DEVOPS ENTERPRISE SUMMIT

AN IT REVOLUTION EVENT

GET TOGETHER GO FASTER

October 22-24, 2018
The Cosmopolitan of Las Vegas
Las Vegas, Nevada

Electric Cloud IT REVOLUTION #DOES18

DevOps Progressions

Teaching Old DevOps New Tricks

Andrew Shafer Senior Director of Technology, Pivotal, Inc.

DEVOPS ENTERPRISE SUMMIT
AN IT REVOLUTION EVENT

devops progressions

teaching old devops new tricks

Andrew Clay Shafer
@littleidea

Pivotal™

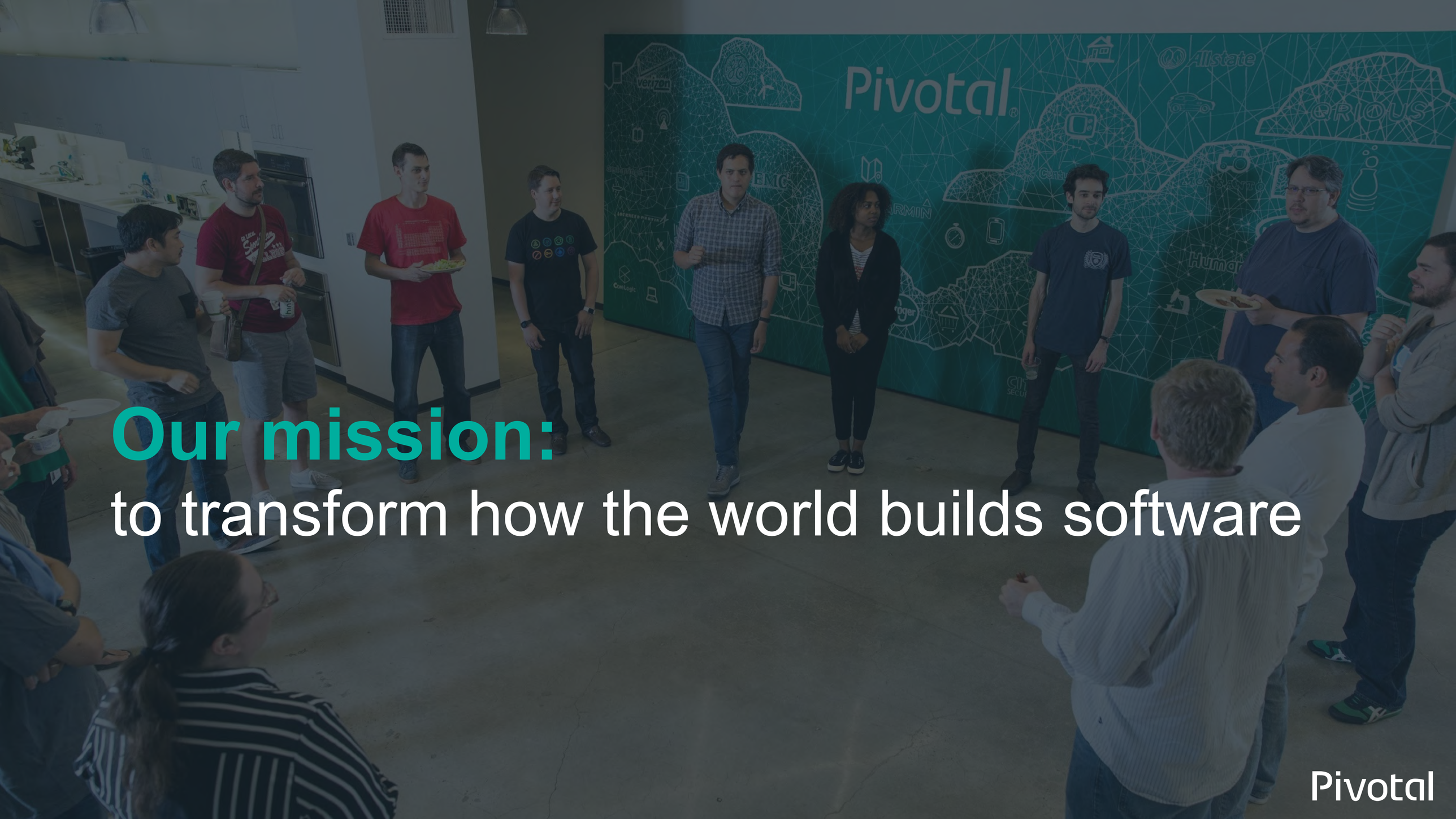
DEVOPS ENTERPRISE SUMMIT

WARNING:
expect to leave with questions

TRIGGER WARNING: none of this is intended as ableist or body shaming, but a celebration of human potential

I would love to have a nuanced conversation about what progress and potential means for anyone starting with their personal constraints and goals.

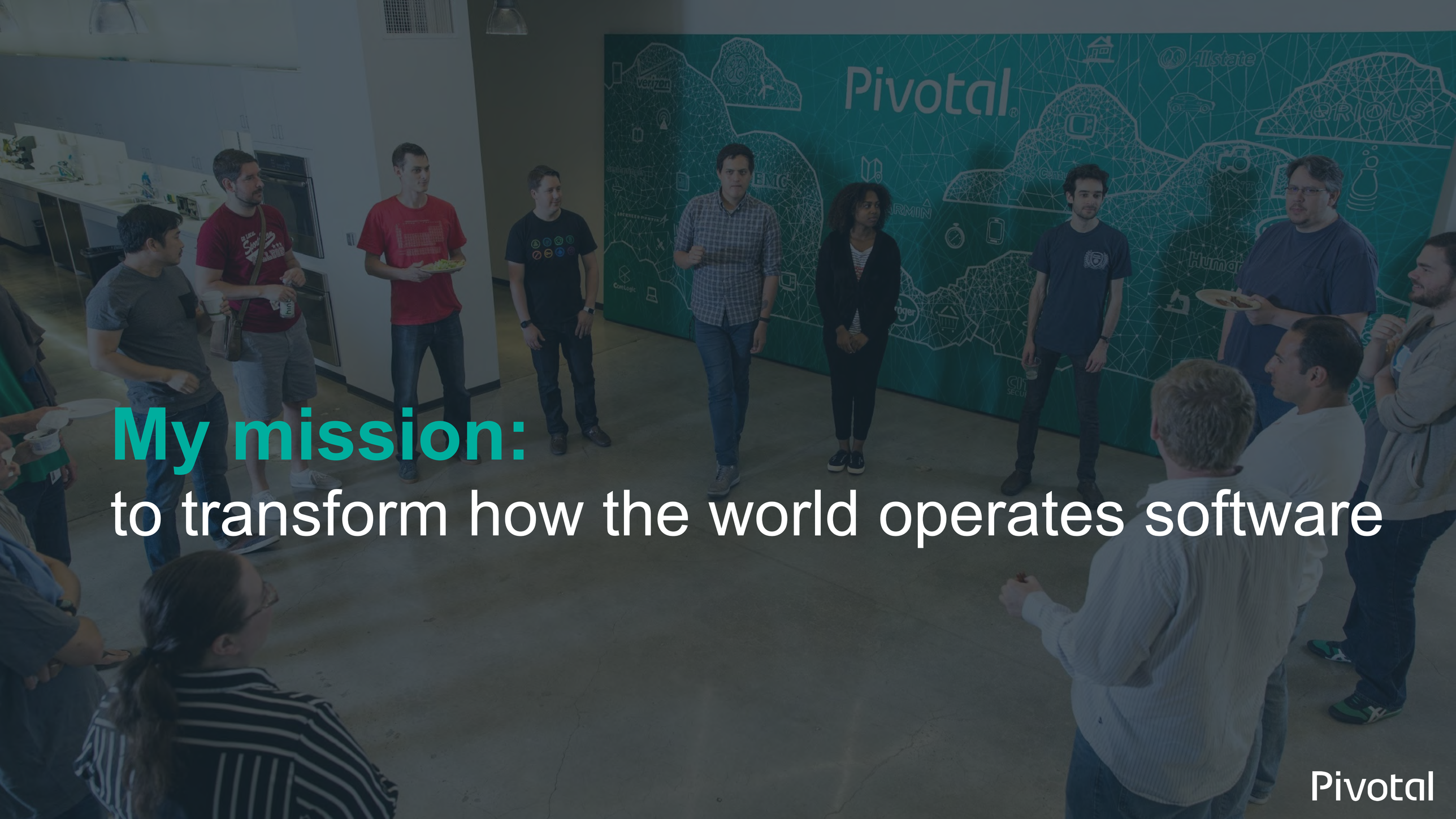
Keep Your Arms And Legs Inside The Ride At All Times



Our mission:

to transform how the world builds software

Pivotal



My mission:

to transform how the world operates software

Pivotal

HOW DO YOU DO?
MUSIC BAND
FELLOW DEVOPS

botchagalupe

@botchagalupe Follows you

Bad people eat good systems for breakfast - Dreming

CZnative @pczarkowski · Sep 28

Couch to 5k program but for Digital Transformation.

Andrew Clay Shafer

Puppet

openstack™

CLOUDFOUNDRY

DEVOPS DAYS

VELOCITY

Pivotal™

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@littleidea

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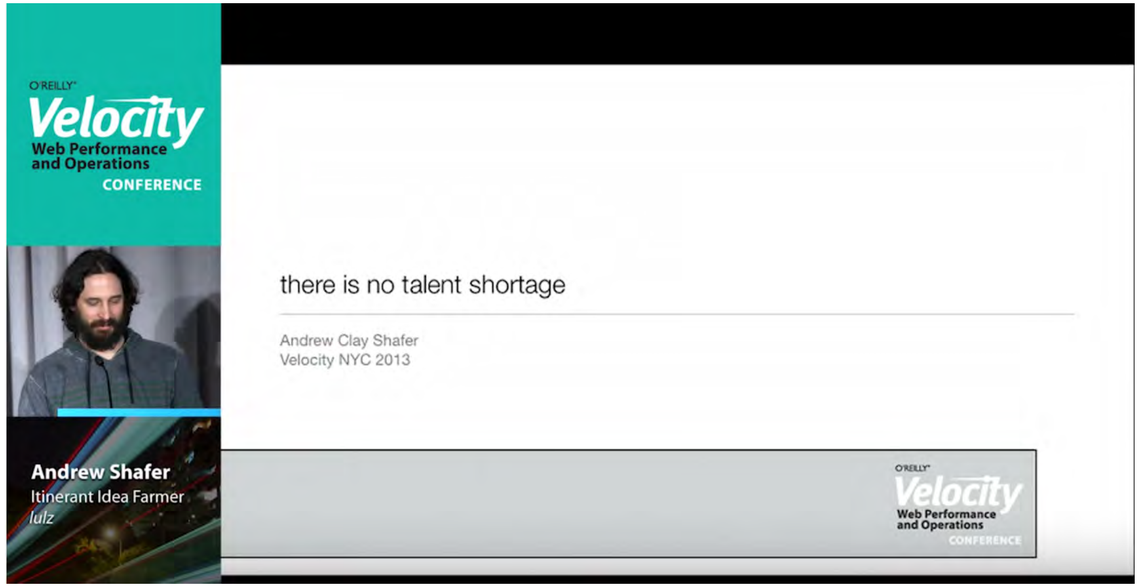
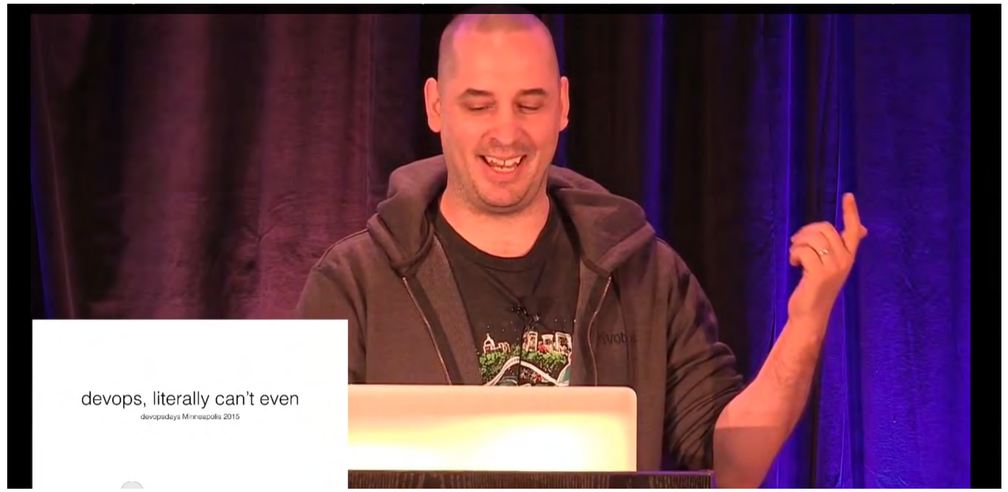
IBM
ware

@littleidea's greatest hits

leading a learning organization



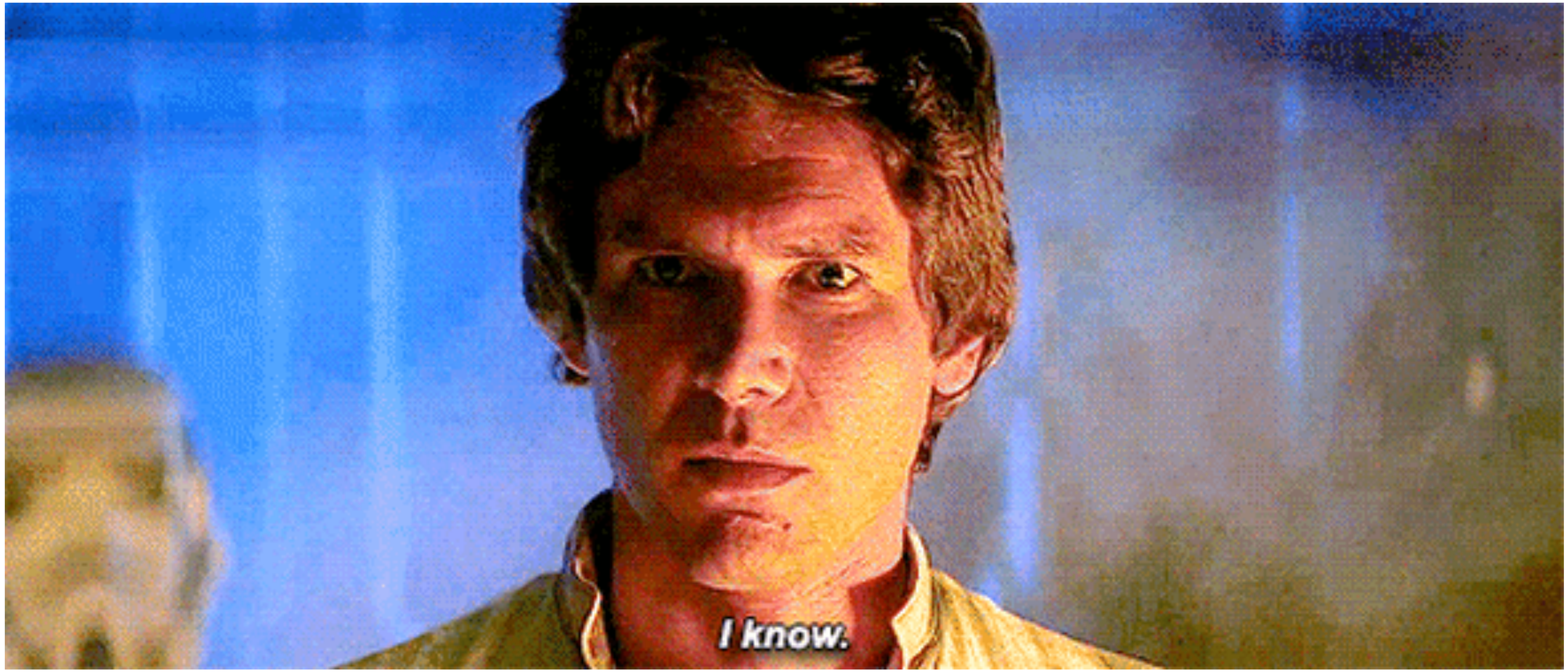


not all devops luminaries

PINE
REAM

Pareto Inefficient Nash Equilibria
Rule Everything Around Me

One of the best devops presentations ever - @botchagalupe



most important devops stuff tl;dr

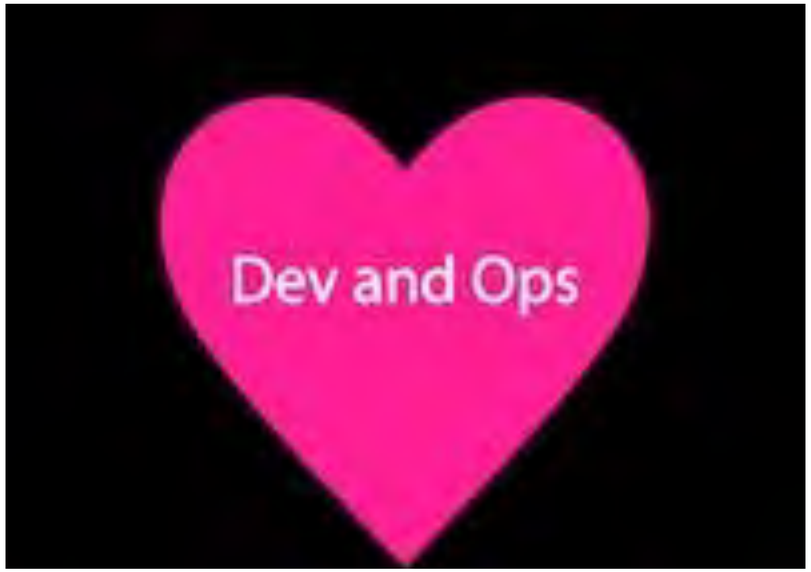
- Learn to Read
- Learn to Write
- Learn to Speak
- Live tweet this talk - @littleidea

I INVENTED DEVOPS

There is no root cause.

Dev
Ops
Little bit weird
Sits closer to the boss
Thinks too hard
Pulls levers & turns knobs
Easily excited
Yells a lot in emergencies

10 deploys per day
Dev & ops cooperation at Flickr
John Allspaw & Paul Hammond
Velocity 2009


Dev and Ops

Andrew Clay Shafer 雷启理
@littleidea

Don't just say 'no', you aren't respecting other people's problems... #velocityconf #devops #workingtogether

Andrew Clay Shafer @littleidea · 23 Jun 2009
Ops: Provide constructive feedback on current aches and pains. #velocityconf #collaborate #**devops**

Andrew Clay Shafer @littleidea · 23 Jun 2009
You can't prevent failure, prepare for it, develop ability to respond to problems quickly and effectively. #velocityconf #**devops** #firedrills

Andrew Clay Shafer @littleidea · 23 Jun 2009
Everyone needs to trust that everyone else is doing their best for the business. #**devops** #velocityconf

Andrew Clay Shafer @littleidea · 23 Jun 2009
Don't just say 'no', you aren't respecting other people's problems... #velocityconf #**devops** #workingtogether

3 4

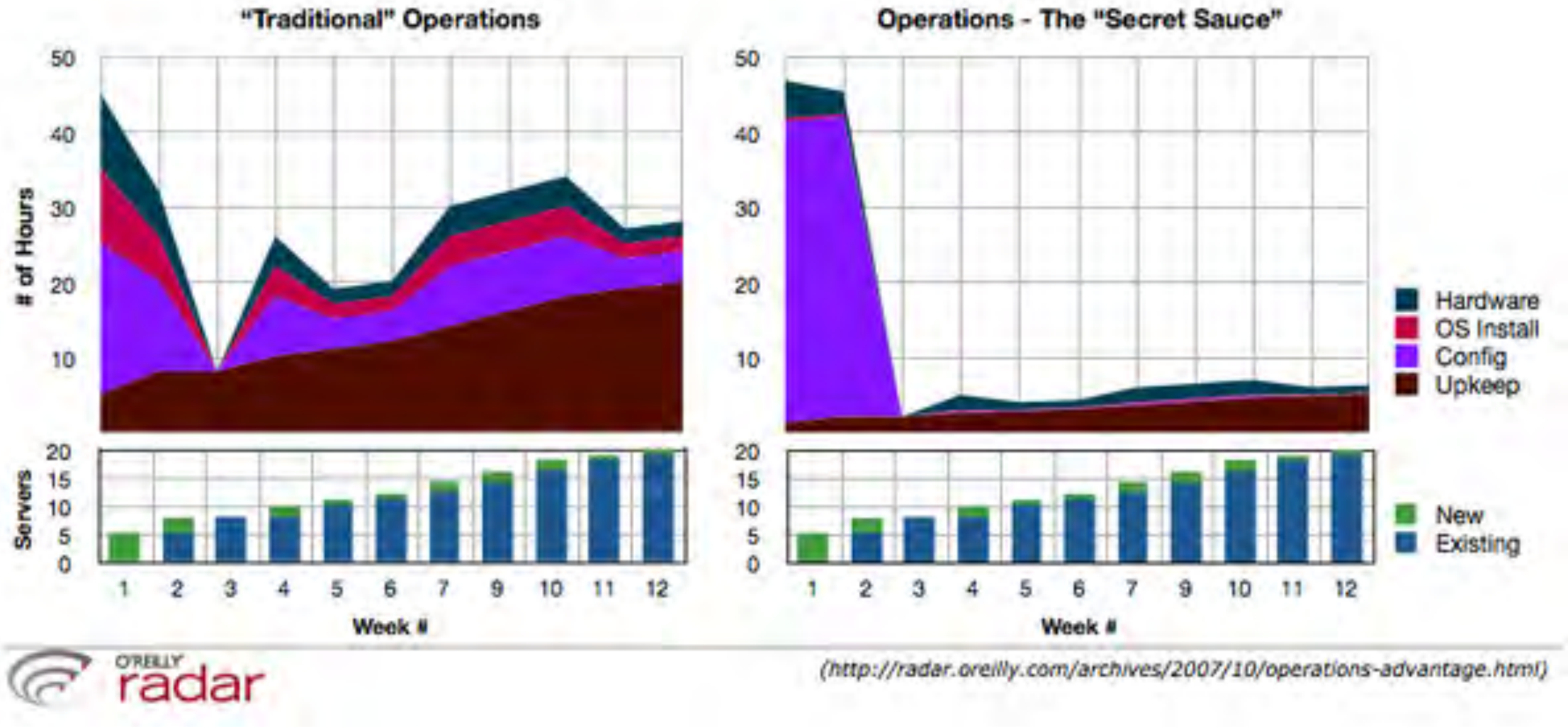
2009 Gent, Belgium

Patrick DeBois

“The traditional model is that you take your software to the wall that separates development and operations, and throw it over and then forget about it. Not at Amazon. You build it, you run it. This brings developers into contact with the day-to-day operation of their software. It also brings them into day-to-day contact with the customer. This customer feedback loop is essential for improving the quality of the service.”

–Werner Vogels, CTO Amazon

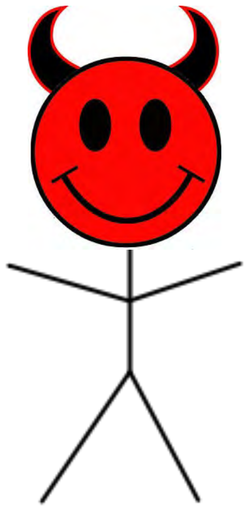
2006



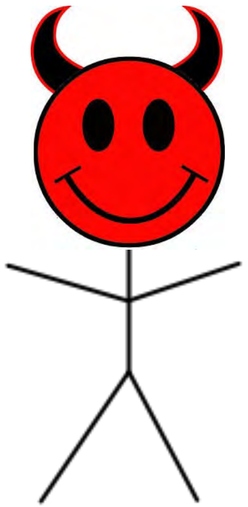
Operations is the secret sauce

2007

Traditional IT



dev



ops

wall of confusion

2008

Opposing Forces

dev

Destabilize

ops

Stabilize

Time Eternal

2006

before cloud

B.C.

2009

after devops

A.D.

every devops conversation happened by 2010

devops conversations are not evenly distributed

I ‘invented’ the devopsdays format

captured the gestalt with an insatiable appetite for information and a brain wired to compress everything into pithy one-liners

we’ve been saying this stuff for 10 years now

Are things getting better?

probably

Are things more confusing?

most def

Are things done changing?

LOL

So why are we here?

Digital Transformation

recap

tl;dr

you are building a software company

or losing to someone who is

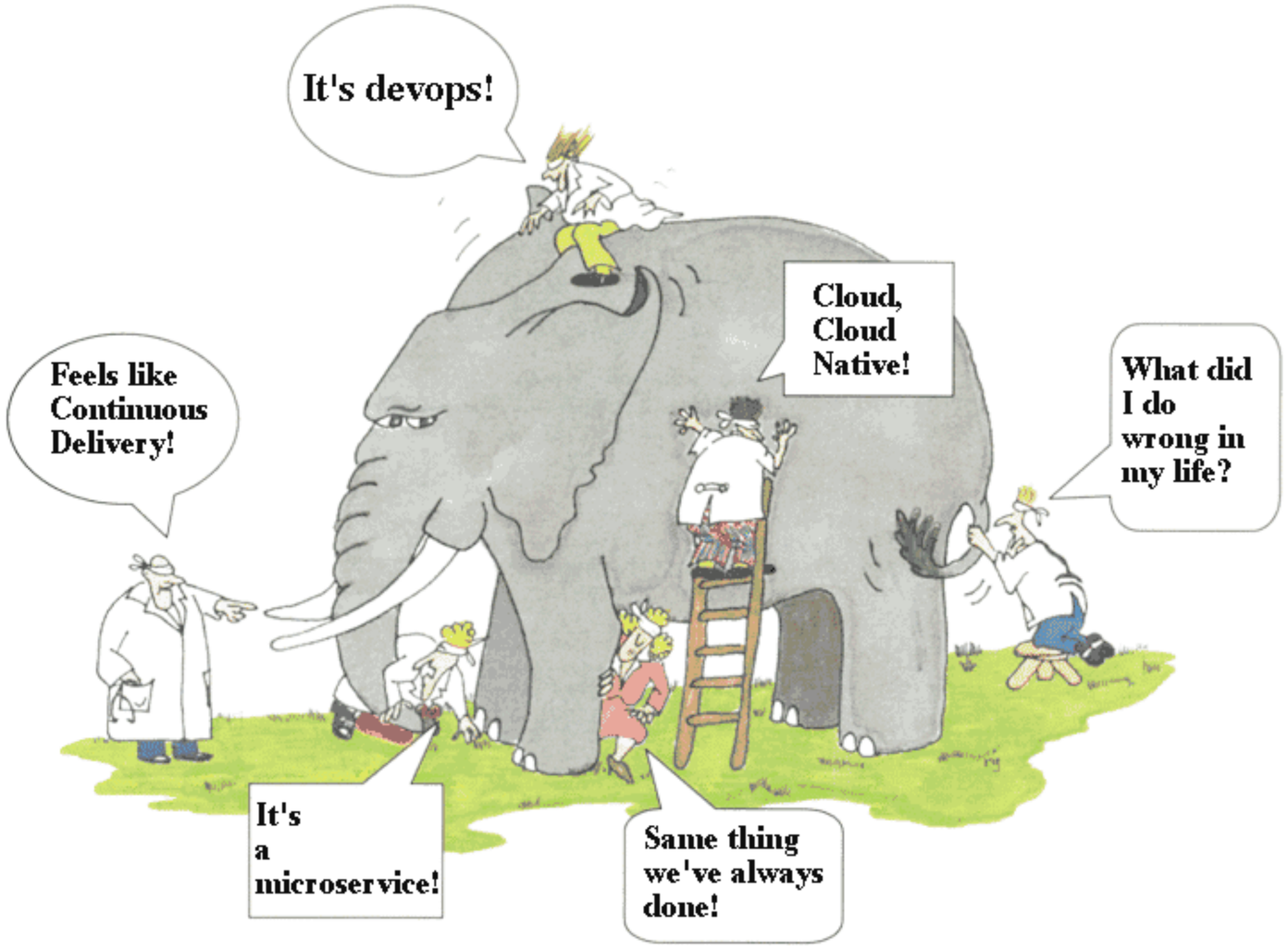
tl;dr

you are continuously devopsing microservices

or losing to someone who is

continuous delivery,
devops,
microservices…

These things are all one…



cloud native blah blah blah

just words

Software is Eating the World

BS

Software just all of a sudden got hungry?

what is disrupting everything are the experiences being created

super computers everywhere
connecting all human knowledge
with high speed networks

software is most important when it accomplishes something in reality

Not just software for software sake

Few things are more expensive than building software that doesn’t matter

every aspect of human performance and experience that can be optimized

will be

“We are not a tech company.”

– leadership at a company being disrupted right now

@littleidea's definition of devops™:

optimizing human performance and experience operating software…

with software…

and humans

Andrew Clay Shafer 雷启理
@littleidea

Replying to @jaydestro @tmhall99 and 8 others

if the devops cabal could all agree on a single pithy collection of words everything would be fixed and we could finally all implement devops perfectly

tl;dr

you are building a learning organization

or losing to someone who is

learning is sustainable advantage

learning is changing behaviors

learning is changing behaviors

learning is
changing behaviors

learning is changing behaviors

not enough to collect trivia

must be put into practice

there is no digital transformation

without people transformation

I made a mistake.

I failed.

I got excited about organizational learning.

I told people they should learn.

The people that needed to learn the most still couldn’t and the people who could learn the best didn’t need to hear that.

giving people information they aren’t ready for can be worse than lying

giving people exercises they aren’t ready for can be harmful

But I can learn, I can get better

I can change my behavior

234 lbs

January 10, 2018

weighed for life insurance

‘borderline obese’

Two Phases

- Goal May 20: 200 lbs
  - Ketogenic & 1050 active calories per day
- Goal Sept 24: 185 lbs
  - Intermittent Fasting and Caloric Budget

18 45

Transformation

- Lost >50 lbs
- Lost 5 inches on belt
- Lower blood pressure
- Lower resting heart rate
- Stopped snoring

DIET & EXCERCISE

1 pound at a time

60/40…80/20…90/10

Progressive Improvements

Specific Adaptation to Imposed Demands

WAS IT EASY?

WAS IT FUN?

Yes

easy and fun

Accomplishing goals is a great feeling that gives us the motivation to set new ones.

my new goals are capabilities

50 strict pushups & 10 strict pullups by January

Midlife crisis FTW

I implemented diet and exercise.

Transformation is not an event.

Transformation is the progressive accumulation of habits.

100 pushups and 40 pullups every morning

WE IMPLEMENTED DEVOPS

I guess my work here is done.

Implementing devops
is not a thing

Nor is there such at thing as implementing Agile™

There is nothing SAFe about software.

Also, SCRUM is a terrible disease, see me after class.

devops is never done

don’t settle
we have so much more potential

- @osvaldo_lugones Thenx Insane Birthday https://www.youtube.com/watch?v=YxC6A8zssL4
- thenx.com
- gmb.io
- originalstrength.net

Miscellaneous Chart – Push and Pull Combo: Muscle-ups, Elbow Levers, Flags; Core; Squat and Legs works the Quads, Glutes, and Hamstrings.										
Column #			1	2	3	4	5	6	7	8
Book Page #			523	539	543	545	549	551	560	569
	FIG	Level	Muscle-ups / Inv MUs	Elbow Levers	Flag	Ab Wheel	Rings Statics	Rings Kip Skills	Rings Felge Skills	Squats
Beginner	Basic Skills	1							(Forward = Fwd)	Parallel Squat
		2				25s Plank			(Backward = Bwd)	Full Squat
		3	MU Negatives			60s Plank				Side to Side Squat
		4	Kipping MU			1 Arm 1 Leg Plank				Pistol
	A-Level Skills	5	Muscle-ups	Two-Arm EL	Tuck Flag	Knees Ab Wheel	RTO L-Sit		Felge Fwd Tuck to Sup	1.2x BW Pistol
Intermediate		6	Wide / No FG MU	R Two-Arm EL	Adv Tuck Flag	Ab Wheel Ramp	RTO Str-L	Kip to Support	Felge Fwd Pike / Bwd Tuck	1.35x BW Pistol
		7	Strict Bar MU	OA Straddle EL	Straddle Flag	Ab Wheel Ecc	Back Lever	Back Kip to Sup	Felge Bwd Pike to Sup	1.5x BW Pistol
		8	SFL MU ATPL / L-Sit MU	OA SB EL	Full Flag	Full Ab Wheel	Front Lever			1.65x BW Pistol
	B-Level Skills	9	OA Straight MU			Ab Wheel + 20 lbs	R 90 Deg V-Sit	SA Kip to L-Sit		1.8x BW Pistol
Advanced		10	Felge Bwd SB to Sup			OA Ab Wheel	Cross / Str PL	SA Back Kip to Sup	Felge Fwd SB to Sup	1.9x BW Pistol
		11	FL MU Str PL					Back Kip to HS	Felge Bwd SB to Sup	2x BW Pistol
		12	Felge Bwd SB to HS						Felge Bwd SB to HS	
	C-Level Skills	13						SA Kip to V-Sit/Cross	Felge Fwd SA to Cross	
Elite		14	SB Rotation to HS				Full Planche	Back Kip to Cross	Felge Fwd SA to Str PL	
		15	Butterfly Mount					Back Kip to Str PL	Felge Fwd SA SB to HS	
		16	(L17) Elevator				Inv Cross			

step by step progressions

starting from 0

STOP READING. TAKE ACTION.

Set SMART goals

SMART

- Specific
- Measurable
- Action Oriented
- Realistic
- Time-Bound

devops - calms

- culture
- automation
- (lean)
- metrics
- sharing

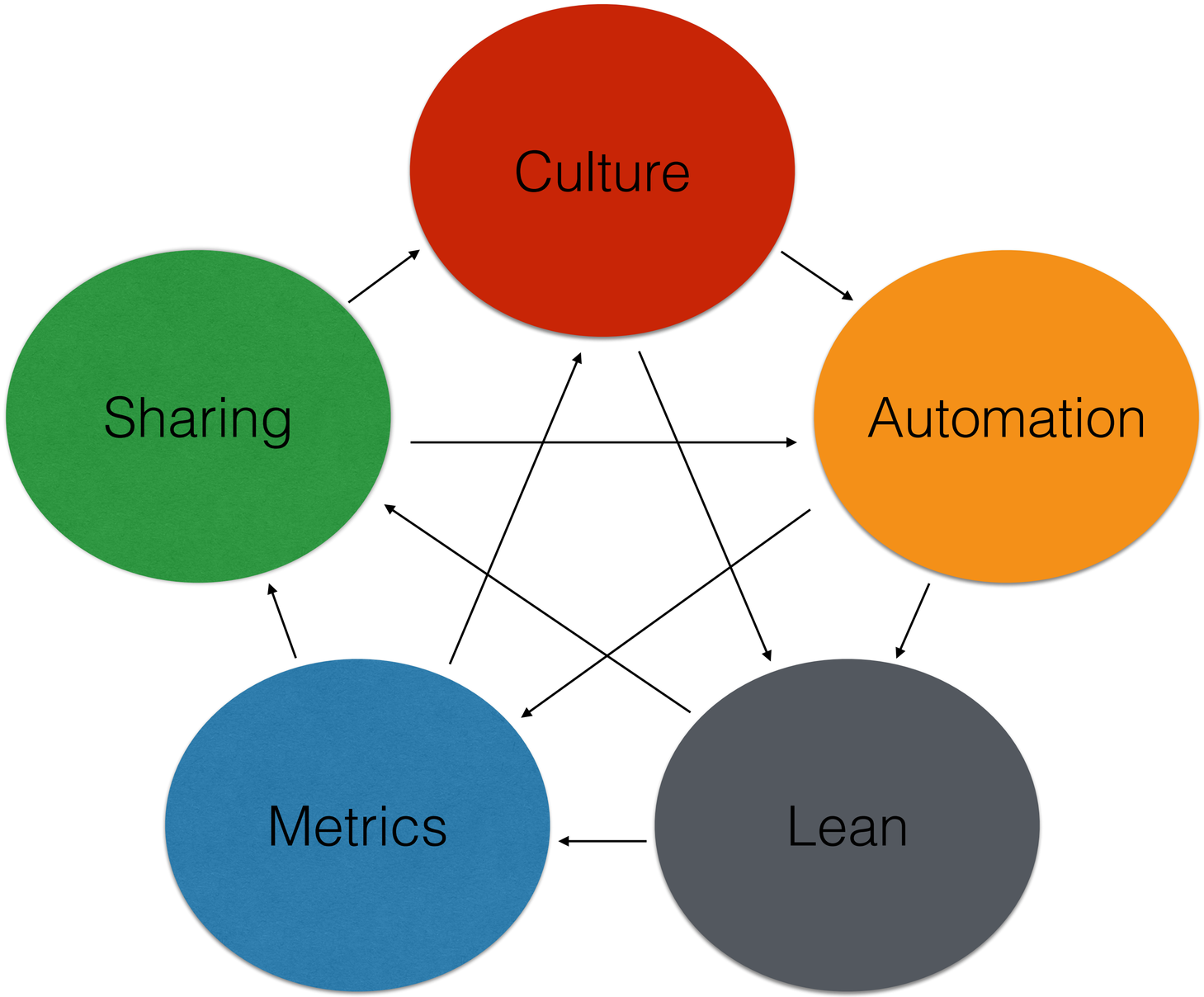
Damon Edwards and John Willis
(plus Jez Humble)

THE ‘CALMS’ TEST

this is the devops

what does that mean?

what am I supposed to do now?



I'm allegedly writing a book

Westrum Topology Culture

Pathological (power-oriented)	Bureaucratic (rule-oriented)	Generative (performance-oriented)
Low cooperation	Modest cooperation	High cooperation
Messengers shot	Messengers neglected	Messengers trained
Responsibilities shirked	Narrow responsibilities	Risks are shared
Bridging discouraged	Bridging tolerated	Bridging encouraged
Failure leads to scapegoating	Failure leads to justice	Failure leads to enquiry
Novelty crushed	Novelty leads to problems	Novelty implemented

Automation (And Architecture)

Manual	Scripted	Platform
toil	effort	directed
catastrophic failure	disaster recovery	self healing
incidents	MTTR	continuous partial failure

Metrics

unmonitored	measured	insightful
no info	data	SLI
ssh	aggregation	dashboards
never gets done	secondary	observability built in

Sharing

hidden	available	ambient
can’t find	searchable	cultivated
strong silos	publish info	share personally
everything is secret	secret to company	global community

Lean Subsumes ALL the Things

ignore what a terrible metaphor manufacturing is for software

Continuous Improvement

改善

Kai = Change Zen = Good

complacent motivated inspired

CALMS sounds better than CAMS

¯_(ツ)_/¯

culture	automation	lean	metrics	sharing
pathological	manual	complacent	nothing	hidden
bureaucratic	discrete	motivated	measurement	available
generative	continuous	inspired	insight	ambient

mixing the elements

- pathological cultures can be automated
- automation can be unmonitored
- metrics can be hidden
- generative cultures can toil
- good enough can stagnate

everyone wants the devops

Well actually…

what they really want

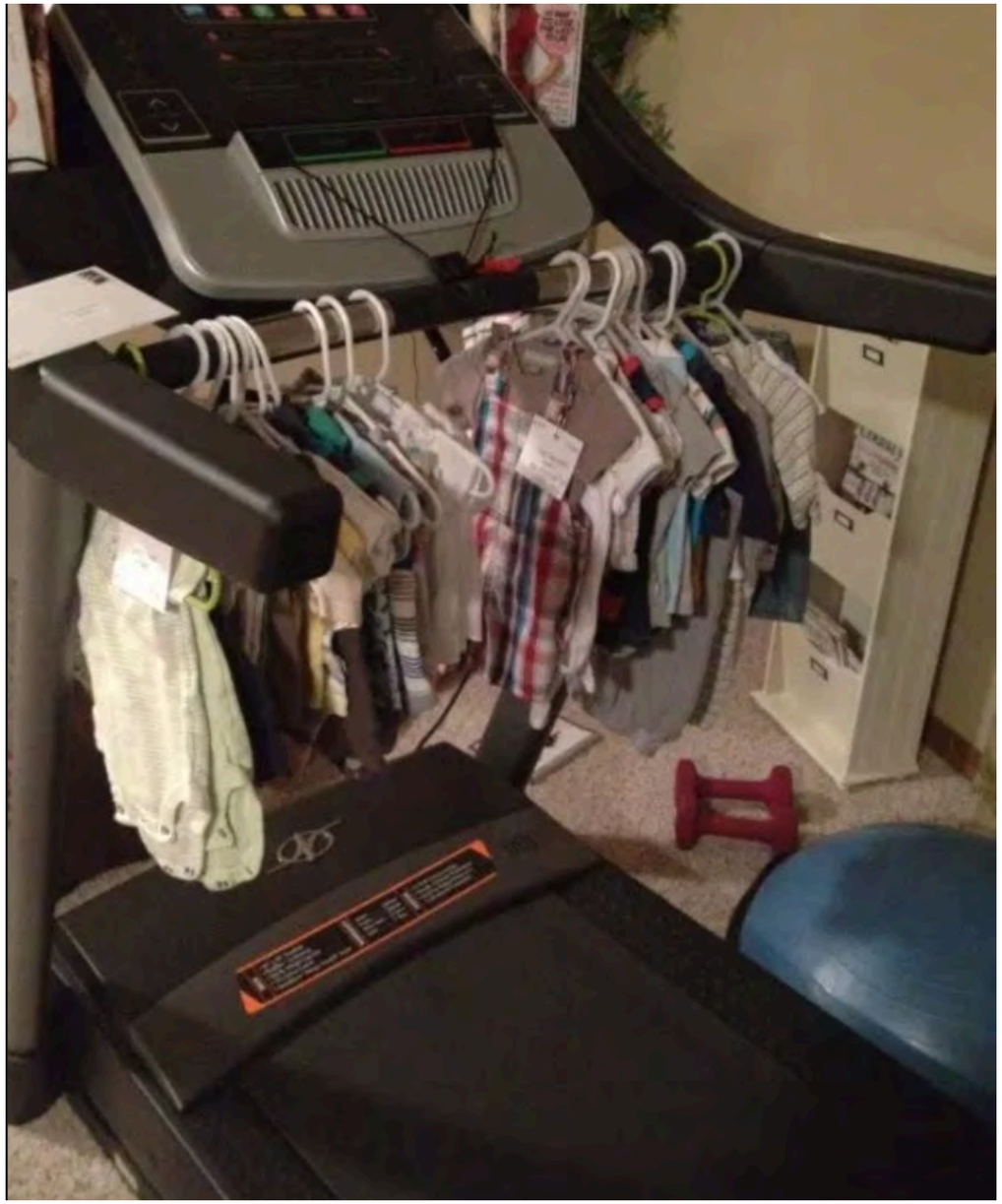
- scalability
- availability
- reliability
- operability
- usability
- observability
- all for free
- without changing anything

without changing anything

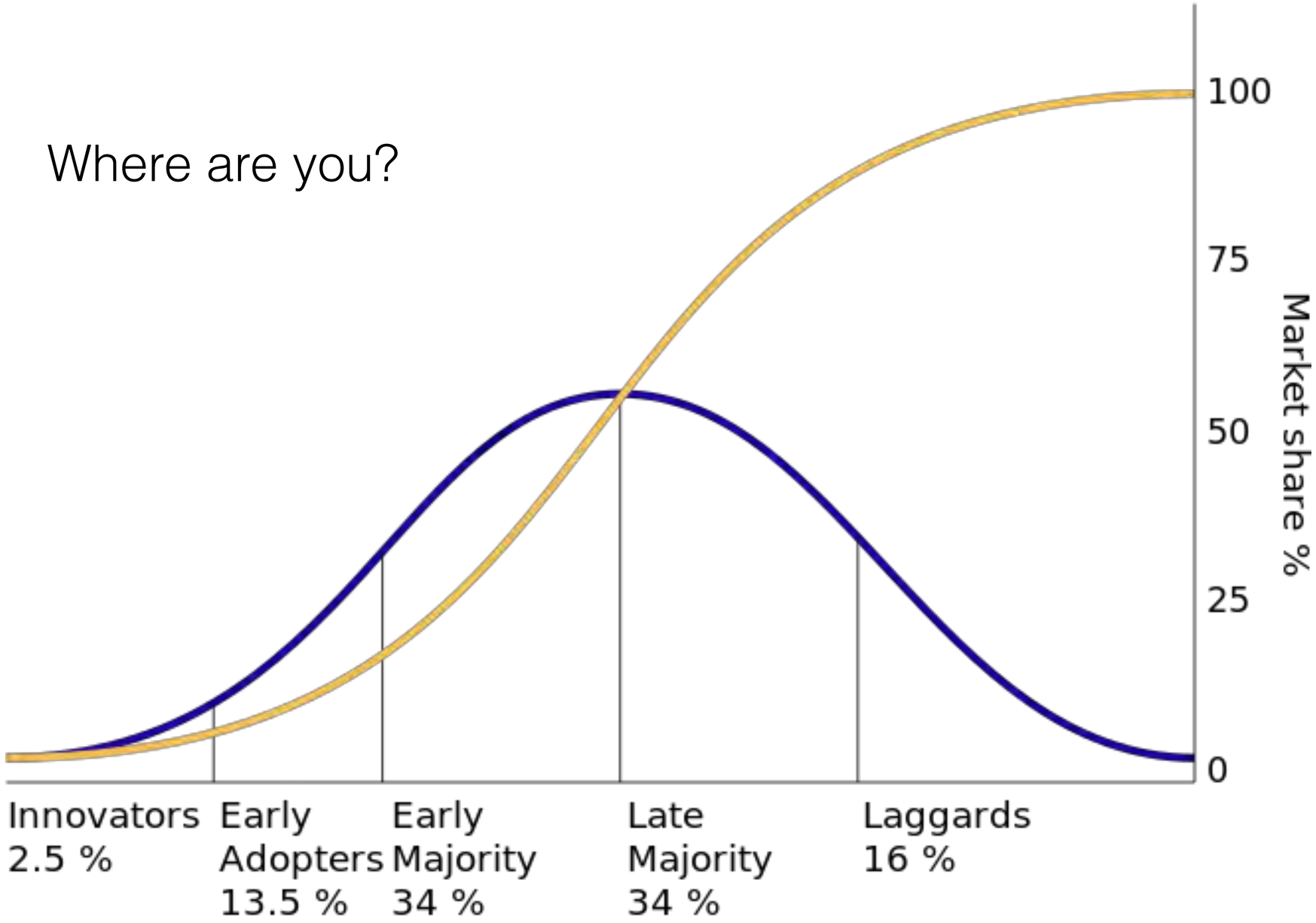
without changing anything

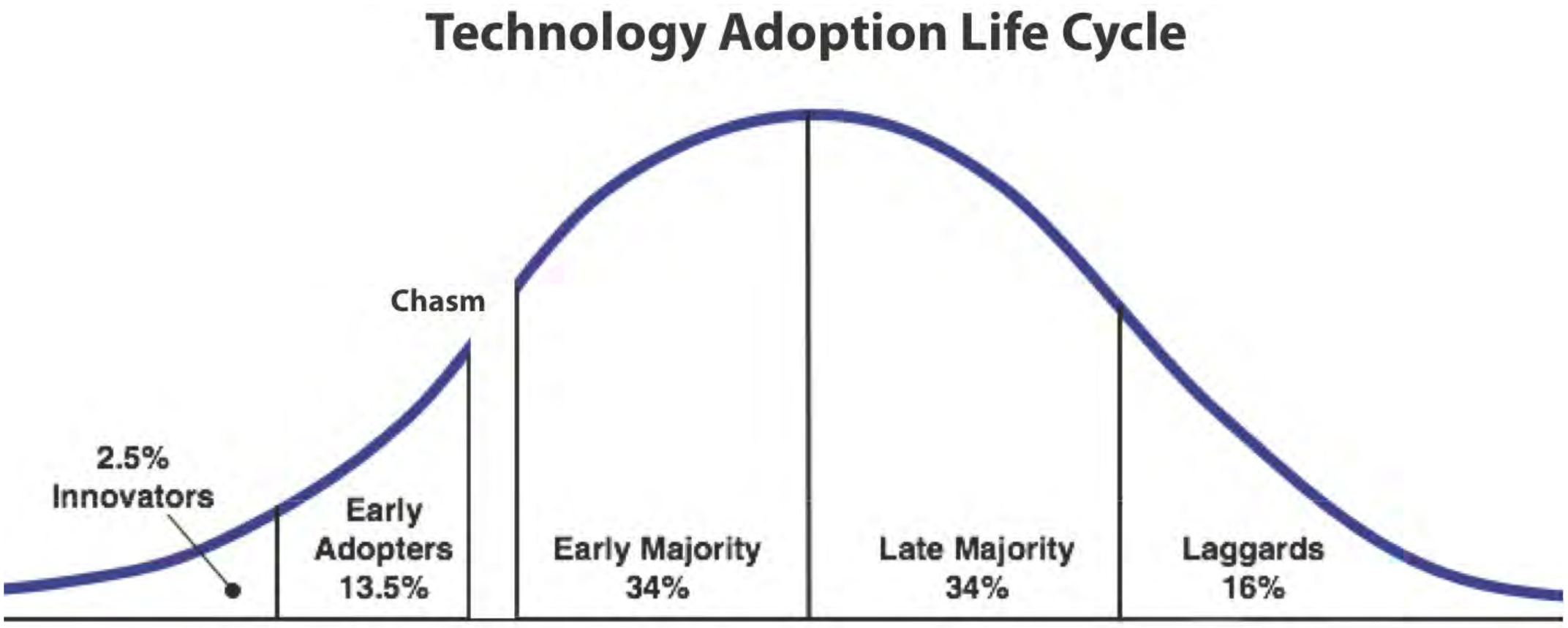
without
changing anything

we have the devops because we bought the best devops tool and changed all the titles



Where are you?





seeking advantage

seeking legitimacy

‘majority’ just change the words

don’t want to forget
‘how we do things here’

ok, ok, but if we have to change…

can you tell us exactly what to do?

No

No

No

no one can tell you exactly

no one has your context

no one has your strengths

no one has your weaknesses

I can tell you what I have seen

I can tell you what I believe

I can believe in you

but I can’t believe for you

I can help you set goals

realistic goals

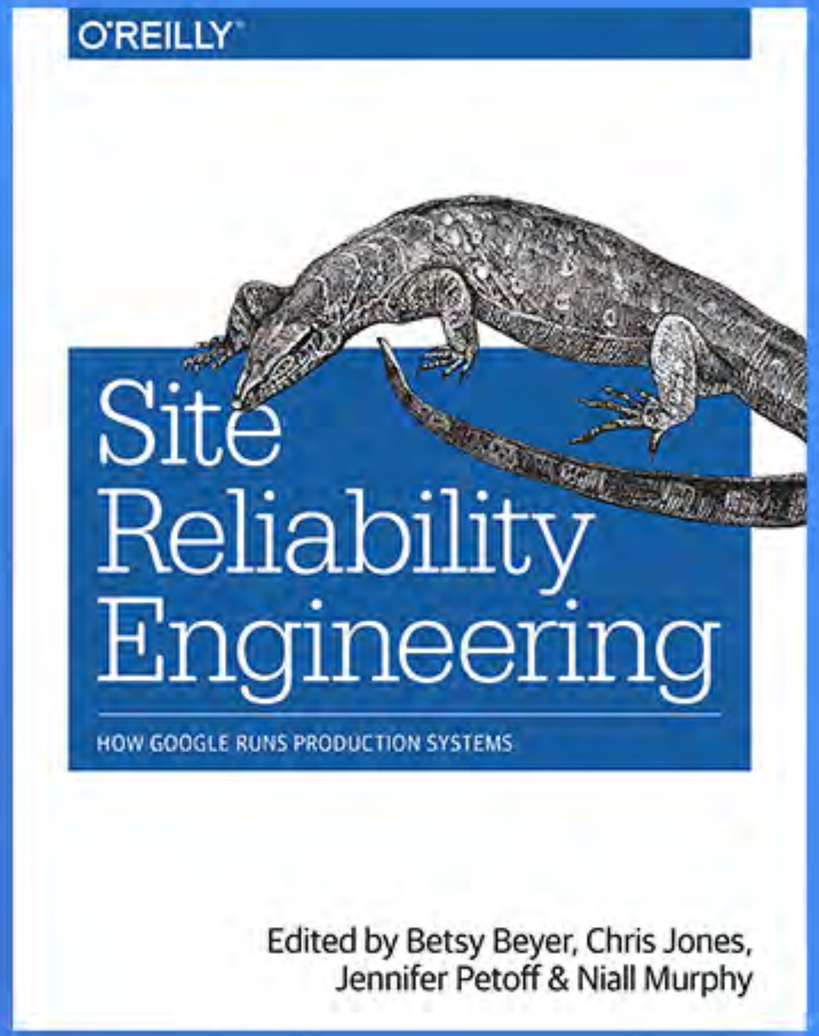
‘implement devops’ is a weak goal

strong goals look suspiciously like ‘SLO’

Homework

- Embracing Risk
- Service Level Objectives
- Eliminating Toil

Bonus: Communication and Collaboration in SRE



Site Reliability Engineering

Edited by Betsy Beyer, Chris Jones, Jennifer Petoff and Niall Richard Murphy

Members of the SRE team explain how their engagement with the entire software lifecycle has enabled Google to build, deploy, monitor, and maintain some of the largest software systems in the world.

READ ONLINE FOR FREE

BUY FROM GOOGLE BOOKS

https://landing.google.com/sre/book.html

Google’s devops implementation

SRE - calms

- ✓ culture
- ✓ automation
- ✓ lean
- ✓ metrics
- ✓ sharing

good devops copy

great devops steal

The SLO Test

what are your objectives?

how do you know you are meeting them?

Changing the words from devops to SRE won’t help

Innovations Build On Each Other

2.5%
Innovators
Early
Adopters
13.5%
Early Majority
34%
Late Majority
34%
Laggards
16%

2.5%
Innovators
Early
Adopters
13.5%
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Early Majority
34%
Late Majority
34%
Laggards
16%

冨嶽三十六景 神奈川沖浪裏

no one can TELL you
exactly how to surf

you have to get in the water

you have to feel it

be willing and able to fall

the desire to surf must
overcome the fear of falling

in one magic ‘instant’
you can suddenly surf

instant of accumulated
PROGRESS!

WARNING:
surfing is hard

WARNING:
software is hard

software was always hard

often feels like this

the desire to software must overcome the fear of failing

are you doing ‘devops’?

who cares

are you making progress?

are you better today than yesterday?

Joy

Ease

Love

Results

software is hard

humans is harder

Opposing Forces

humans

terrible

humans

awesome

you are probably a human

humans can learn

You haven’t learned anything until you change your behavior

“I don’t have time to learn new things because I’m too busy getting things done!”

- least productive person in the world

saying ‘devops’ doesn’t fix pathological culture

saying ‘devops’ doesn’t align incentives and interests

software is creative

software is complex

software is not digging ditches

software is not running factories

software is closer to art than science

new behaviors > new words

Principles > Practices >Tools

mindset > skillset > toolset

adapt > adopt

why > what

smart motivated people working together

‘the best methodology’

Call to Action

- be smart
- be motivated
- work together
- change your behavior
- change your behavior
- change your behavior

Digital Transformation

1 pound of progress at a time

Thank You

I’m not here to answer questions.

I’m here to have conversations.

Pivotal™

We are uncovering better ways of developing software,

by doing it and helping others do it

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Electric Cloud IT REVOLUTION #DOES18