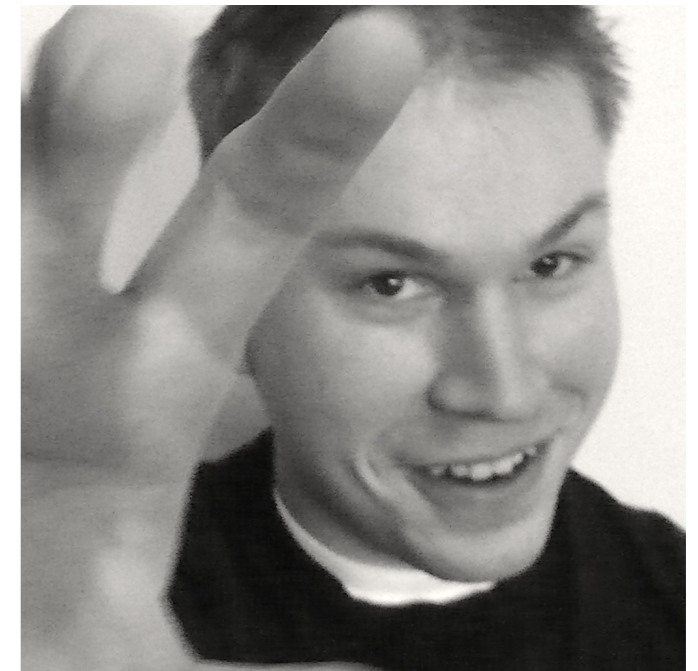


The logo for PagerDuty, featuring the word "pagerduty" in a lowercase, rounded, green sans-serif font. The letters are thick and have a friendly, approachable feel. The 'p' and 'y' have a slight curve at the bottom. The 'a', 'e', and 'u' have a similar rounded shape. The 'd' is also rounded and has a small gap between the stem and the bowl. The 't' is simple and rounded at the top. The 'y' has a rounded bottom and a small tail.

Ensuring success during disaster

SRECON 2015

@dougbarth





Doug Barth

@dougbarth

3 yr old— Daddy, why do you have short hair?

Me— I look better with it.

5 yr old— Not really.



FAVORITES

5



8:30 AM - 7 Nov 2014

ORBITZ

 Signal Engage

pagerduty

Dev

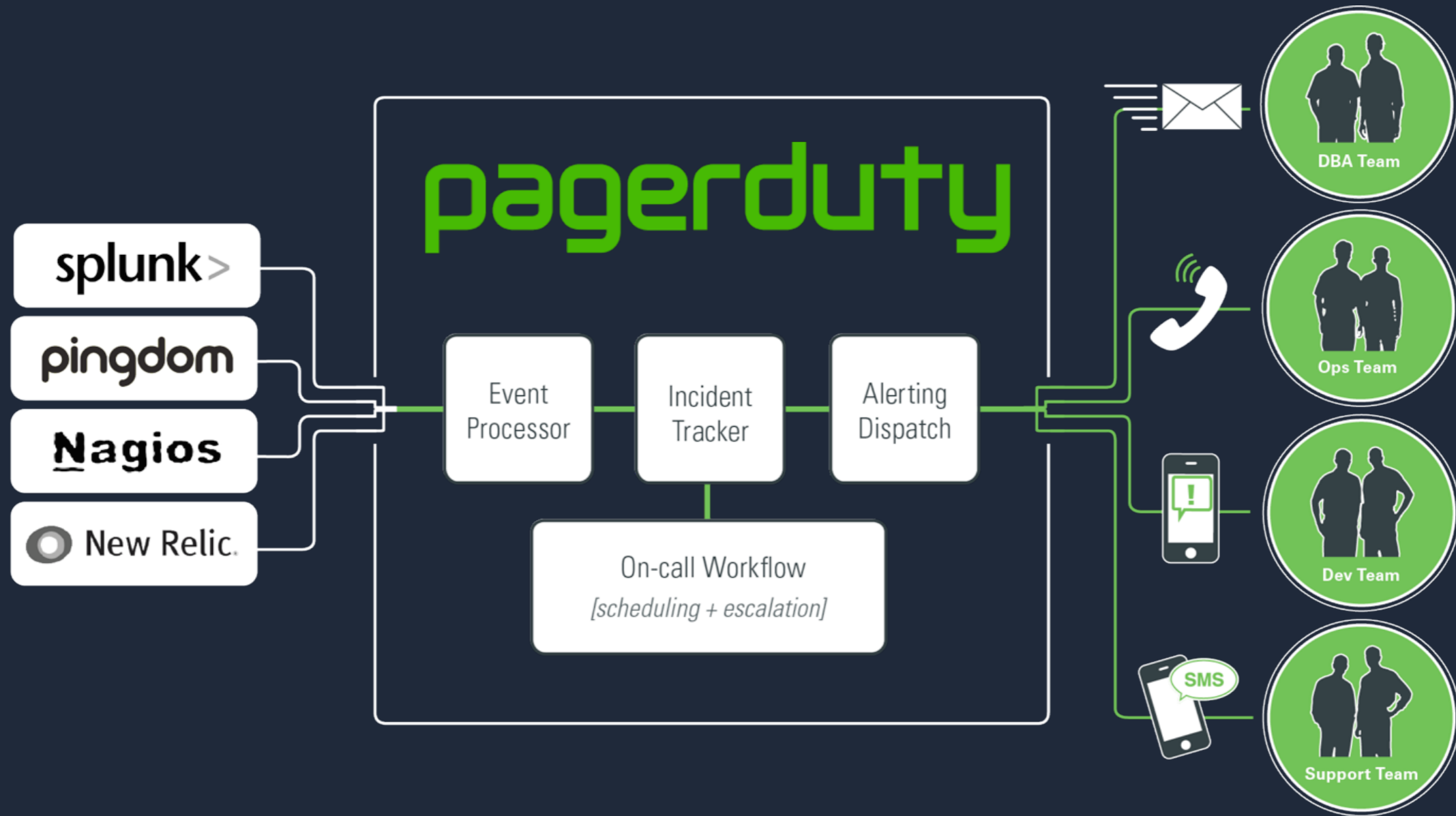


Ops

Consider killing this

How is ~~babby~~ PagerDuty formed?





Reliability

Agenda

DR vs. HA
Data DR
Failover
Active/Active
Legacy Systems
Q&A

Disaster Recovery

**A plan for surviving
rare failure events
that threaten our
ability to continue
operating**

High availability

DR

HA

Rare
failures

Common
failures

Slow
recovery

Fast
recovery

Latency

**DR needs
to exist**

**DR needs
to be tested**

**DR needs
to be tested
for correctness**

**DR needs
to be tested
for capacity**

**DR needs
to be tested
for execution**

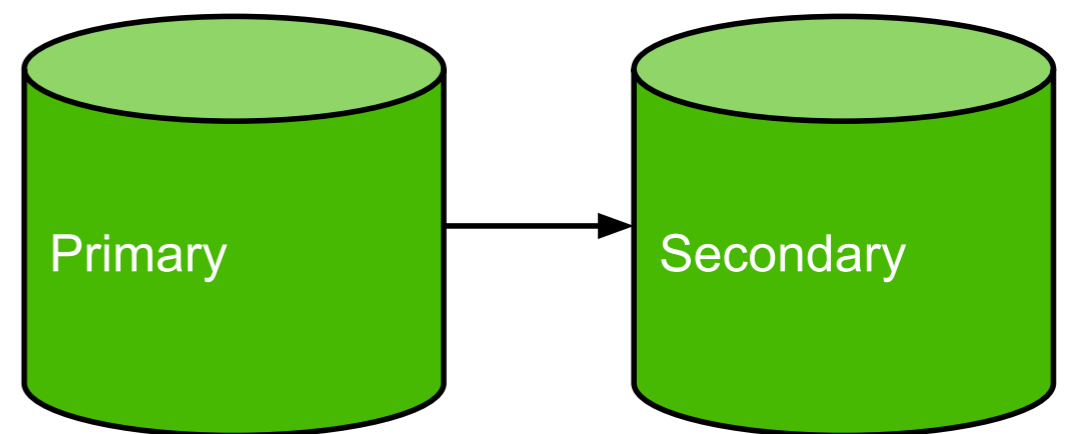
Data DR

**You can never
have too many
copies**

Lose a disk?

Lose a server?

Secondary

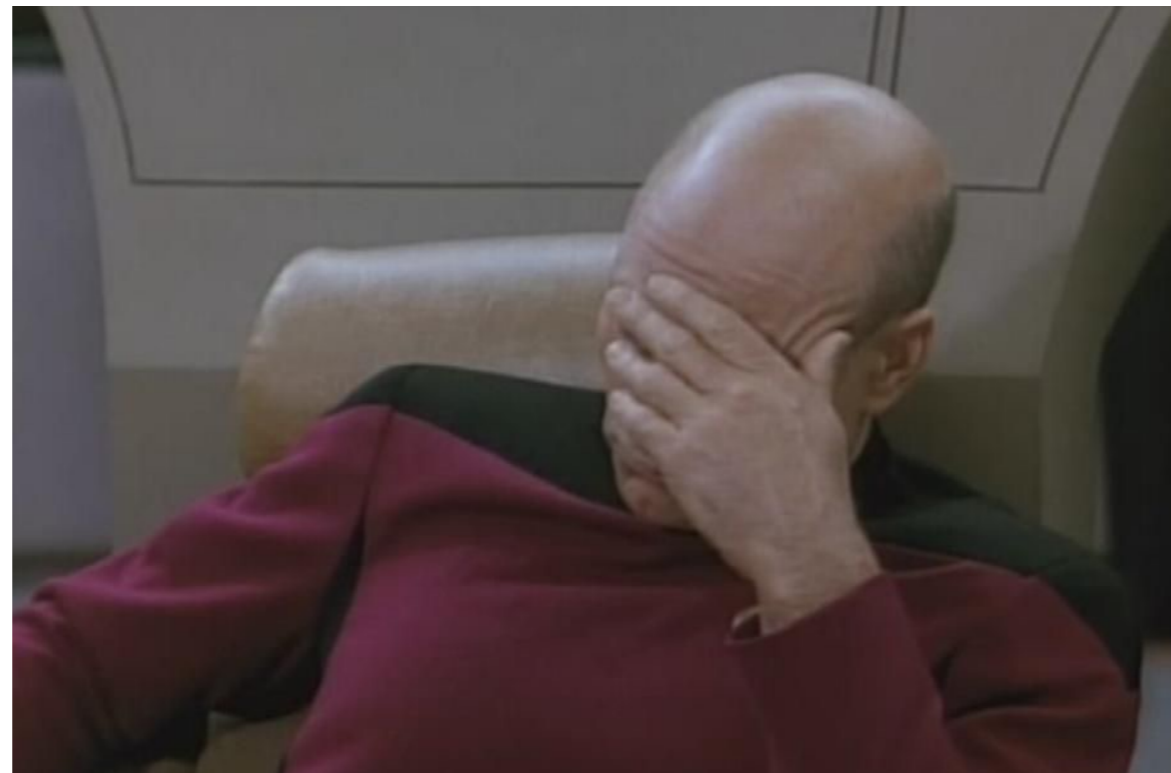


Data corruption?

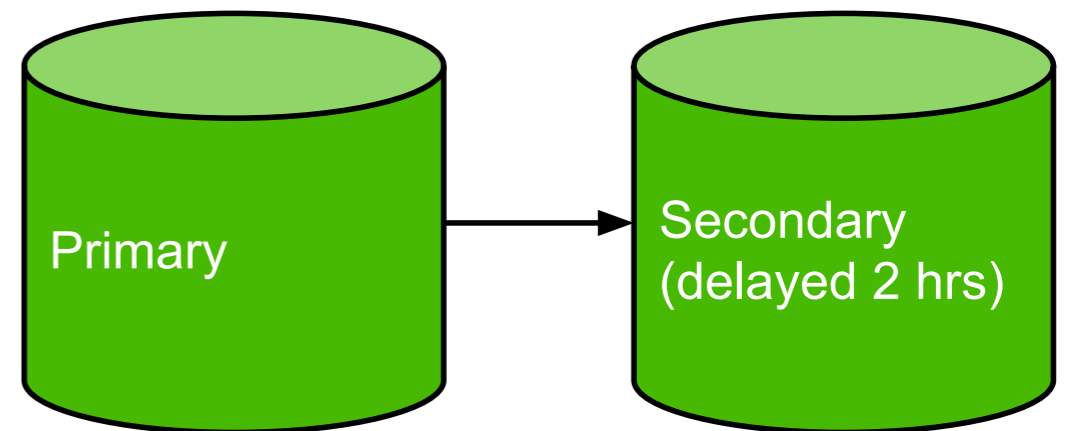
Backups

Test restorations

**DROP TABLE USERS;
DELETE FROM USERS;**



Delayed secondary



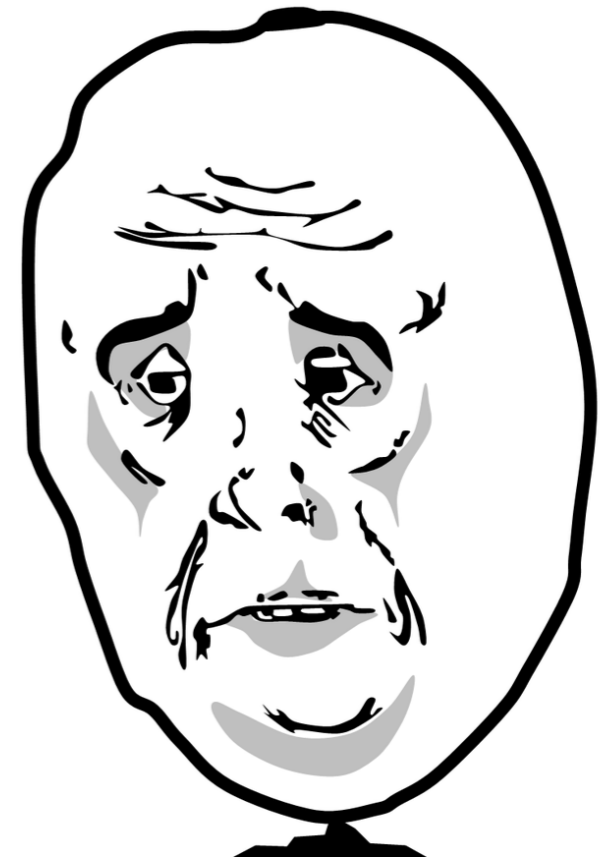
Failover

Primary DC & Secondary DC

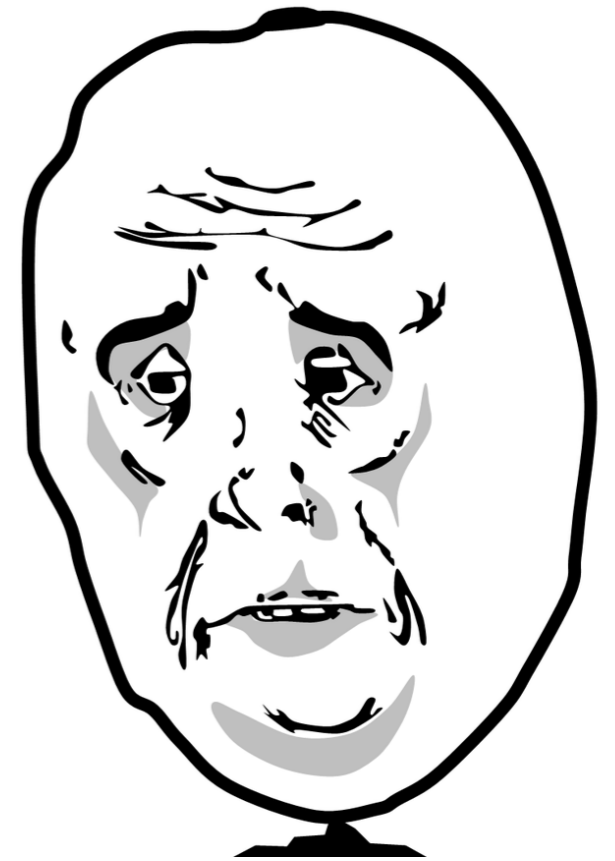
The flip

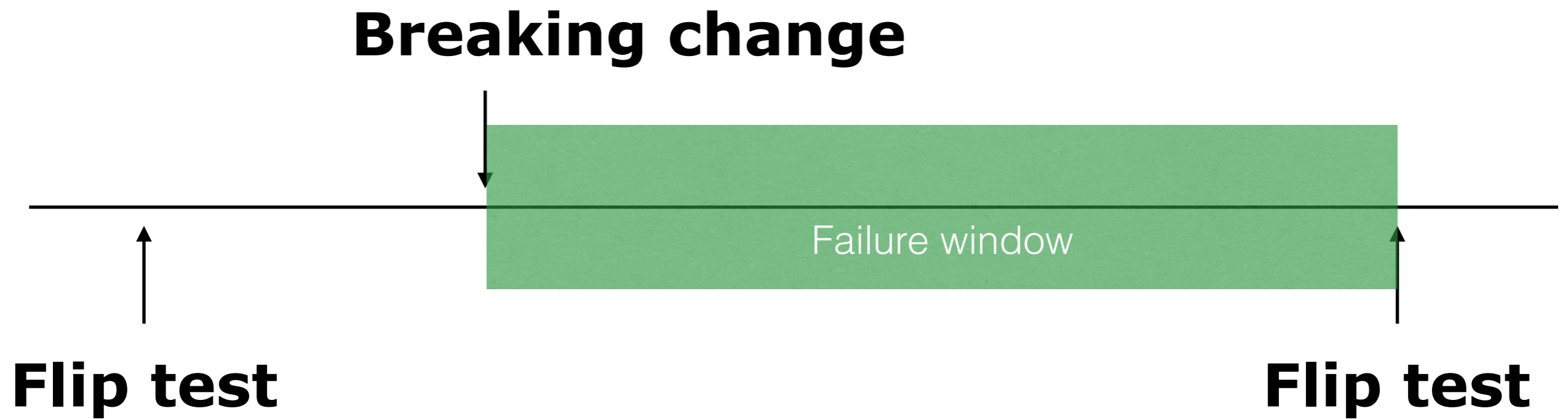
Testing == outage

**So it goes
untested**

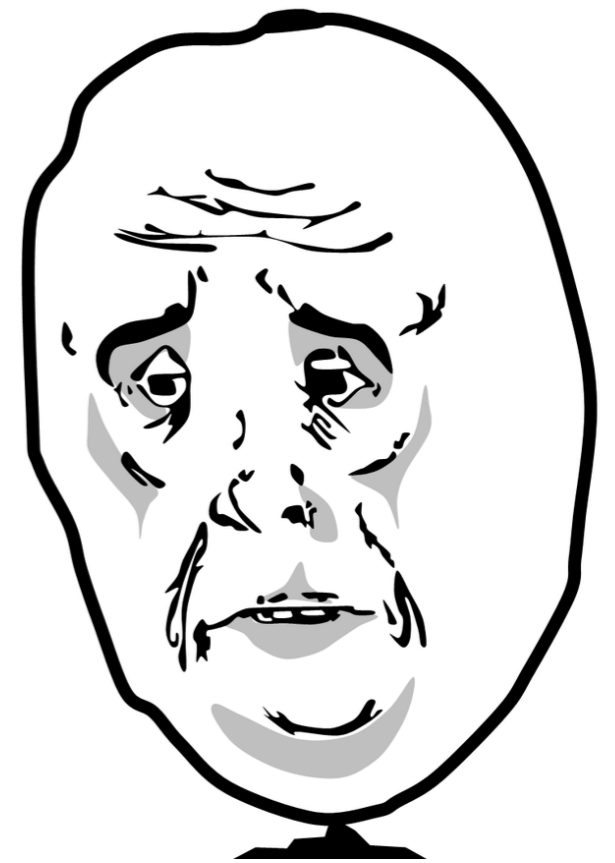


**Tested
infrequently**

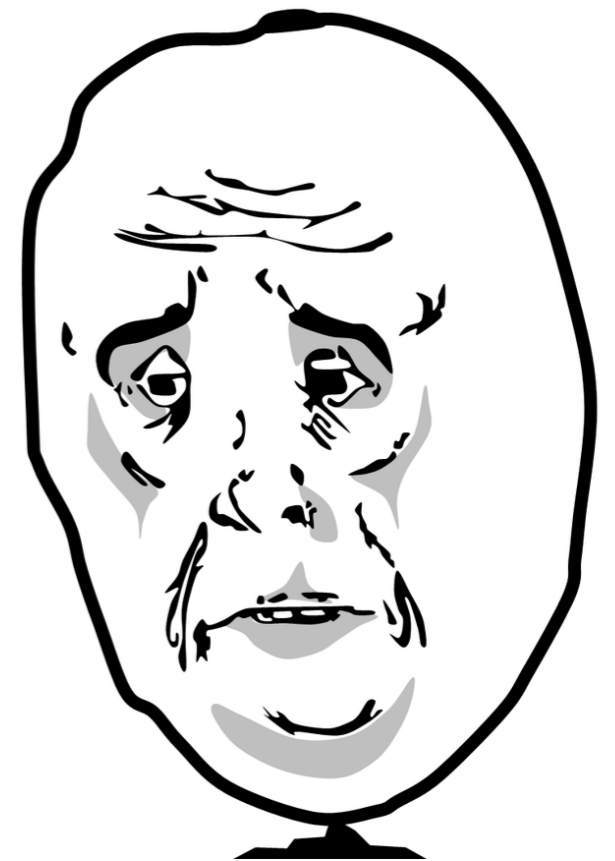




Forgotten roles



Low capacity



Expensive

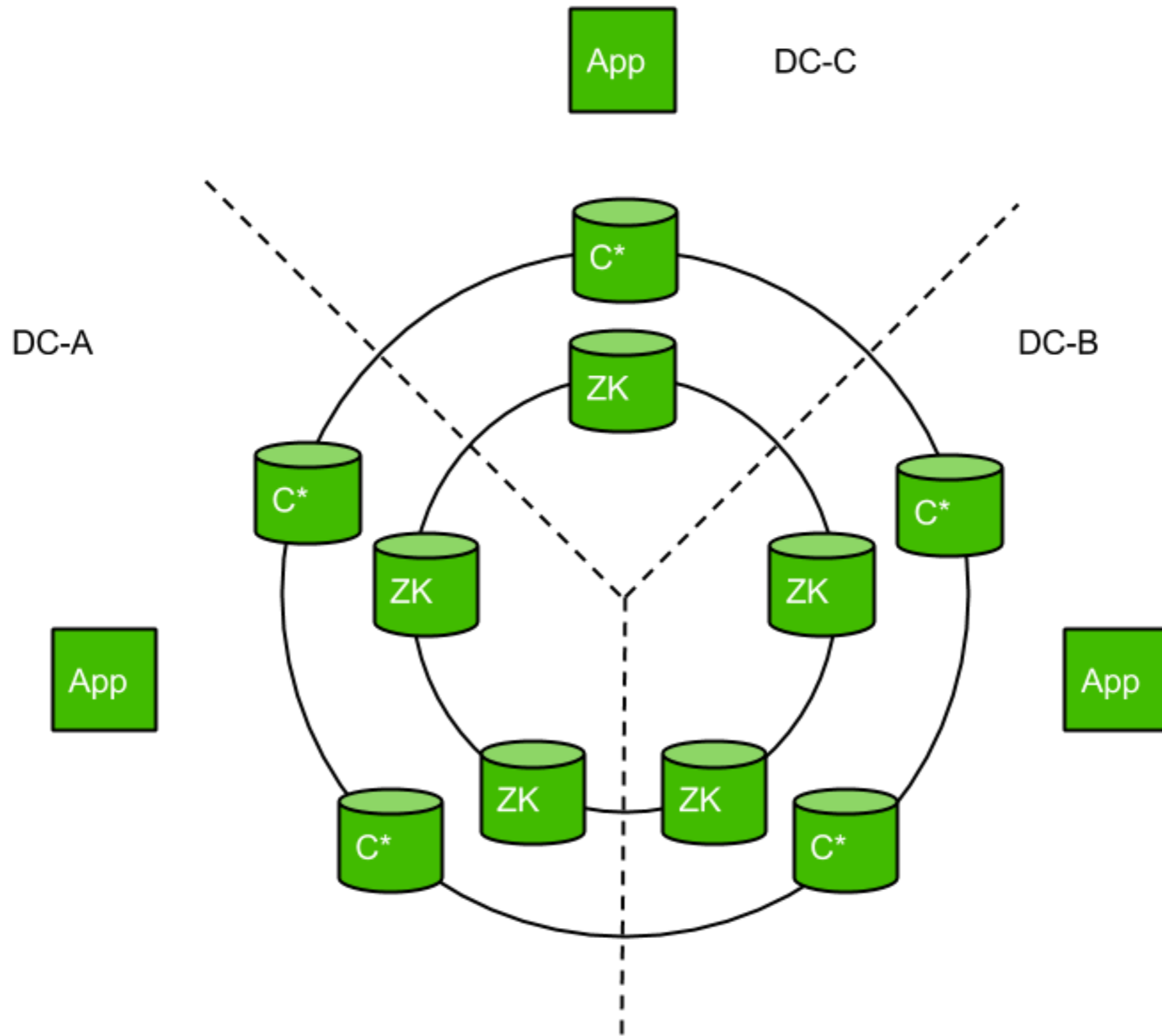


Active / Active

PagerDuty ❤️

Active / Active

Multiple regions
Use all the AZs!



Constant validation

Failure Friday

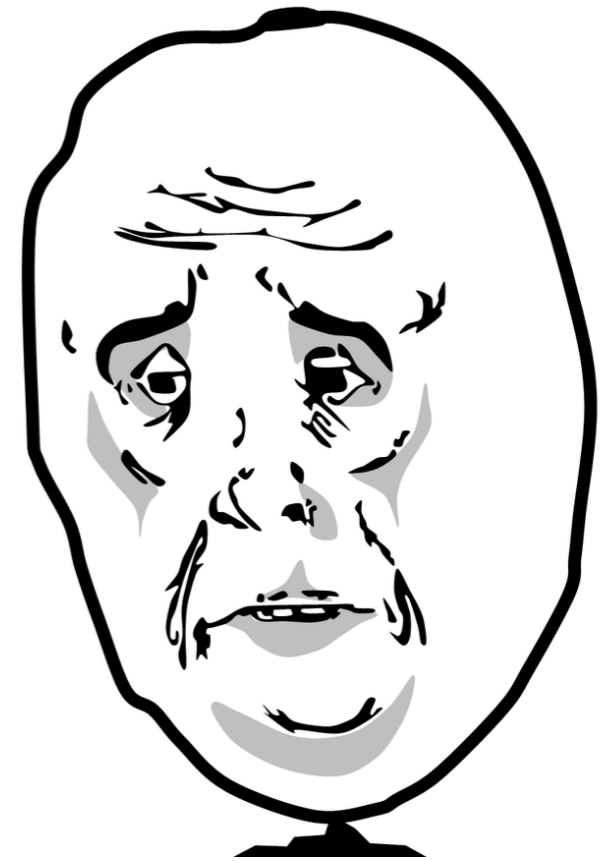
[HTTPS://WWW.PAGERDUTY.COM/BLOG/FAILURE-FRIDAY-AT-PAGERDUTY/](https://www.pagerduty.com/blog/failure-friday-at-pagerduty/)

Trade **latency** for reliability

30ms RTT

Legacy Systems

**Older
systems still
use failover**



Correctness
Capacity
Execution

Correctness

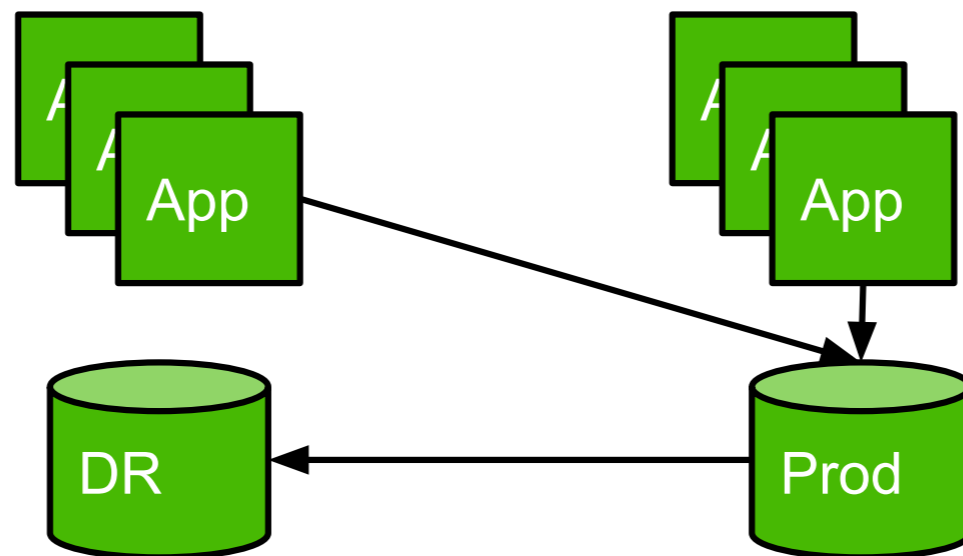
Capacity

Execution

**1% of requests
go to DR site**

**Finds issues
immediately**

Requires DR uses production DB



30ms per DB call

Trade **latency** to
test correctness

Correctness

Capacity

Execution

**DR is a mirror of
production**



CHEEF™

dr-compare.rb

**Checks that DR
footprint is the
same as
production**

Surfaces missing roles

Correctness
Capacity
Execution

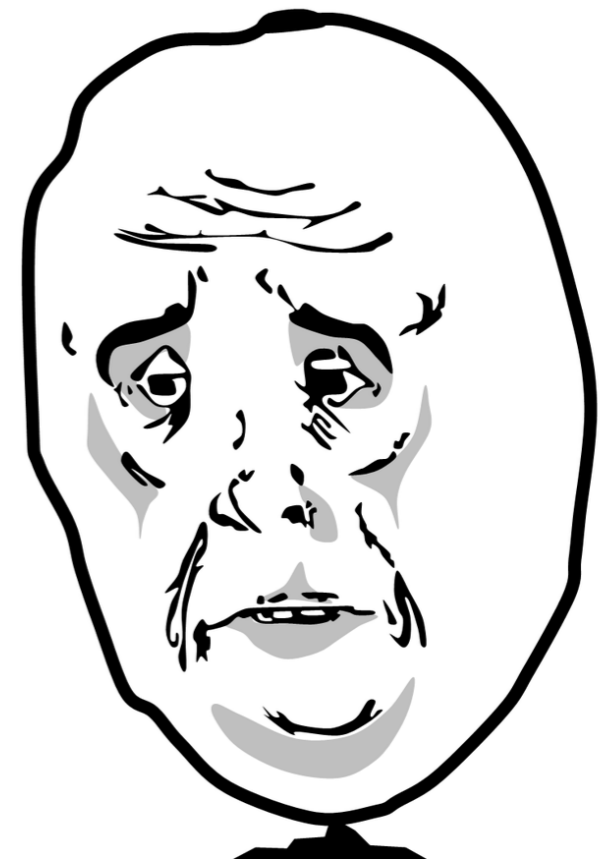
The flip

Production impact

Scale up staging

Practice flip there

**Tested
infrequently**

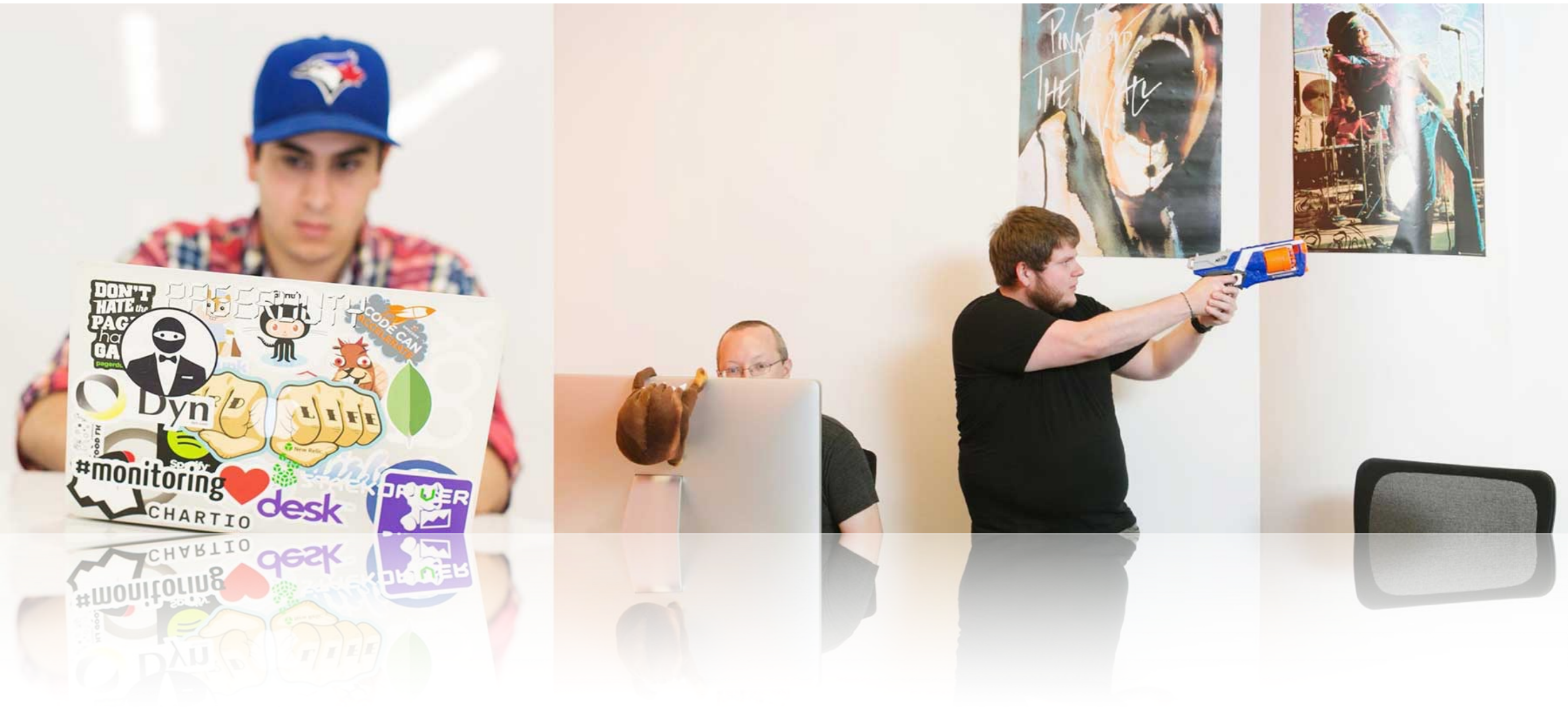


PagerDuty 
Active / Active

Correctness
Capacity
Execution

pagerduty.com/jobs

DOUG@PAGERDUTY.COM



pagerduty

Questions?

doug@pagerduty.com