Remediation Patterns
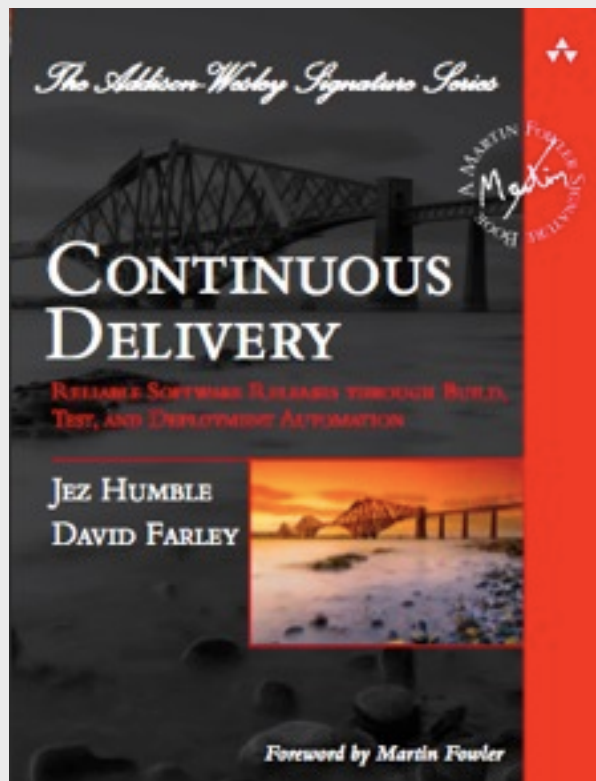
October 12, 2011, GOTO Amsterdam

Jez Humble, ThoughtWorks Studios
@jezhumble #continuousdelivery
http://continuousdelivery.com/

remediation

ITIL: "Recovery to a known state after a failed Change or Release."

Recovery: "Returning a Configuration Item or an IT Service to a working state."

Jez: "Fixing shit when it breaks"

strategies for remediation

prevention

patterns for low-risk release

patterns for incremental delivery
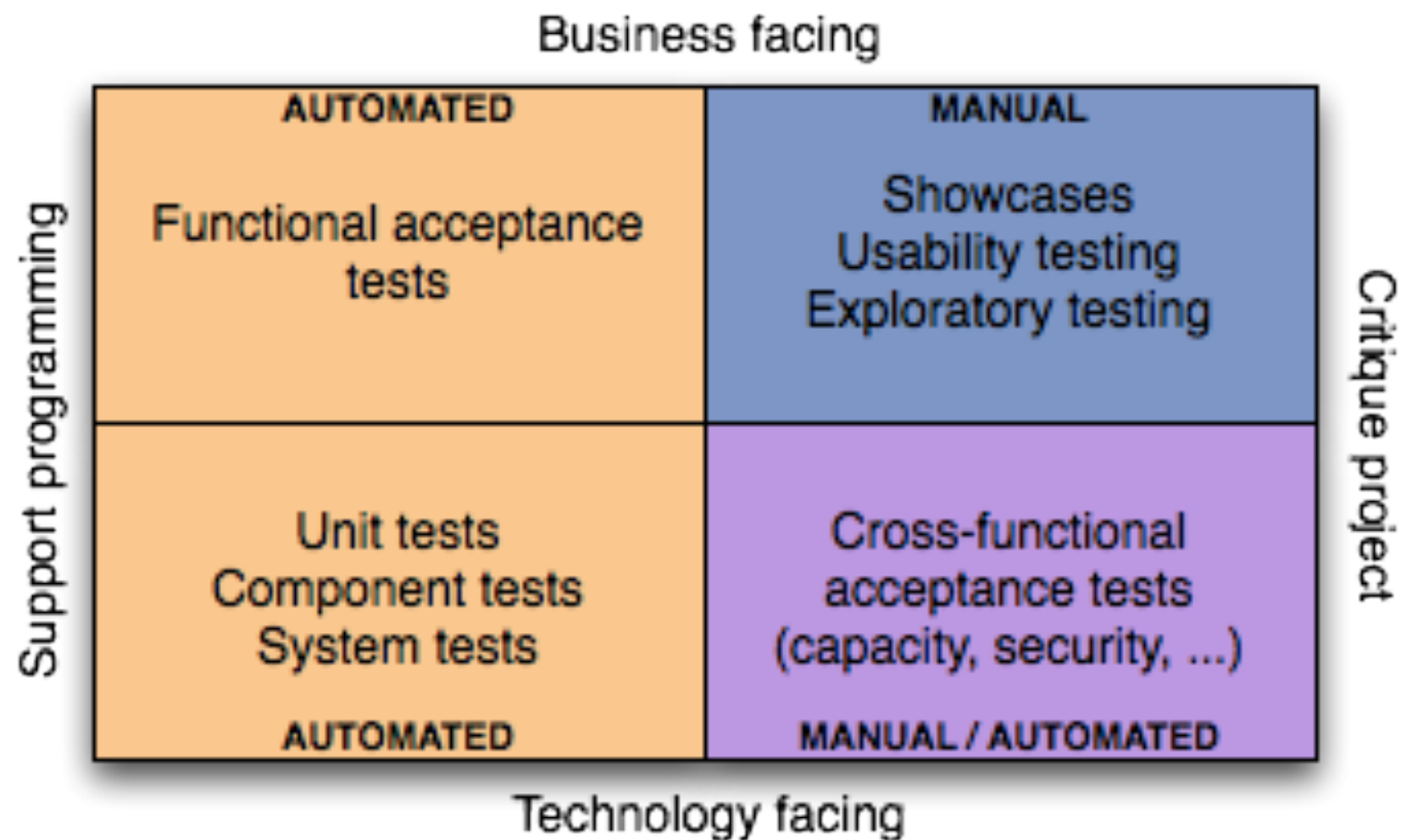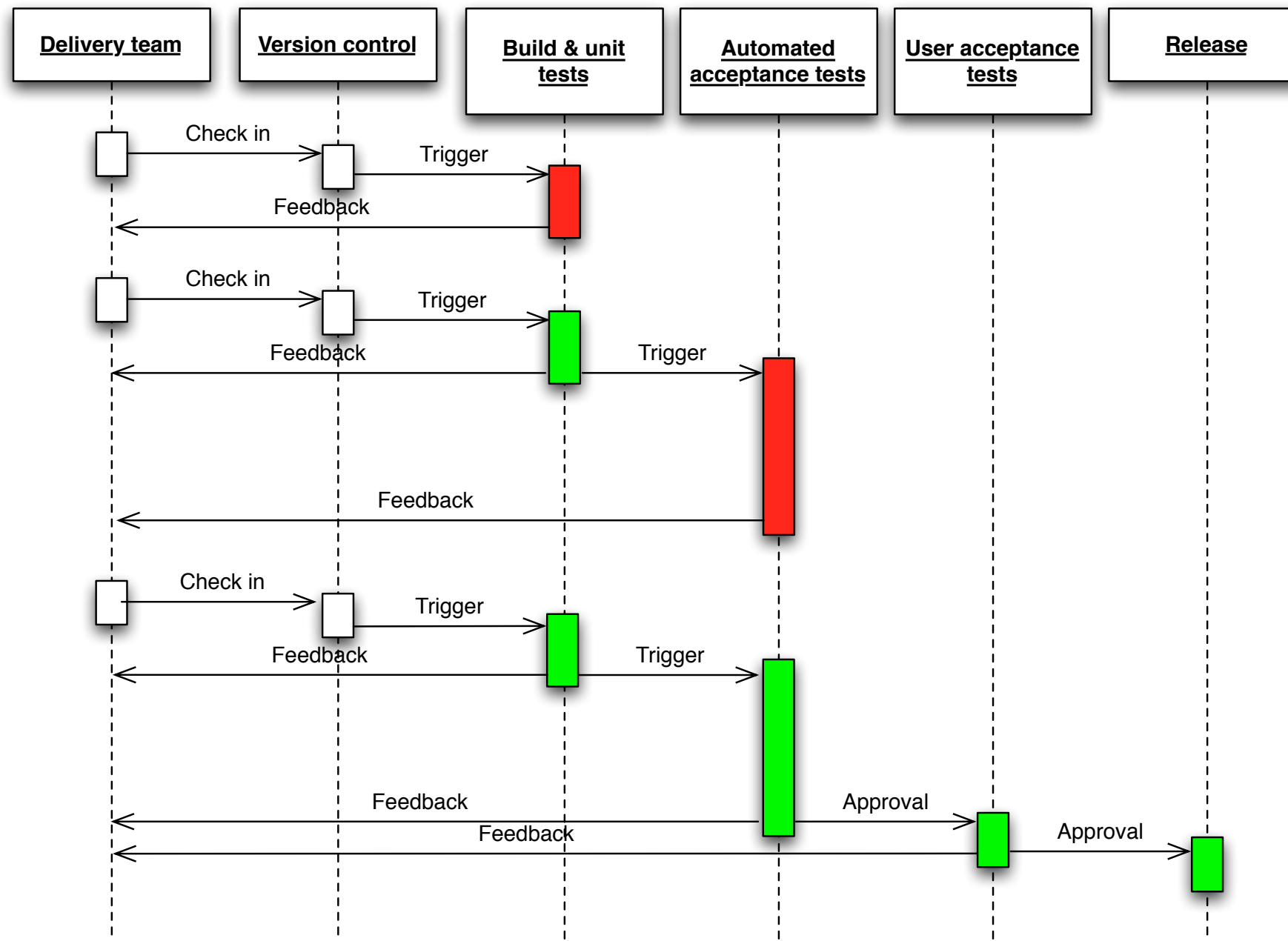
1oz of prevention

Diagram invented by Brian Marick

deployment pipeline

the hard bits

testing on production environments

creating maintainable acceptance tests

testing cross-functional requirements

reducing release risk

optimize for resilience

automate provisioning and deployment

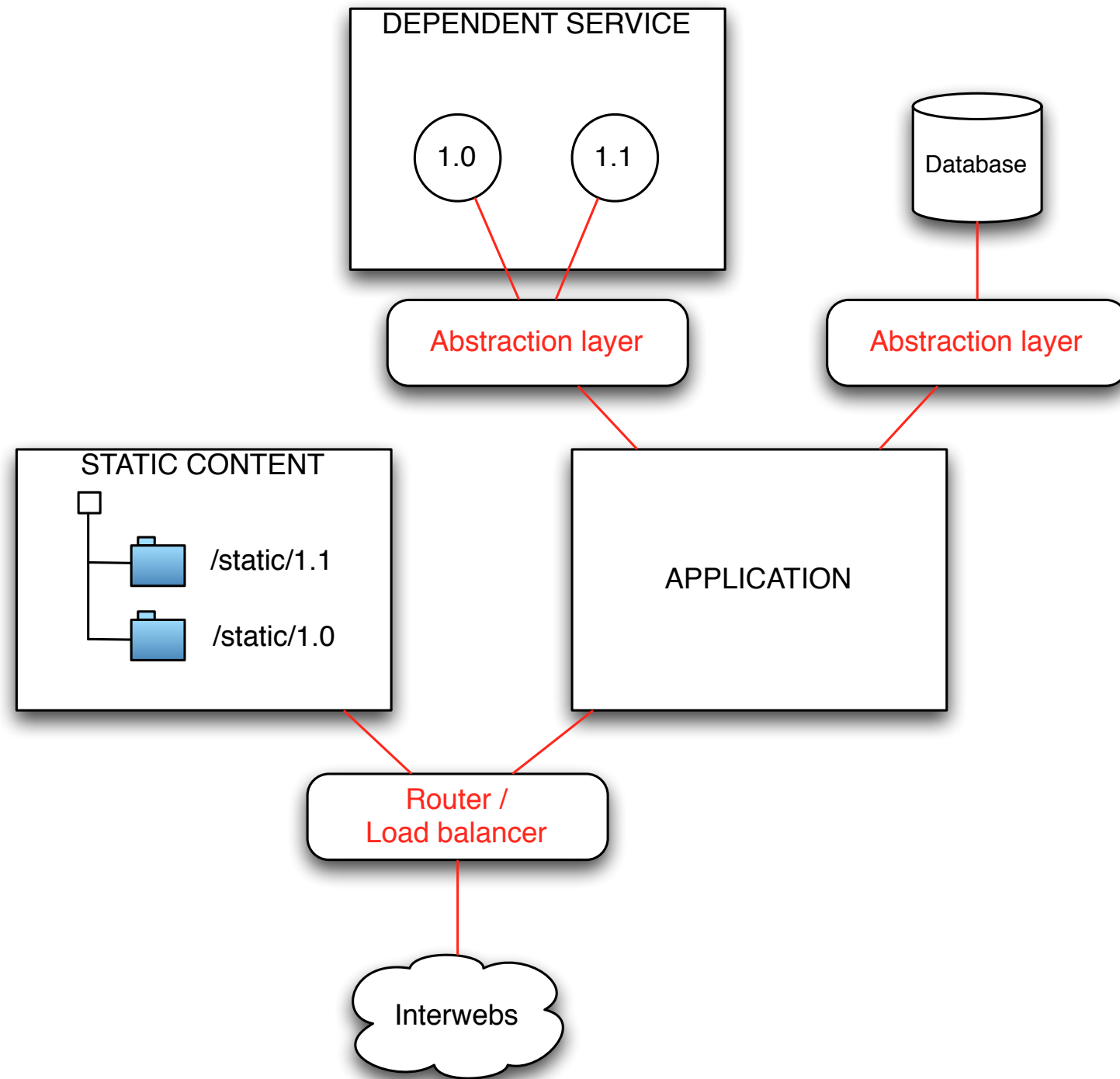devs, testers and ops collaborate throughout

optimize for TTR

http://www.flickr.com/photos/chuecy/2629242132/

MTBF

MTTR

infrastructure as code

Destroy works of art

low risk releases are incremental

DEPENDENT SERVICE

1.0　　1.1

Database

Abstraction layer　　　　Abstraction layer

STATIC CONTENT

/static/1.1

/static/1.0

APPLICATION

Router /
Load balancer

Interwebs

canary releasing

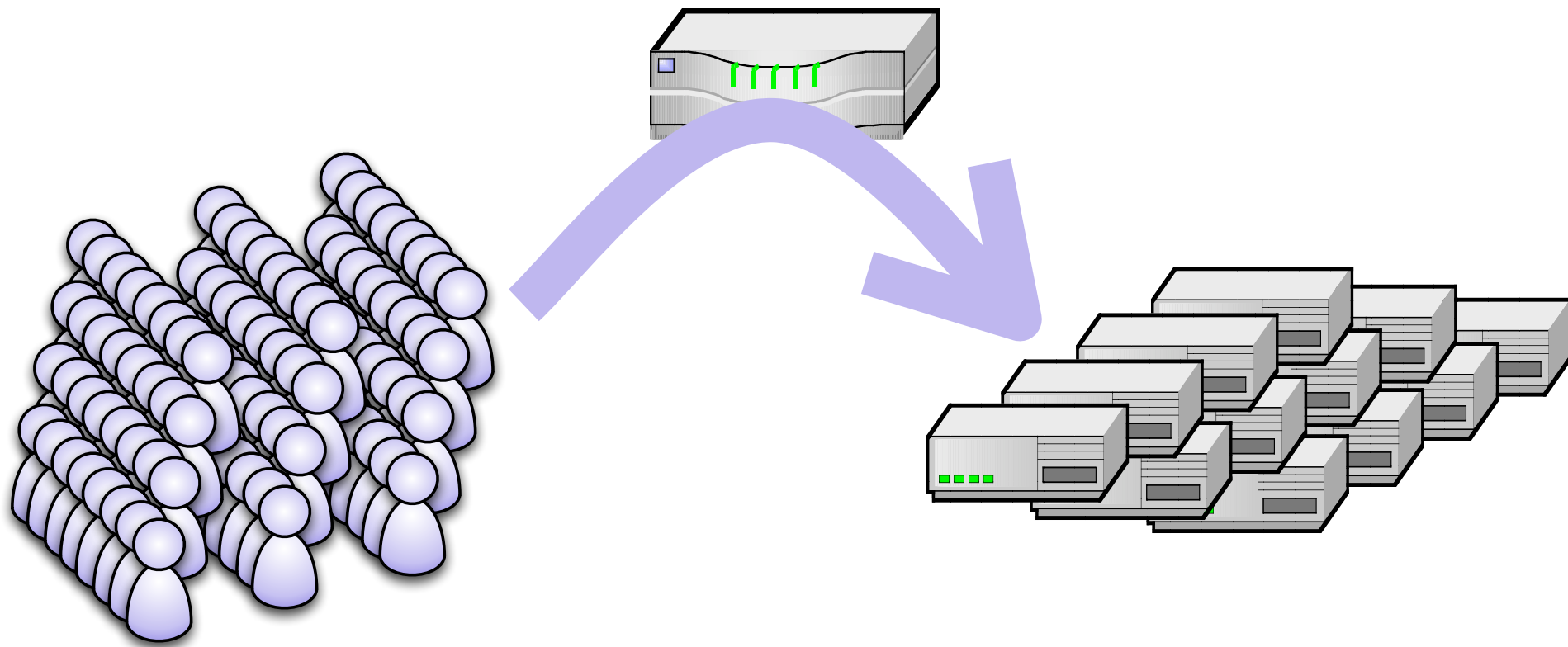Diagram by Martin Fowler
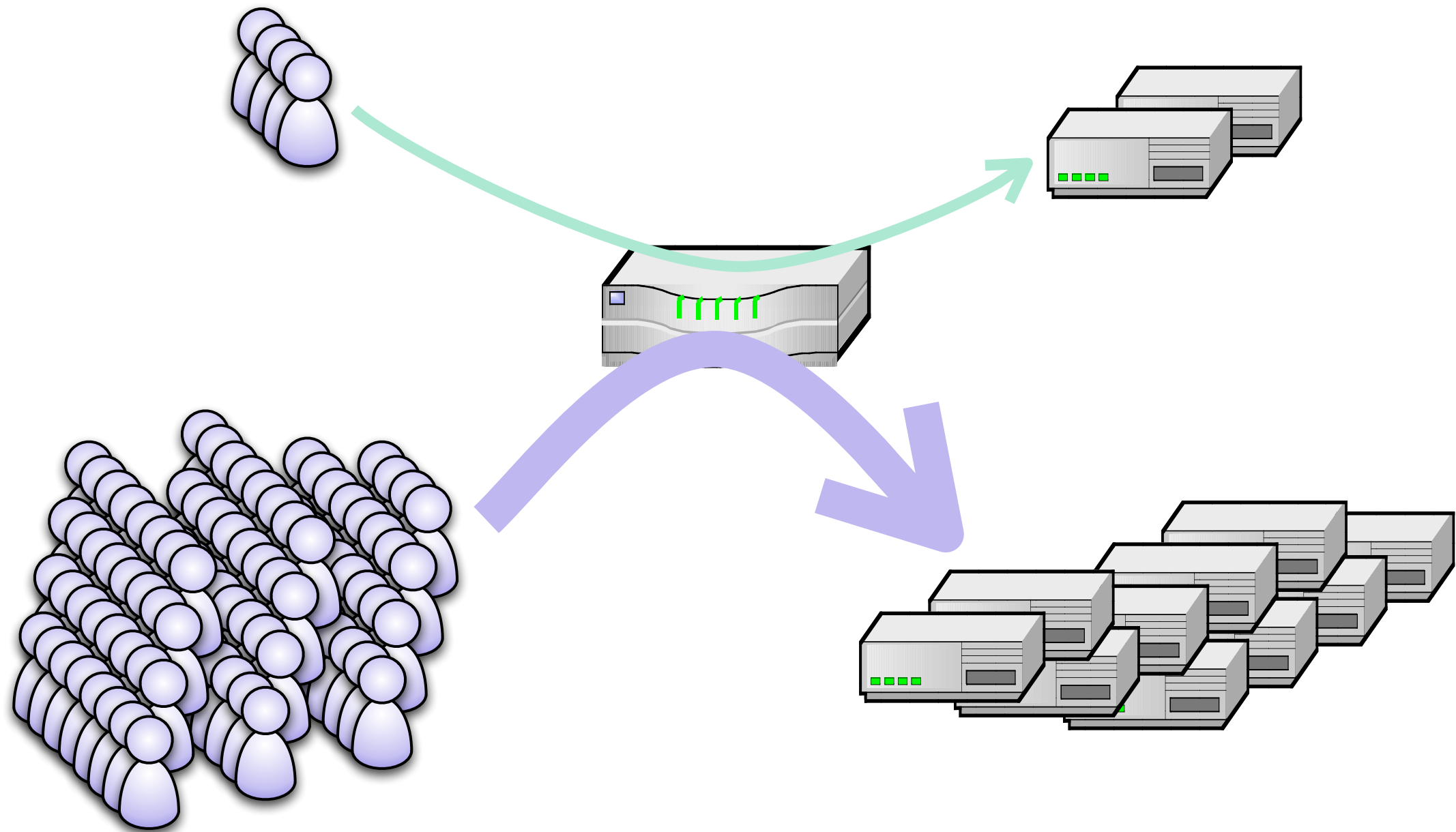
canary releasing

Diagram by Martin Fowler

canary releasing

reduce risk of release

A/B testing

performance testing

immune system

what if someone replaced your "buy" button with spacer.gif?

T cells http://www.flickr.com/photos/gehealthcare/3326186490/

monitoring

Business metrics – revenue, # orders, # users

Ops metrics – changes, incidents, TTD, TTR, TBF

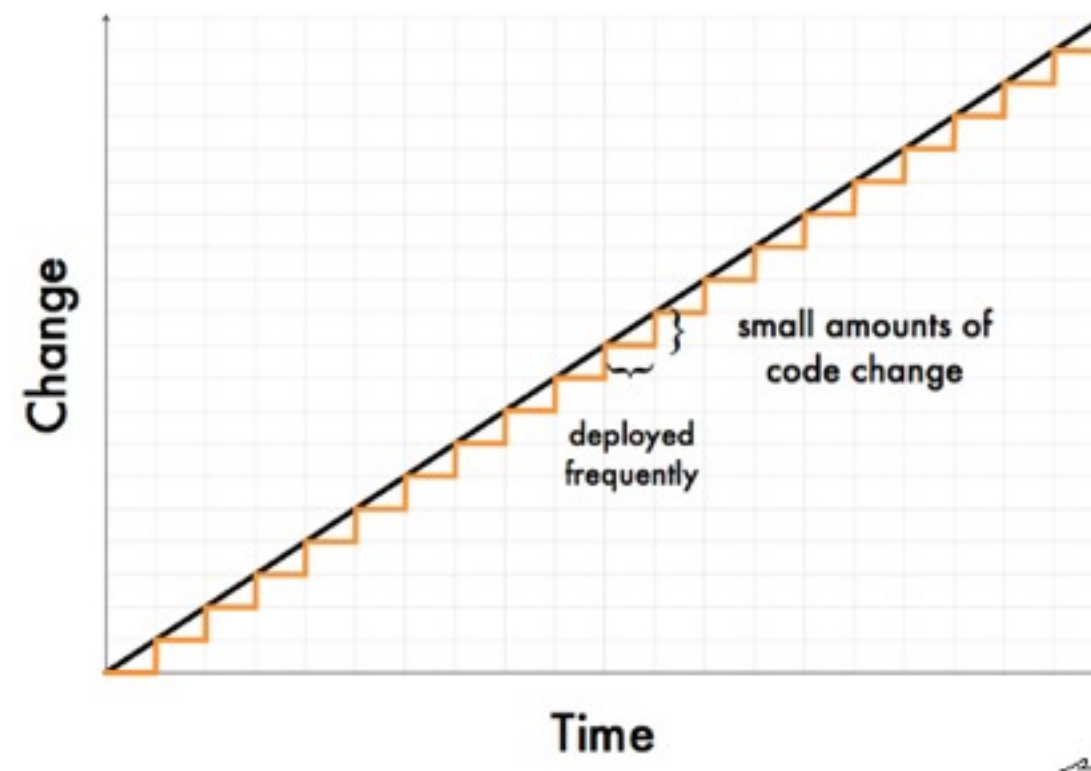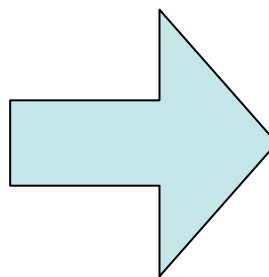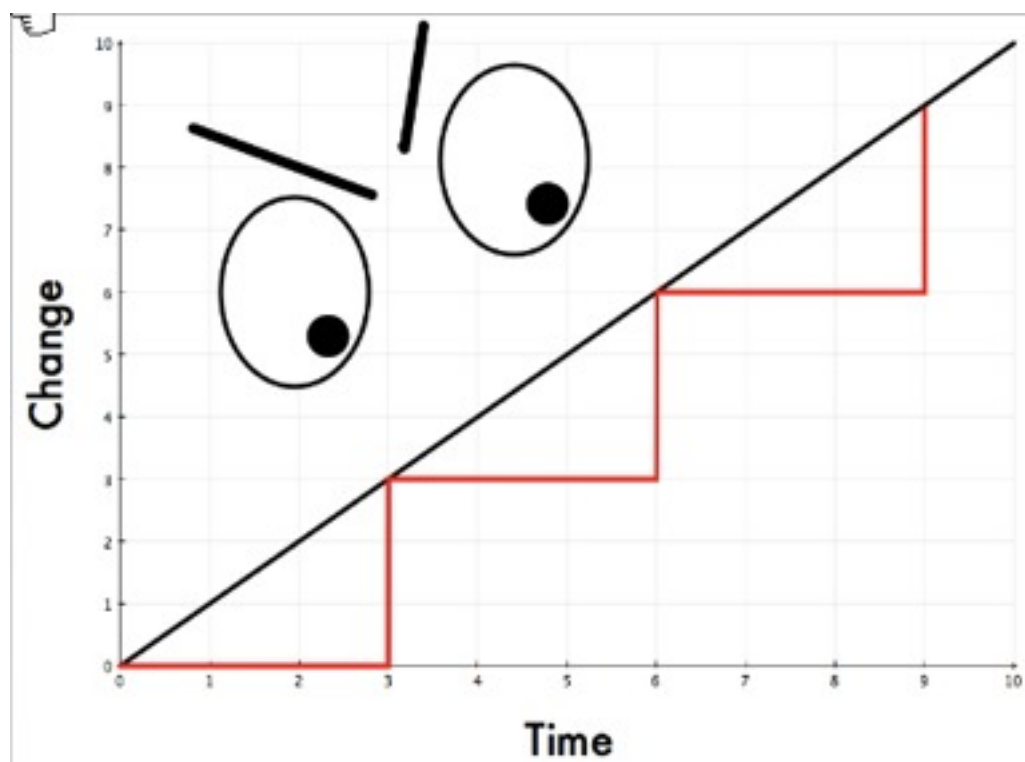Technical metrics – TPS, response time, hits

the hard bits

analyzing root causes

collaboration

data

incremental delivery

John Allspaw: "Ops Metametrics" http://slidesha.re/dsSZIr

incremental delivery

develop on mainline

feature toggles and branch by abstraction

dark launching

feature toggles

Config File

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

some.jsp
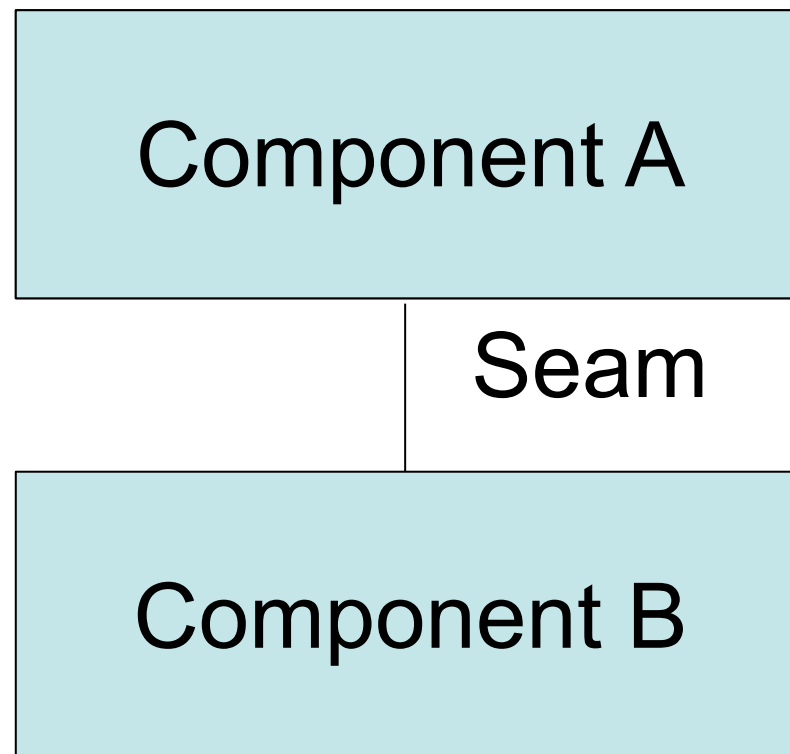
```
<toggle name=wobblyFoobars>
   ... various UI elements
</toggle>
```
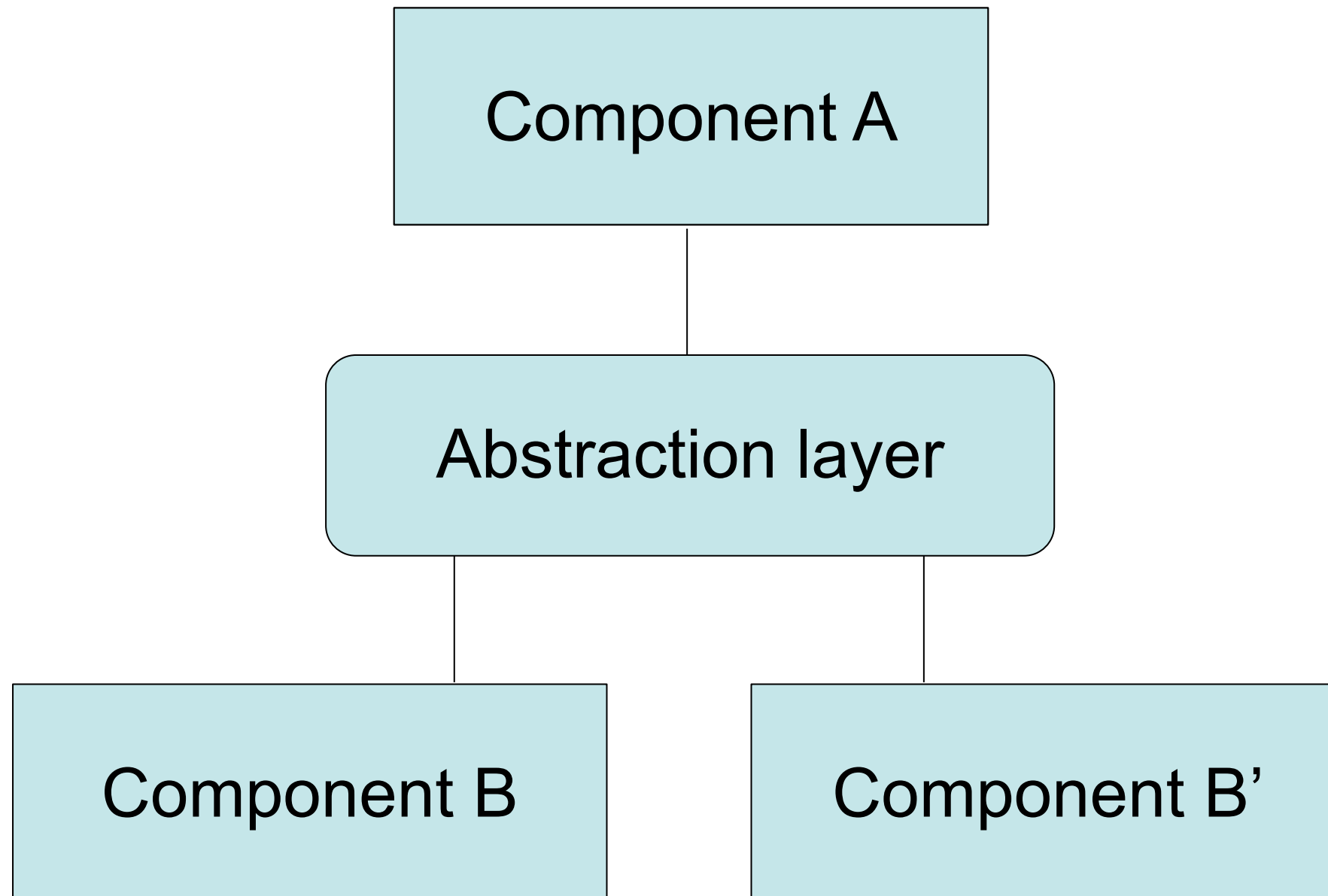
other.java

```
forkHandle = (featureConfig.isOn('flightlyForkHandles)) ?
              new FlightyForkHander(aCandle) :
              new ForkHandler(aCandle)
```

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

branch by abstraction

Component A

Seam

Component B
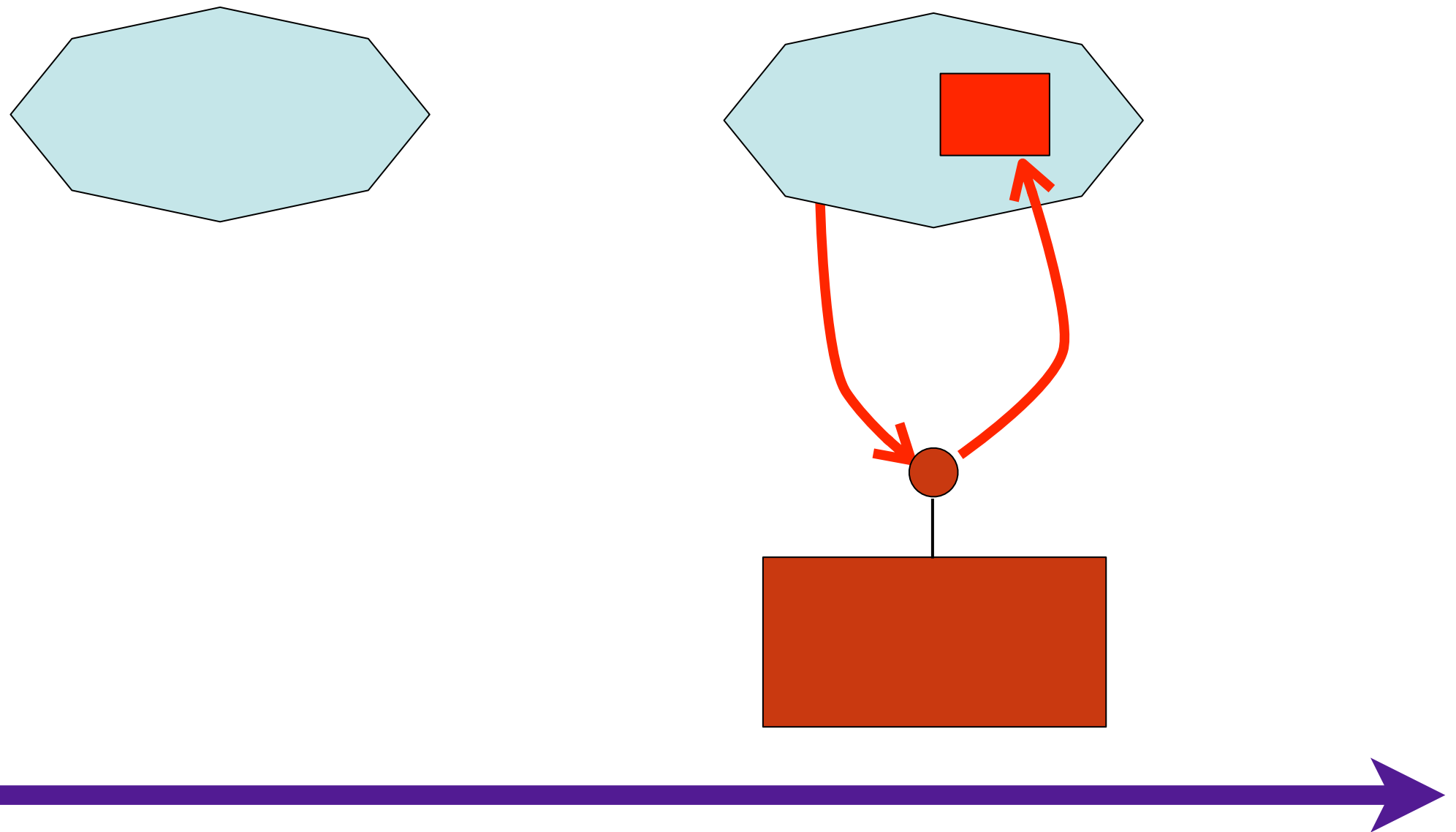
branch by abstraction

dark launching

Diagram by Martin Fowler
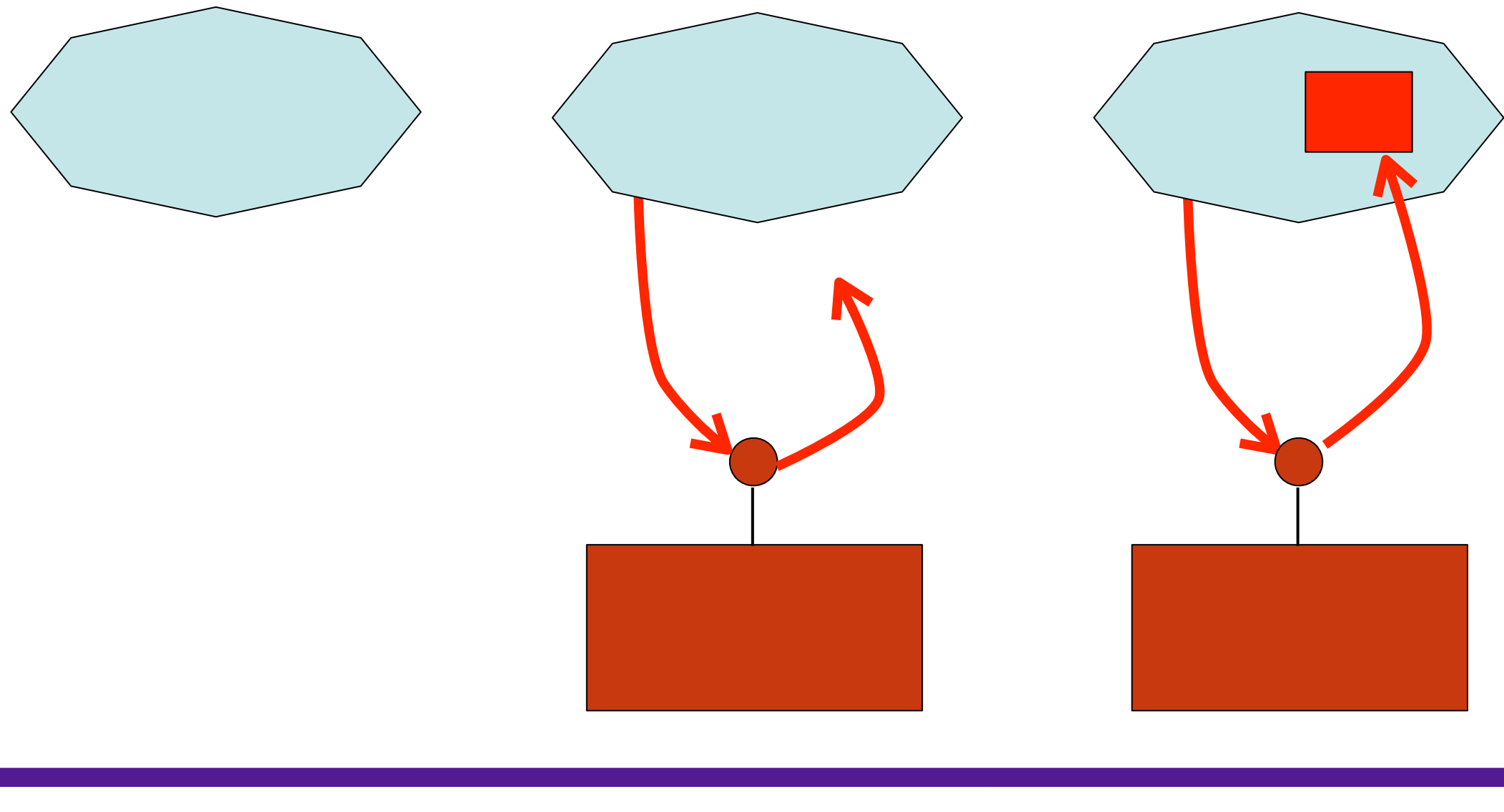
dark launching

Diagram by Martin Fowler

measuring effectiveness

How long would it take you to release a change to a single line of code?

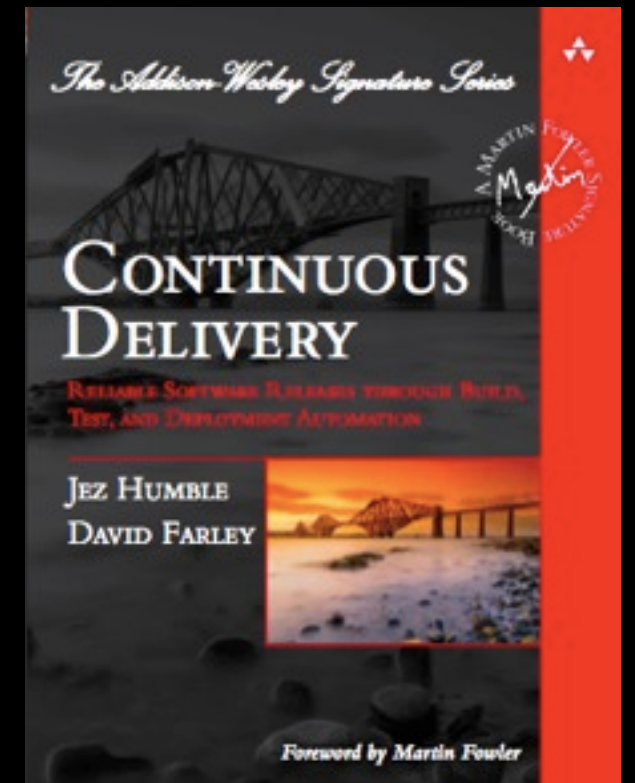Ops metrics – changes, incidents, TTD, TTR, TBF

If your data center blew up, how long would you take to restore service?

questions

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