DEVOPS FOR DEVELOPERS

... OR MAYBE AGAINST THEM?!






r/devops · Posted by u/ThePoetWalsh57 38 minutes ago
Just got my first job in devops. What exactly is devops?

BARUCH SADOGURSKY

CHIEF STICKER OFFICER

(ALSO 🎩 OF DEVELOPER ADVOCACY)

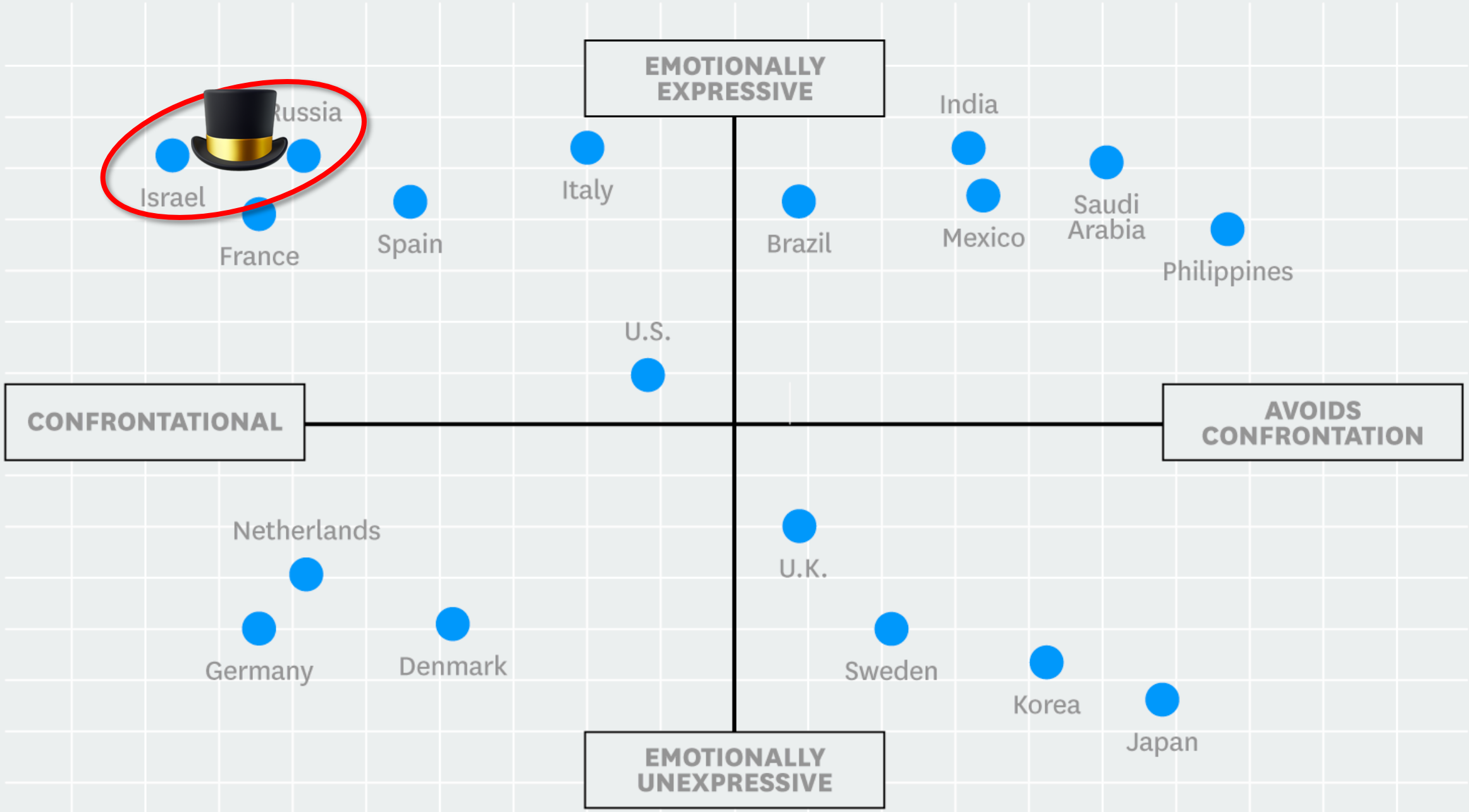
JBARUCH@JFROG.COM

@JBARUCH

+1(408)890-9281

JFrog





@ErinMeyerINSEAD's "Culture Map"

SHOWNOTES

- http://jfrog.com/shownotes
  - Slides
  - Video
  - Links
  - Comments, Ratings
  - Raffle



Baruch 🎩 Sadogursky
Developer Advocacy at JFrog

AlphaCSP
6 yrs 1 mo

Training Division Manager
Jan 2007 – Oct 2010 · 3 yrs 10 mos

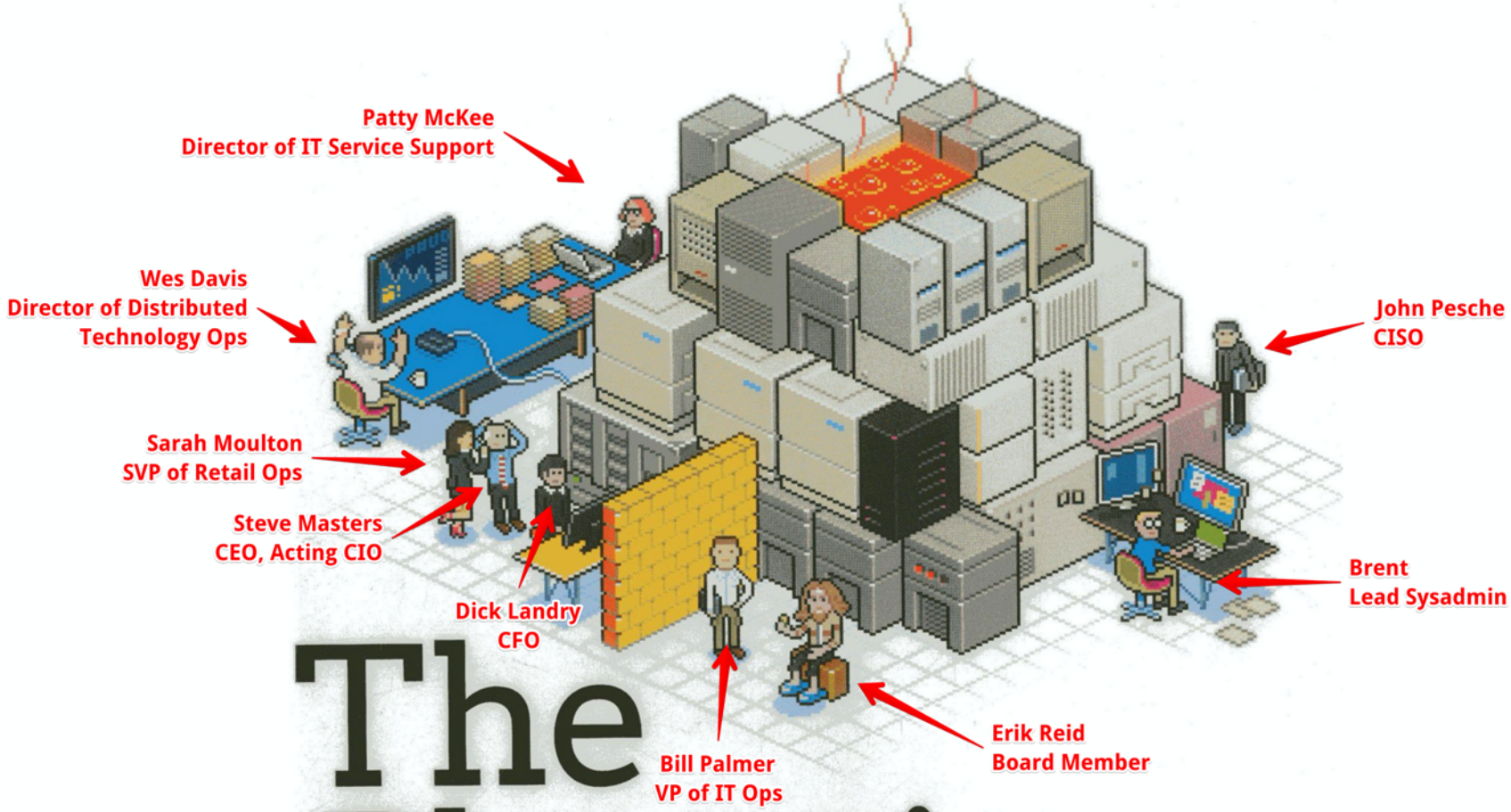
- Development and delivery of most of AlphaCSP courses on different Java-related topics and in different levels;
Among the customers: IDF, Cisco, IDI direct insurance, Rafael, PayPal, Opal, BMC, Malam, Checkpoint, HP Software and others.... See more

Consultant & Architect
Jan 2007 – Oct 2010 · 3 yrs 10 mos

Consulting, building architectures and design, mentoring, and developing in various Java-related projects on the topics, described in Specialties section above;
Among the customers: BMC, Logia, IDF, Starhome (Comverse), Malam, Cisco, IDI, IDIT, Isracard, Virtual Tweens, Amobee, SolarEdge, Checkpoint, Cadence, Evolven, ExLibris, Retalix, ... See more

Senior Developer
Oct 2004 – Jan 2007 · 2 yrs 4 mos

Working on various projects in BMC Software Israel



The Phoenix Project


NOT A SINGLE DEVELOPER!!!

The DevOps Handbook

HOW TO CREATE WORLD-CLASS AGILITY, RELIABILITY, & SECURITY IN TECHNOLOGY ORGANIZATIONS



GENE KIM,
JEZ HUMBLE,
PATRICK DEBOIS,
& JOHN WILLIS

FOREWORD BY JOHN ALLSPAW

@jbaruch #DevOps @atlantajug https://jfrog.com/shownotes



Patrick Debois
Co-founder Zender

2012 – 2013 · 1 yr

Project Manager
Synergics
2010 · less than a year

Multimedia Researcher
VRT
Jan 2008 – Dec 2009 · 2 yrs

Research on Multimedia Search

* In the past two year the VRT has been feeding a new media archive system wit
content it is producing. The purpose of this project is to make this data more 'se

Researcher
VRT Medialab
2008 – 2009 · 1 yr

Technical Coordinator
Notary Federation Brussels
2007 · less than a year

* Credoc technically runs the portal and mail environment used by every notary
8000). As Trust is very important they have high security standards to implemer
Audit which they successfully past, the next step was to improve the reliability o
even more by implementing an Disaster Recovery Solution.... See more

System Architect/Technical Consultant
Ministerie van Financiën
2005 – 2006 · 1 yr

Identity and Access Management
* With an internal user population of more then 35.000 users, the organization is
automate the identity and access management of their IT environment.
... See more

System Architect/Technical Consultant/Technical Project Manager (
swiTch
Mar 2004 – Jan 2005 · 11 mos

Intranet portal project
* With the ultimate goal to create a web-based desktop, an intranet portal was d
based upon Sun ONE Portal and Citrix.
* Via portal technology it became possible to work in the same personalized env

System Architect/Technical Project Manager (ACA-IT)
Eurocontrol
Jun 2004 – Oct 2004 · 5 mos

Internet Portal Project
* For maintenance reasons the One Sky Extranet Stakeholders Portal infrastructu
upgraded.
* While doing the upgrade, a complete high availability design was done for furth



Jez Humble
Cloud advocate at Google Cloud Platform, Lecturer at UC Berkeley.

Experience

Cloud Advocate
Google
Dec 2018 – Present · 11 mos
San Francisco, California

Lecturer
UC Berkeley
Jul 2013 – Present · 6 yrs 4 mos
Berkeley, California

I teach two 3-unit graduate classes at the School of Information. One class
product management. The other is an experiential class in which students
OO design in Java through solving problems.

Founder and CTO
DevOps Research and Assessment LLC
Dec 2015 – Dec 2018 · 3 yrs 1 mo
Berkeley, California

Co-founder of DORA and CTO up to its acquisition by Google

Deputy Director of Delivery Architecture and Infrastructure Ser
GSA
Jan 2016 – Jan 2017 · 1 yr 1 mo
San Francisco

In this role I was responsible for managing production infrastructure for all
operated by the 18F (now Technology Transformation Services) team, part
Government's General Services Administration. I also worked with teams a
agencies to help them adopt good practice designing, managing, and deliv

Vice President
Chef (formerly Opscode)
Aug 2014 – Sep 2015 · 1 yr 2 mos



John Willis
Founder at Botchagalupe Technologies

VP of DevOps and Digital Practices
SJ Technologies
Jul 2017 – Dec 2018 · 1 yr 6 mos
Greater Atlanta Area

Director of Ecosystem Development
Docker, Inc
Mar 2015 – Oct 2017 · 2 yrs 8 mos
Greater Atlanta Area

Founder and VP of Customer Enablement
SocketPlane
Oct 2014 – Mar 2015 · 6 mos
Greater Atlanta Area

Socketplane was sold to Docker.

Executive in Residence
Pacific Crest Securities
Sep 2014 – Mar 2015 · 7 mos
Portland, Oregon Area

Currently working with the Mosaic group identify emerging technologies.

VP of Customer Enablement
Stateless Networks
Jan 2014 – Sep 2014 · 9 mos
Greater Atlanta Area

We are building the next generation of network automation and monitoring, bringing DevOps goodness to SDN and physical networking environments. We are hiring looking for network experienced people who want to join an exciting new startup.

Director of Devops Pracitices
enStratus/Dell
Nov 2011 – Dec 2013 · 2 yrs 2 mos
Greater Atlanta Area

Cloud Management startup that was purchased by Dell.

VP of Solutions
DTO Solutions
May 2011 – Nov 2011 · 7 mos

We do Devops and SDLC as Infrastructure.

VP of Services
Chef (formerly Opscode)
Jan 2010 – May 2011 · 1 yr 5 mos

Cloud Evangelist
Canonical Ltd.
Jan 2009 – Jan 2010 · 1 yr 1 mo

Introduced Ubuntu Enterprise Cloud (UEC). UEC was an OEM of Eucalyptus.

Google

what is devops

All | Videos | Images | News | Books | More | Settings | Tools

About 82,600,000 results (0.44 seconds)

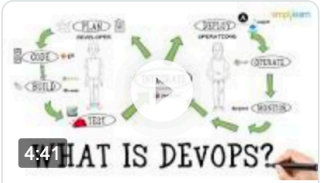
Videos



What is DevOps? - In Simple English

Rackspace

YouTube - Dec 12, 2013



What is DevOps? | Introduction To DevOps | Devops For ...

Simplilearn

YouTube - Nov 13, 2018



What is DevOps? | DevOps Introduction in Simple Animation ...

ACADGILD

YouTube - Feb 20, 2017

People also ask

What is meant by DevOps?

What is the role of DevOps?

What is DevOps and how it works?

What DevOps basics?

Feedback

newrelic.com › devops › what-is-devops

What Is DevOps - Explained | New Relic

Even as **DevOps** adoption continues to accelerate in both large enterprises and web-native organizations, confusion lingers about what exactly the term means.

aws.amazon.com › devops › what-is-devops

What is DevOps? - Amazon Web Services (AWS)

DevOps is the combination of cultural philosophies, practices, and tools that increases an organization's ability to deliver applications and services at high velocity: evolving and improving products at a faster pace than organizations using traditional software development and infrastructure management processes.

Continuous Delivery · Microservices · Infrastructure as Code

resources.collab.net › devops-101 › what-is-devops

What is DevOps? The Ultimate Guide to DevOps

What is DevOps? Learn **DevOps** history and the methods companies use to evolve from continuous integration to continuous delivery and continuous ...

theagileadmin.com › what-is-devops

What Is DevOps? | the agile admin

DevOps is a term for a group of concepts that, while not all new, have catalyzed into a movement and are rapidly spreading throughout the technical community.

en.wikipedia.org › wiki › DevOps

DevOps - Wikipedia

DevOps is a set of practices that combines software development (Dev) and information-technology operations (Ops) which aims to shorten the systems development life cycle and provide continuous delivery with high software quality.

www.atlassian.com › devops

What is DevOps? | Atlassian

DevOps is a set of practices that automates the processes between software development and IT teams, in order that they can build, test, and release software faster and more reliably. The concept of **DevOps** is founded on building a culture of collaboration between teams that historically functioned in relative siloes.

azure.microsoft.com › Home › Overview

What is DevOps? DevOps Explained | Microsoft Azure

Learn the definition of **DevOps** and see how **DevOps** practices and roles improve automation and collaboration to create better products for customers.

logz.io › Guides › Learn

What is DevOps? The Beginners Guide from Logz.io


DEVOPS?
OPS!


BUT WHY?

DevOps | System Administration | Career Transitions | +2

How do I switch my job from system admin to devops?

Answer Follow · 11 Request

4 Answers

Disha Rathod, DevOps Online Trainer (2013-present)
Answered Sep 14, 2017

Originally Answered: As a Linux system administrator, how do I shift my career to DevOps?

Hi,

Being a Linux administrator will help you to easily get started with DevOps because it starts with learning Linux fundamentals, DevOps also includes cloud computing concepts like AWS. More importantly DevOps is all about tools, it comes with hundreds of tools. Gits, Chef, Maven, Jenkins, Puppet, Docker are modern and most popular DevOps tools.

So in order to move into DevOps industries you should have prominent knowledge following concepts

1. Linux Fundamental; Shell Scripting
2. Cloud Computing (AWS)
3. DevOps Fundamentals
4. Software Development Life Cycle
5. Continuous Integration, Deployment, and Delivery.
6. DevOps Tools: Gits, Chef, Maven, Jenkins, Puppet, Docker etc.

Systems Administrator Salaries

25,439 Salaries Updated Feb 26, 2020

Industries Company Sizes Years of Experience

Average Base Pay

$64,892 /yr



Additional Cash Compensation

Average	$3,807
Range	$932 - $12,002

How much does a Systems Administrator make?

The national average salary for a Systems Administrator is $64,892 in United States. Filter by location to... More

Devops Engineer Salaries

2,130 Salaries Updated Feb 26, 2020

Industries Company Sizes Years of Experience

Average Base Pay

$99,604 /yr

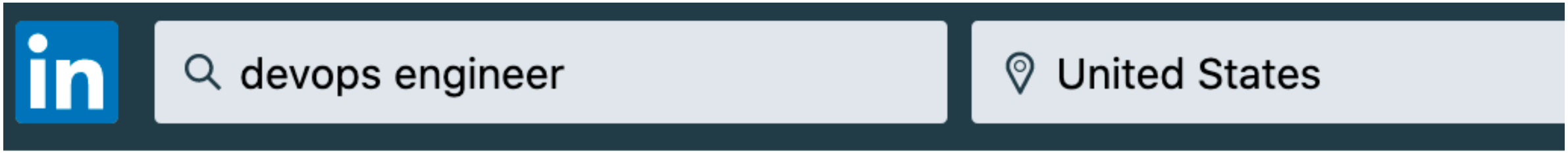


Additional Cash Compensation

Average	$8,714
Range	$2,236 - $17,548

How much does a Devops Engineer make?

The national average salary for a Devops Engineer is $99,604 in United States. Filter by location to see... More



Devops engineer in United States

14,337 results

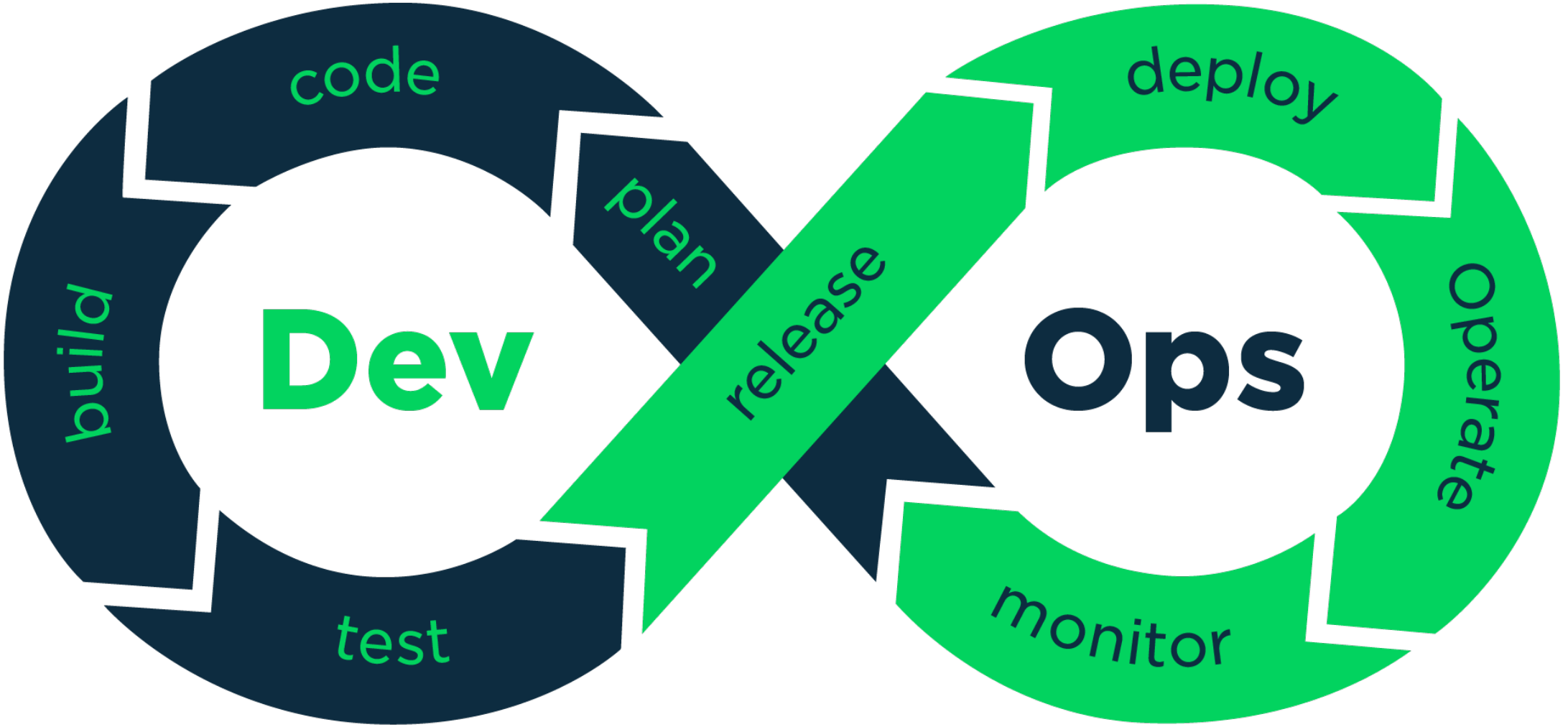
Job Alert Off

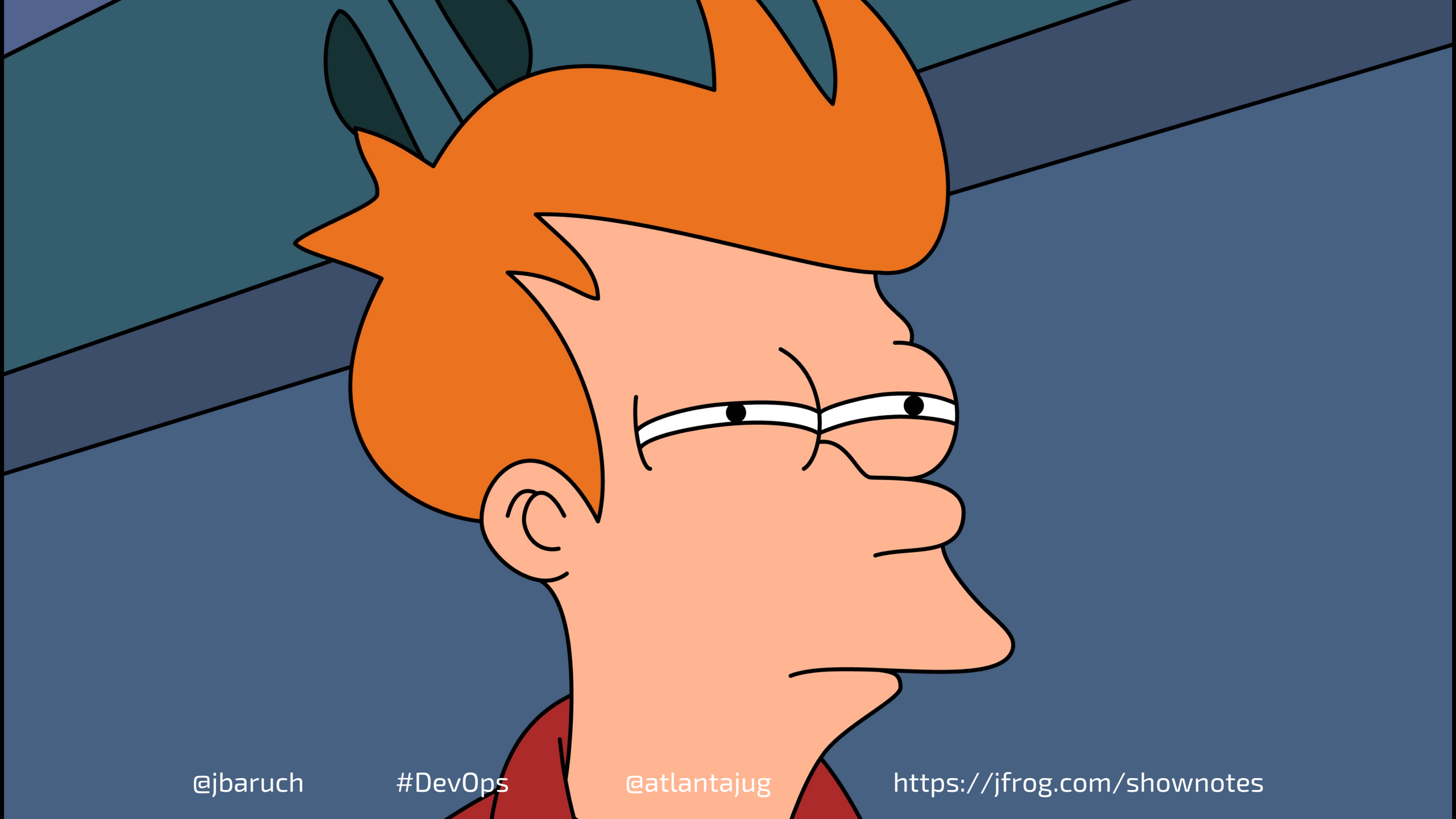
DevOps Engineer Promoted

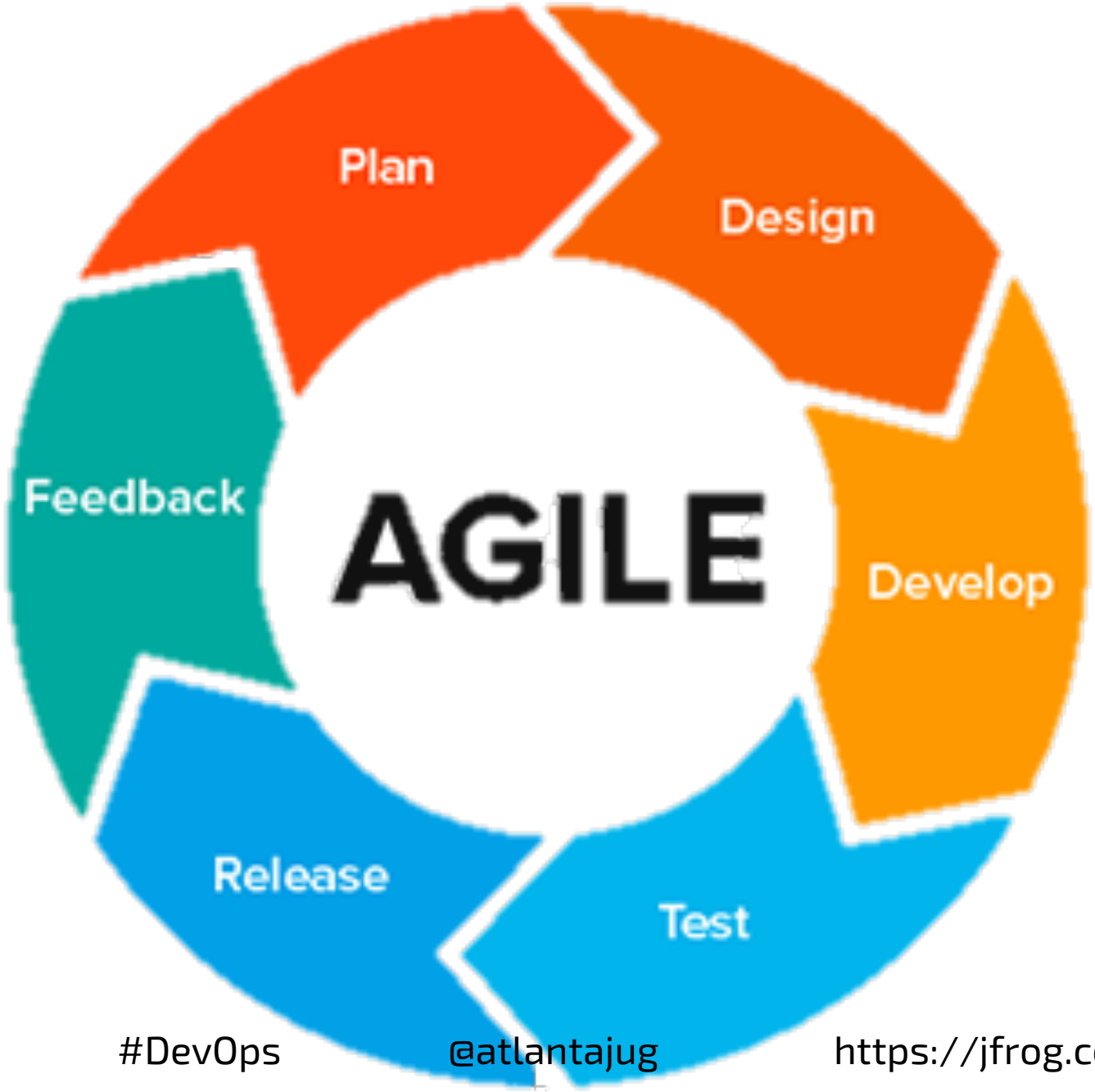
Apple

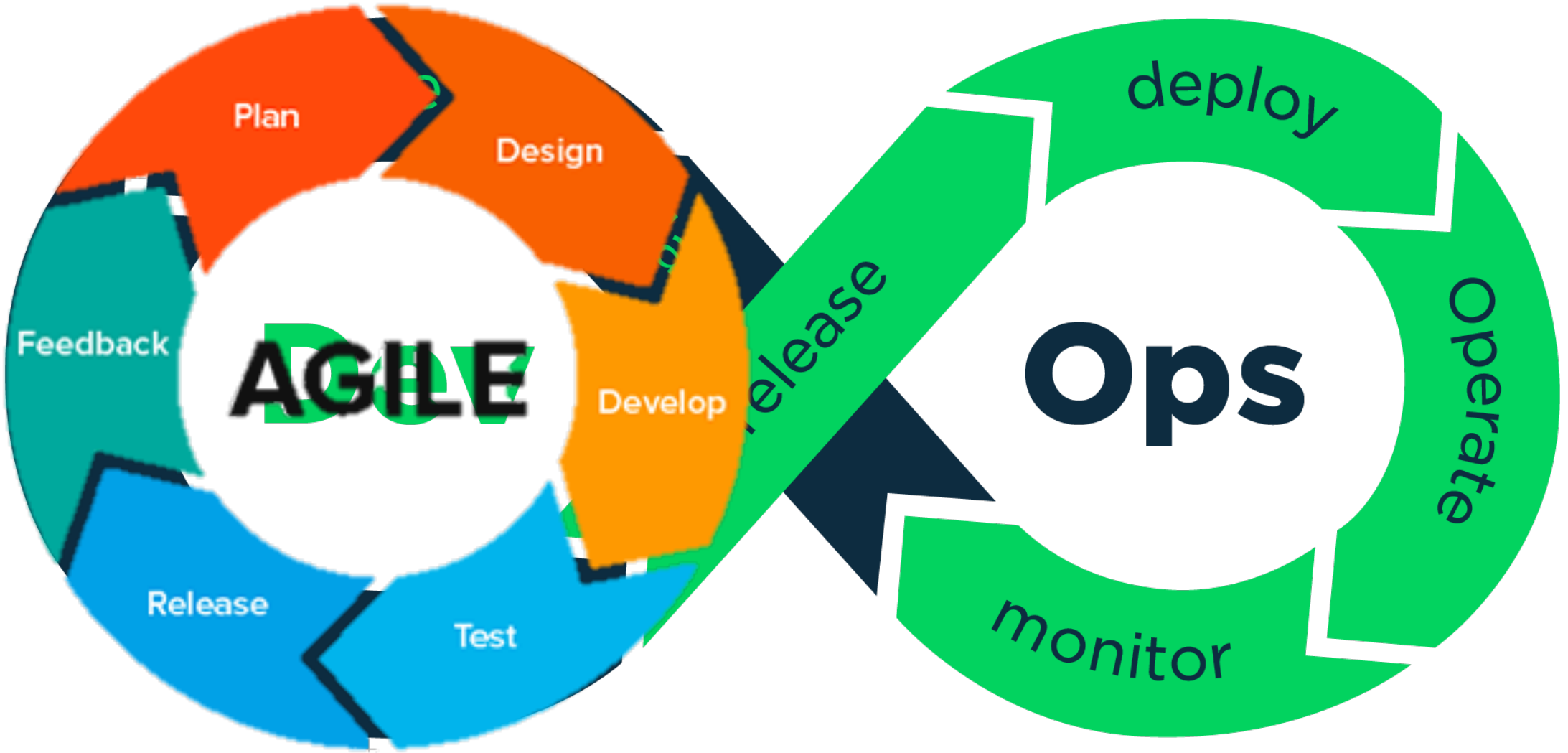
Cupertino, CA, US

1 week ago


code
plan
build
Dev
test
release
deploy
Ops
Operate
monitor


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#DevOps
@atlantajug
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Plan
Design
Develop
Test
Release
Feedback
AGILE


Plan
Design
Develop
Test
Release
Feedback
AGILE
deploy
Operate
monitor
Ops

2018

Accelerate: State of DevOps

Strategies for a New Economy

Presented by

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Deloitte.

XebiaLabs Enterprise DevOps

pagerduty

redgate

IT REV

cloudbees

Datical

sumologic

TRICENTIS

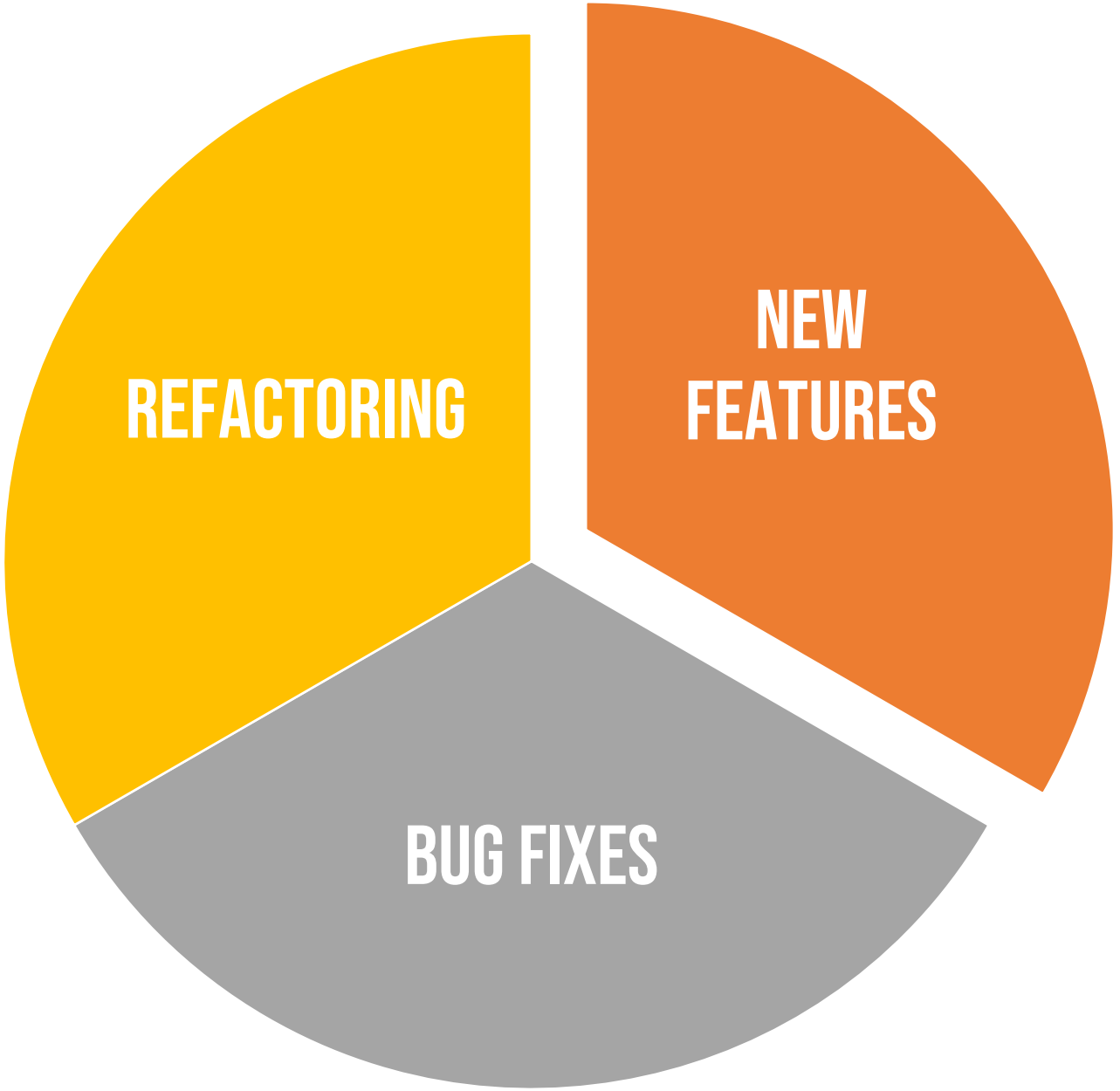
Aspect of Software Delivery Performance
Deployment frequency For the primary application or service you work on, how often does your organization deploy code?
Lead time for changes For the primary application or service you work on, what is your lead time for changes (i.e., how long does it take to go from code commit to code successfully running in production)?
Time to restore service For the primary application or service you work on, how long does it generally take to restore service when a service incident occurs (e.g., unplanned outage, service impairment)?
Change failure rate For the primary application or service you work on, what percentage of changes results either in degraded service or subsequently requires remediation (e.g., leads to service impairment, service outage, requires a hotfix, rollback, fix forward, patch)?

Time Spent	Elite	High	Medium	Low
NEW WORK	**50%**	**50%**	**40%**	**30%**
Unplanned work and rework	19.5%	20%[a]	20%[a]	20%[a]
Remediating security issues	5%	5%[b]	5%[b]	10%
Working on defects identified by end users	10%	10%[c]	10%[c]	20%
Customer support work	5%	10%	10%	15%

TYPES OF WORK IN THE PHOENIX PROJECT AND DORA REPORT

Planned Work	Business projects or new features
Internal Projects	Server migrations, software updates and so on
Changes	Driven by feedback on completed work
Unplanned Work	Support escalations and emergency outages




REFACTORING
NEW FEATURES
BUG FIXES



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Manifesto for Software Craftsmanship

Raising the bar.

As aspiring Software Craftsmen we are raising the bar of professional software development by practicing it and helping others learn the craft. Through this work we have come to value:

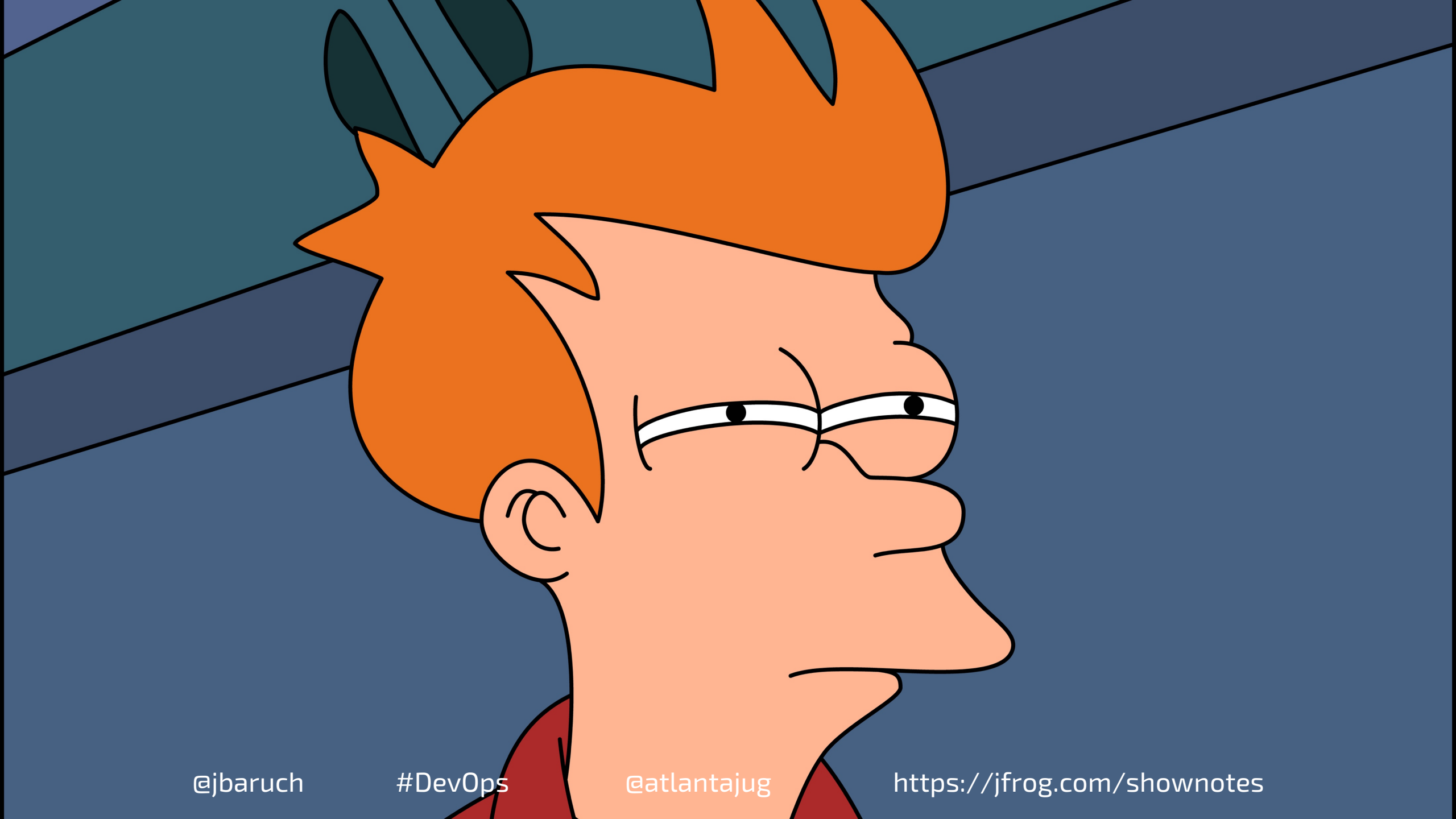
Not only working software,
but also **well-crafted software**

Not only responding to change,
but also **steadily adding value**

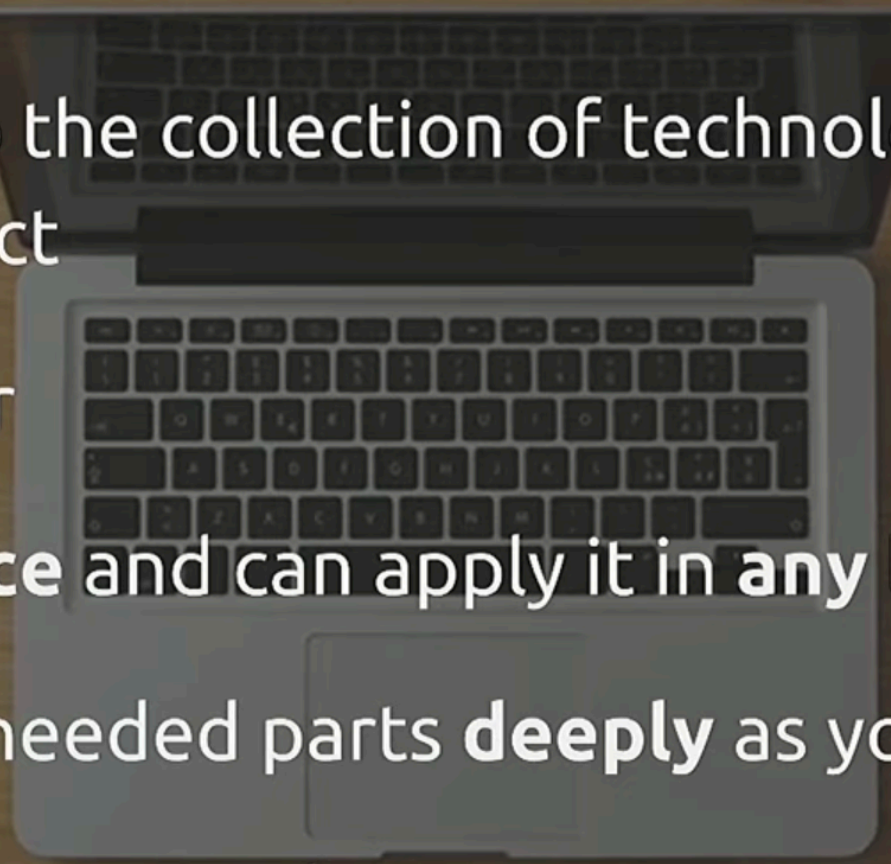
Not only individuals and interactions,
but also **a community of professionals**

Not only customer collaboration,
but also **productive partnerships**

That is, in pursuit of the items on the left we have found the items on the right to be indispensable.


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Becoming a full-stack developer



"Full-stack" refers to the collection of technologies needed to complete your project

"Polyglot" developer

You learn the **essence** and can apply it in **any** language/technology

You still learn most needed parts **deeply** as you gain **experience**

Structuring, design, security, logging, auto testing, simplicity, etc

Also deployment - you don't want to be called during the night

SOFTWARE CRAFTSMAN DEFINITION OF DONE

- ✓We understand what needs to be done
- ✓Our code is readable, simple, understanable
- ✓Our code is easy to deploy
- ✓Non-functional requirements are met
- ✓We didn't incur any technical dept (and even reduced some)
- ✓Our tests pass
- ✓QA took a look and they are happy
- ✓Team lead took a look, and they are happy
- ✓Product owner took a look, and they are happy
- ✓Client took a look, and they are happy


DEVELOPER
TESTER

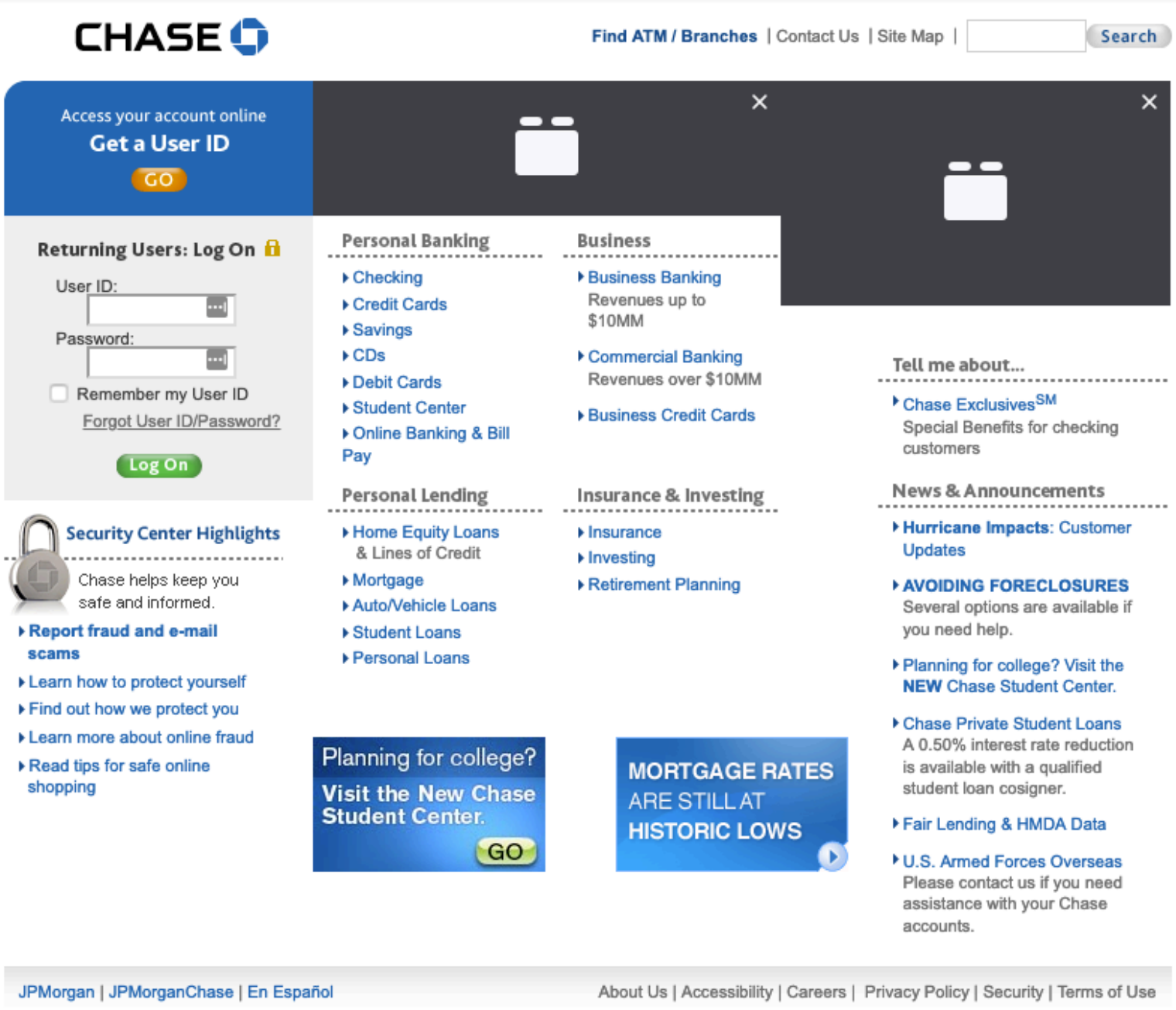


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TRACTORMEN, IMPROVE THE QUALITY OF TRACTOR-TRAILER TRACKING!

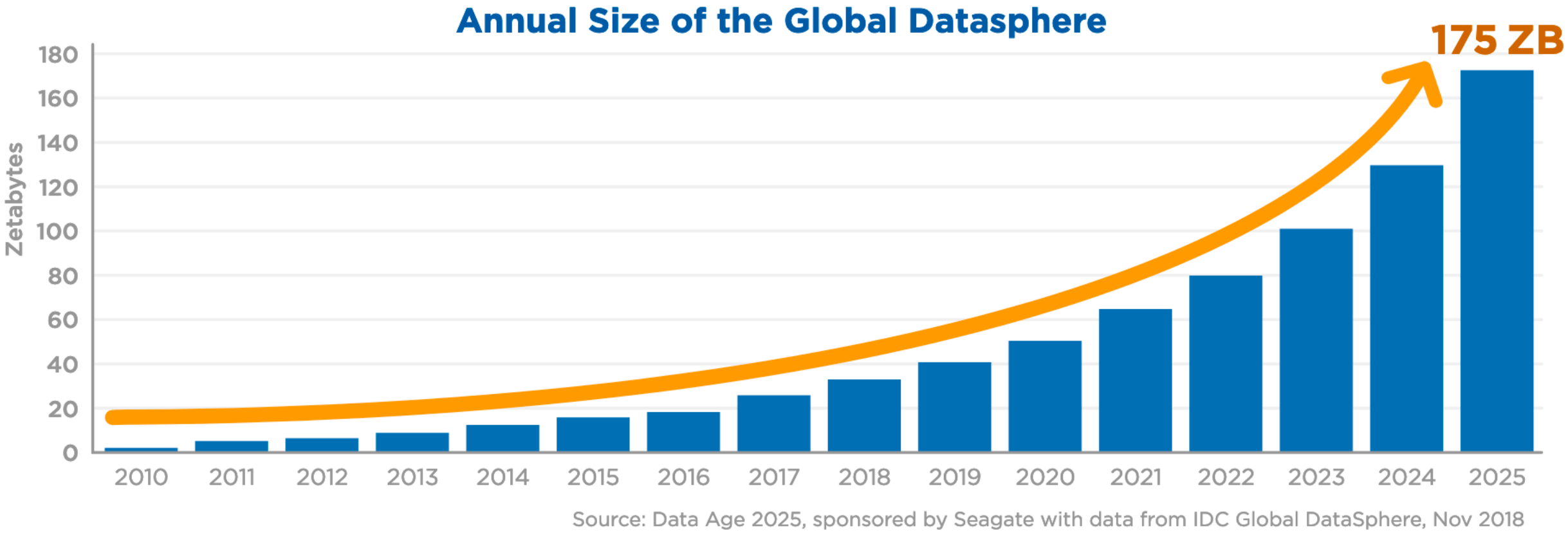
WayBackMachine



12 HOURS MAINTENANCE FOR UPDATE (TO ENSURE QUALITY)



CODE QUALITY IS NOT ENOUGH




Staging Server
1985 - 2015
Jolly were the times when we could test everything before deploying to prod





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PRODUCTION STEAMS ITS WAY TO THE DEVELOPERS!


WELCOME TO ON-CALL!

SOFTWARE CRAFTSMAN DEFINITION OF DONE

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- ✓Product owner took a look, and they are happy
- ✓Client took a look, and they are happy
- ✓SRE took a look, and they are happy

Google

What is SRE? In Conversation Resources Read SRE Books

What is SRE?

SRE is what you get when you treat operations as if it's a software problem. Our mission is to protect, provide for, and progress the software and systems behind all of Google's public services — Google Search, Ads, Gmail, Android, YouTube, and App Engine, to name just a few — with an ever-watchful eye on their availability, latency, performance, and capacity.

SRE TOOK A LOOK, AND THEY ARE HAPPY

- ✓We understand how our code is going to be deployed
- ✓The build is reliable, repeatable, and fast
- ✓Our code is stateless, thus scalable
- ✓Our code starts fast and dies fast
- ✓Our code is observable
- ✓Our code supports feature flags
- ✓Our code backwards and forwards compatible
- ✓Our code emits event streams





The Twelve-Factor App

The Twelve Factors

I. Codebase
One codebase tracked in revision control, many deploys

II. Dependencies
Explicitly declare and isolate dependencies

III. Config
Store config in the environment

IV. Backing services
Treat backing services as attached resources

V. Build, release, run
Strictly separate build and run stages

VI. Processes
Execute the app as one or more stateless processes

VII. Port binding
Export services via port binding

VIII. Concurrency
Scale out via the process model

IX. Disposability
Maximize robustness with fast startup and graceful shutdown

X. Dev/prod parity
Keep development, staging, and production as similar as possible

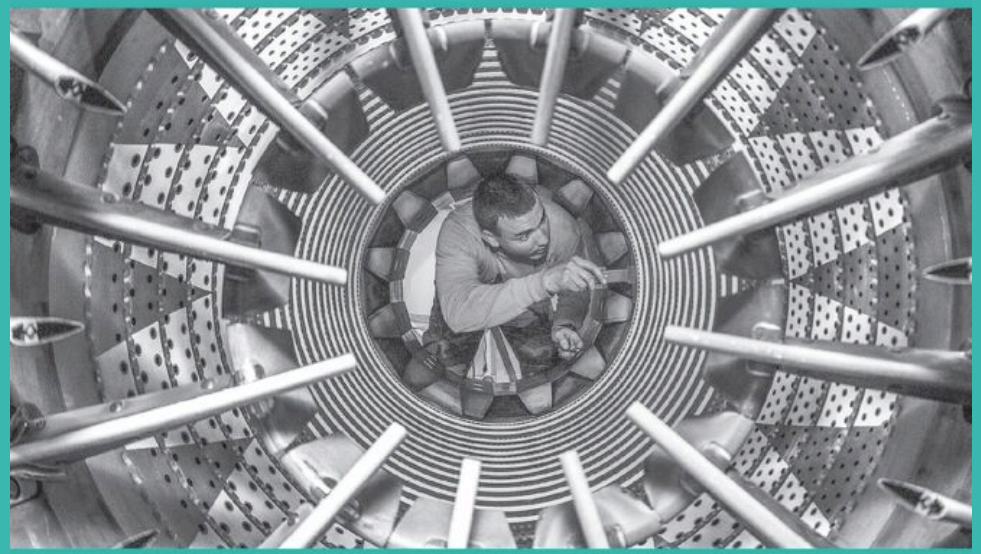
XI. Logs
Treat logs as event streams

XII. Admin processes
Run admin/management tasks as one-off processes

O'REILLY®

Beyond the Twelve-Factor App

Exploring the DNA of Highly Scalable, Resilient Cloud Applications



Kevin Hoffman

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SRE TOOK A LOOK, AND THEY ARE HAPPY

- ✓We understand how are code is going to be deployed
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- ✓Our code is observable
- ✓Our code supports feature flags
- ✓Our code backwards and forwards compatible
- ✓Our code emits event streams
- ✓Our code is lean


Save
MORE
by wasting
LESS

Summary

USD

AWS Service Charges [redacted]

+ Expand All

Details

AWS Service Charges [redacted]

- CloudTrail [redacted]
- CloudWatch [redacted]
  - **US East (Northern Virginia) Region** [redacted]
    - AmazonCloudWatch TimedStorage-ByteHrs [redacted]

$0.0393545848 per GB-mo of log storage - US East (Northern Virginia) (blended price)*	0.000051 GB-Mo	[redacted]

- Data Pipeline [redacted]
- Data Transfer [redacted]
- Directory Service [redacted]
- Elastic Compute Cloud [redacted]
- ElastiCache [redacted]
- Key Management Service [redacted]
- Lambda [redacted]
- RDS Service [redacted]
- Route 53 [redacted]
- Simple Notification Service [redacted]
- Simple Queue Service [redacted]
- Simple Storage Service [redacted]
- SimpleDB [redacted]
- Support (Developer) [redacted]
- Virtual Private Cloud [redacted]

Taxes

- CT to be collected [redacted]
- GST to be collected [redacted]
- US Sales Tax to be collected [redacted]
- VAT to be collected [redacted]

KAFKA SUMMIT SF 2019

September 30 - October 1, 2019 | San Francisco

ABOUT SCHEDULE SPEAKERS SPONSORS VENUE TRAINING & CERTIFICATION

Achieving a 50% Reduction in Cross-AZ Network Costs from Kafka

Session Level: Intermediate

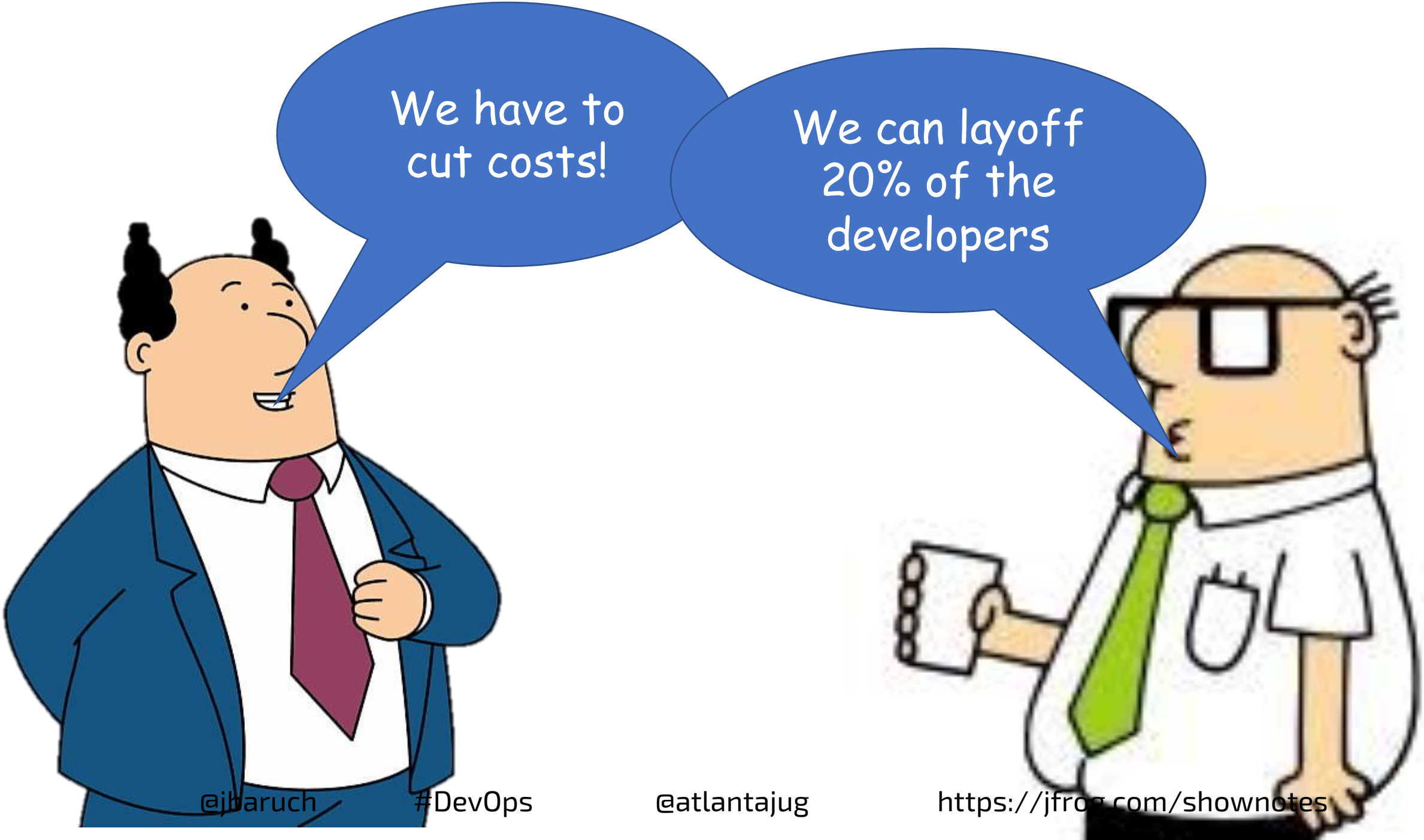
October 1, 2019, 11:25 am - 12:05 pm , Core Kafka,

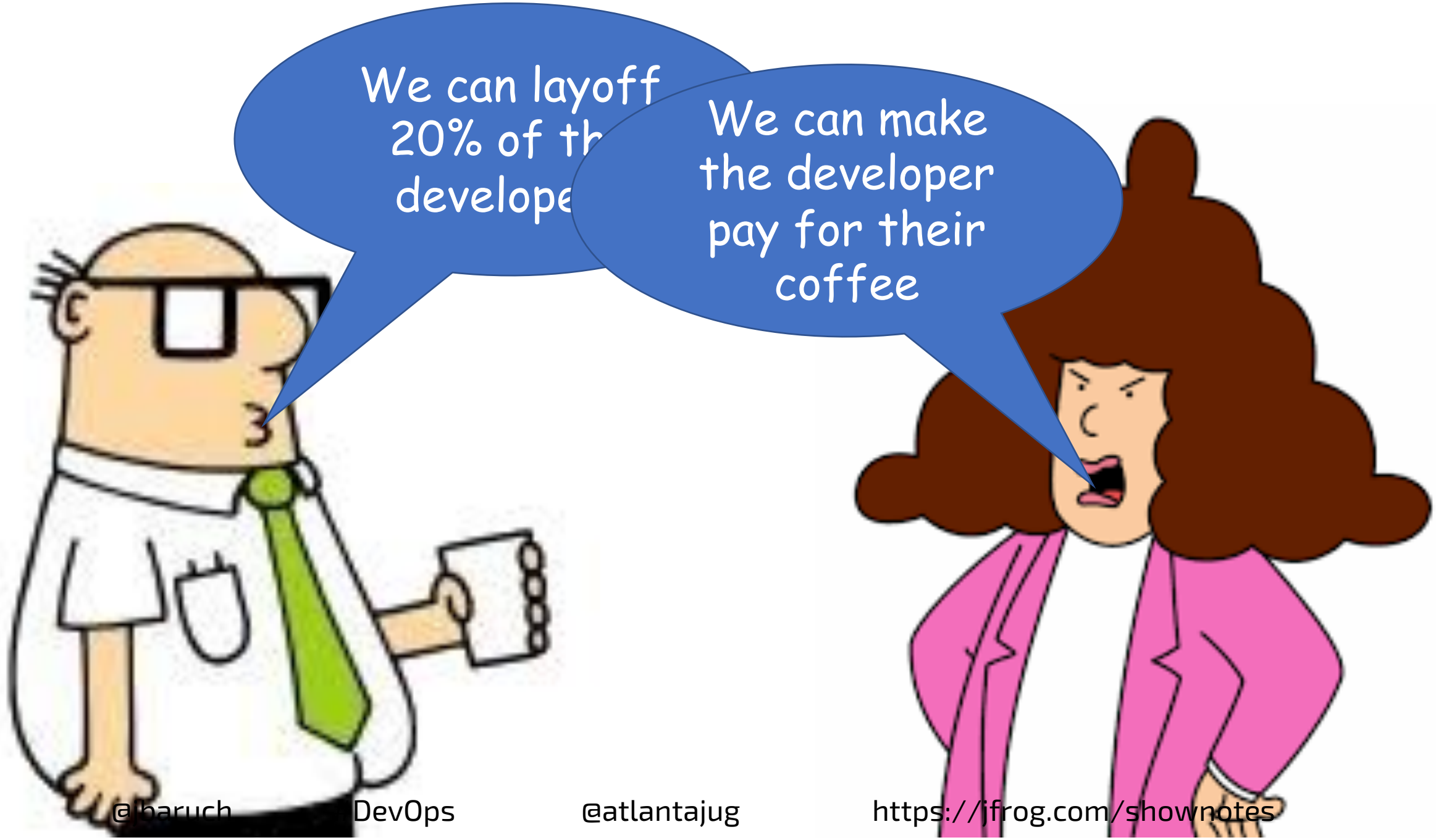


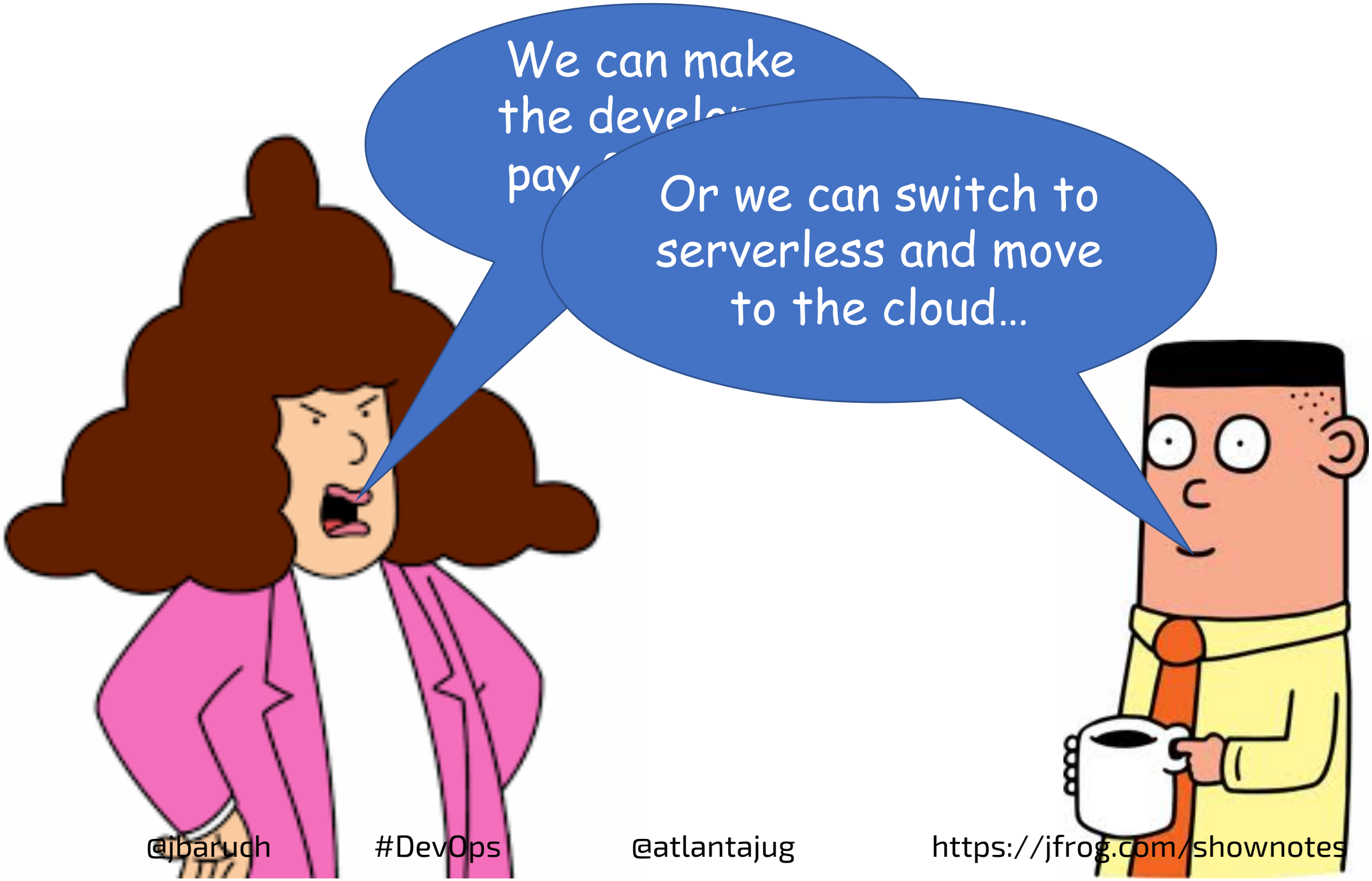
Uday Sagar Shiramshetty
Software Engineer, SignalFx

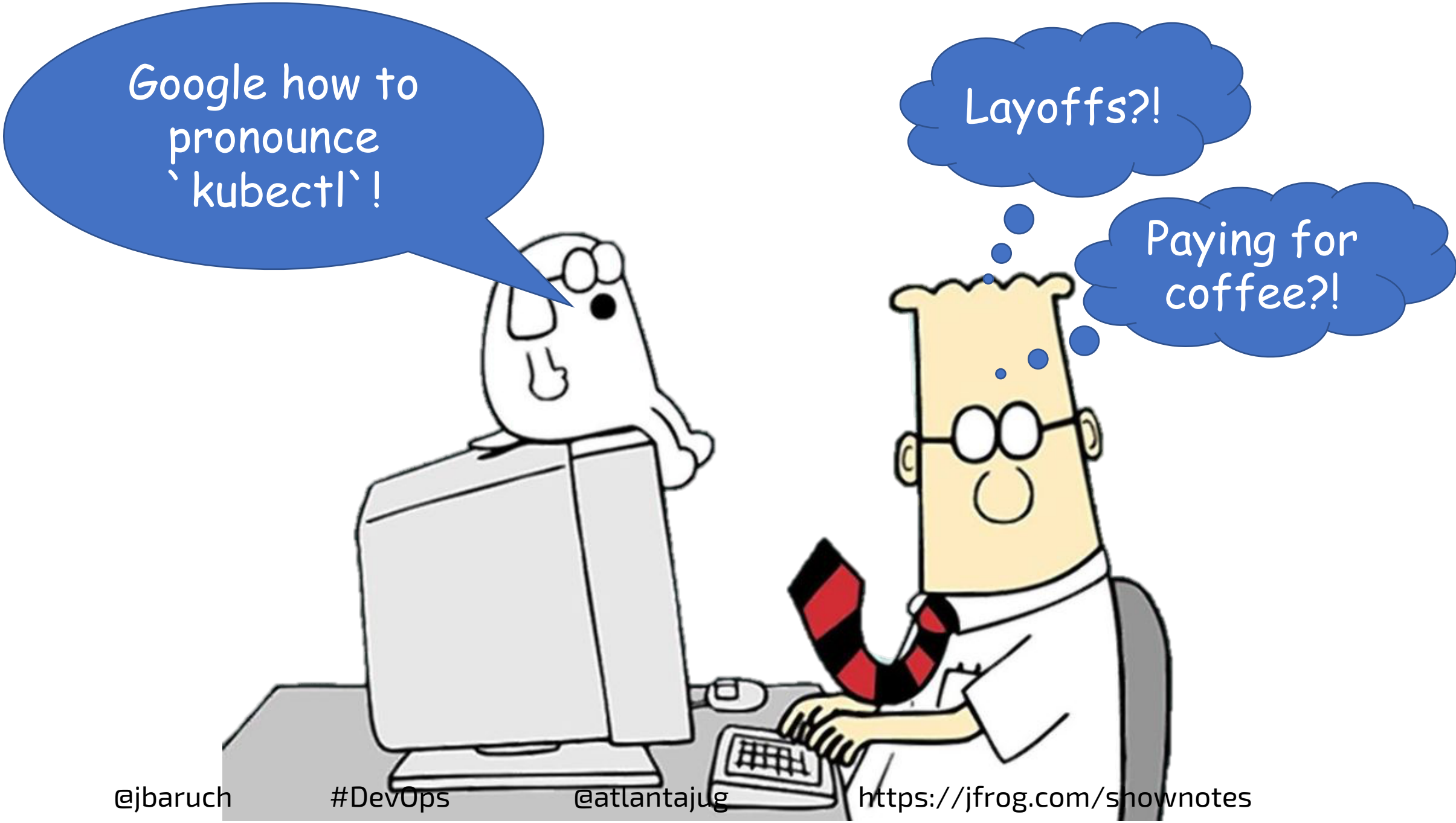


BUSINESS STEAMS ITS WAY TO THE DEVELOPERS!


We have to cut costs!
We can layoff 20% of the developers


We can layoff 20% of th develope
We can make the developer pay for their coffee


We can make
the develo
pay
Or we can switch to
serverless and move
to the cloud...


Google how to pronounce `kubectl`!
Layoffs?!
Paying for coffee?!


We need more happy customers!

WHAT DO WE WANT



NEW FEATURES!



WHEN DO WE THEM?



YESTERDAY!



ELITE PERFORMERS

Comparing the elite group against the low performers, we find that elite performers have…



208
TIMES MORE
frequent code deployments

106
TIMES FASTER
lead time from commit to deploy





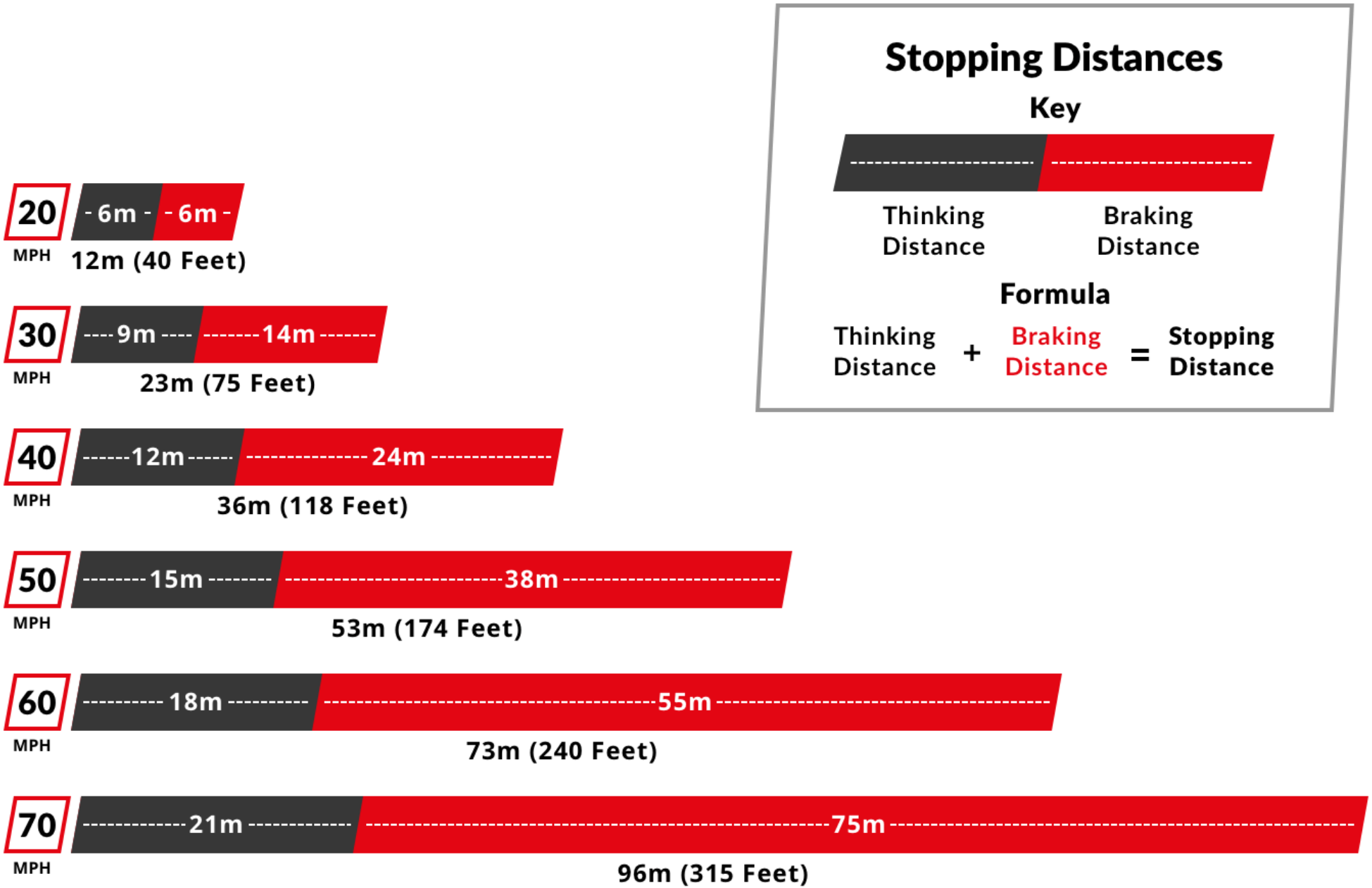
2,604
TIMES FASTER
time to recover from incidents

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

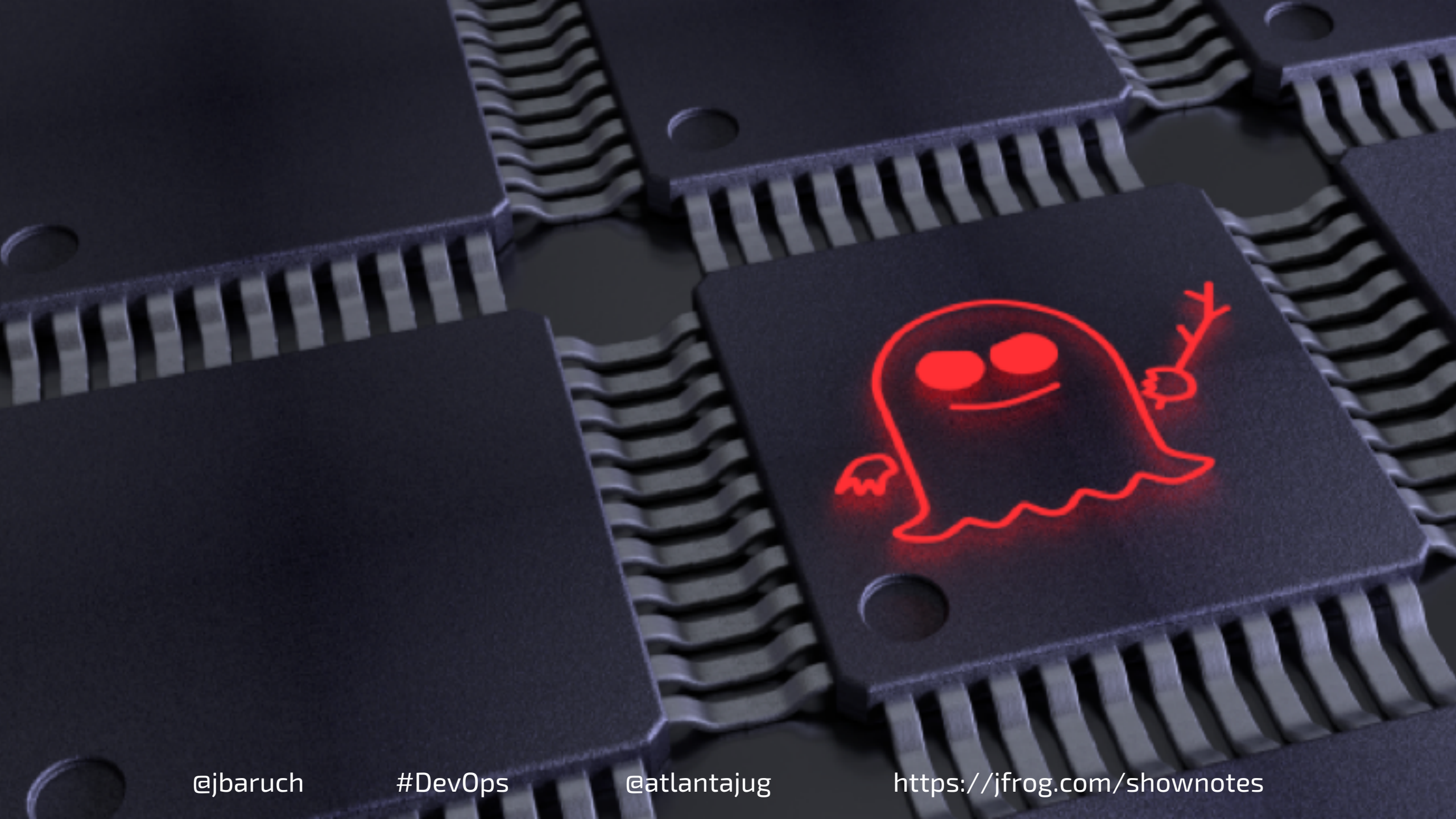


Throughput Stability


We need to improve our security!
Hire CISO, so you have someone to blame!


Stopping Distances
Key
Thinking Distance
Braking Distance
Formula
Thinking Distance + Braking Distance = Stopping Distance
20 MPH
6m
6m
12m (40 Feet)
30 MPH
9m
14m
23m (75 Feet)
40 MPH
12m
24m
36m (118 Feet)
50 MPH
15m
38m
53m (174 Feet)
60 MPH
18m
55m
73m (240 Feet)
70 MPH
21m
75m
96m (315 Feet)


IDENTIFY
FIX
UPDATE



@jbaruch #DevOps @atlantajug https://jfrog.com/shownotes

Computing

Chips may be inherently vulnerable to Spectre and Meltdown attacks

Most malware exploits coding errors and poor design. But Google security researchers say a fundamental flaw in the nature of computing could make some threats impossible to defeat.

by **Emerging Technology from the arXiv** Feb 25, 2019

ELITE PERFORMERS

Comparing the elite group against the low performers, we find that elite performers have…



208
TIMES MORE
frequent code deployments

106
TIMES FASTER
lead time from commit to deploy



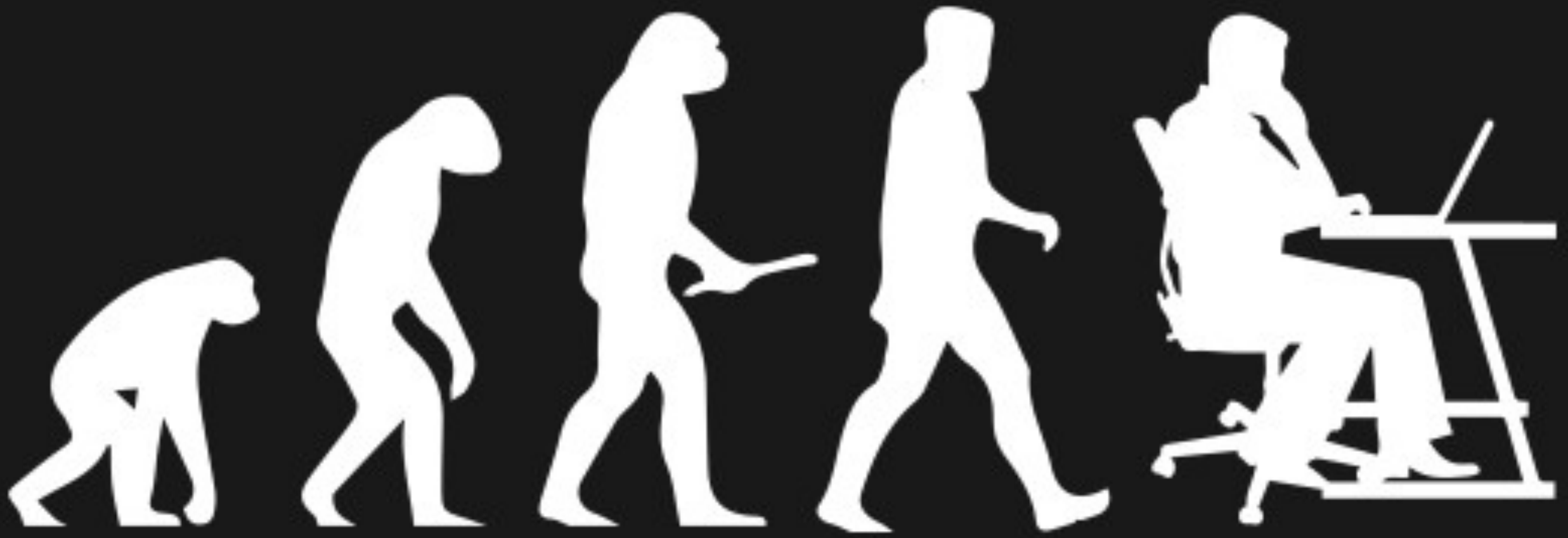


2,604
TIMES FASTER
time to recover from incidents

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



Throughput Stability



DEVOPS IS A MEAN TO AN END



Quality



Lean software

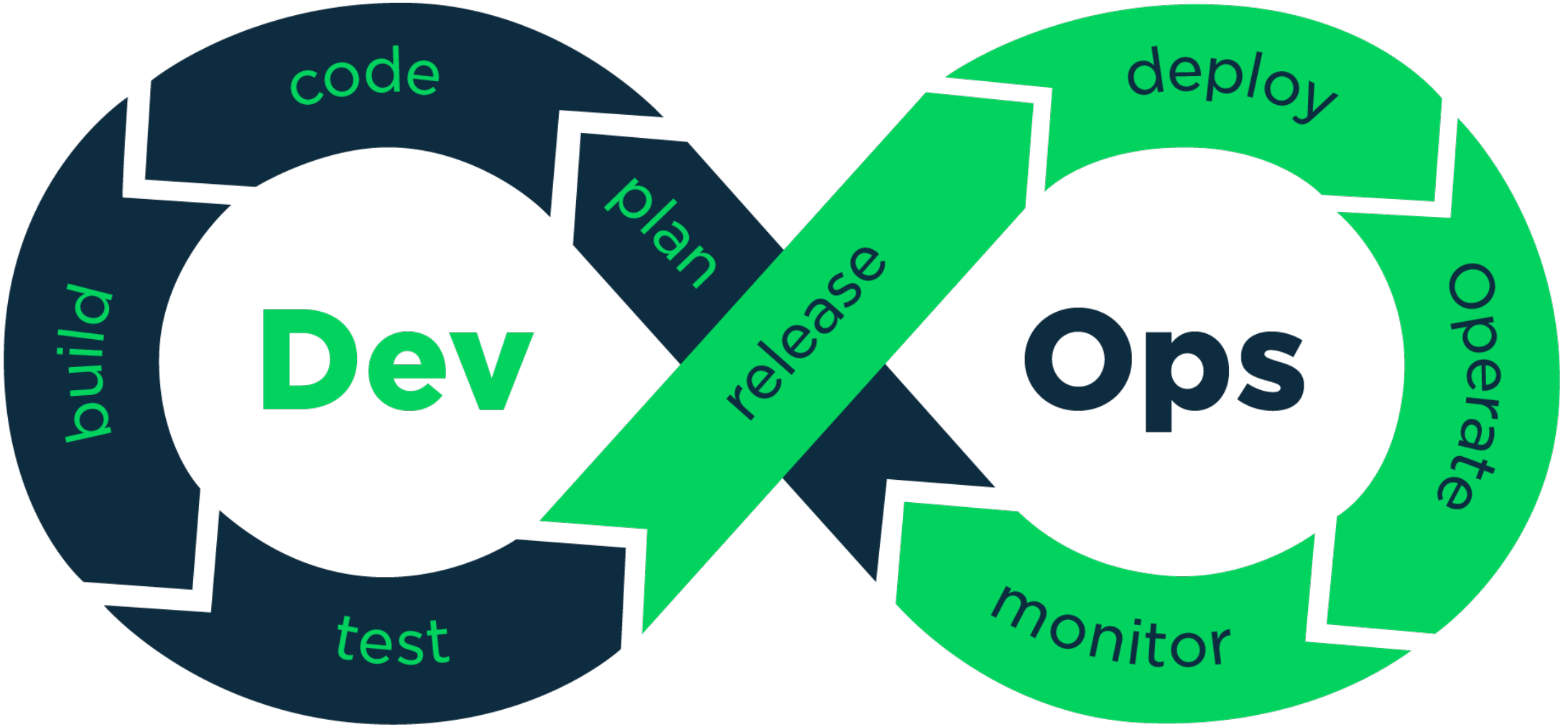


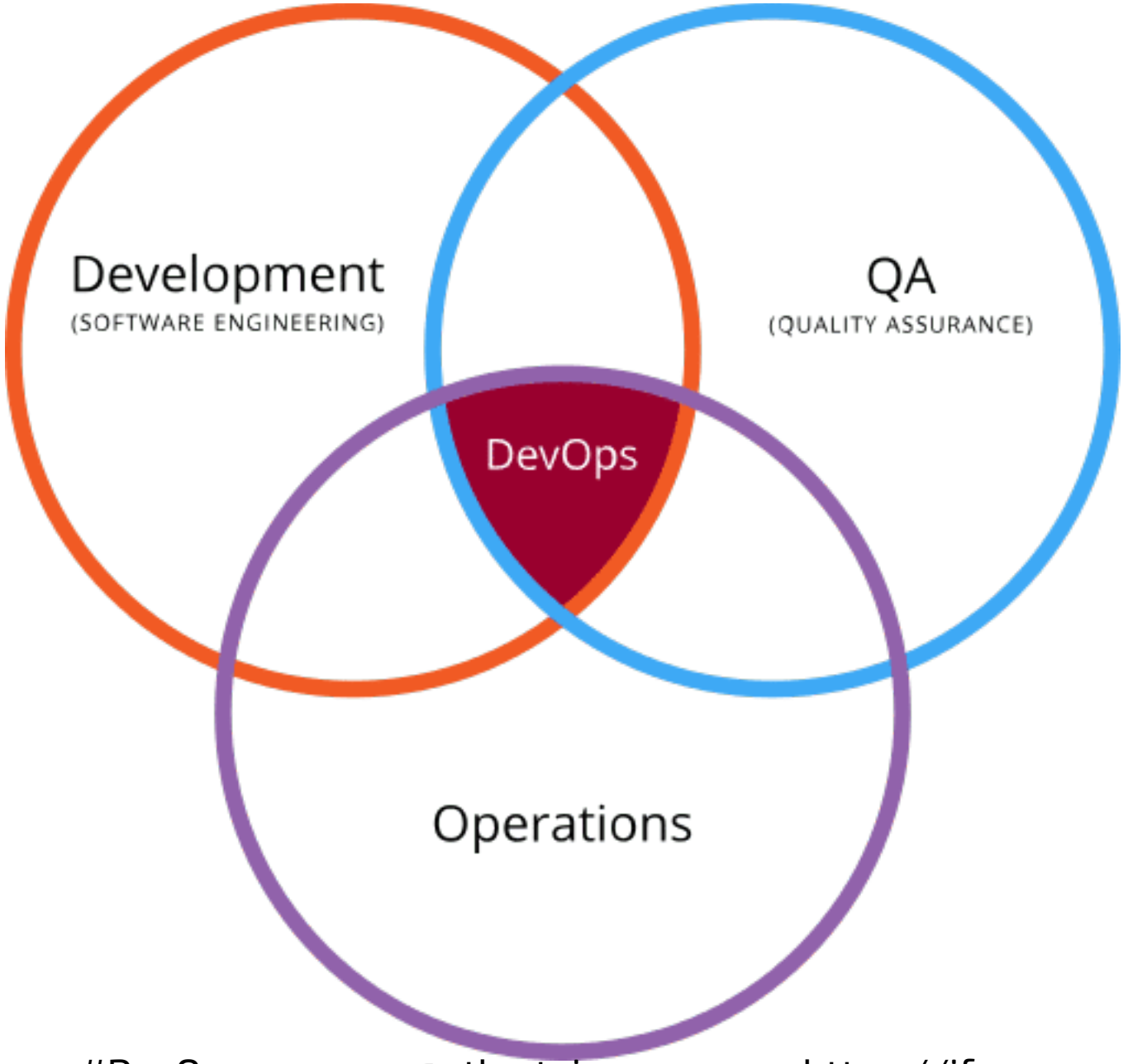
New Features



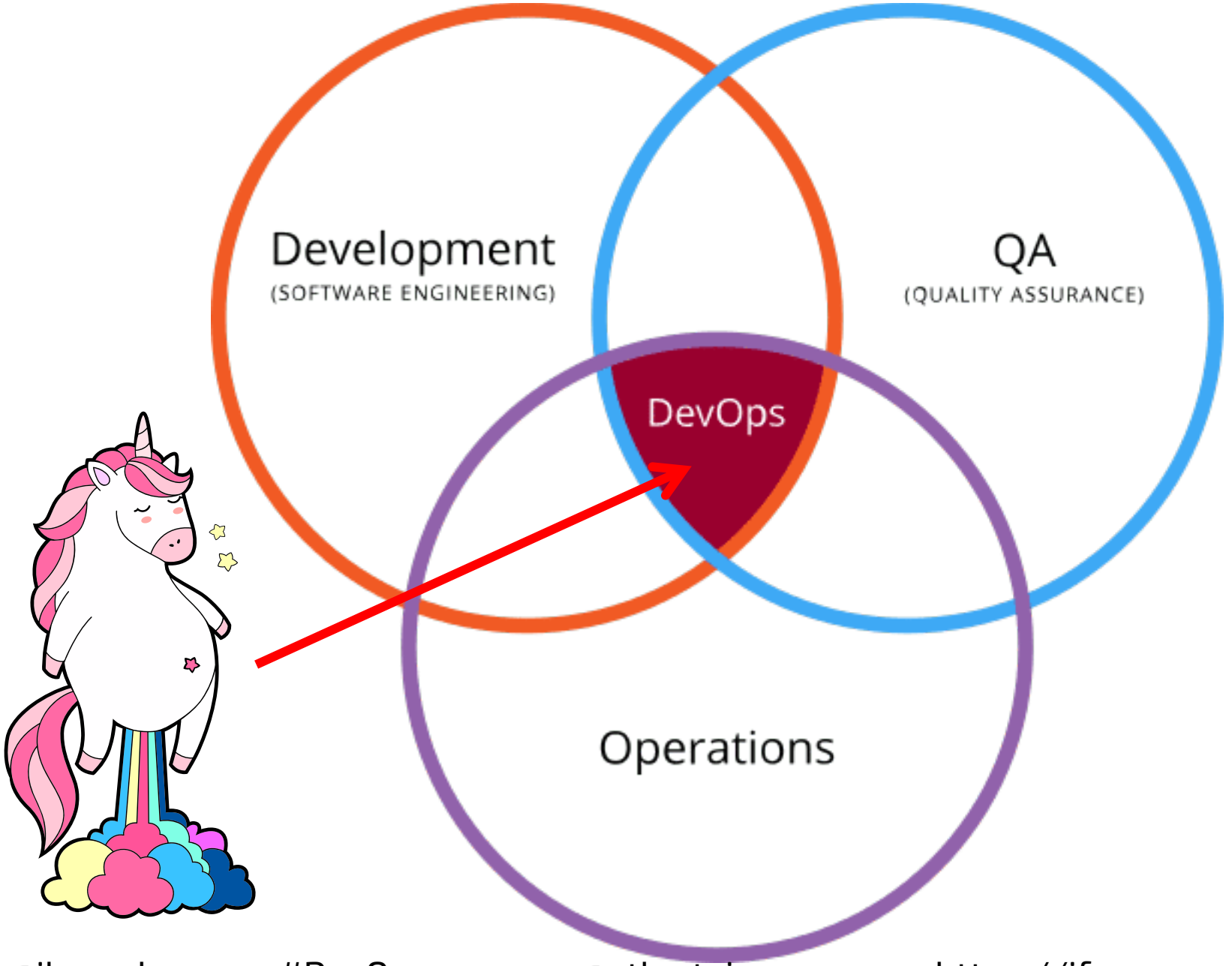
Security

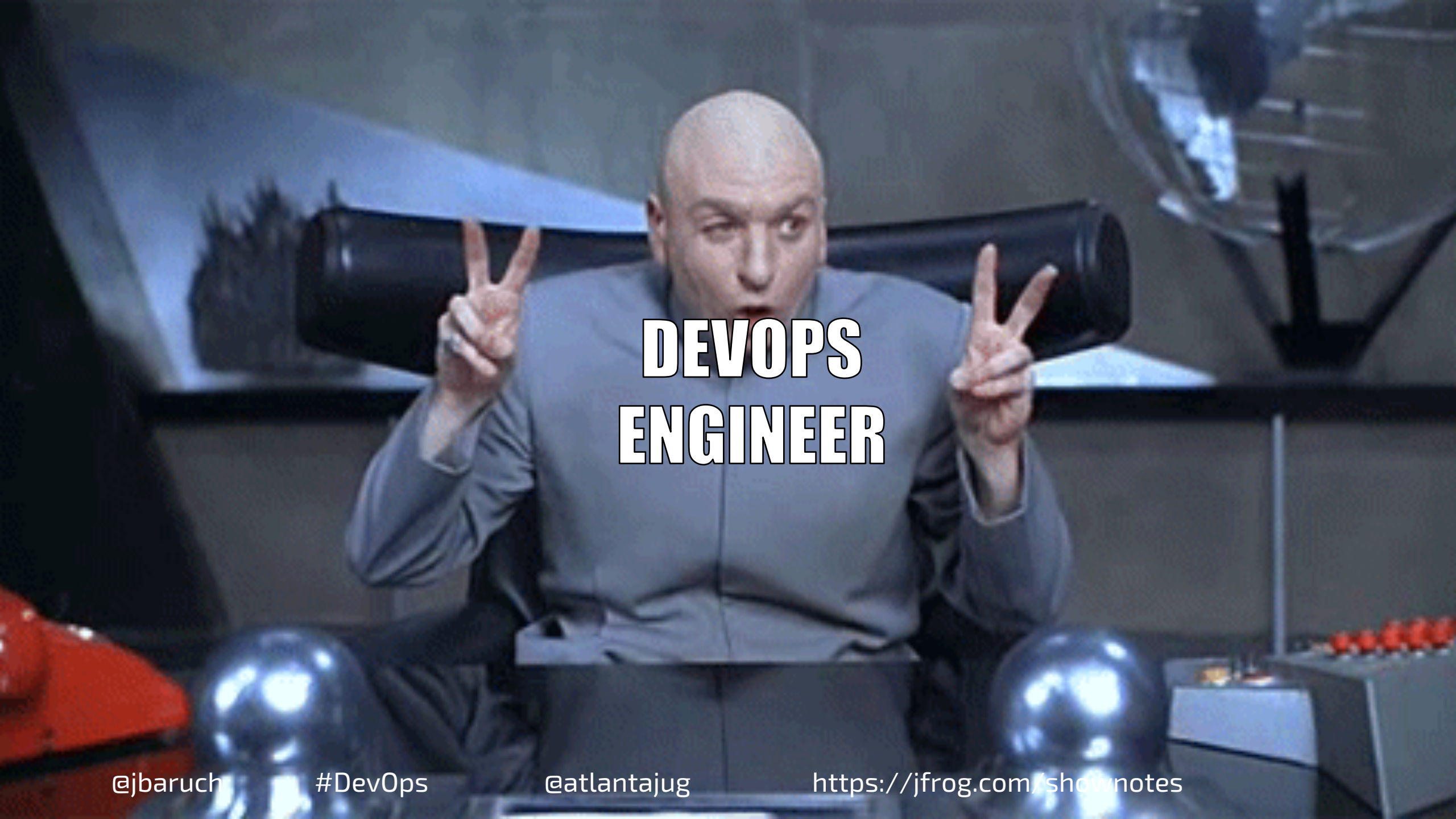

WELCOME TO DEVOPS!

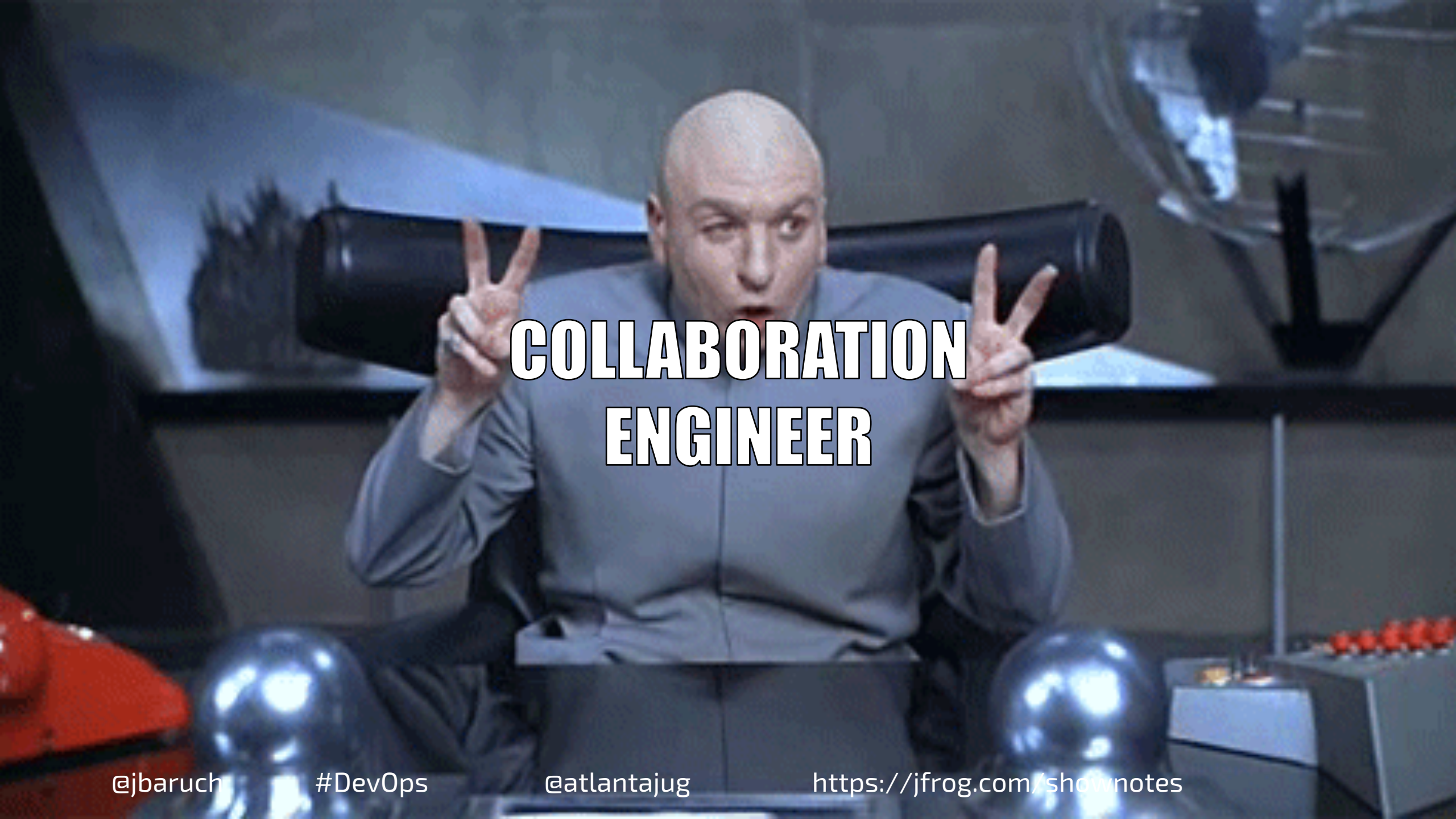

code
plan
build
Dev
test
release
deploy
Ops
Operate
monitor

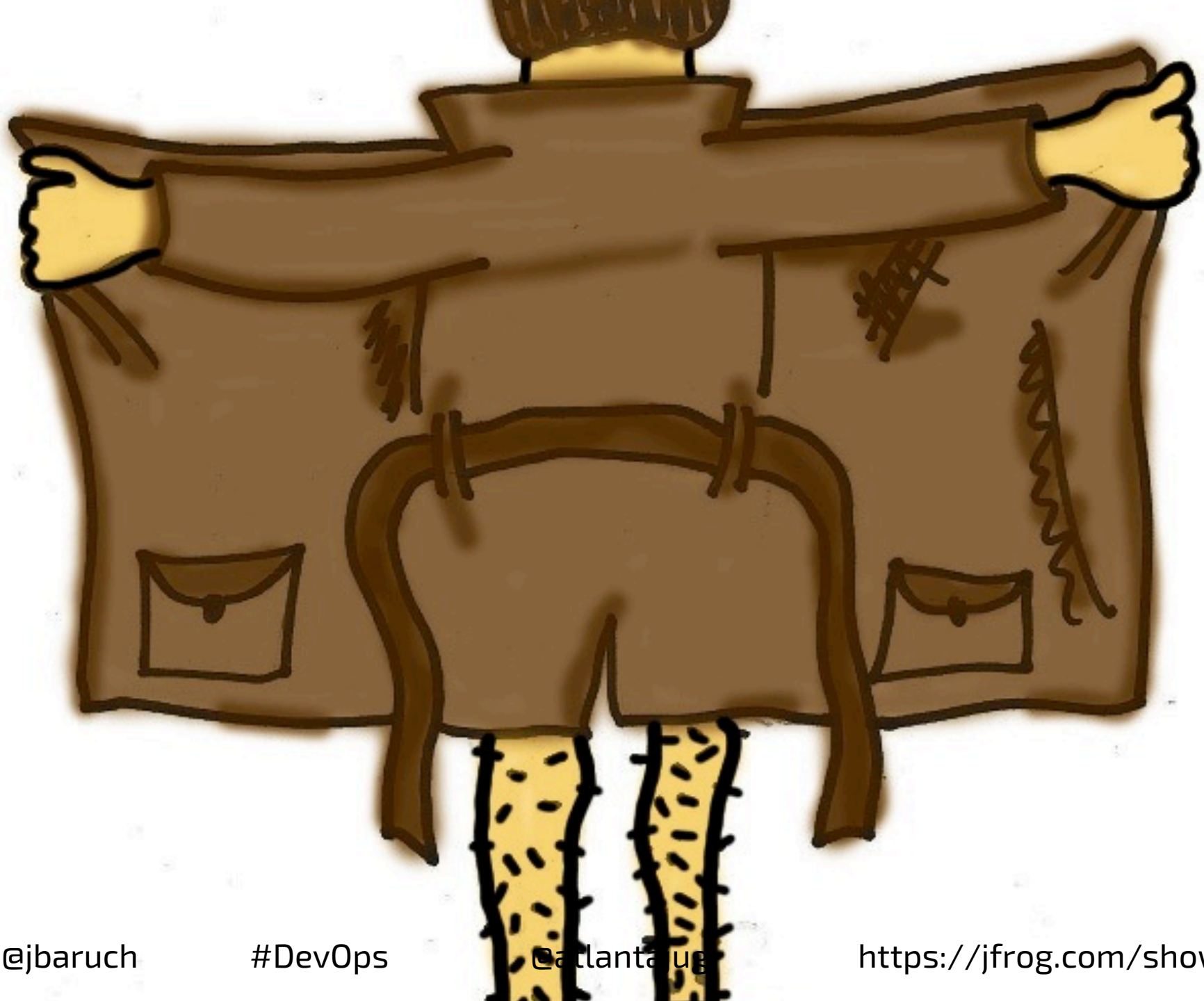

Development
(SOFTWARE ENGINEERING)
QA
(QUALITY ASSURANCE)
DevOps
Operations


Good News,
Everyone!


Development
(SOFTWARE ENGINEERING)
QA
(QUALITY ASSURANCE)
DevOps
Operations


DEVOPS
ENGINEER


COLLABORATION
ENGINEER



ACCELERATE

State of DevOps 2019

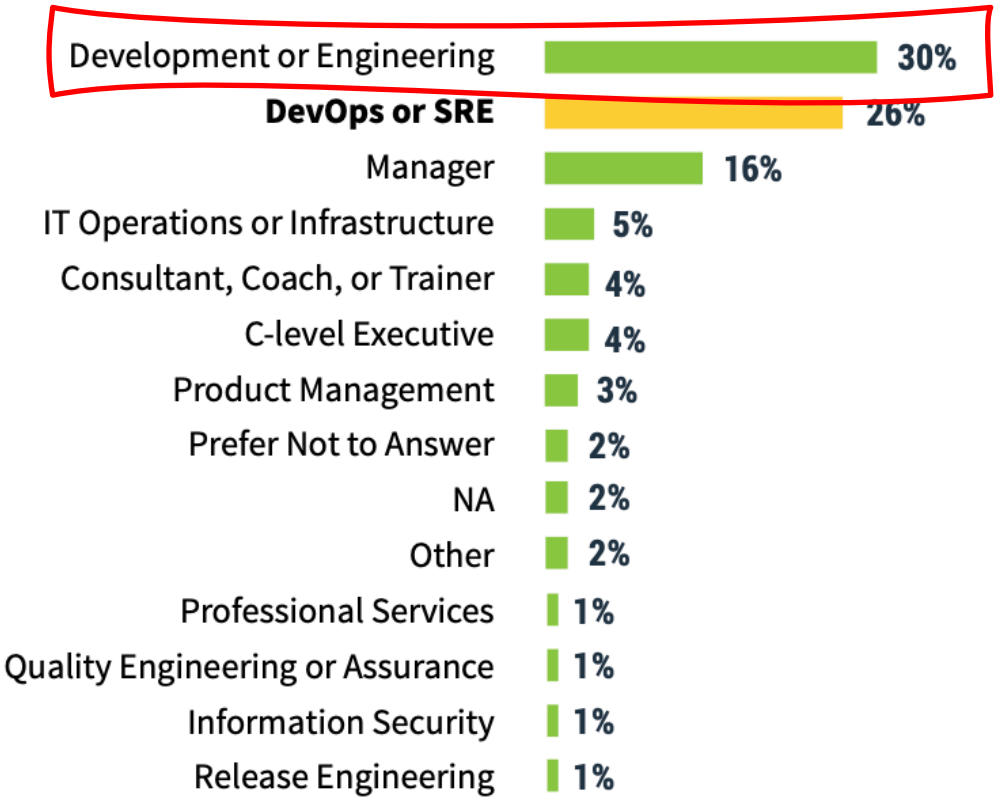


Sponsored by

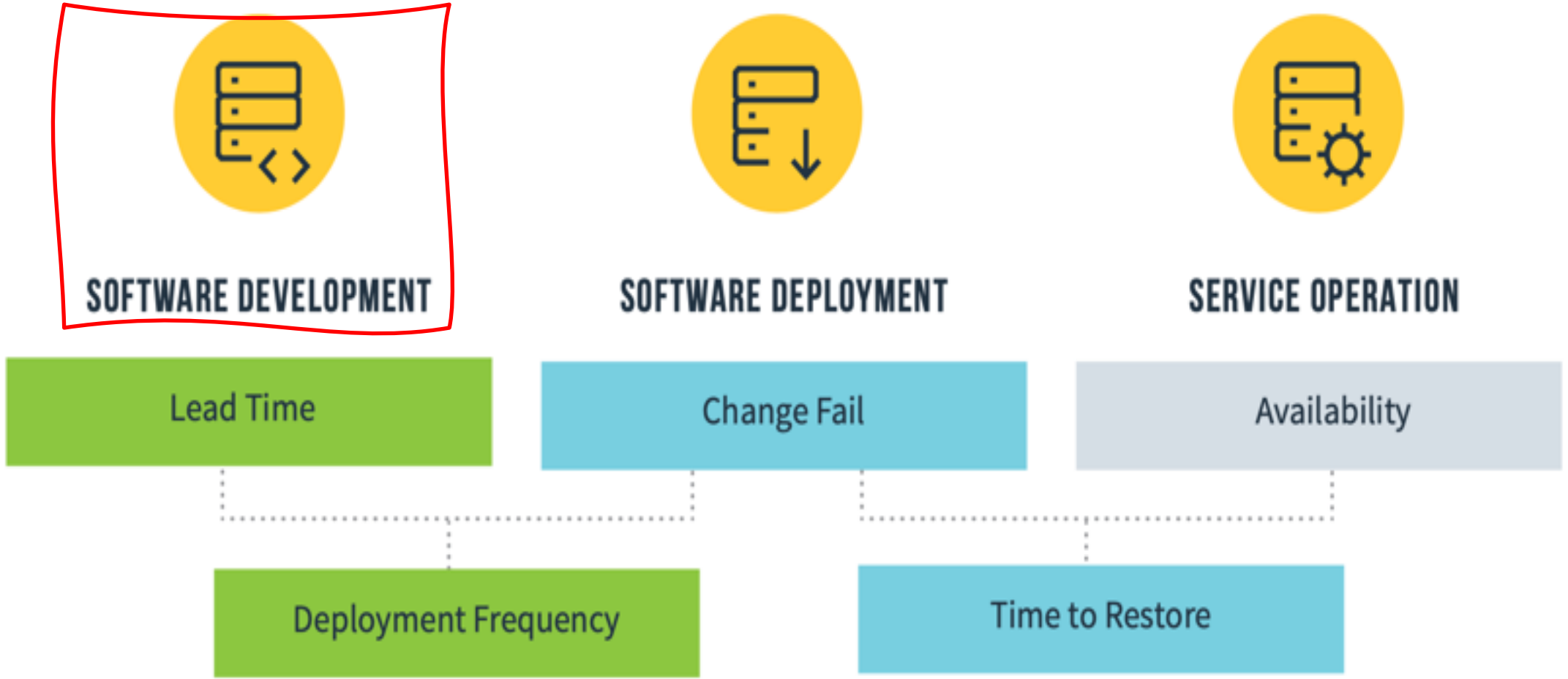
DORA | Google Cloud | Pivotal | Deloitte. | sumo logic | redgate

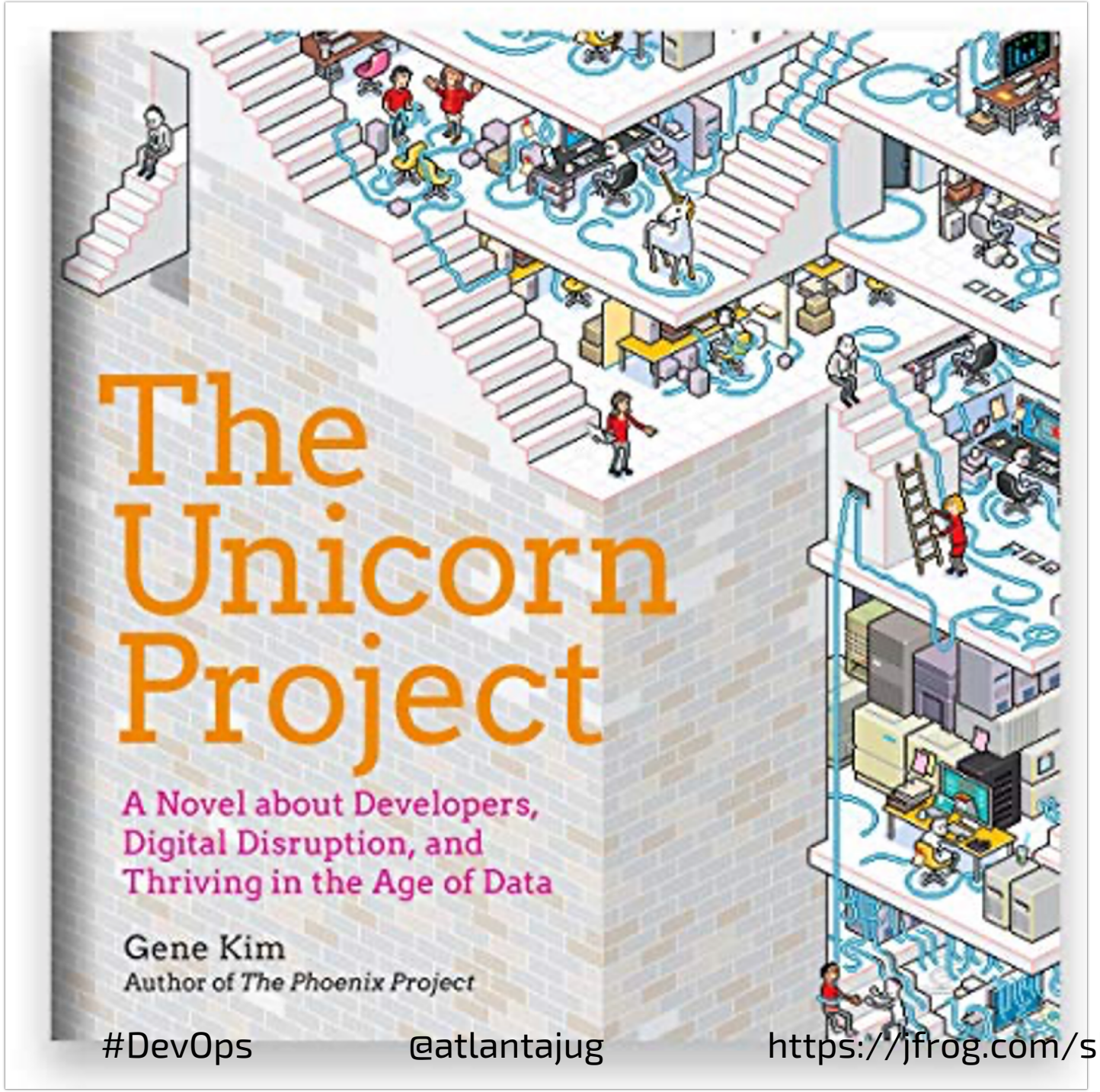
DEPARTMENTS

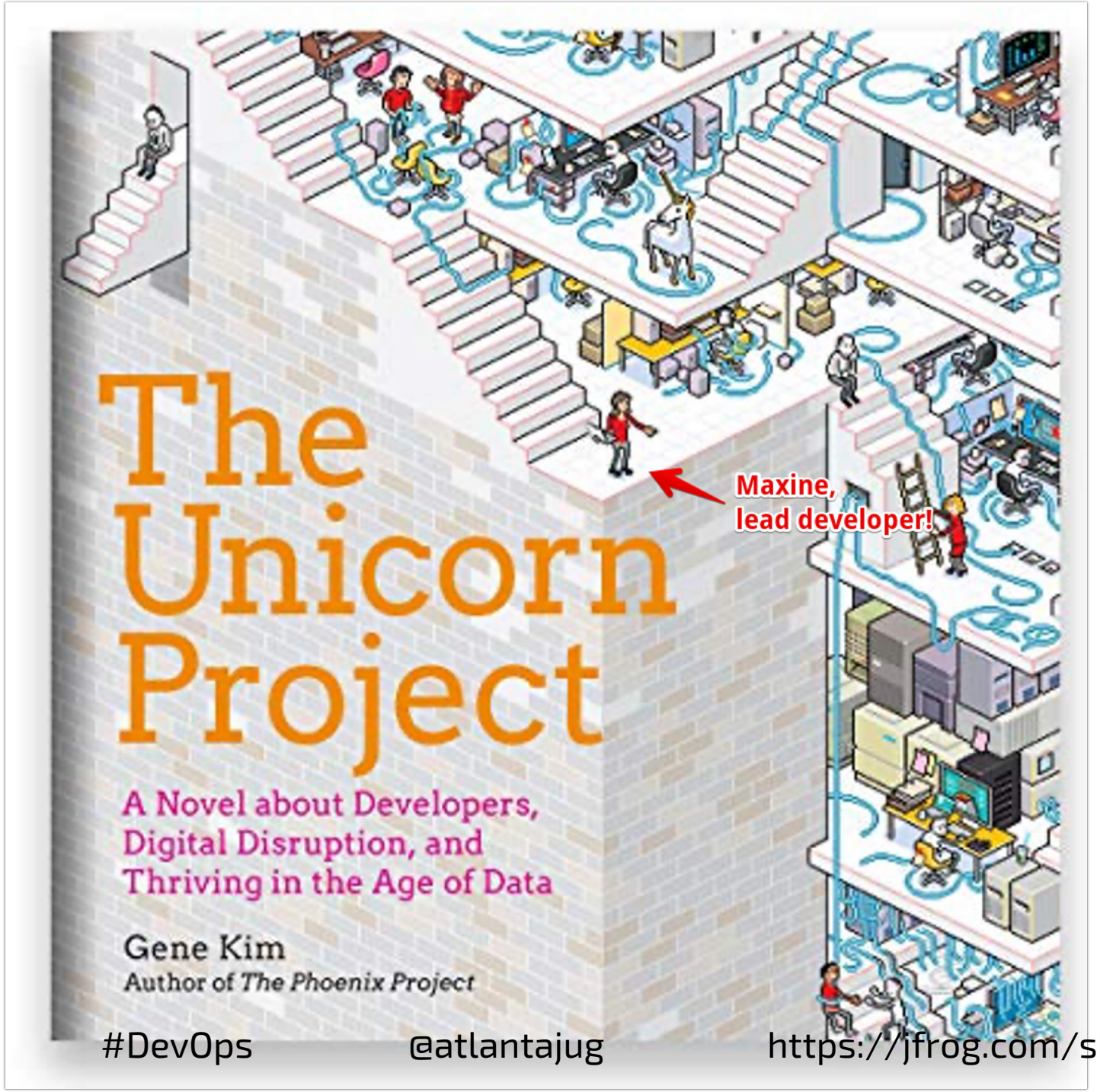
Participants who work in DevOps teams have increased since we began our study, reporting 16% in 2014, 19% in 2015, 22% in 2016, and holding steady around 27% for the past three years. (Note this is within the margin of error.)



PERFORMANCE METRICS




The Unicorn Project
A Novel about Developers, Digital Disruption, and Thriving in the Age of Data
Gene Kim
Author of The Phoenix Project


The Unicorn Project
A Novel about Developers, Digital Disruption, and Thriving in the Age of Data
Gene Kim
Author of The Phoenix Project
Maxine, lead developer!

Google

What is SRE? In Conversation Resources Read SRE Books

What is SRE?

SRE is what you get when you treat operations as if it's a software problem. Our mission is to protect, provide for, and progress the software and systems behind all of Google's public services — Google Search, Ads, Gmail, Android, YouTube, and App Engine, to name just a few — with an ever-watchful eye on their availability, latency, performance, and capacity.



✓Yes, DevOps is an Ops idea

✓But the business liked it!

✓It's quality, it's lean, it's competitive advantage, it's security

✓It's not as bad as it sounds.

Now everything is code, and we love code!

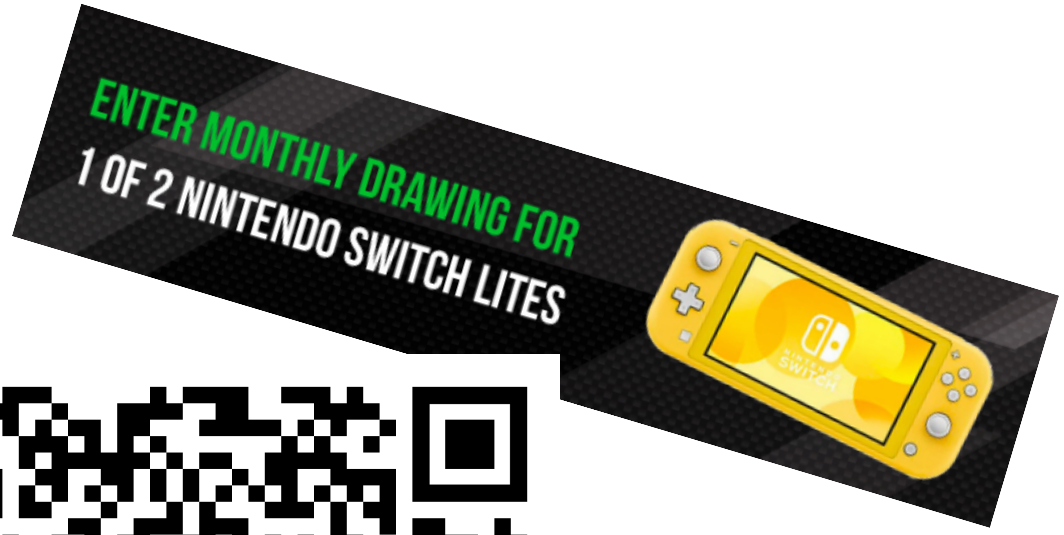
✓All we need to do is follow principles and practices, and that we know how to do!





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TWITTER ADS AND Q&A



@jbaruch

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#DevOps

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