

# SRE As She Is Spoke

Andrew Clay Shafer

**SRE  
CON**

EUROPE  
MIDDLE EAST  
AFRICA

Ergonautic   
*Stop Chasing Buzzwords  
Start Working Better*



*Stop Chasing Buzzwords  
Start Working Better*

# Prologue

*We don't think and talk about what we see,  
we see what we are able to think and talk about.*

– Edgar Schein

If you talk to a man in a language he understands, that goes to his head.  
If you talk to him in his language, that goes to his heart.

—Nelson Mandela

Americans who travel abroad for the first time are often shocked to discover that, despite all the progress that has been made in the last 30 years, many foreign people still speak in foreign languages.

—Dave Barry

We are defined by the stories we tell...  
by the stories we can tell...  
by the stories we want to tell...  
and by the stories we don't...

# Introduction

# Andrew Clay Shafer

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Andrew Clay  
Shafer

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Andrew Clay  
Shafer

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Andrew Clay  
Shafer

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@littleidea

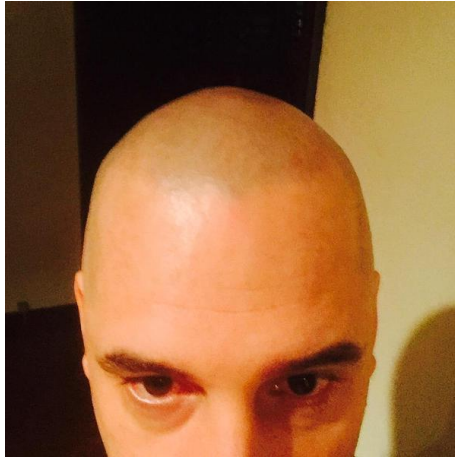


Andrew Clay  
Shafer

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@littleidea





# Prelude

Once upon a time,  
I was a software  
developer

and I hated Agile



strongly disliked

the story did  
not make sense

banal and insipid  
ritual without reason  
unquestioned  
and not helping

but then I found  
something



technical practice  
that made sense  
to me  
at the time

fast forward >>

then I invented DevOps





This is  
embarrassing

I didn't invent DevOps

I stole it

good DevOps copy

great DevOps steal

Dev



Little bit weird  
Sits closer to the boss  
Thinks too hard

Ops



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](#)





2009 Gent,  
Belgium



Patrick  
DeBois

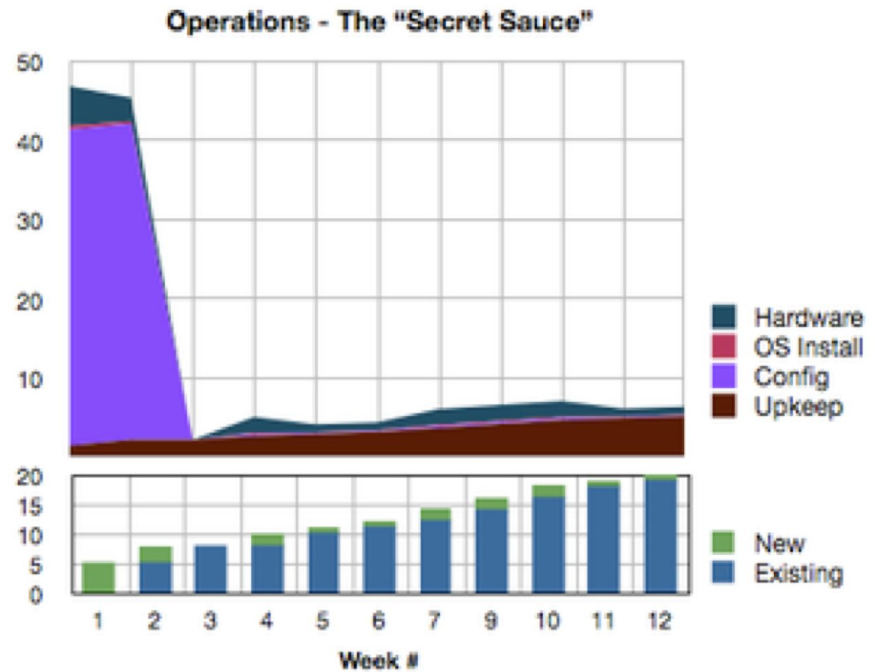
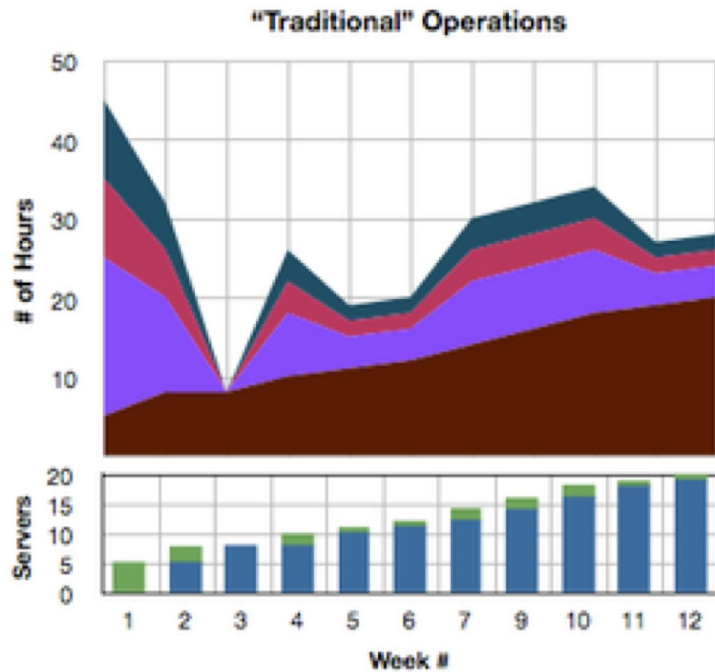


“The traditional model is that you take your software to the wall that separates development and operations, and throw it over and then forget about it. Not at Amazon. You build it, you run it.

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

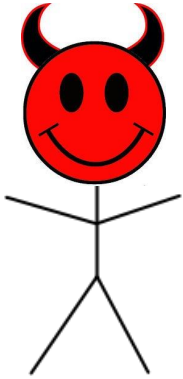


(<http://radar.oreilly.com/archives/2007/10/operations-advantage.html>)

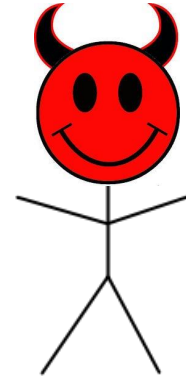
Operations is the secret sauce

2007

# Traditional IT



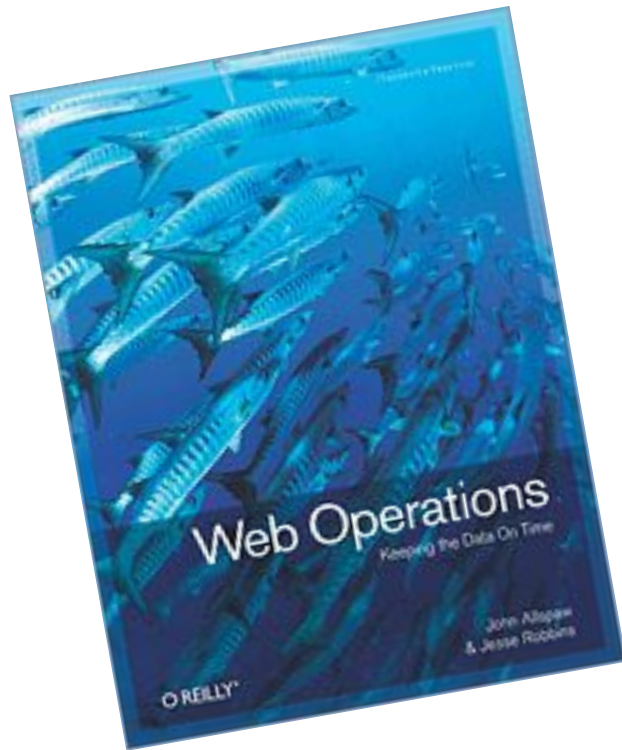
dev



ops

wall of confusion

2008



Agile Infrastructure

2009

2006

before cloud

B.C.



2009

after devops

A.D.

met at an Agile  
conference

# extending Agile to running software

No one decided to DevOps,  
DevOps evolved from necessity



evolutionary  
pressure to deliver

# Software as a Service

- At scale
- That never stops
- And never stops changing

my motive:  
competitive advantage

~~Whereas~~  
~~Wherefore~~  
~~Four score and Seven~~  
~~Being of sound mind~~

Give me an API or give me death.

Andrew King

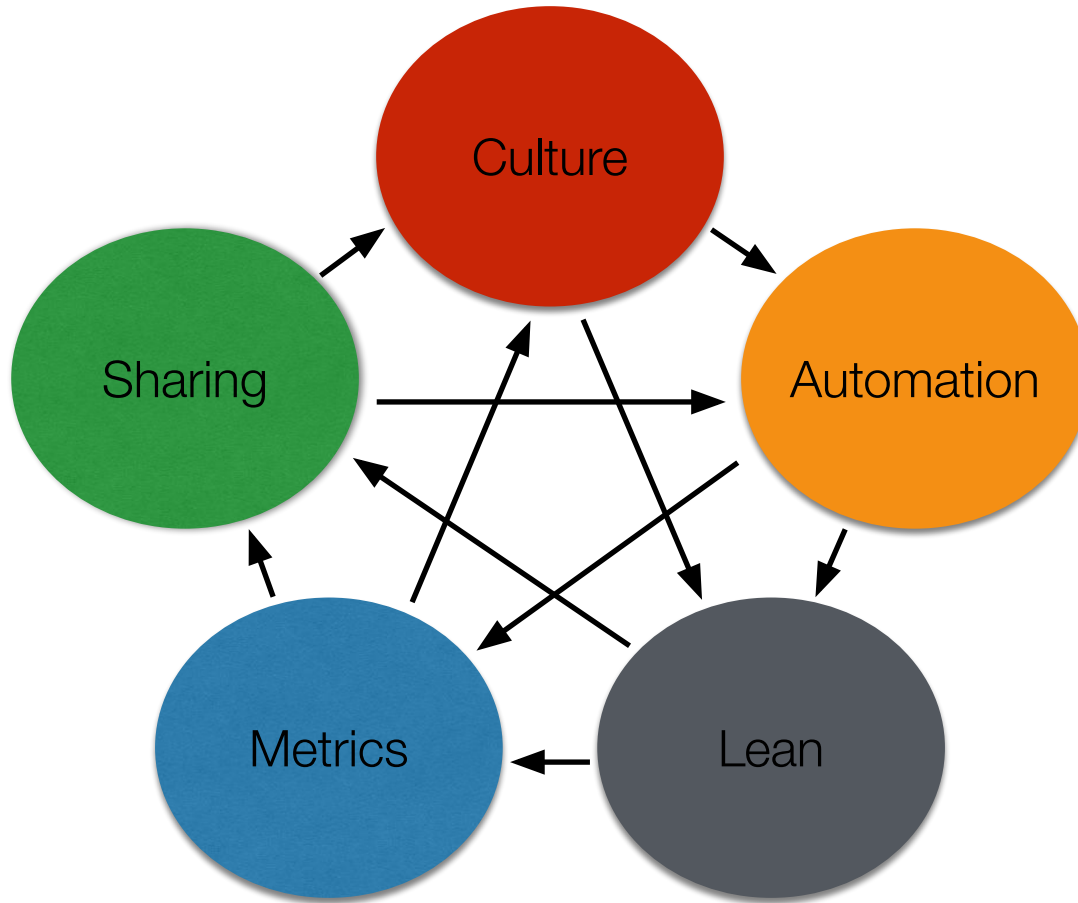
continuously devops  
microserverless

Optimizing the human experience  
and performance of operating  
software... with software and  
humans

—Andrew Clay Shafer



deleting the ops was not  
devs doing ops  
but to dev the ops away  
with production feedback





some organizations **ARE**  
moving faster and **safer**

# Almost a decade of State of Devops Reports

COMPARING THE ELITE  
GROUP AGAINST THE LOW  
PERFORMERS, WE FIND THAT  
**ELITE PERFORMERS HAVE...**



**46 TIMES MORE**  
frequent code deployments



**2,555 TIMES FASTER**  
lead time from commit to deploy



**7 TIMES LOWER**  
change failure rate  
(changes are 1/7 as likely to fail)



**2,604 TIMES FASTER**  
time to recover from incidents

then one day...

DevOps died

now DevOps dies every year

and I get to read all the  
terrible things DevOps did  
to deserve it

# Real Talk

O NOVO GUIA  
DA  
**CONVERSAÇÃO,**  
em Portuguez e Inglez,

OU  
ESCOLHA DE DIALOGOS FAMILIARES  
SÔBRE VARIOS ASSUMPTOS;

precedido  
d'um copioso Vocabulario de nomes proprios,  
com a pronuncia figurada das palavras inglezas,  
e o accento proprio nas portuguezas, para se poder aprender com perfeição  
e a inda sem mestre, qualquer dos dous idiomas.

OFFERECIDO  
A ESTUDIOSA MOCIDADE PORTUGUEZA E BRAZILEIRA

por **JOSÉ DA FONSECA**  
E **PEDRO CAROLINO.**

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PARIS.

V<sup>a</sup> J.-P. AILLAUD, MONLON E C<sup>a</sup>.  
Livreiros de suas Magestades o Imperador do Brasil  
e el Rei de Portugal,  
RUA SAINT-ANDRÉ-DES-ARTS, N<sup>o</sup> 47.

—  
1855







Pedro Carolino &  
José da Fonseca

# English as She is Spoke

*The New Guide of the Conversation  
In Portuguese and English*



It is widely believed that Carolino could not speak English and that a French–English dictionary was used to translate an earlier Portuguese–French phrase book

Nobody can add to the absurdity of this book, nobody can imitate it successfully, nobody can hope to produce its fellow;

it is perfect.

— Mark Twain

## Familiar Phrases.



Go to send for.

Have you say that ?

Have you understand that he says ?

At what purpose have say so ?

Put your confidence at my.

At what o'clock dine him ?

Apply you at the study during that you are young.

Dress your hairs.

Sing an area.

These apricots and these peaches make me and to  
come water in mouth.

apply you at the study  
during that you are young

sometimes the problem with books  
is they are written by people who  
want you to buy books  
or to buy something else

Fluency cannot be bought  
the path to fluency can be long  
and hard even when everything  
in the book is flawless

The average human adult can  
be 'fluent' in a new language in  
6 months

Native level in 2 years  
under the right conditions



fluency is only achieved to the  
level of necessity

# Fluent

- able to speak or write smoothly, easily, or readily
- easy; graceful
- flowing, as a stream
- easily changed or adapted

# Fluent

- easily changed or adapted

Fluency is not a steady state  
but the ability to appropriately  
respond in the moment

Before you can respond  
appropriately, you must be in  
the position to need to

Before you can respond  
appropriately, you must be able  
and willing to respond at all

You must be willing to respond  
improperly to make progress

Fluency does not come from  
accumulating knowledge but  
from a physiological response.

Doing >> Knowing



No one was born fluent

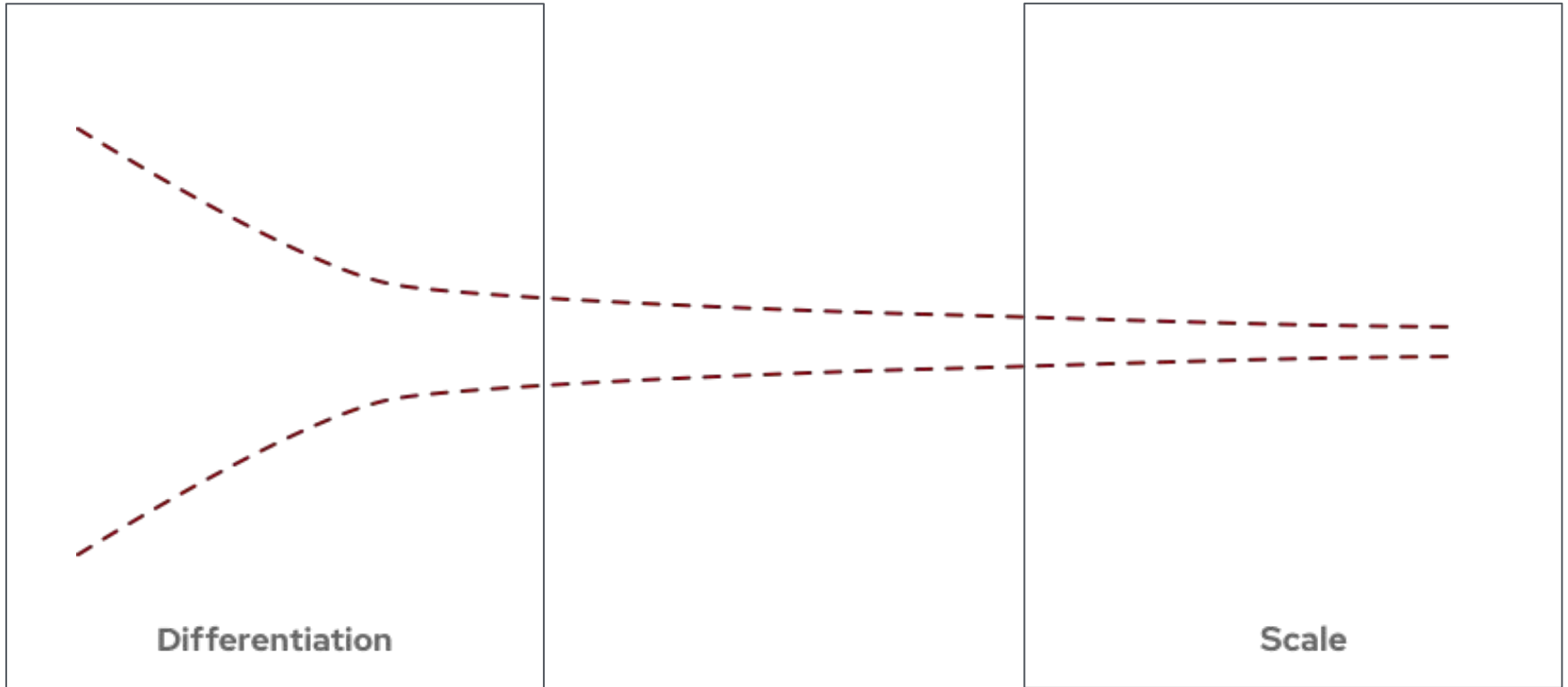
Progress stops when our  
needs outpace our met

No one decided to SRE,  
SRE evolved from necessity  
And learning from mistakes

# Whatness

Cloud Native models evolved from pressure to deliver both high feature velocity and reliability at scale

# 3 Economies



A Brief Word About  
Attribution



Jabe D Bloom  
PhD in Transition Design  
jabe@cmu.edu

Carnegie Mellon  
Design

# 2 Economies

Create  
More Value

Differentiation



Consistent  
Standards

Scale

# 2 Economies

## Business Units

GET MORE CUSTOMERS  
ENTER NEW MARKETS  
DO THINGS DIFFERENTLY



## Operations

CONTROL CONSUMPTION  
USE BEST PRACTICES  
DO THE SAME THINGS  
REPEATEDLY

The Scope economy connects  
Differentiation and Scale to enable  
innovation and efficiency.



**platforms** may... be understood more conceptually as guiding principles that redefine two sides of binary relationships that reveal the "middle mass" as an **opportunity for intervention**. Platforms can help us **"recommon"** resource management through **new approaches to negotiation**.

-Dr. Dimeji Onafuwa



The Scope economy emerges from an ongoing negotiation between selfish interests in favor of the collective

Kubernetes: your friendly  
neighborhood Scope Economy  
trading zone boundary object

Establishing an SLO is a 'commoning'  
exercise between SRE and SWE

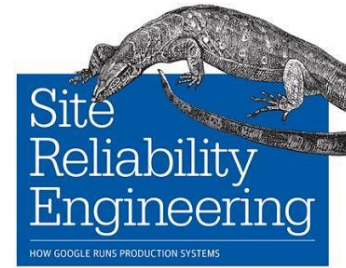
What happens when a software  
**engineer** is tasked with what  
used to be called operations.

—Benjamin Treynor Sloss



## Cloud Native Ops

SRE builds framework modules to implement canonical solutions for the concerned production area. As a result, development teams can focus on the business logic, because the framework already takes care of correct infrastructure use.



The original SRE engagement model presented only two options: either full SRE support, or approximately no SRE engagement.<sup>2</sup>

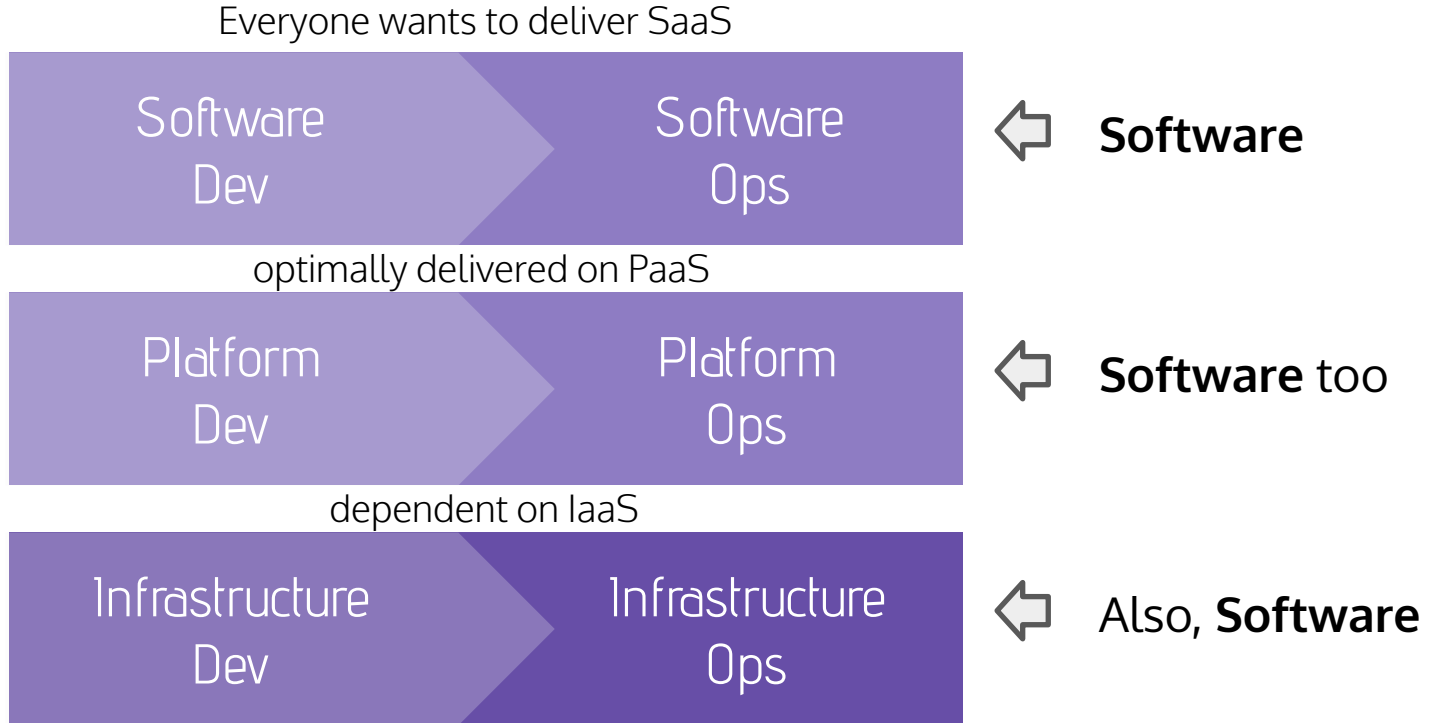
A production platform with a common service structure, conventions, and software infrastructure made it possible for an SRE team to provide support for the “platform” infrastructure, while the development teams provide on-call support for functional issues with the service —

SRE build and operate a  
platform

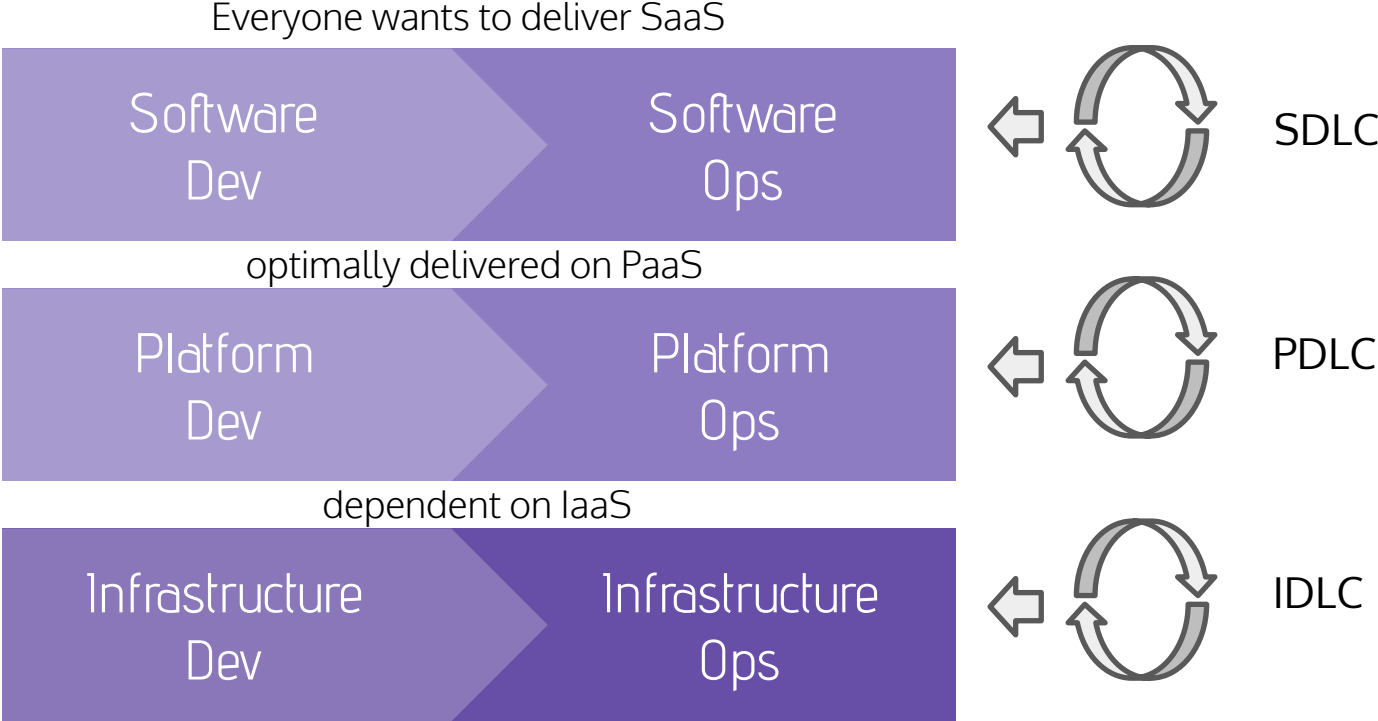
A platform defines architecture



## Cloud Native Operating Model



# Cloud Native Operating Model



## You Build It You Run It

**Software**



Werner meant run 'this'

**Platform**



Not this

**Infrastructure**



Not this

You build it, you run it...  
lol

—Werner Vogels probably



# Shouldness

A 'goal' of SRE is not to take the toil away from software engineering, but to drive toil out of the system.

If this was easy, everyone  
would be good at it by now

# everyone wants SRE

well actually...



# what they really want

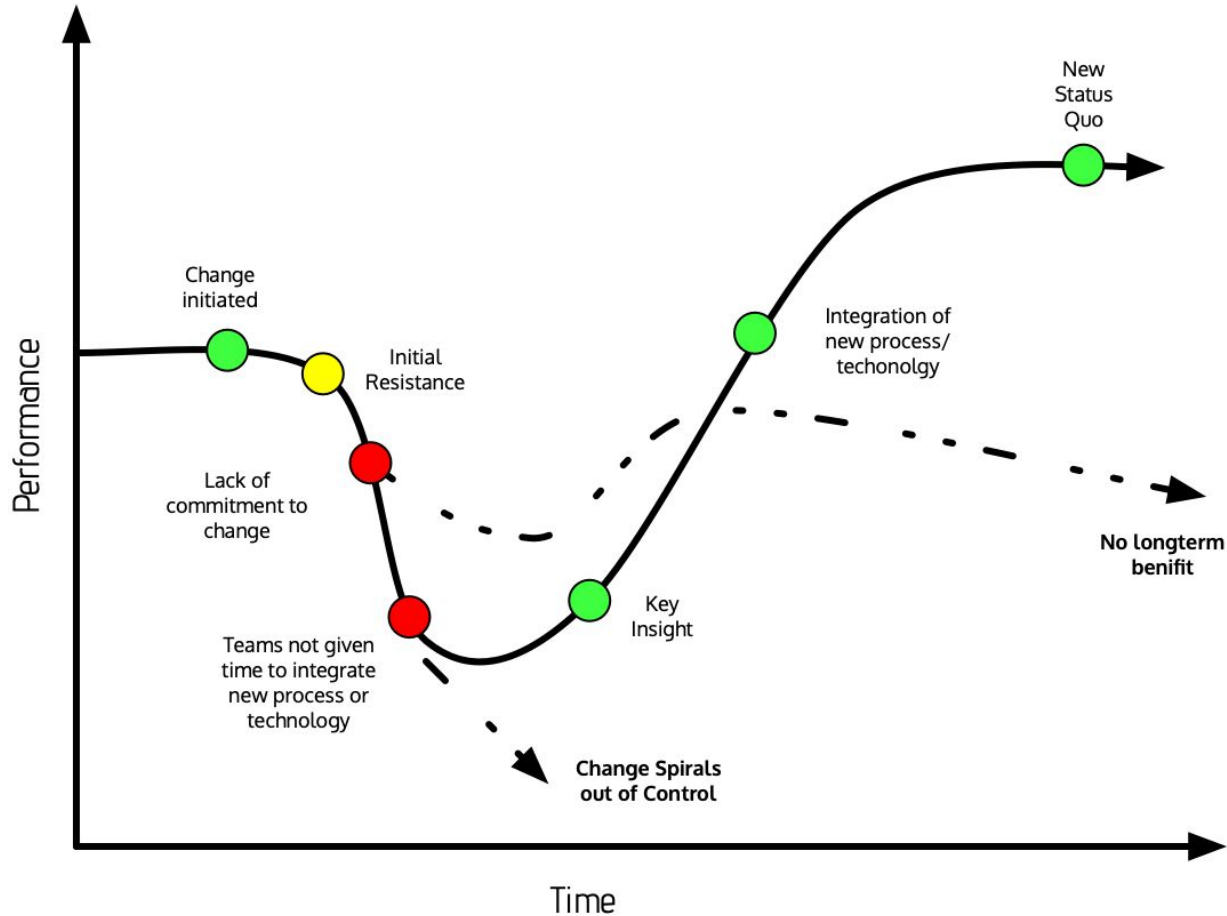
- reliability
- availability
- scalability
- operability
- usability
- observability
- all for free
- without changing anything

without  
changing anything

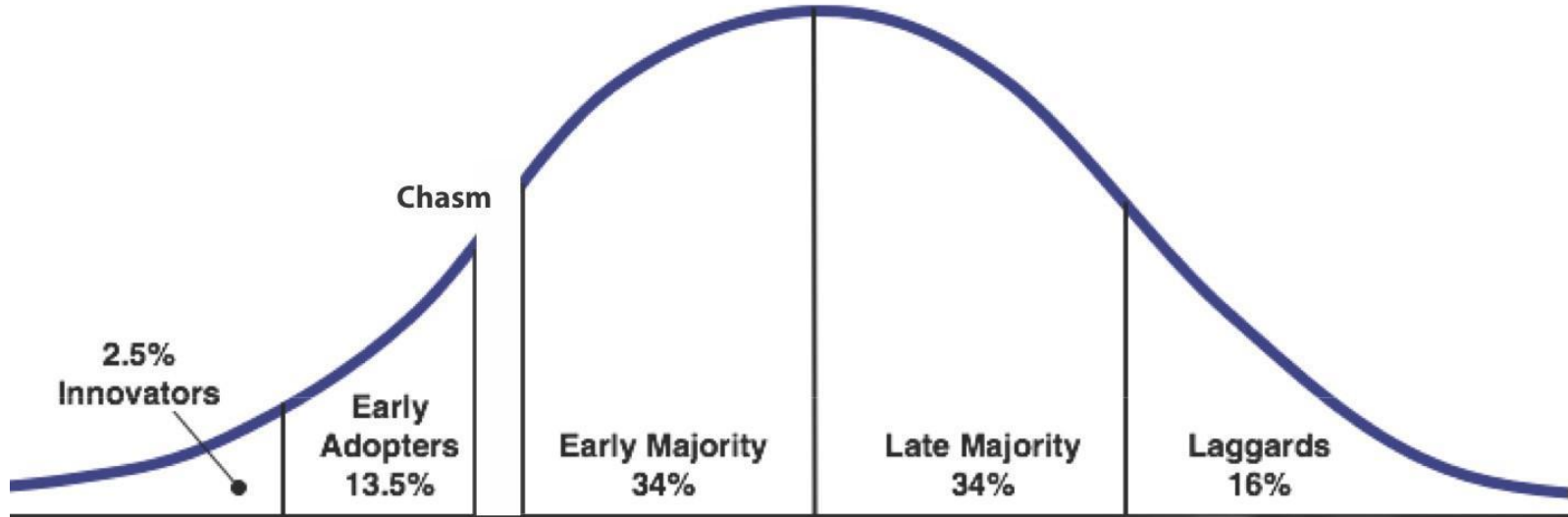
without  
changing anything

without  
changing  
anything

# J-Curve of Change is Hard



# Technology Adoption Life Cycle



seeking advantage

seeking legitimacy

words cross the chasm before  
understanding and practice

if an error budget falls in a forest  
and no one changes anything did  
it really make us SRE?





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@littleidea



if you built a devops silo separate from an SRE silo, you might be an enterprise



**Andrew Clay Shafer** 雷启理

@littleidea



extra points if they don't work together

**YOU CAN  
FINALLY USE OUR  
NEW K8S PLATFORM**



**DEVELOPER**

**BUT YOU MUST FOLLOW ALL  
OUR STANDARDS AND PROCESSES**



**DEVELOPER**

If you build it, they might run

# The End of the Beginning

Institutional Theory suggests  
mimetic forces cause  
organizations to copy practices  
of perceived leaders without any  
other regard (especially in times  
of uncertainty)

SRE Fluency is not translating  
old to new, but the ability to  
express any context like a native

But you never get to start there  
Not even Google started there

An organization that doesn't have  
an SRE necessity may do  
unnatural things and call them SRE



An organization that DOES have an  
SRE necessity may do superficial  
things and call them SRE

An organization may do unnatural  
superficial things and call them  
SRE and declare them successful  
  
at least until the  
politics change

SRE practices and SRE practitioners are limited by the organizational preconditions, inputs, outputs and feedback loops

New words let organizations  
fund new initiatives

Show me an org chart and funding model and I'll predict everything that will be hard to accomplish

The result of adding a new  
function to an existing  
sociotechnical system can be  
unpredictable

Organizational Performance  
almost always goes down  
before going up

opportunity to be thoughtful  
about the specific  
socio-technical context



if it feels unnatural, superficial,  
banal and insipid, it's probably  
not going to get great results

Are you SRE?

Are you DevOps?

Are you a new buzzword?

Who cares!

are you getting an advantage?

What could SRE be?

What does SRE need to be?

Seek the advantage SRE sought

I look forward to your stories

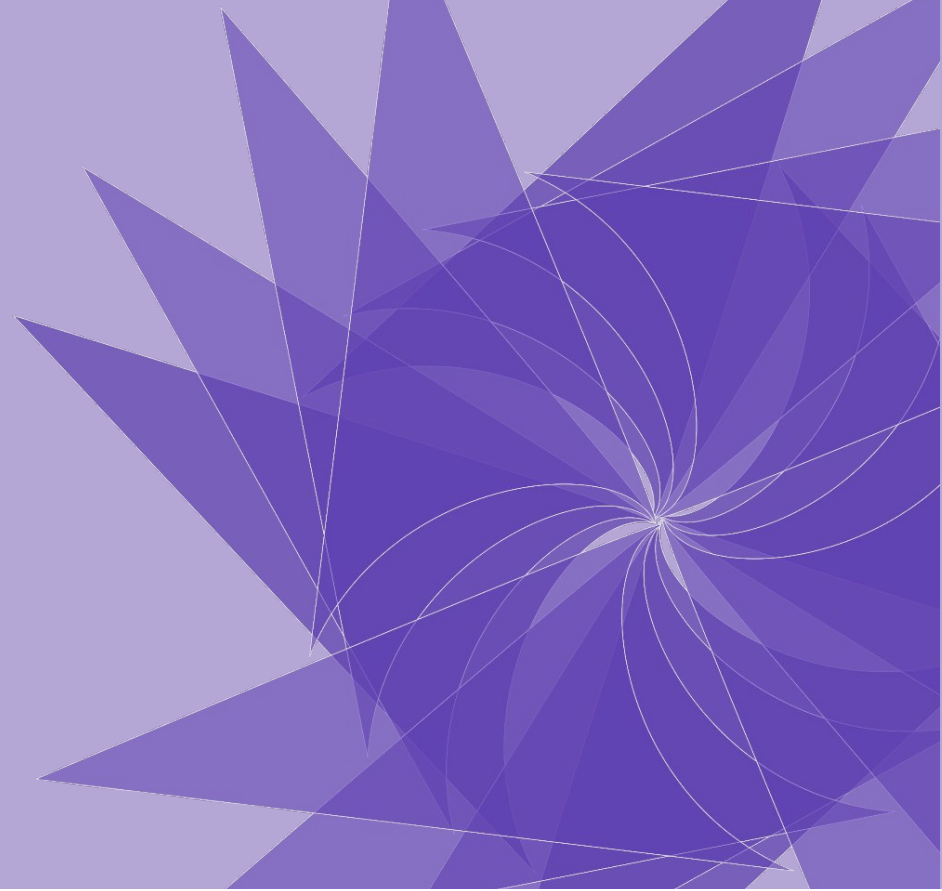
How many times we say  
something doesn't matter as  
much as how many people still  
need to hear the message

# Bedankt

Praxis

Makes

Possible



Optimizing the human experience  
and performance of operating  
software... with software and  
humans... and with lulz

—Andrew Clay Shafer

