

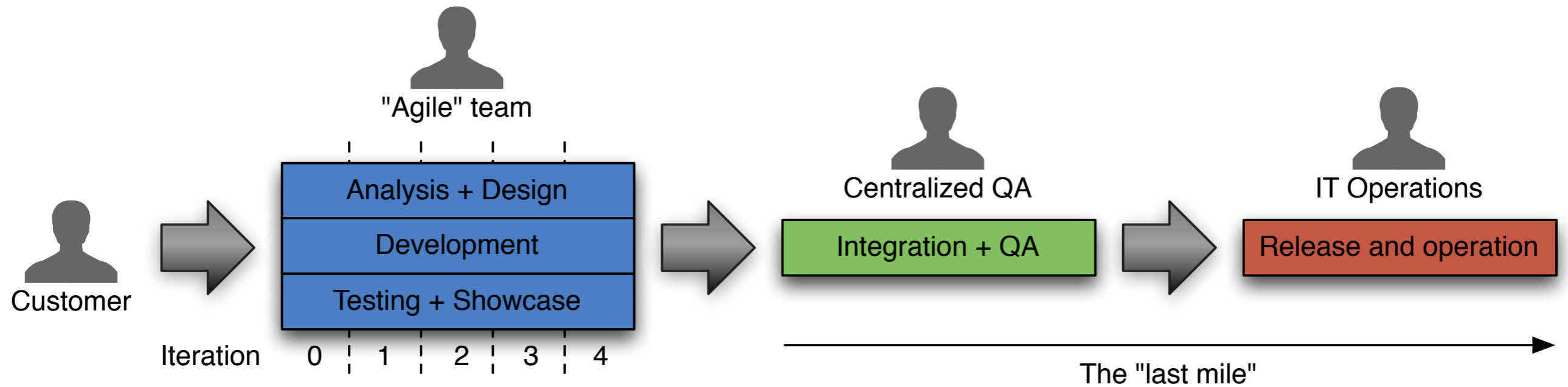
Continuous Delivery

Martin Fowler, Jez Humble

YOW! Brisbane, 5 December 2011

<http://thoughtworks-studios.com/>

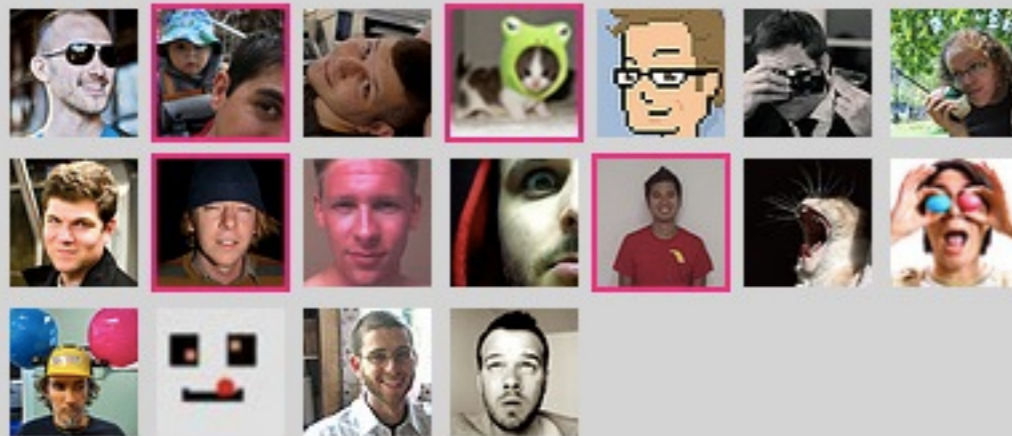
agile 101



web 2.0

disrupting traditional businesses

FEATURING



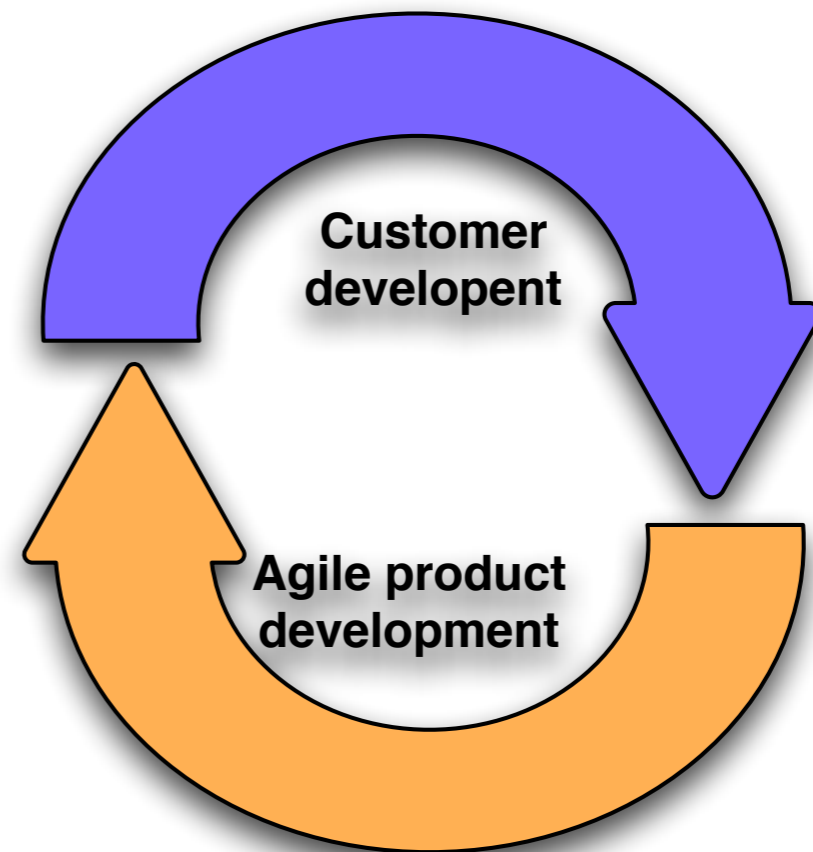
Flickr was last deployed 12 hours ago, including 9 changes by 5 people.

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

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

releasing frequently

1. build the right thing



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

A black and white close-up portrait of Steve Jobs. He is wearing his signature round glasses and has a slight beard. His right hand is resting against his face, with his fingers near his eye. The background is dark, making his face the central focus.

innovate

**You can't just ask
customers what
they want and then
try to give that to
them.**

**By the time you get
it built, they'll want
something new.**

Steve Jobs

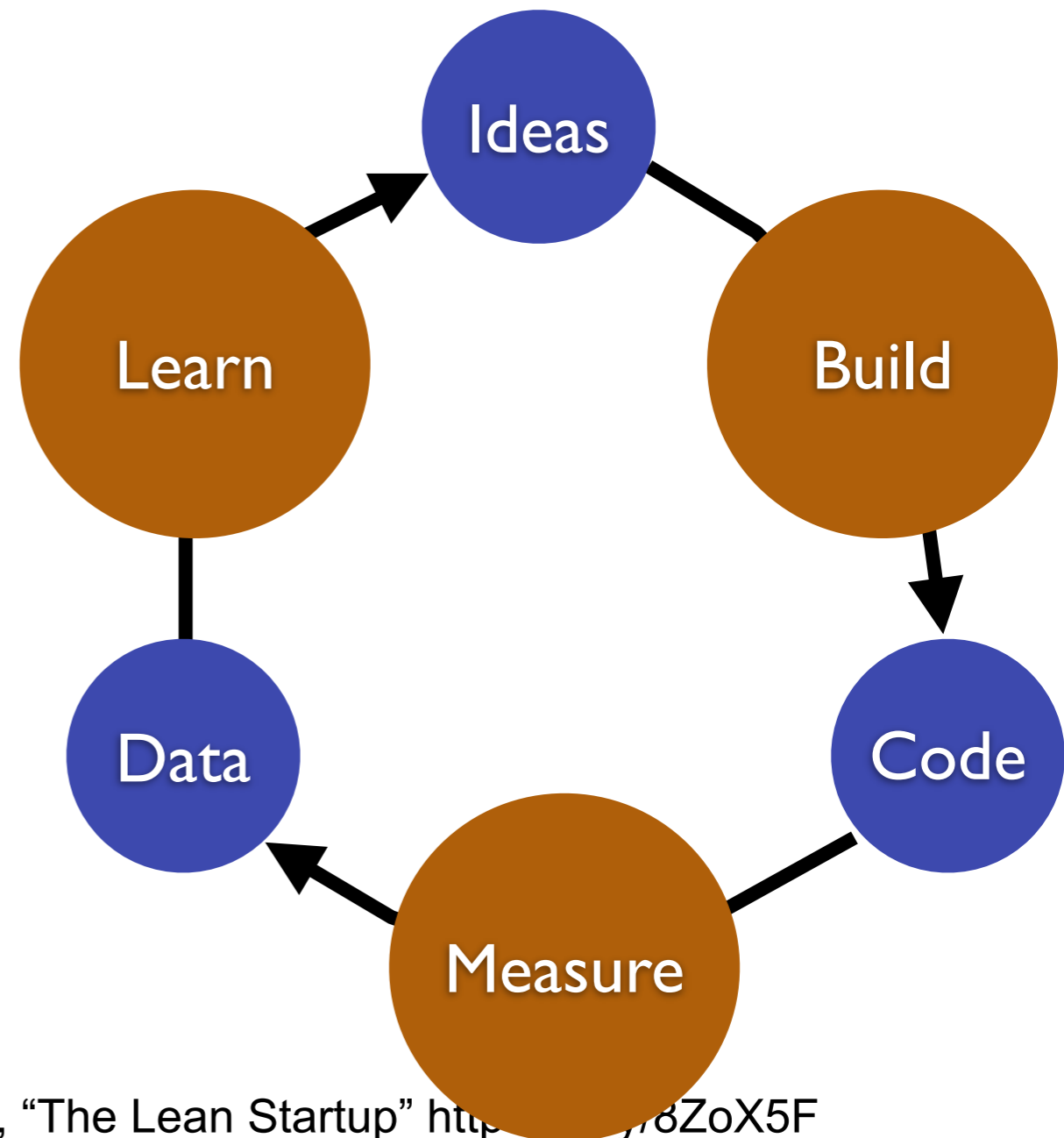
scientific method

create hypothesis

deliver **minimum viable product**

get feedback

(repeat)



Eric Ries, "The Lean Startup" <http://www.ericries.com/8ZoX5F>

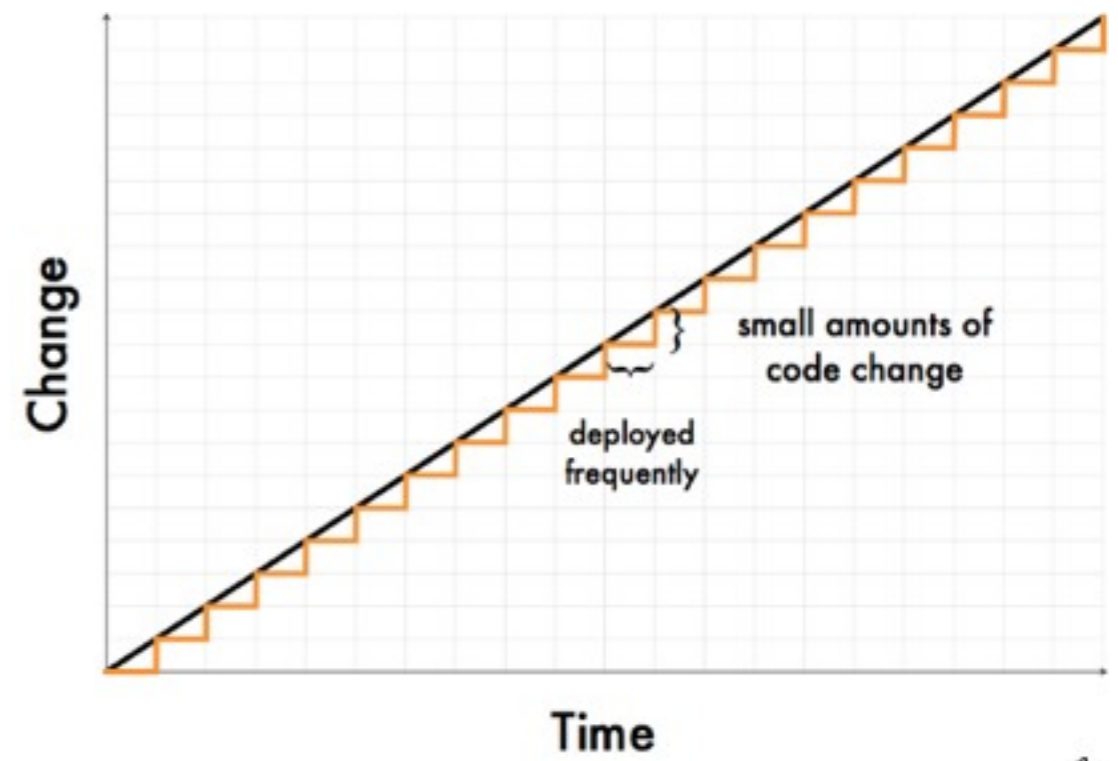
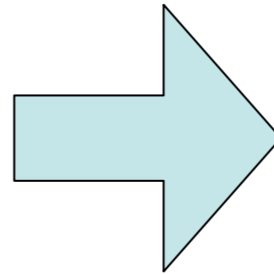
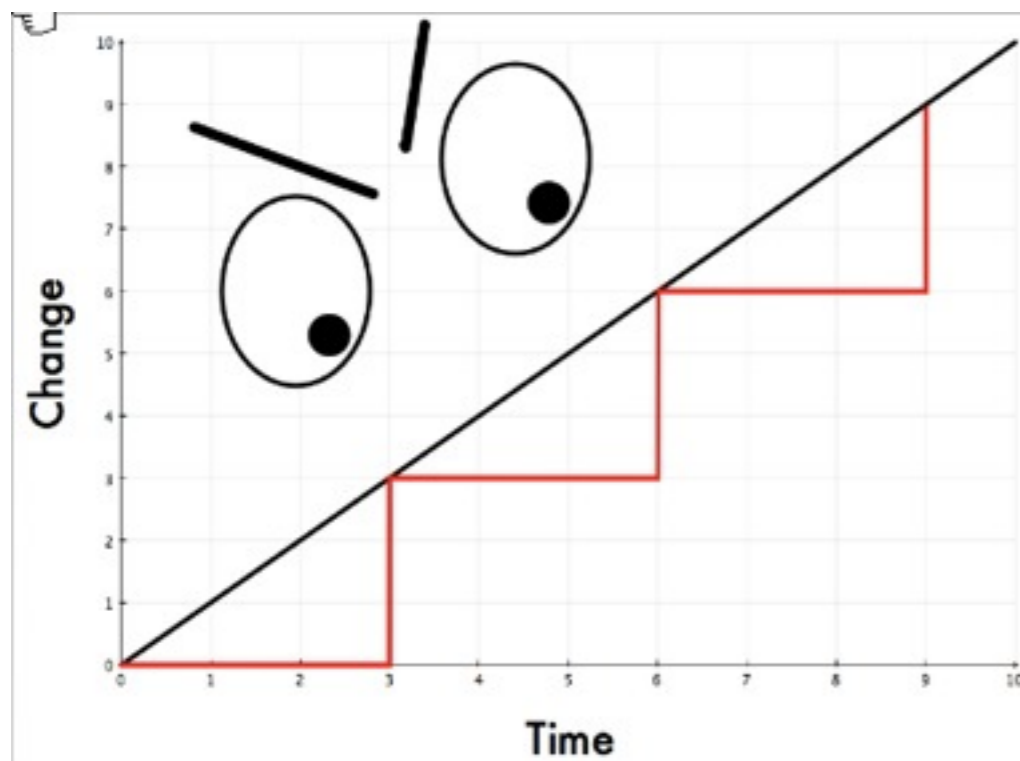
ask this question

“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?”

Mary and Tom Poppendieck, *Implementing Lean Software Development*, p59.

releasing frequently

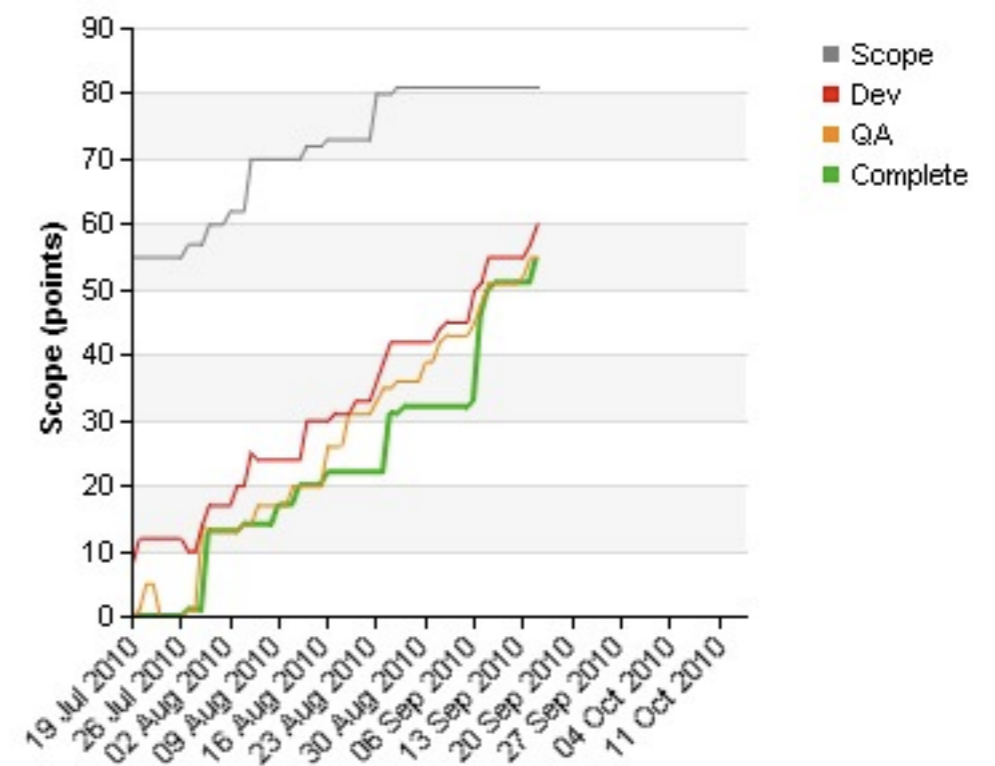
1. build the right thing
2. reduce risk of release



John Allspaw: "Ops Metametrics" <http://slidesha.re/dsSZlr>

releasing frequently

1. build the right thing
2. reduce risk of release
3. real project progress



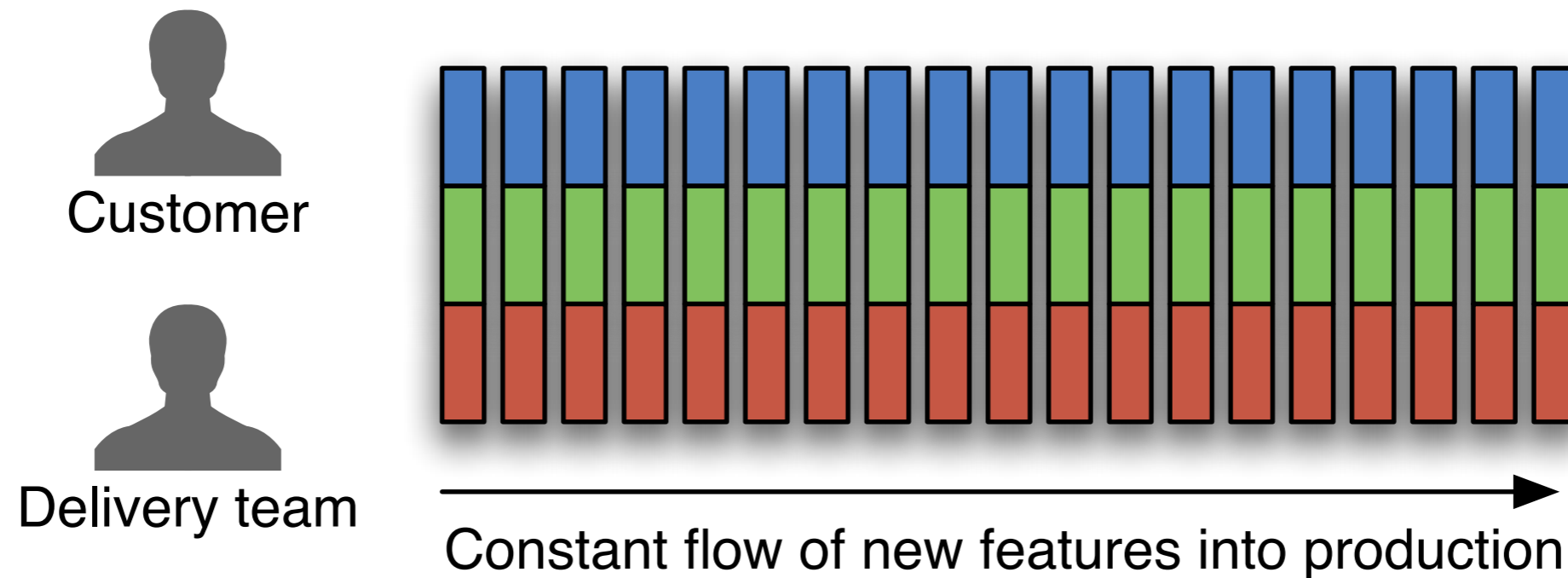
agile manifesto

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

continuous delivery

automation

patterns and practices

collaboration

ingredients

configuration management

continuous integration

automated testing



Local Workstation



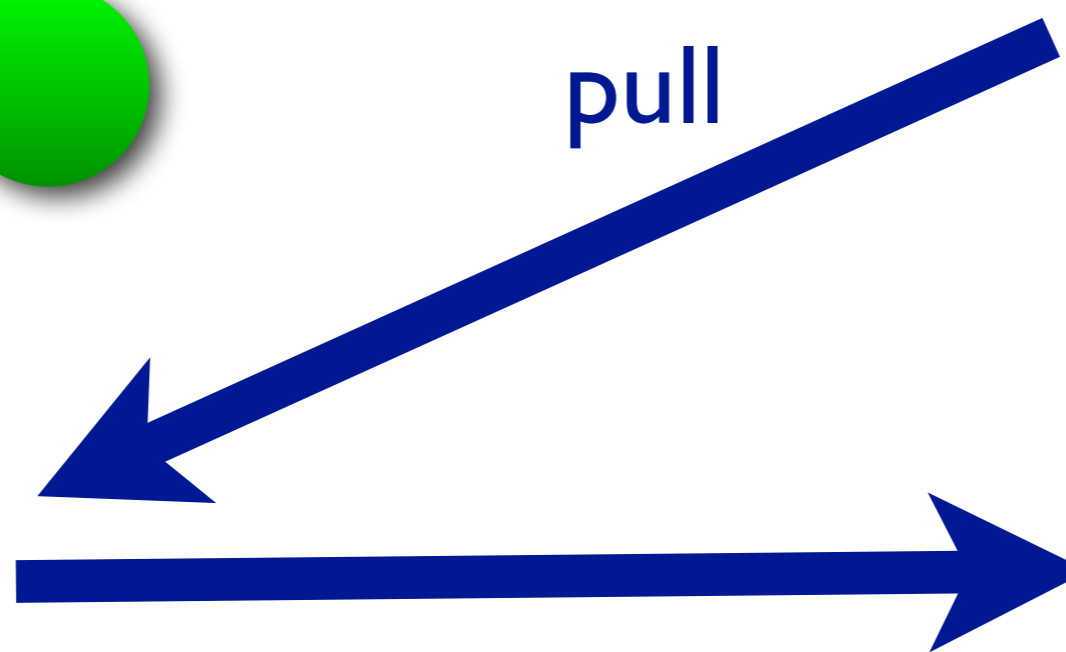
Mainline Server



✓
Done!

pull

push





Local Workstation

Everyone Commits



To the Mainline



pull

Every Day



push

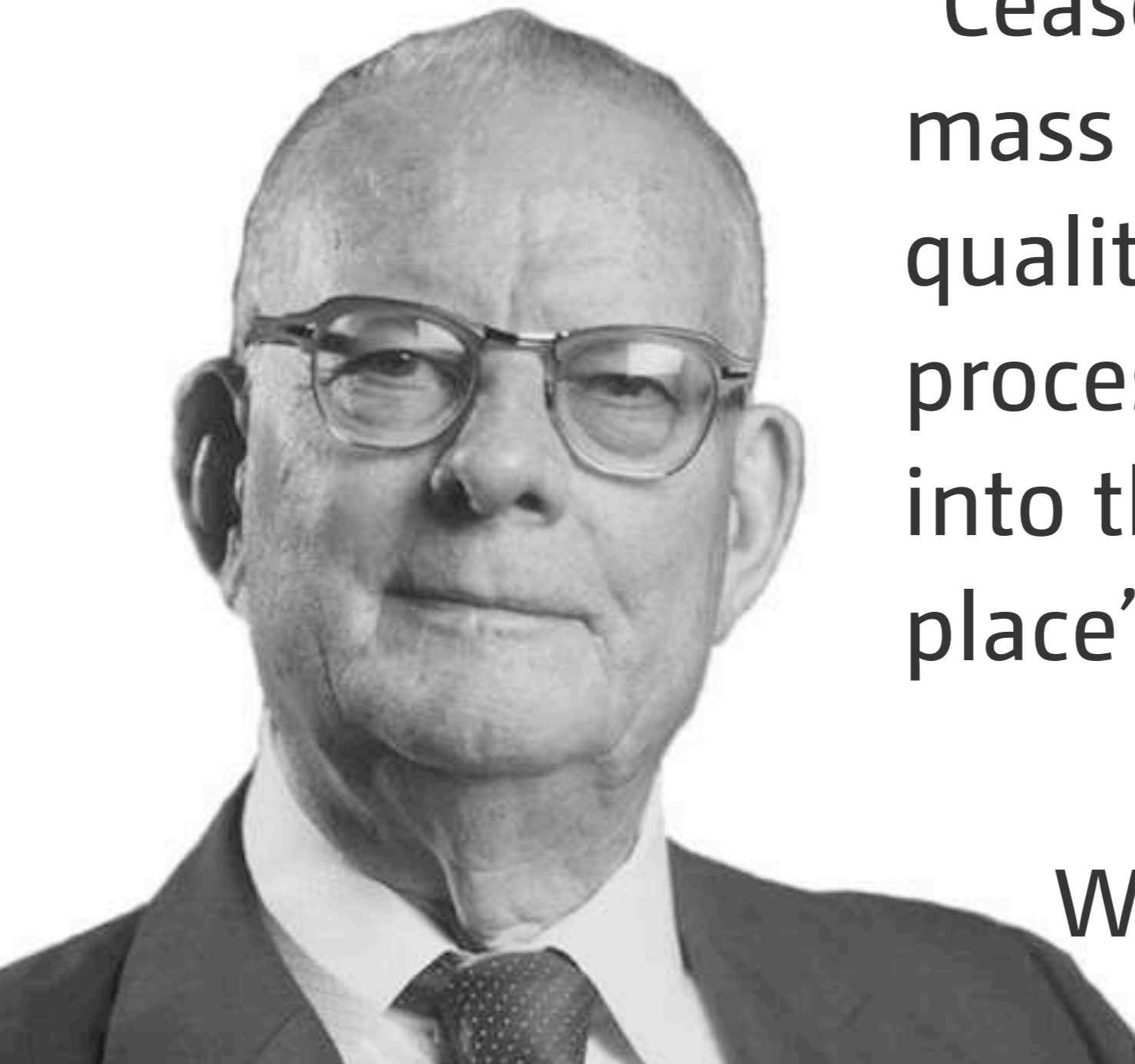


✓
Done!

build quality in

“Cease dependence on mass inspection to achieve quality. Improve the process and build quality into the product in the first place”

W. Edwards Deming



different kinds of testing

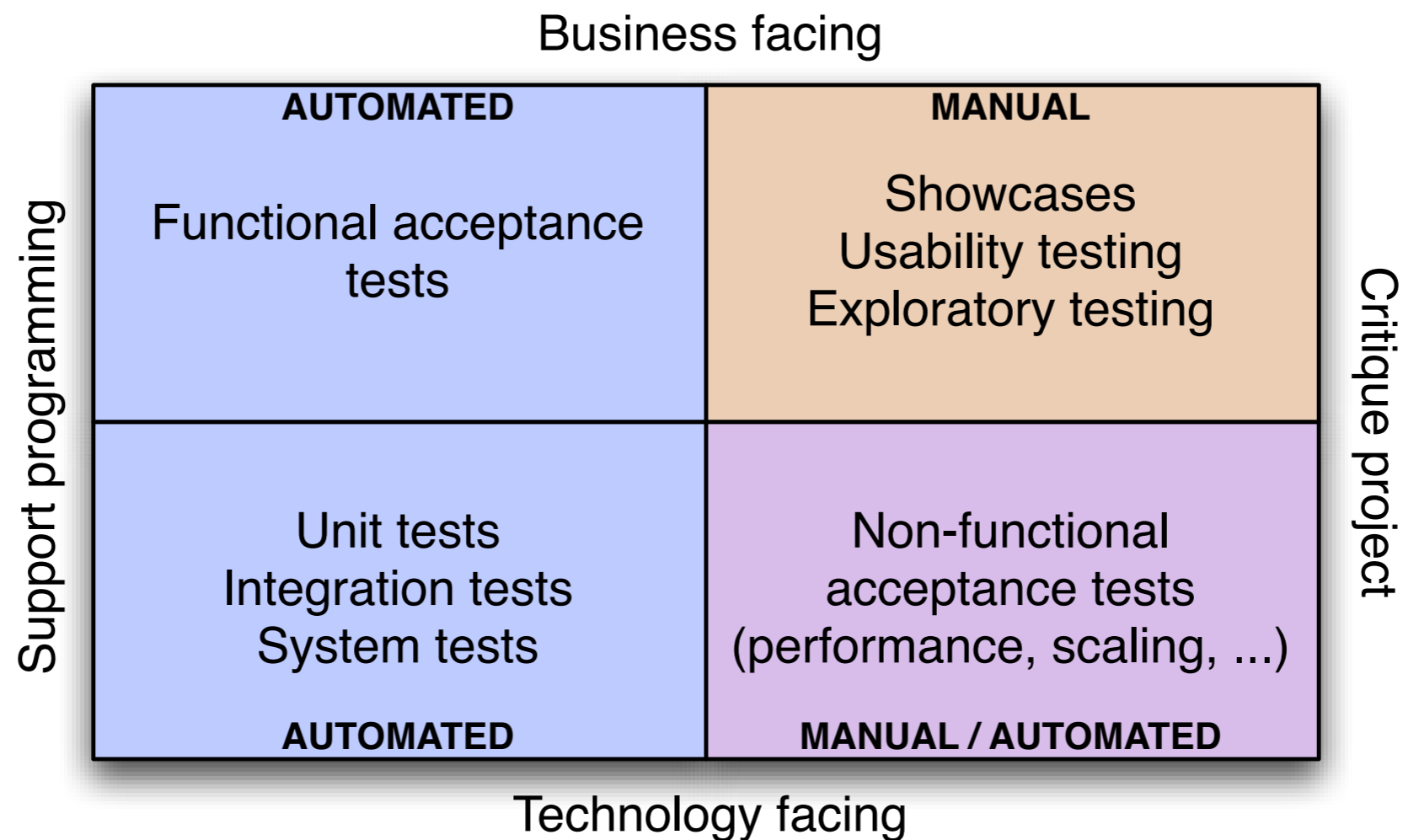


Diagram invented by Brian Marick

deployment pipeline

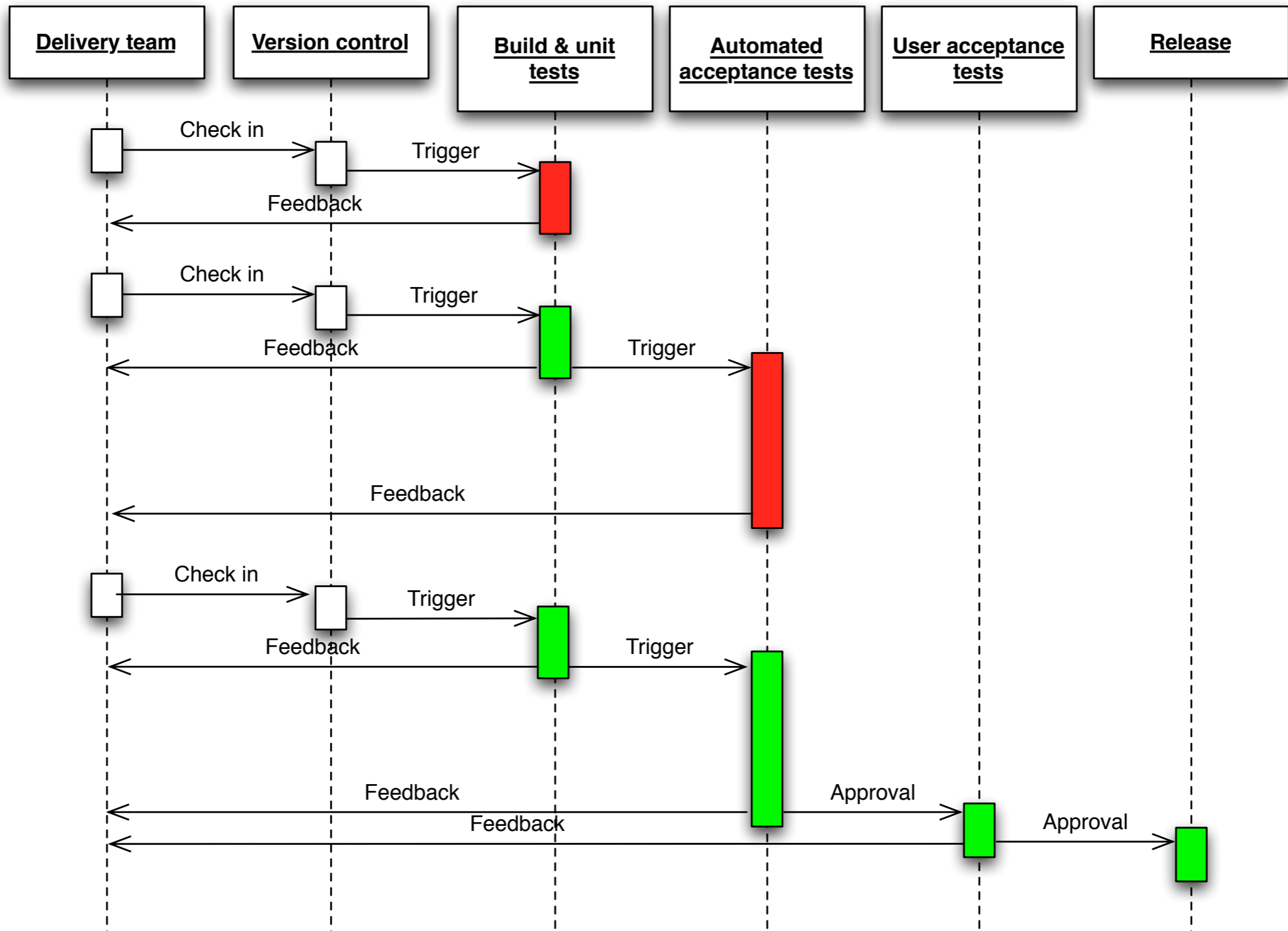
an automated implementation of your system's build, deploy, test, release process

visibility

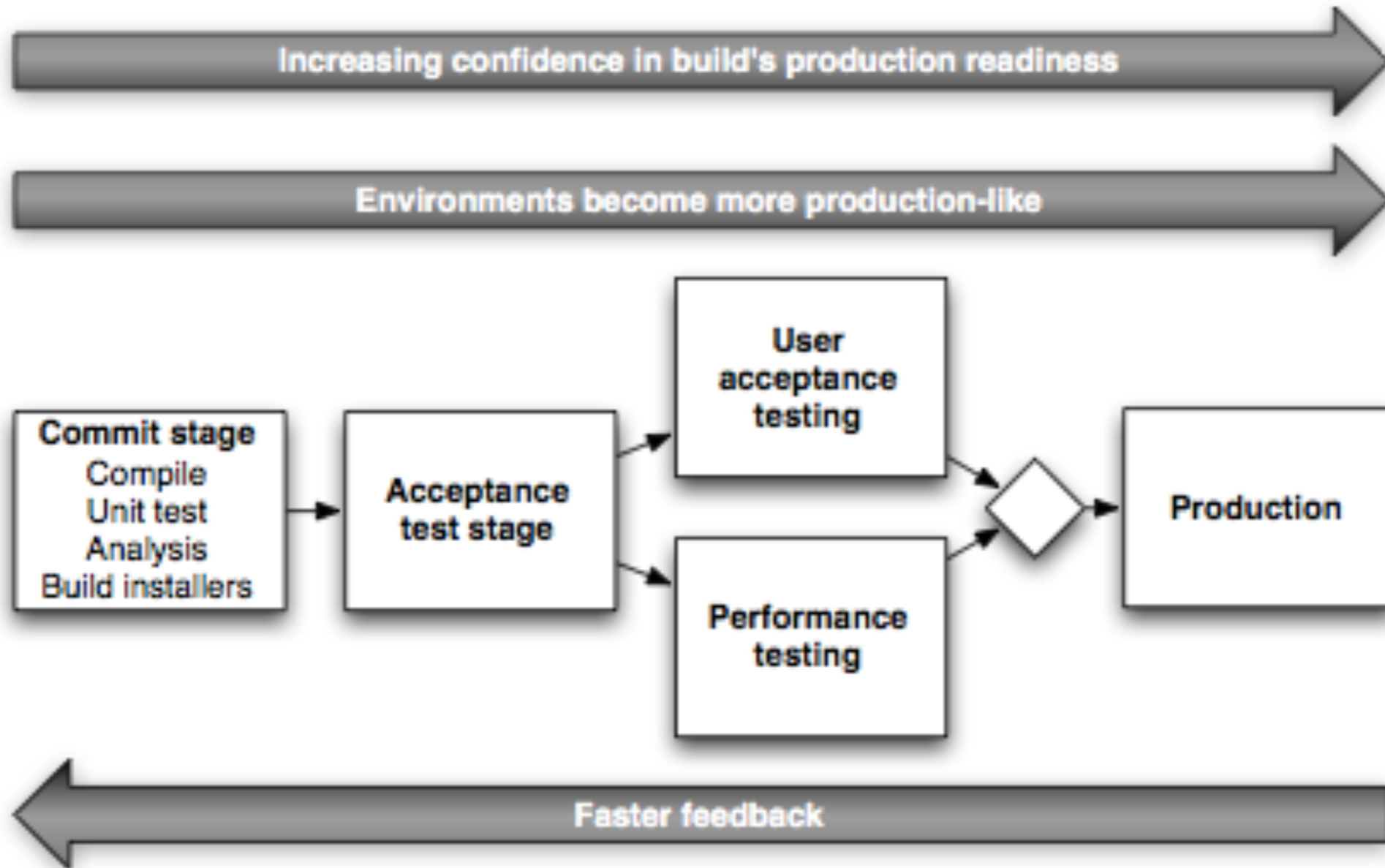
feedback

control

deployment pipeline



deployment pipeline



deployment pipeline

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

reducing release risk

devops

incrementalism

decoupling deployment and release

devops

culture
automation
measurement
sharing

feature toggles

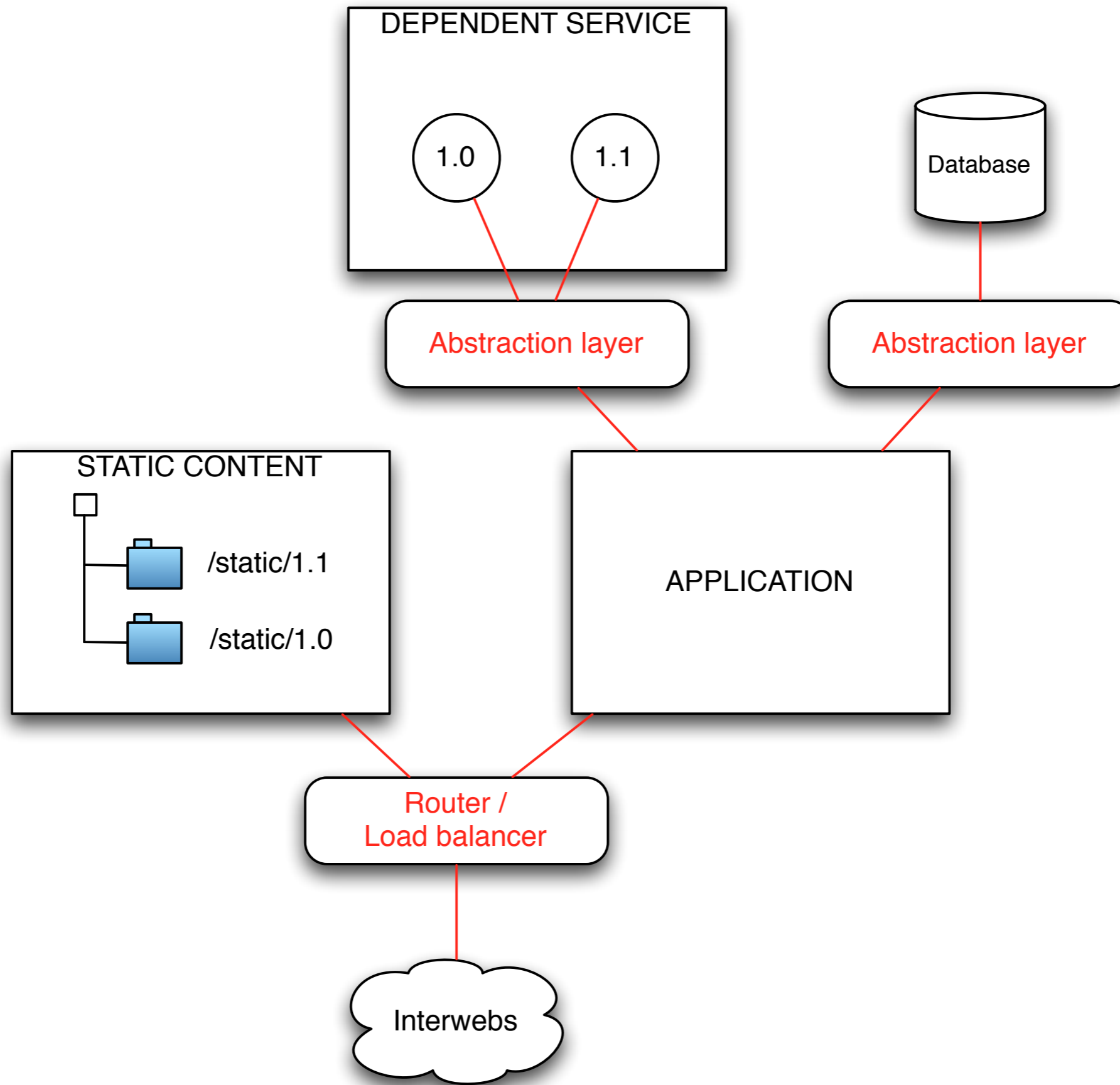
blue-green deployments

canary releases

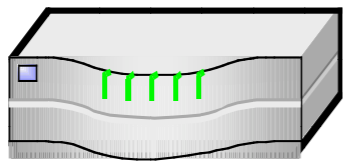
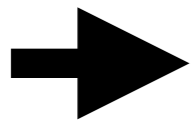
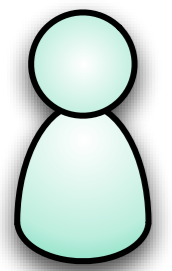
**low risk releases
are incremental**

dark launching

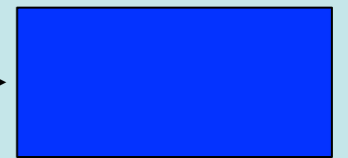
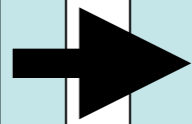
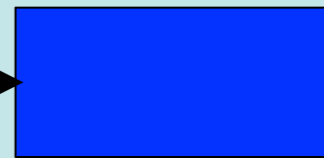
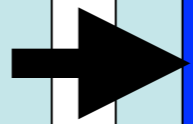
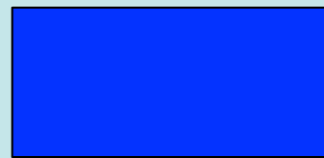
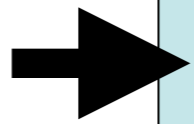
production immune system



blue-green deployments



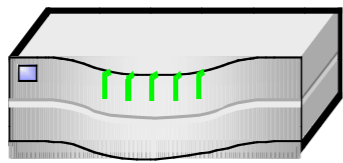
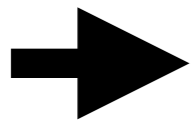
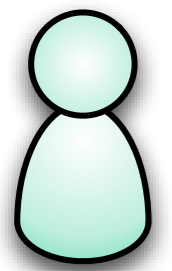
router



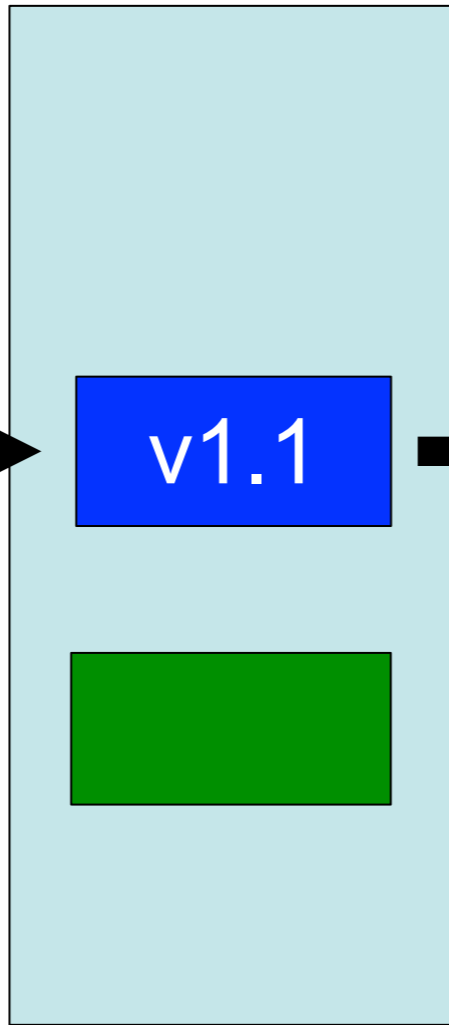
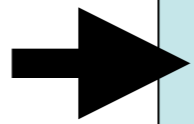
web
server

app
server

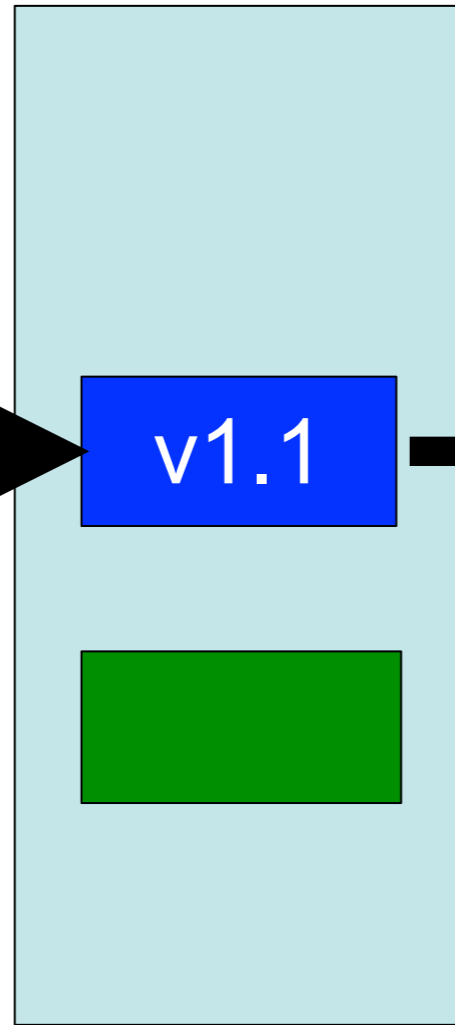
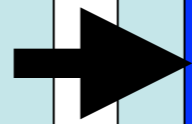
DB
server



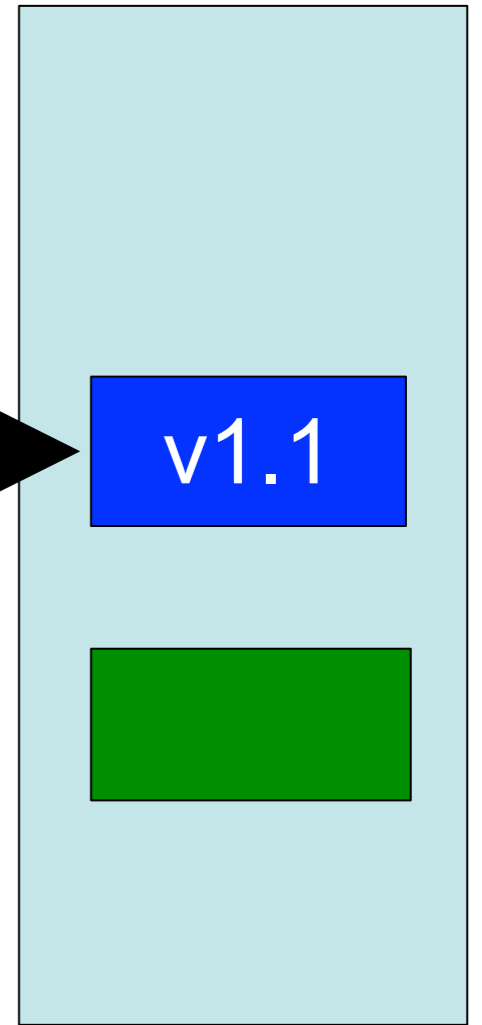
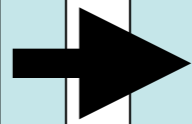
router



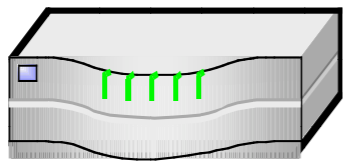
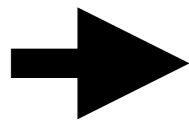
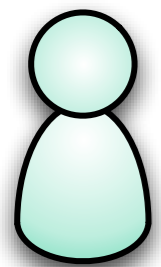
web
server



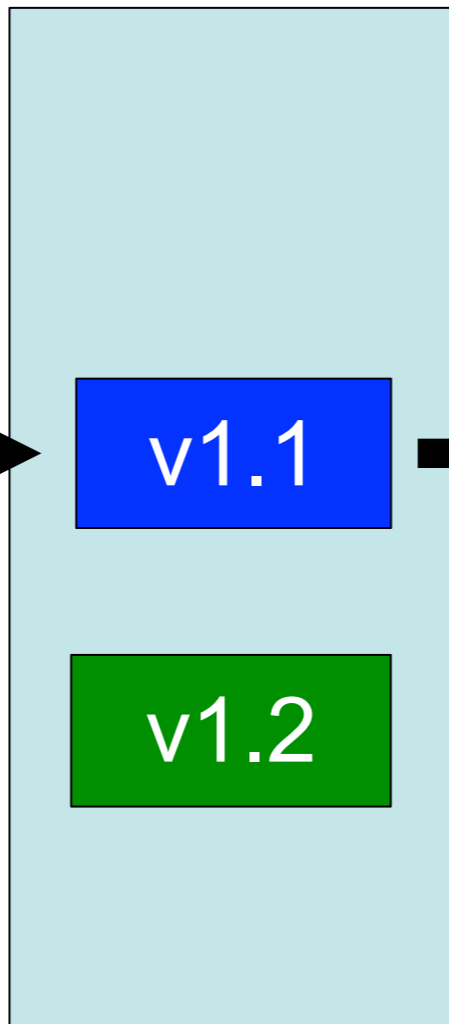
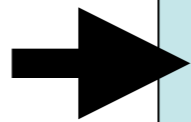
app
server



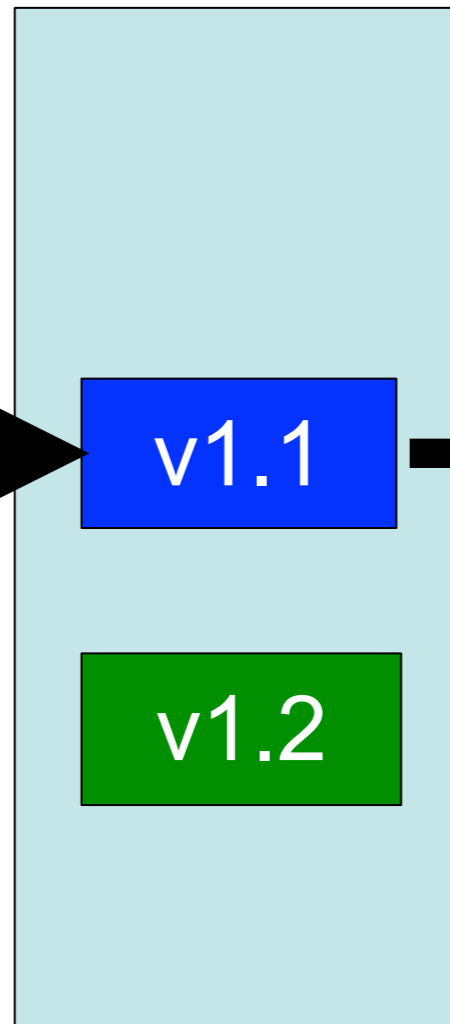
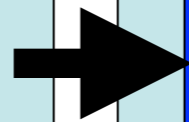
DB
server



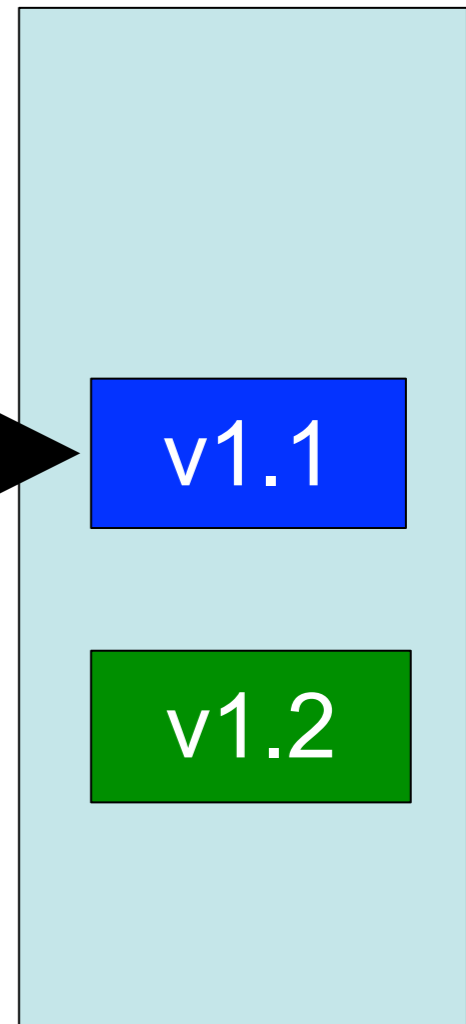
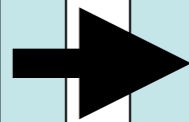
router



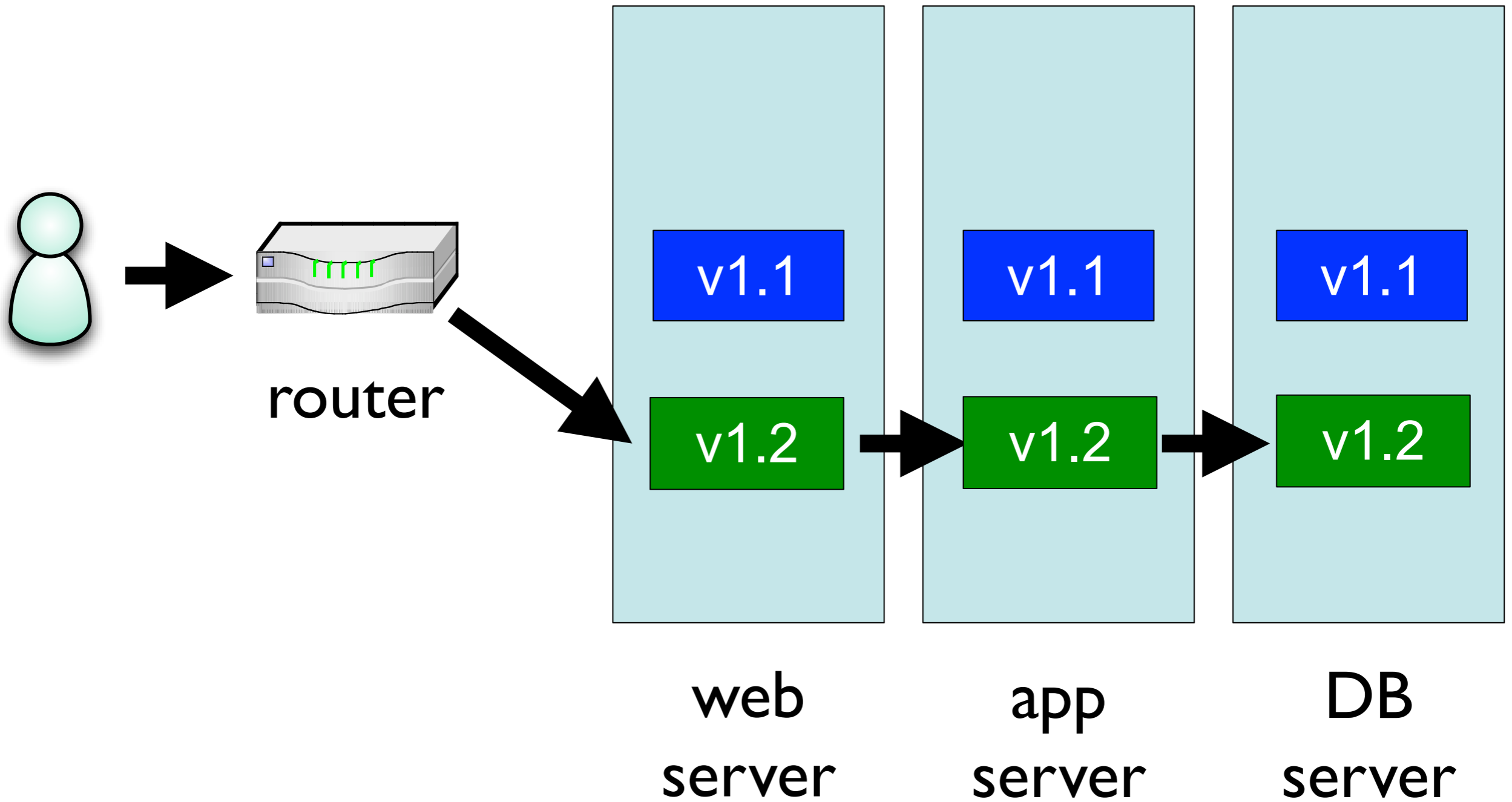
web
server



app
server



DB
server



**release !=
deployment**

feature toggles

Config File

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

some.php

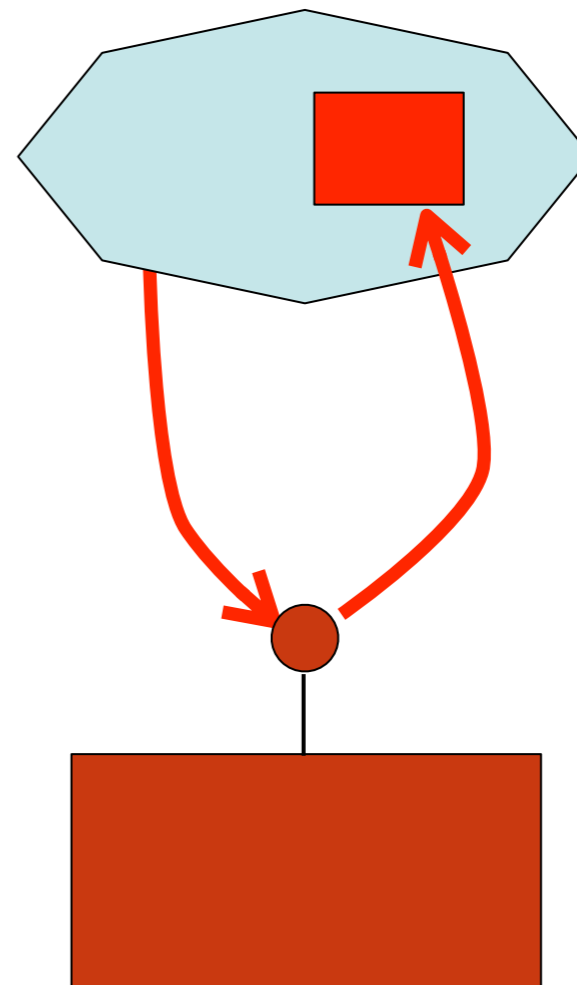
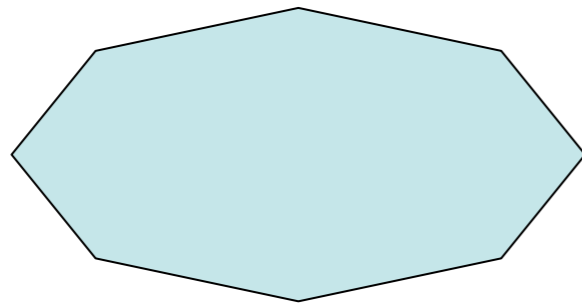
```
<?if ($wobblyFoobars) {?>
    ... various UI elements
<?}?>
```

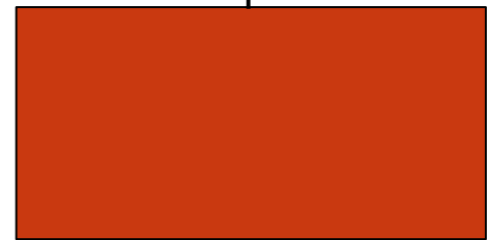
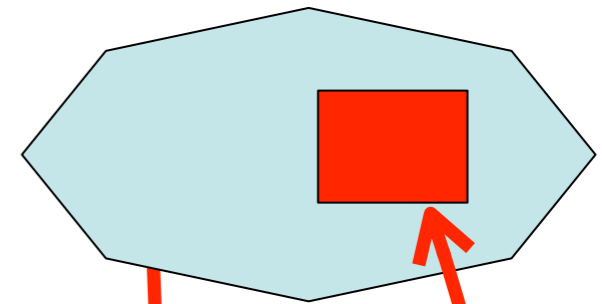
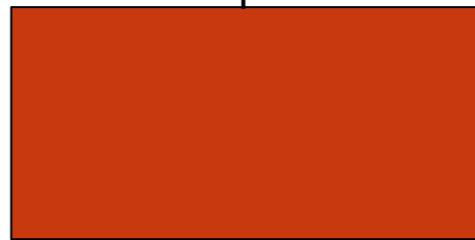
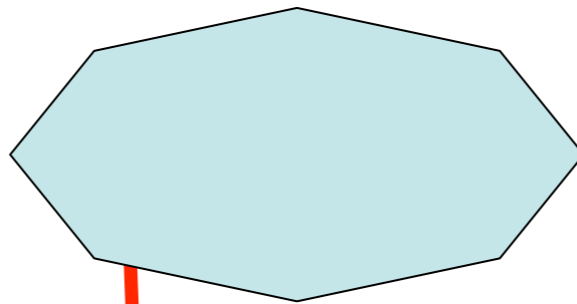
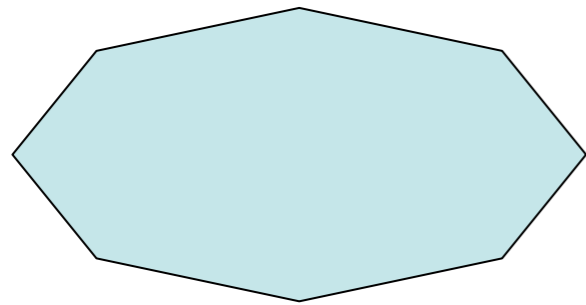
other.php

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

Stolen from Martin Fowler <http://martinfowler.com/bliki/FeatureToggle.html>

Dark Launching





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/>

@jezhumble

jez@thoughtworks.com

#continuousdelivery

