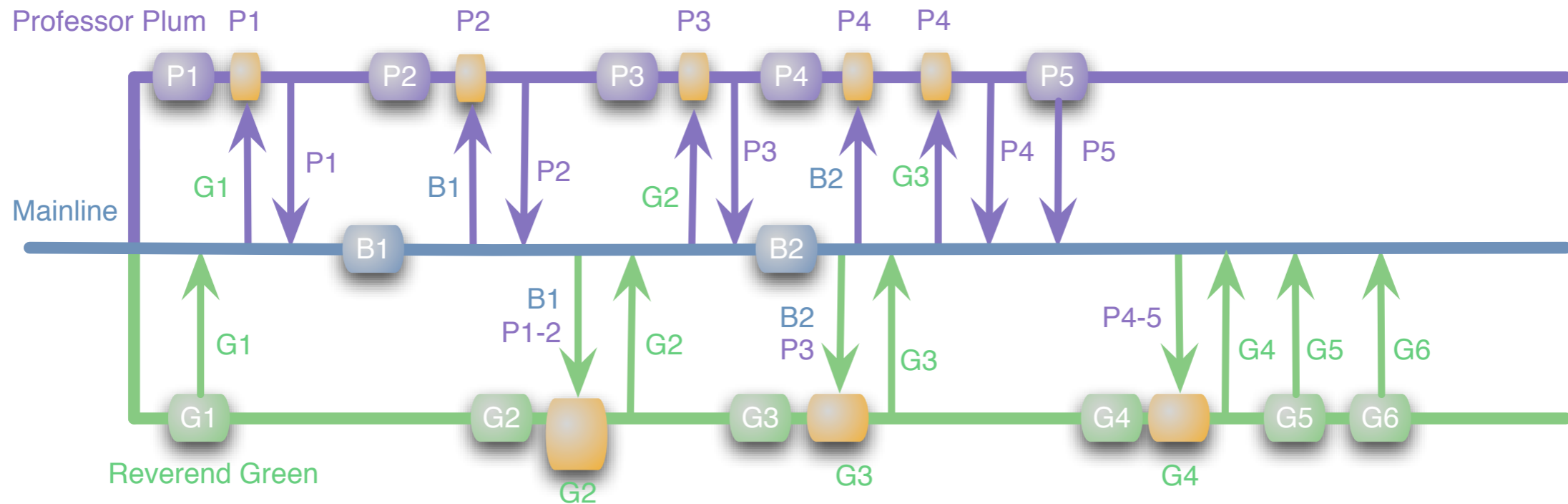
deploy the same way to every environment

smoke test your deployments

keep your environments similar

if anything fails, stop the line

# continuous integration

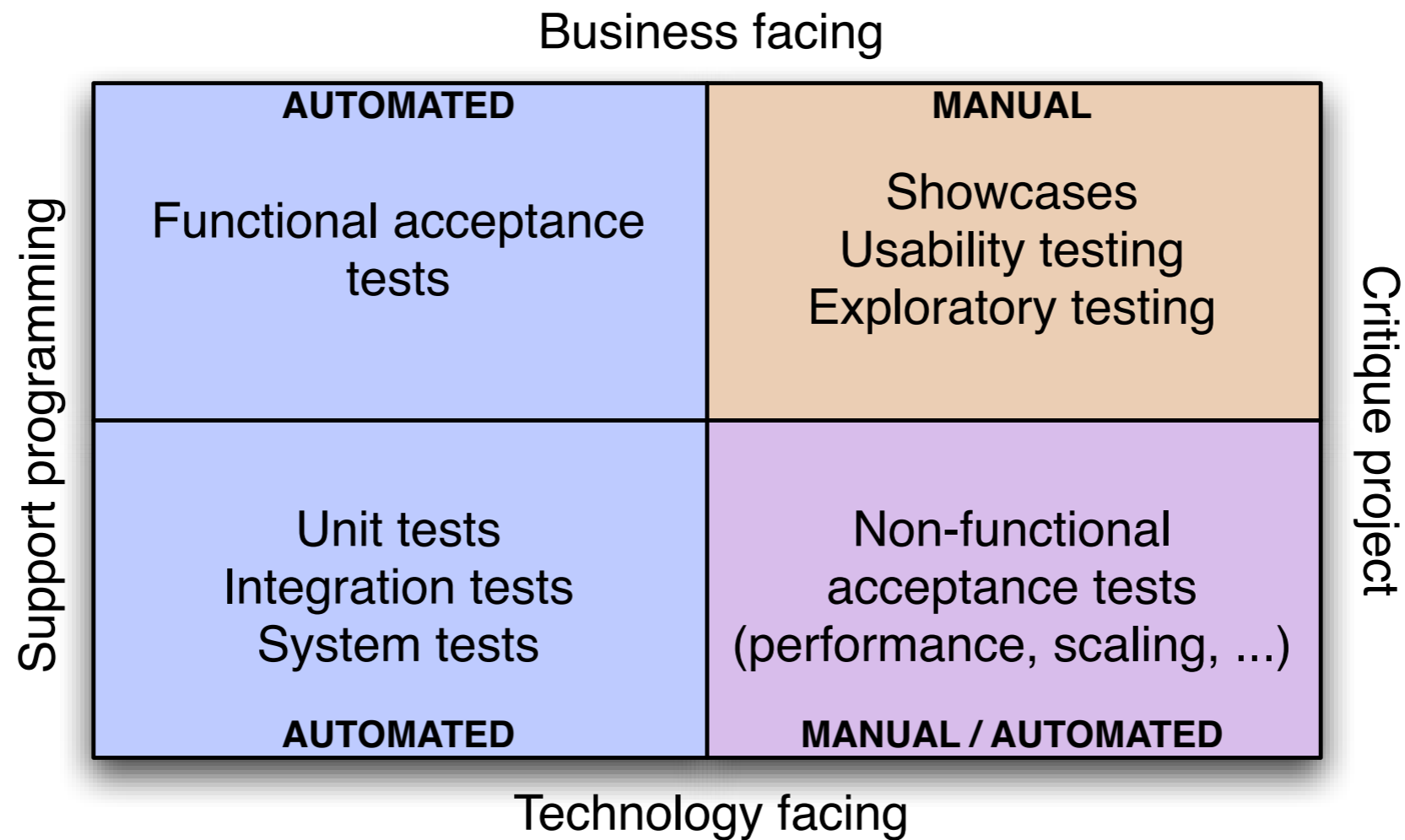


everybody checks in to mainline

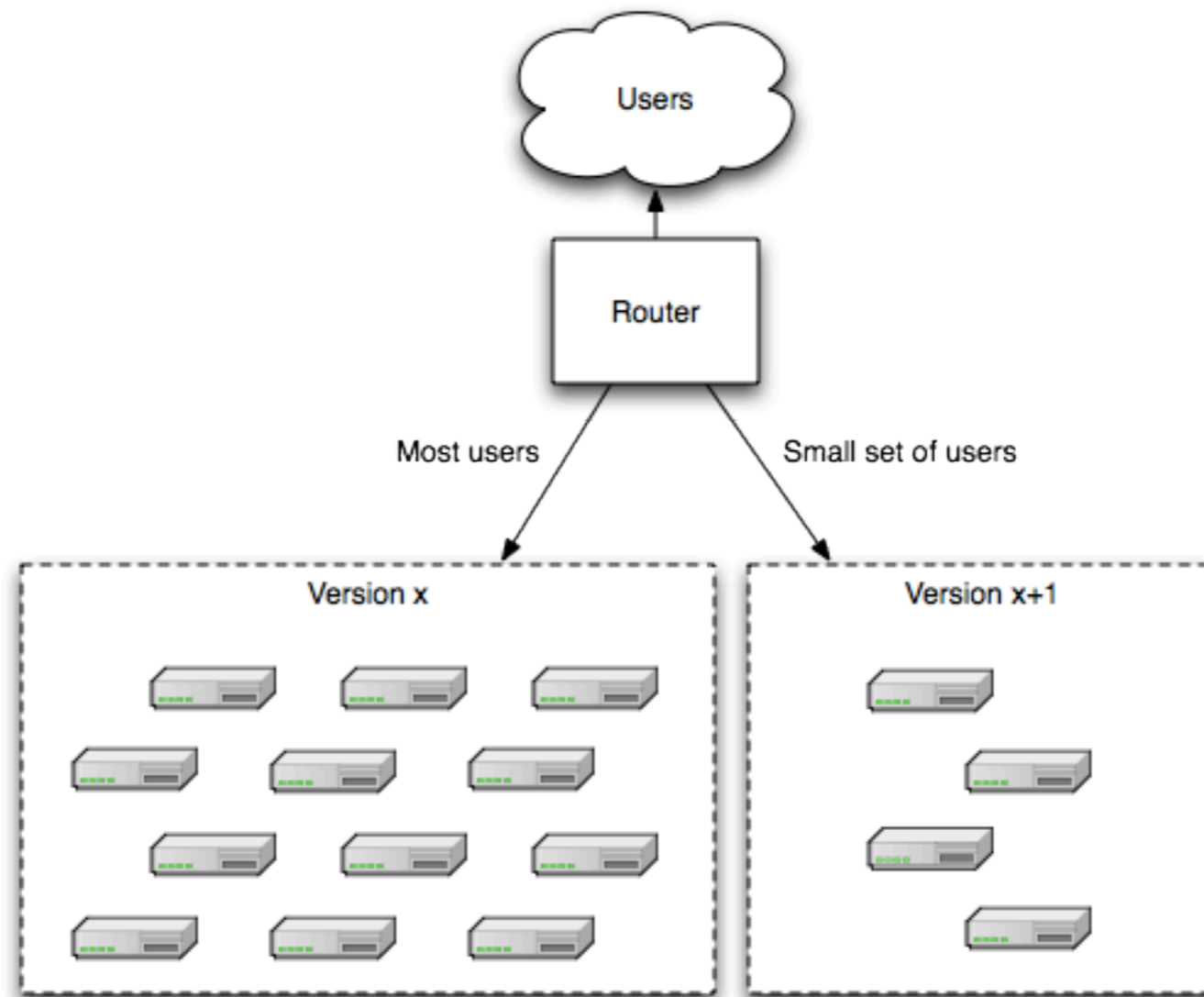
use branch by abstraction for architectural change

use feature bits to switch off incomplete features

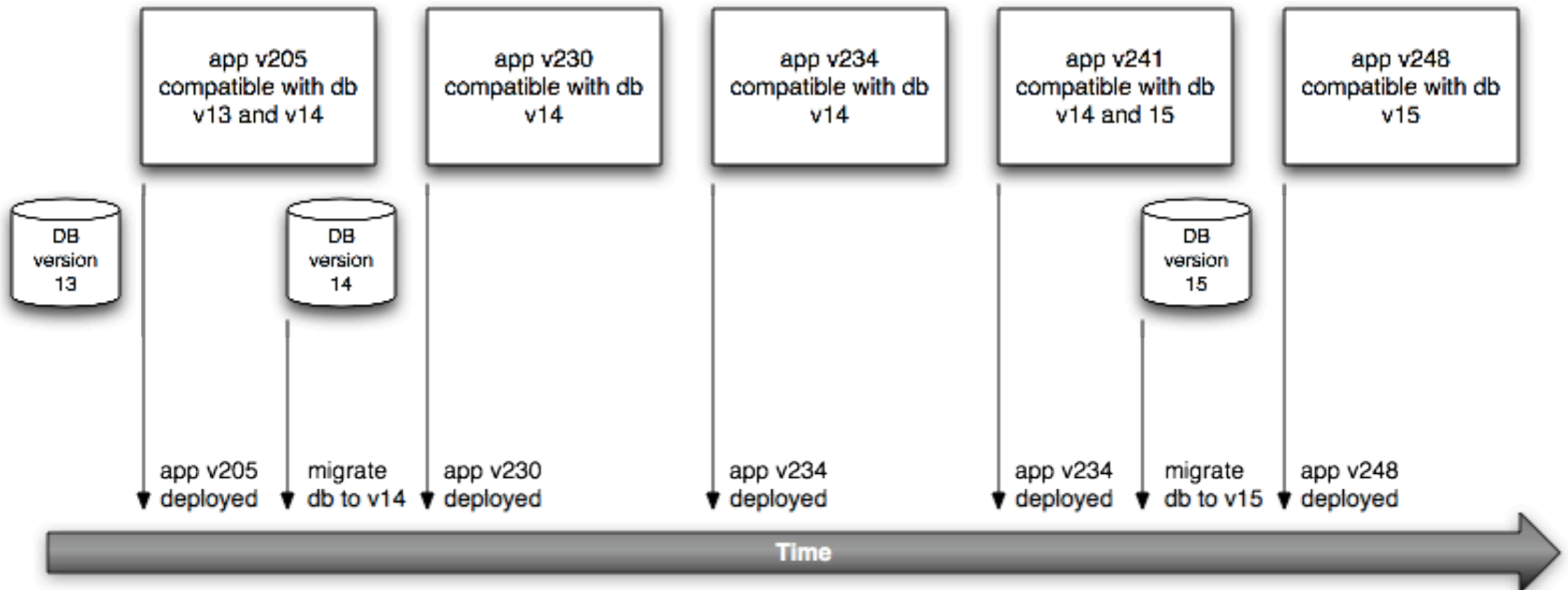
# different kinds of testing



# canary releasing



# data migration



# objections

Visibility and control over locking down

Compliance - automation over documentation

Auditing - see who does what

Make it easy to remediate outages

# people are the key

Get everyone together at the beginning

Keep meeting

Make it easy for everyone to see what's happening

Continuous improvement (kaizen)

# thank you!

<http://continuousdelivery.com/>  
<http://studios.thoughtworks.com/go>  
<http://thoughtworks.com/>

