

#DataDrivenDevOps

*"Without data you are just
another person with an opinion"*

W. Edwards Deming

SHOWNOTES

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 Raffle

@jbaruch

#DataDrivenDevOps

#GOTOchgo

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**COBBLER'S
CHILDREN HAVE
NO SHOES**



POLL TIME!

 How many of you are software engineers?

 How many of you are optimists?

 How many of you are self-confident in their work?

DUNNING-KRUGER EFFECT A.K.A. "OPTIMISM"

“ People suffer from illusory superiority, mistakenly assessing their cognitive ability as greater than it is.

Wikipedia

SECOND-SYSTEM EFFECT A.K.A. “SELF-CONFIDENCE”

“ The tendency of small, elegant, and successful systems, to be succeeded by over-engineered, bloated systems, due to inflated expectations and overconfidence.

The Mythical Man-Month

THE CONSEQUENCES

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DISILLUSION



Software I like



**Software I
know really
well**

OVERCONFIDENCE

“ Every software is 80% ready 80% of the time

Every developer, ever

HARD TO GIVE UP



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- Other Projects?
- Look for video team
- Video template in Sky
- Shared video roadmap
- agreed AFD
- words share research spike

Get A... **LOTS** + 3...
(Go to other channels)
K-TEAM **LOTS** + 3...
Determine
Observing
Intelligence
Use each team work
Priority lists

Stale
Gains
- Don't see for one...
- Video template in Sky
- Shared video roadmap
- agreed AFD
- words share research spike

ITERATION 2
WILL COME TO THE...
WE NEED TO...
- Don't see for one...
- Video template in Sky
- Shared video roadmap
- agreed AFD
- words share research spike

Flow
STAGE
N
- LIKE
- FLO TO

Plaid shirt, arms crossed

Woman in black vest, holding coffee

Man in maroon 'BRONX' t-shirt, arms crossed

Man in light grey t-shirt, hands on hips

Man in black t-shirt, hands on hips

Man in blue t-shirt with cartoon, arms crossed

Man in striped polo shirt, arms crossed

Man in blue 'REAL SuperD' t-shirt, arms crossed

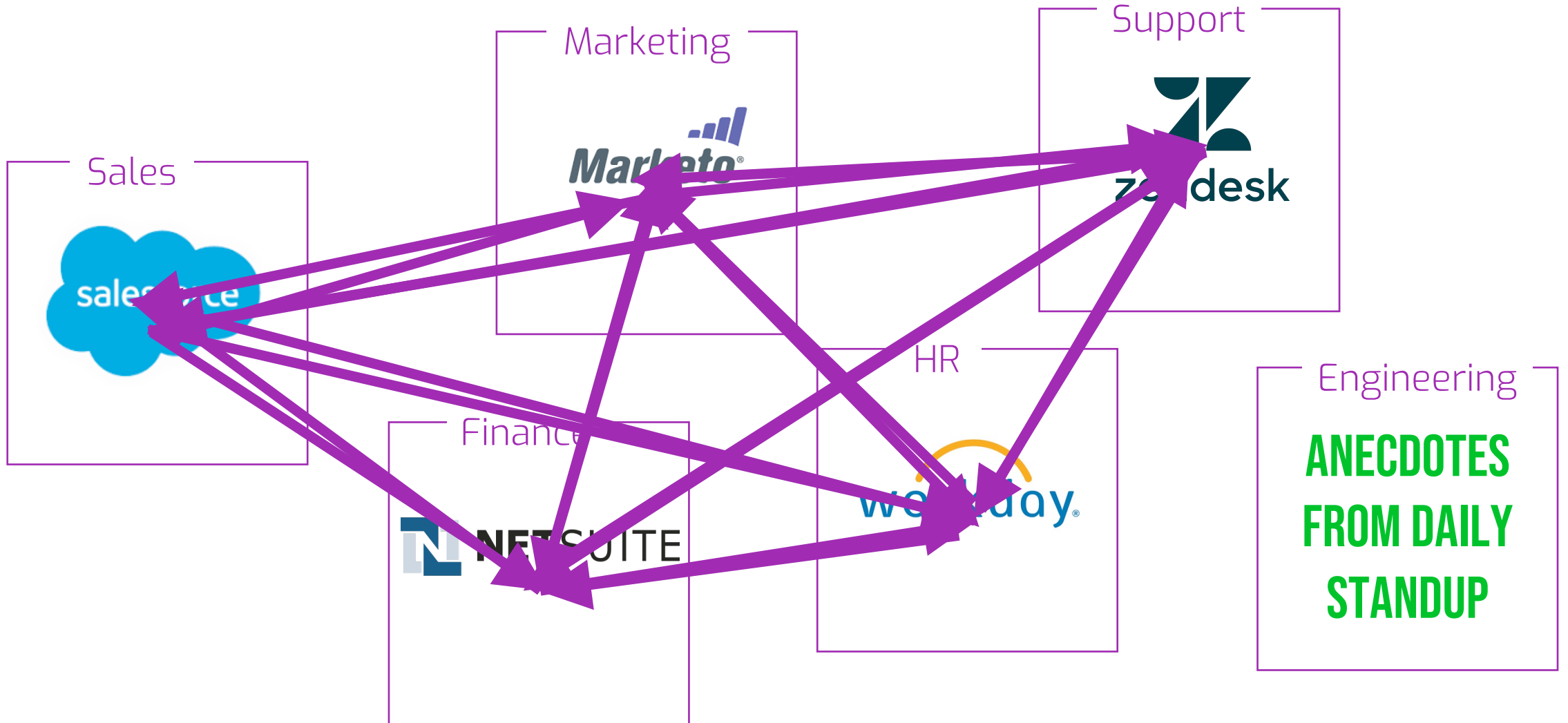
Man in maroon t-shirt, hands on hips

Man in grey shirt, back to camera

HOW DEPARTMENTS MEASURE



HOW DEPARTMENTS MEASURE



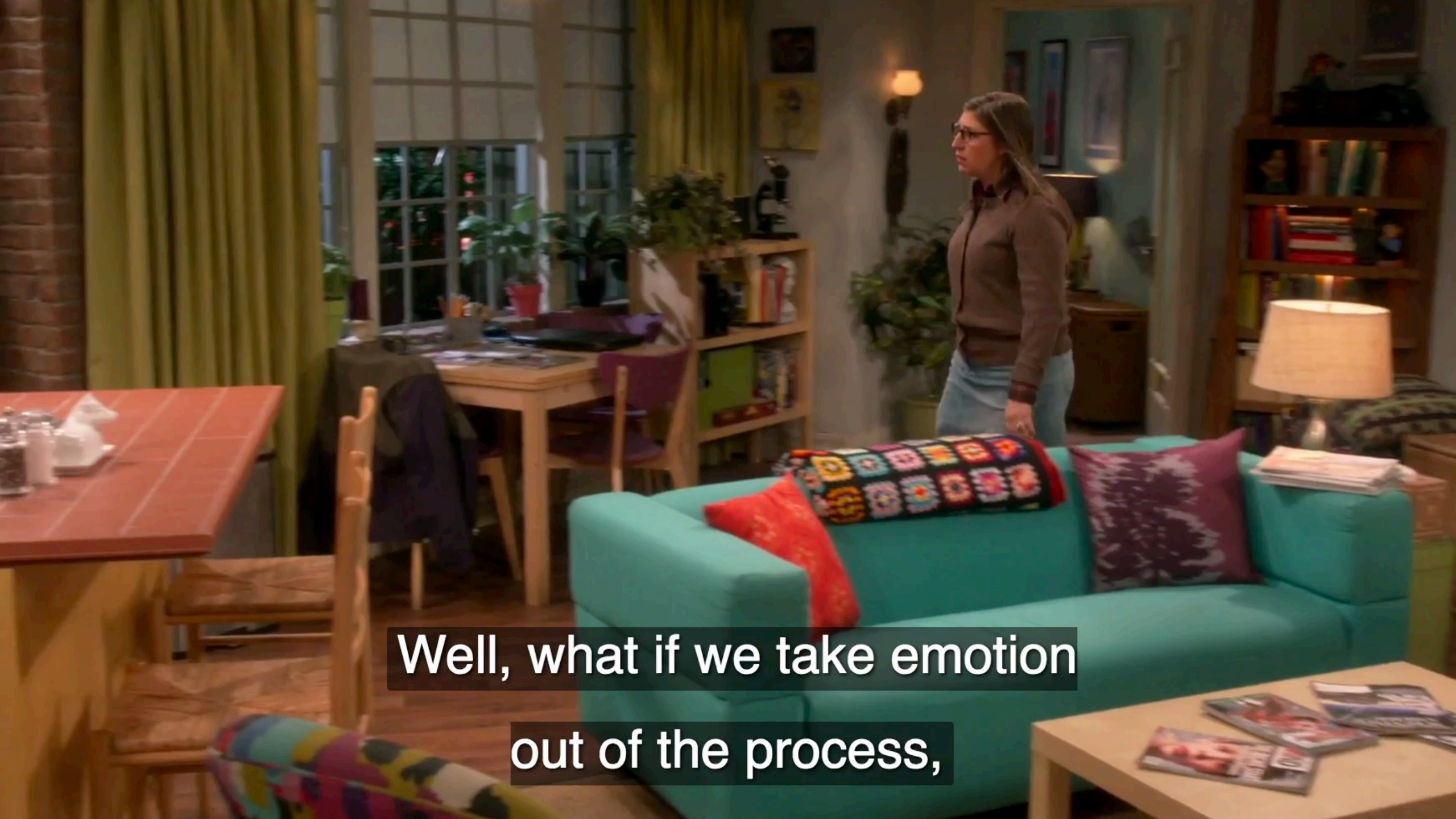
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A woman with glasses, wearing a brown zip-up jacket and a light blue skirt, stands in a living room. She is looking towards the left. The room features a teal sofa with a red pillow, a colorful patterned blanket, and a purple patterned pillow. A wooden coffee table with magazines is in front of the sofa. In the background, there is a dining table with a wooden top and purple chairs, a bookshelf, and a window with green curtains. A lamp is visible on the right side of the room.

Well, what if we take emotion
out of the process,

BARUCH SADOGURSKY

CHIEF STICKER OFFICER

(ALSO, HEAD OF DEVELOPER RELATIONS)



JBARUCH@JFROG.COM

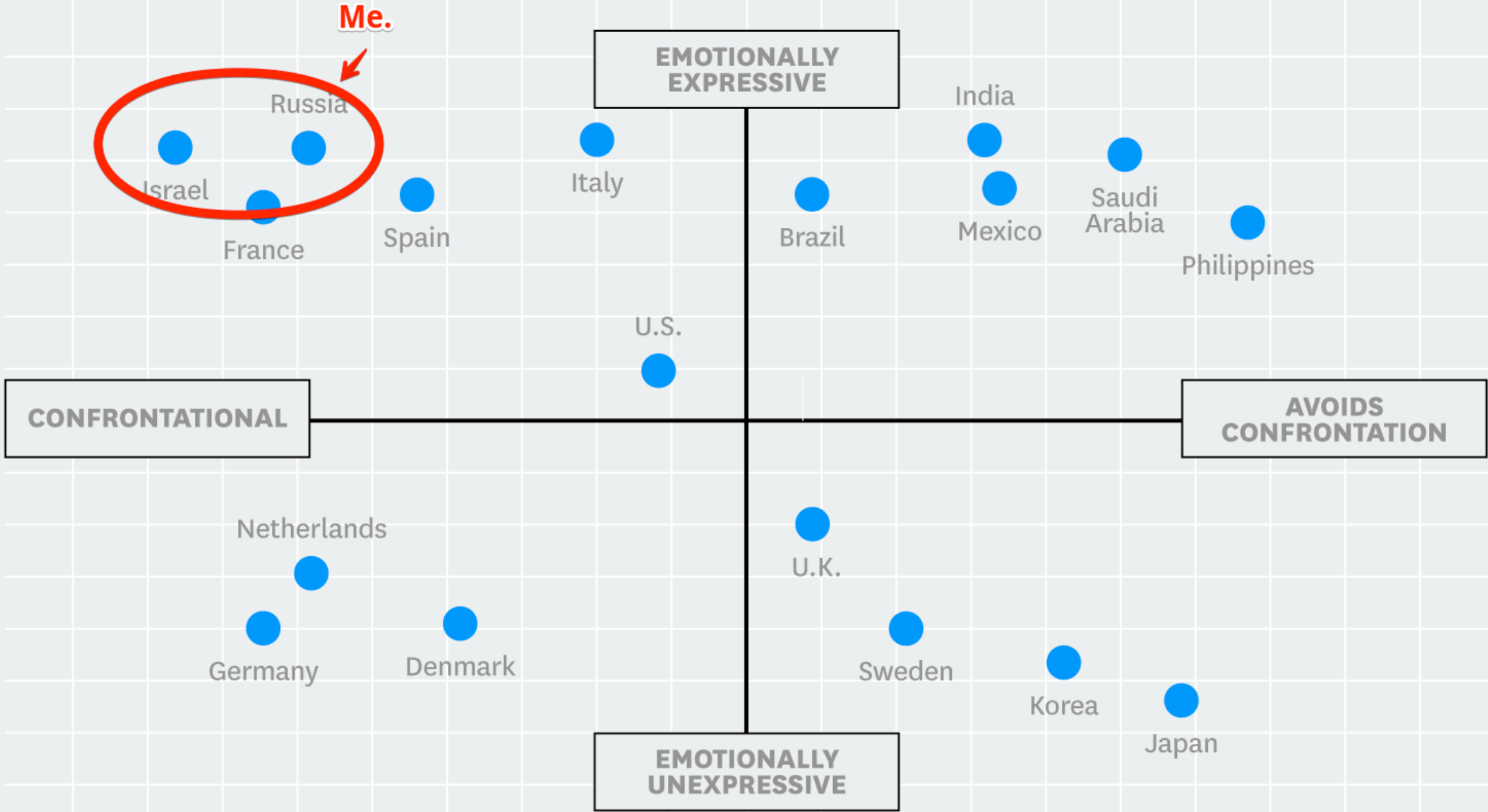


@JBARUCH

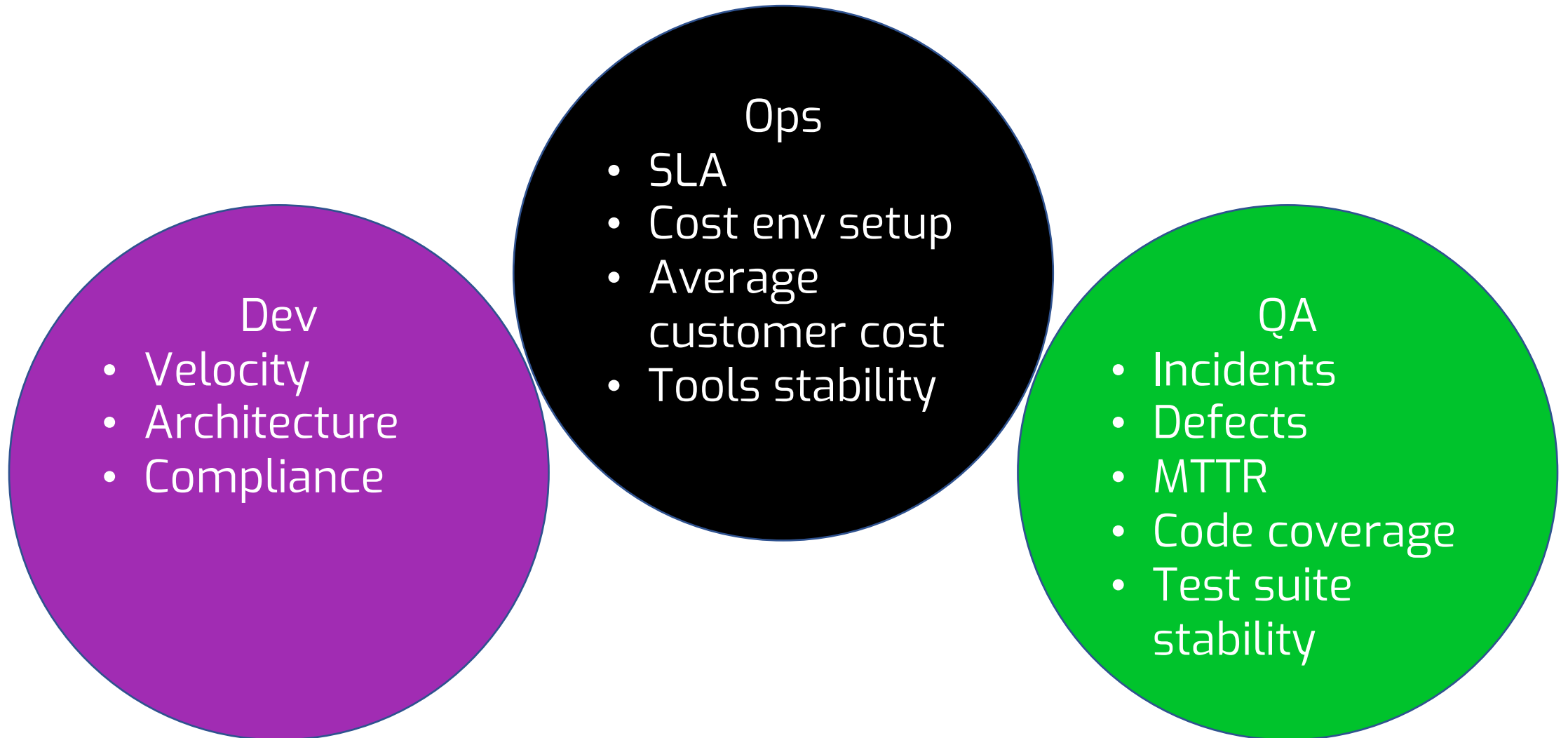


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ENGINEERING METRICS IN PRE-DEVOPS ERA



DEVOPS!



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VELOCITY TO AGILE IS LIKE ? TO DEVOPS...









VELOCITY TO AGILE IS LIKE PROFIT TO DEVOPS...



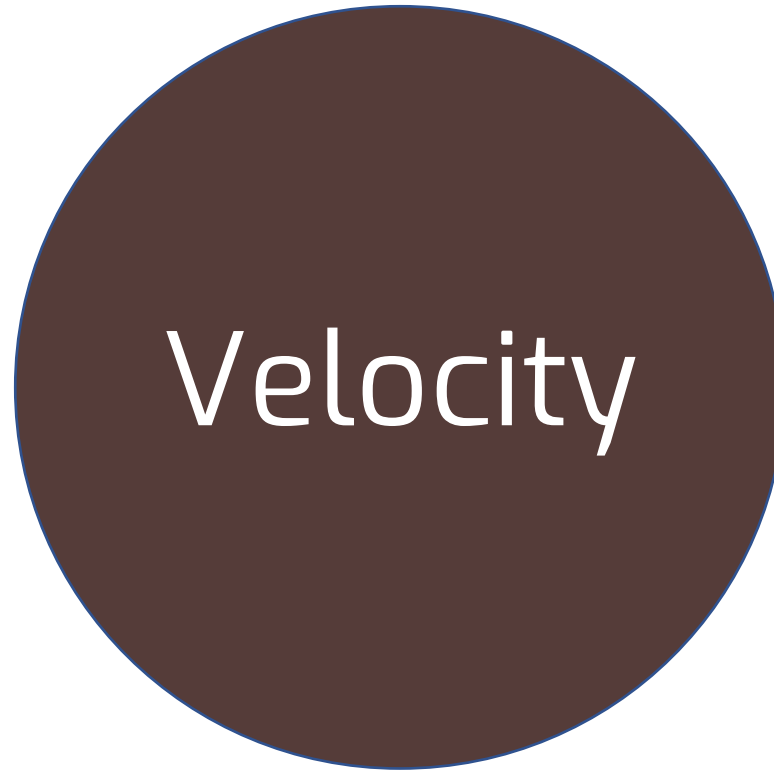
VERY MUCH ALIKE!

| METRIC | EASILY UNDERSTANDABLE | UNITY | |
|----------|-----------------------|-------|--|
| Profit | ✓ | ✓ | |
| Velocity | ✓ | ✓ | |

POLL TIME!

-  Who knows what velocity is?
-  Who knows what burndown chart is?
-  Who has a burndown chart?
-  Who looks at the burndown chart?
-  Who trusts the burndown chart?
-  Who knows what to do if it doesn't look right?

WHAT'S THE PROBLEM?



TRUE FOR BOTH!

| METRIC | EASILY UNDERSTANDABLE | UNITY | ACTIONABLE |
|----------|-----------------------|-------|------------|
| Profit | ✓ | ✓ | ✗ |
| Velocity | ✓ | ✓ | ✗ |

TOO COARSE!



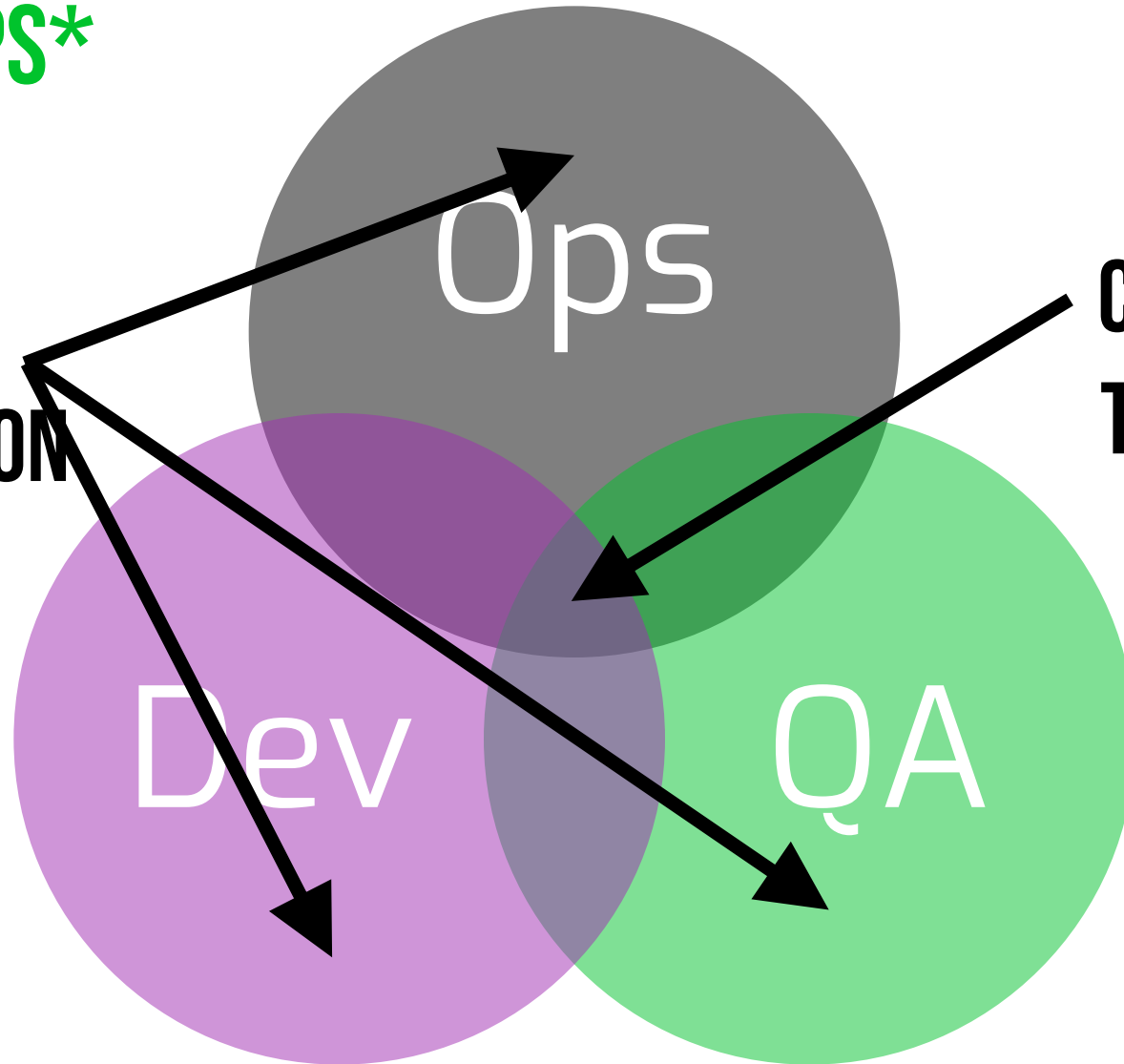
Profit

TOO COARSE!



THIS IS DEVOPS*

**DEEP
SPECIALIZATION**



**COMMON GOALS,
TOOLS, CULTURE**

***UNLESS YOU'RE NETFLIX
YOU'RE NOT

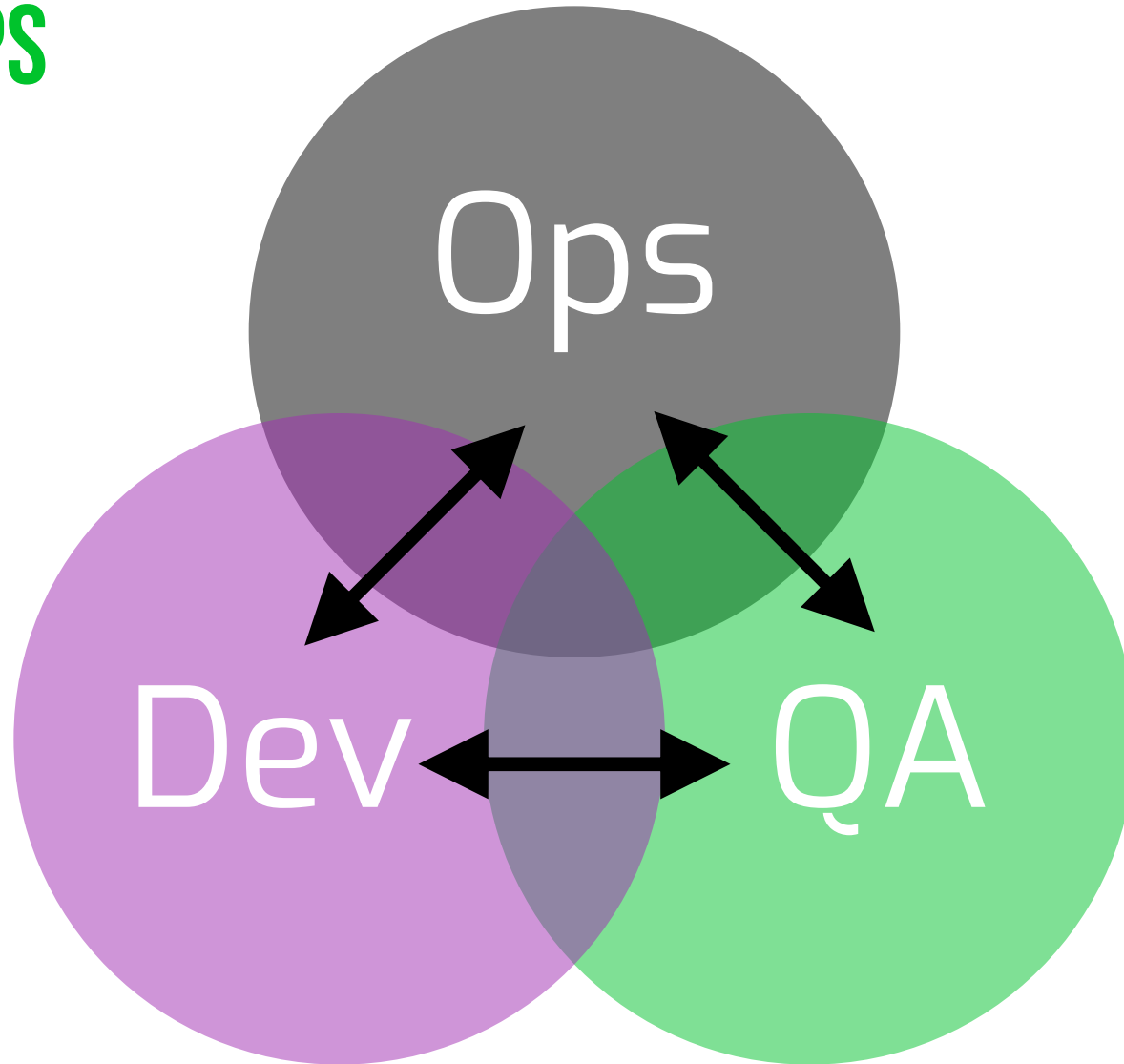
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THIS IS DEVOPS



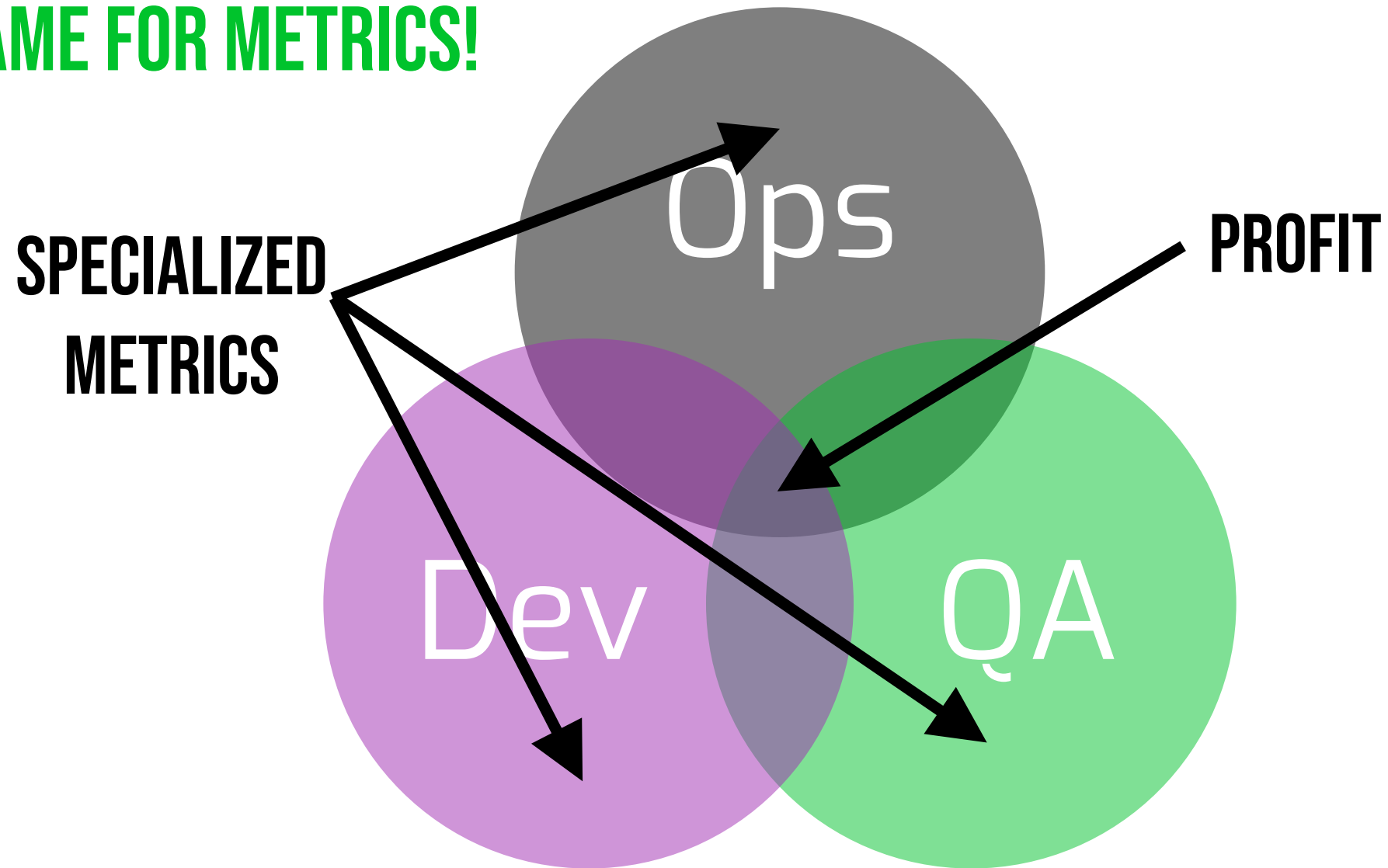
@jbaruch

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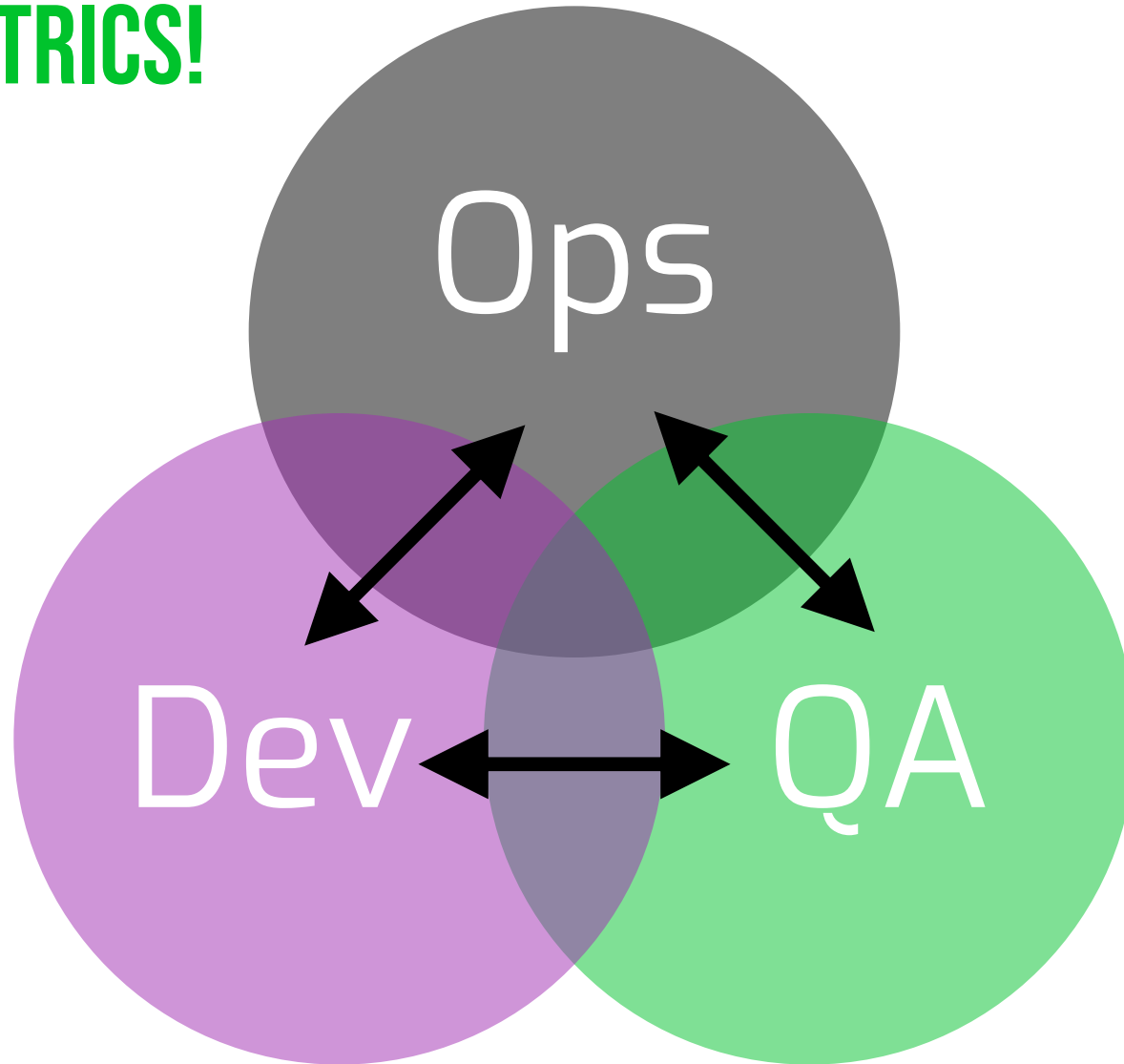
#GOTOchgo

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SAME FOR METRICS!



SAME FOR METRICS!



HOW DO METRICS COLLABORATE?

| INFLUENCED AFFECTED | DEV | OPS | QA |
|--------------------------------|---|---|--|
| DEV | | <ul style="list-style-type: none">• Time to build• Release pipelines stability• Artifact replication topology | <ul style="list-style-type: none">• False reopen count• QA coverage |
| OPS | <ul style="list-style-type: none">• Avg cost of customer | | <ul style="list-style-type: none">• Smoke tests quality |
| QA | <ul style="list-style-type: none">• Test suite stability• Incoming defect velocity• Test execution time | <ul style="list-style-type: none">• Time to create new QA lab | |



COOKING WITH METRICS

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METRICS CATEGORIZATION

Fresh
125 mL

Leafy vegetables
Cooked: 125 mL (1/2 cup)
Raw: 250 mL (1 cup)

Fresh, frozen or
canned fruits
1 fruit or 125 mL (1/2 cup)

100% Juice
125 mL (1/2 cup)

Bread
1 slice (35g)

Flat breads
1/2 pita or 1/2 tortilla (35 g)

Cooked rice,
bulgur or quinoa
125 mL (1/2 cup)

Cereal
Cold: 30 g
Hot: 175 mL (3/4 cup)

Cooked pasta
or couscous
125 mL (1/2 cup)

Milk or powdered
milk (reconstituted)
250 mL (1 cup)

Canned milk
(evaporated)
125 mL (1/2 cup)

Fortified soy
beverage
250 mL (1 cup)

Yogurt
175 g
(3/4 cup)

Kefir
175 g
(3/4 cup)

Cheese
50 g (1 1/2 oz)



WHY?



ROI – IS THIS ACTIVITY IS THE RIGHT THING TO DO?



CONTINUOUS IMPROVEMENT



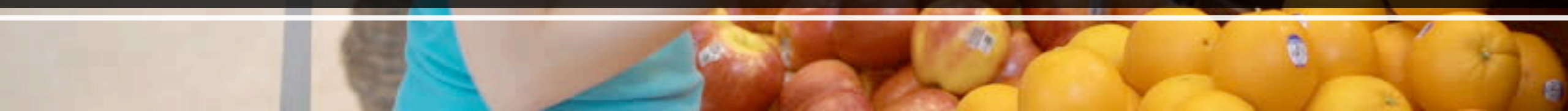
TRUST

SAMPLING

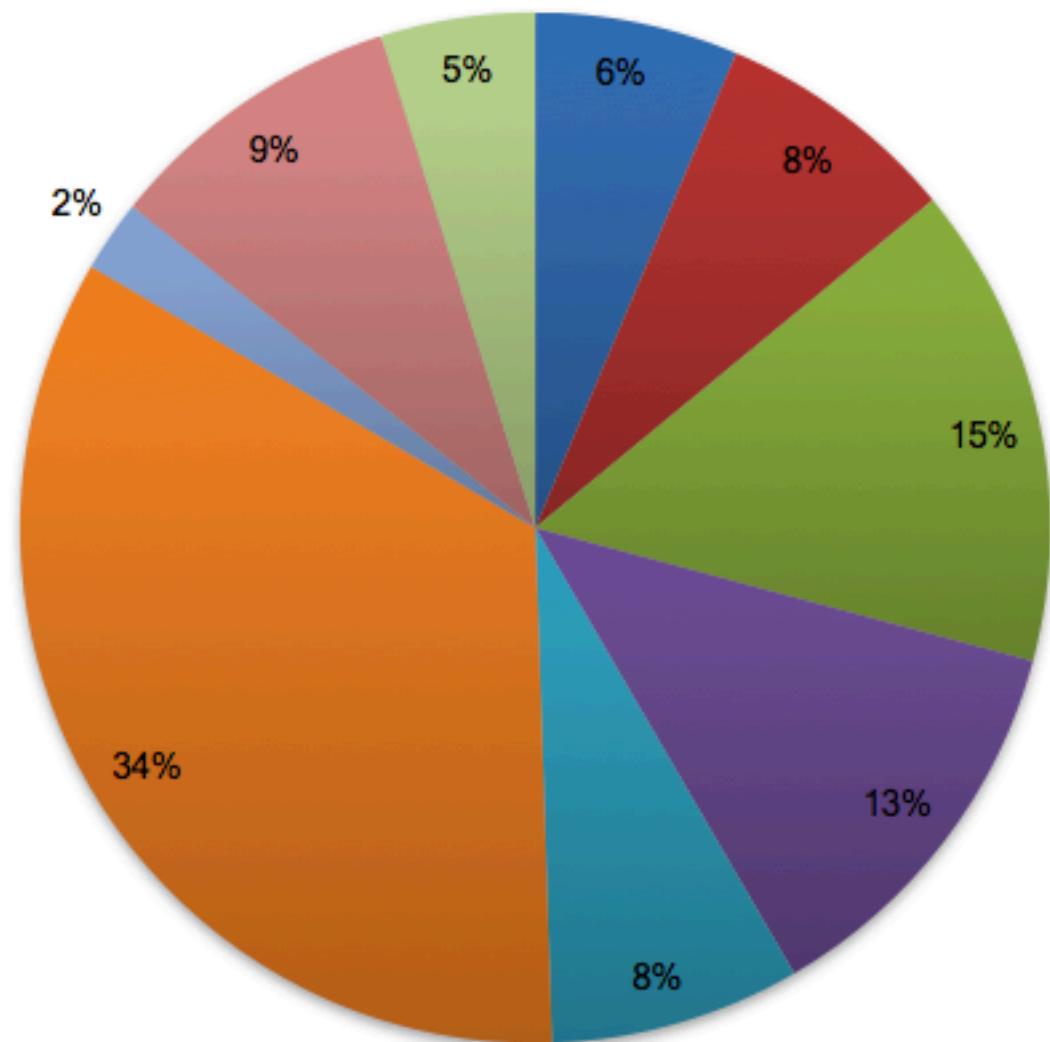
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COMPLETE SAMPLE



Engineering effort allocation



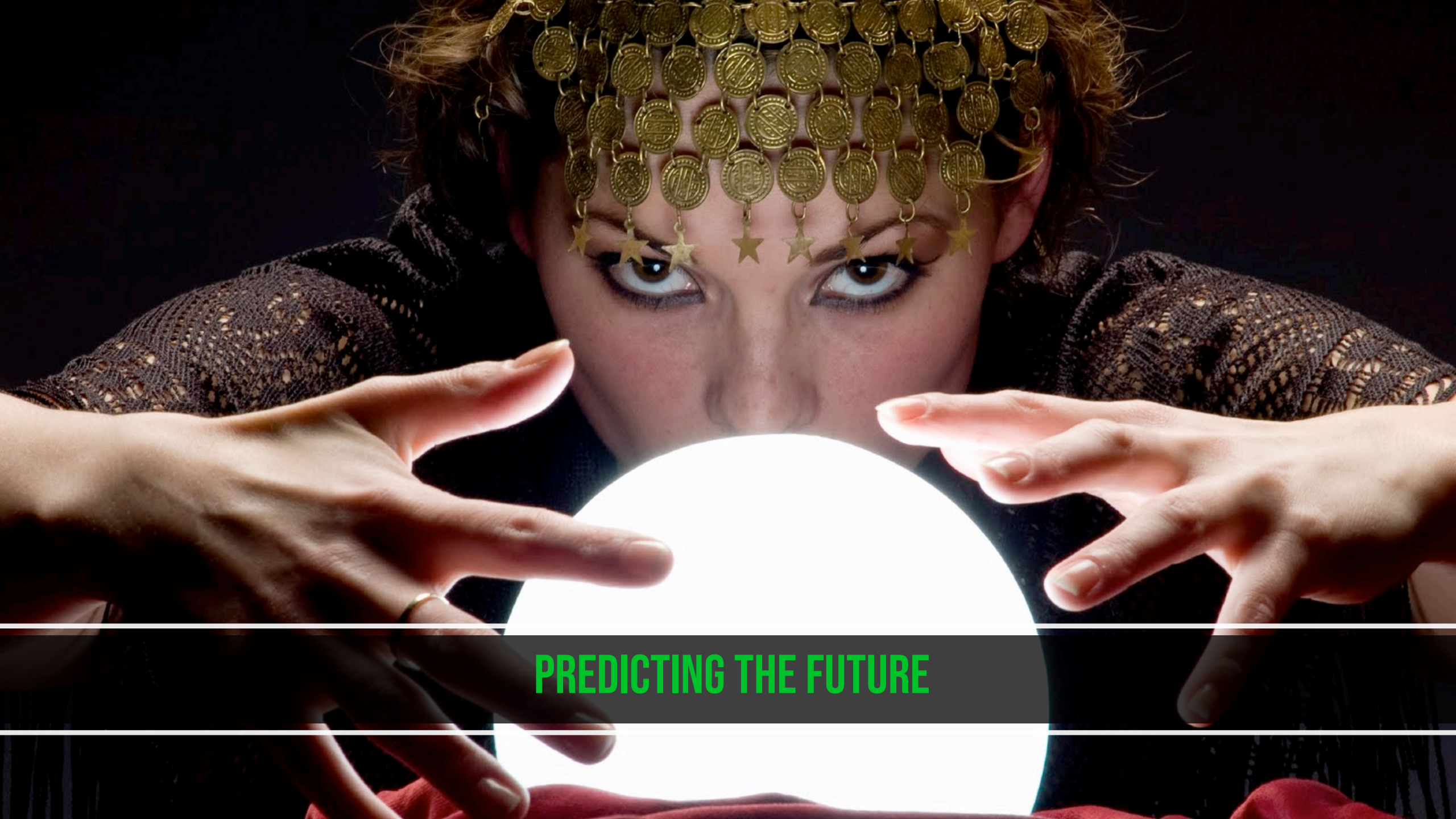
- Improve Eng. Velocity
- Decrease Customer MTTR
- Reduce TCO
- Big Feature A
- Fulfull customer and field commitments
- Keep the lights on
- Corporate Initiatives
- Quality Improvements
- Uncategorized + Research for Future Releases



REPRESENTATIVE SAMPLE

HOW EFFECTIVE ARE WE?

- 👤 Samples are good enough for that
- 👤 As long as they are representative
- 👤 Need to be collected over time



PREDICTING THE FUTURE



MEET SCRUM TEAM "AVENGERS"

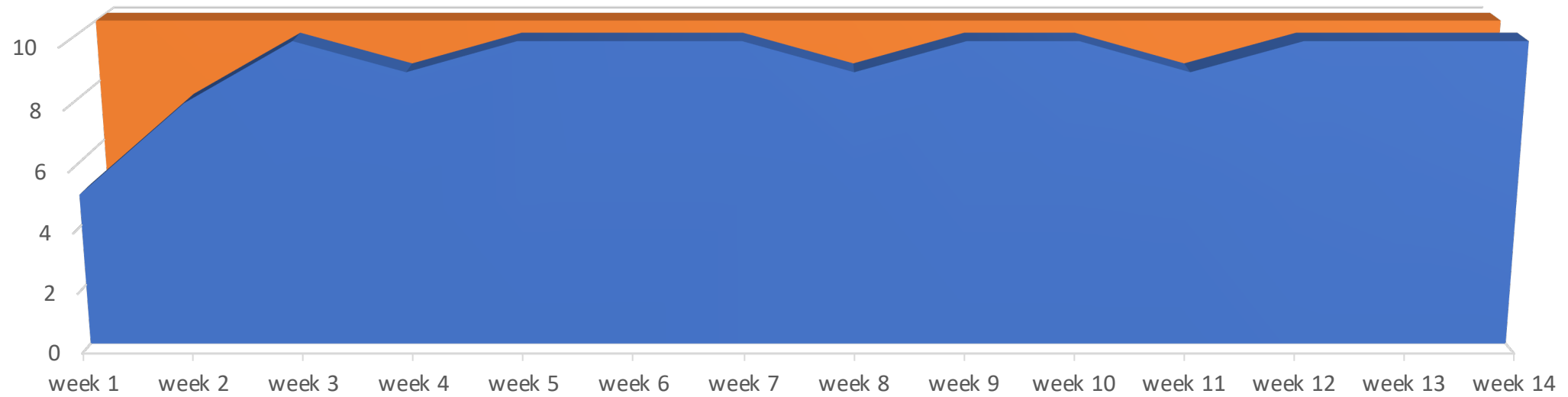
ANECDOTES FROM THE DAILY SCRUM STAND-UPS

“ We never get enough testing environments from Ops, QA is suffering.

Scrum team “Avengers”

LET'S GATHER SOME DATA!

Environment Utilization



■ Utilized ■ Available

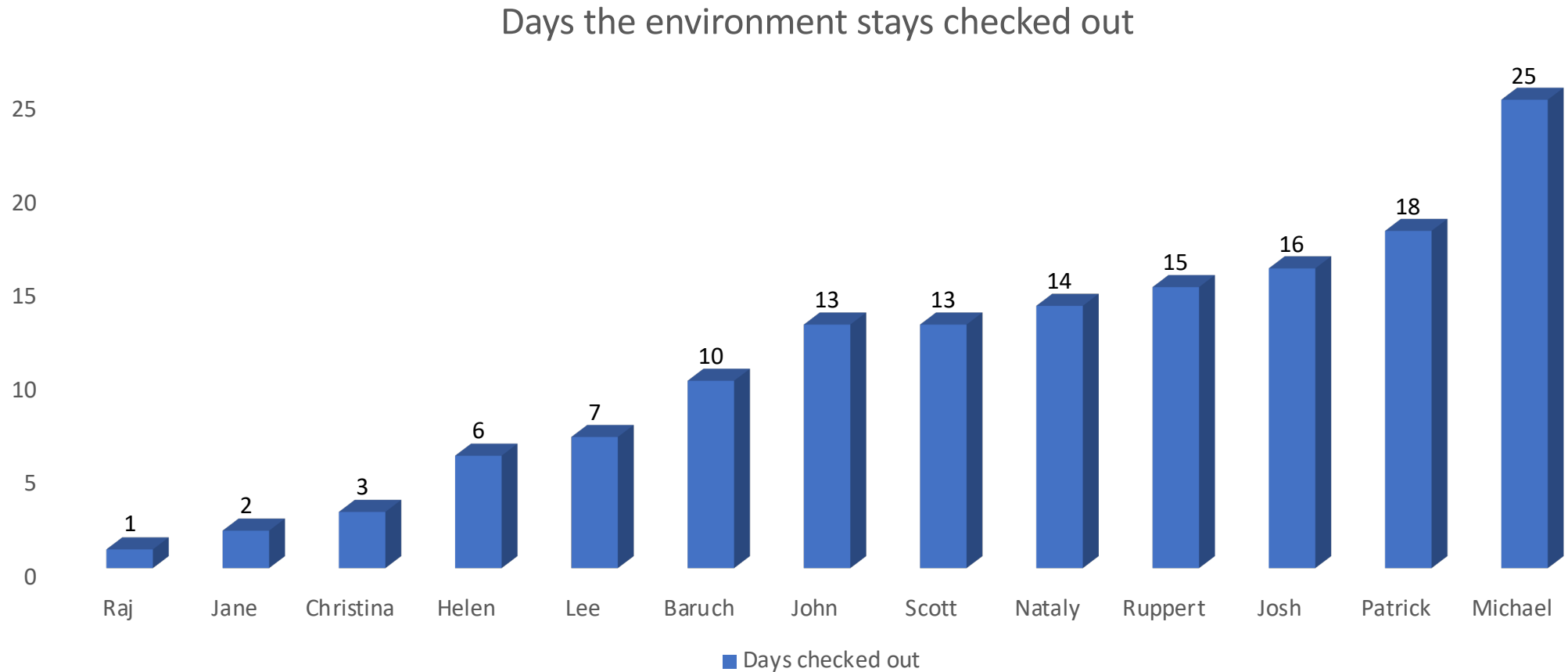
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THAT DOESN'T LOOK GOOD! BUT WHY?



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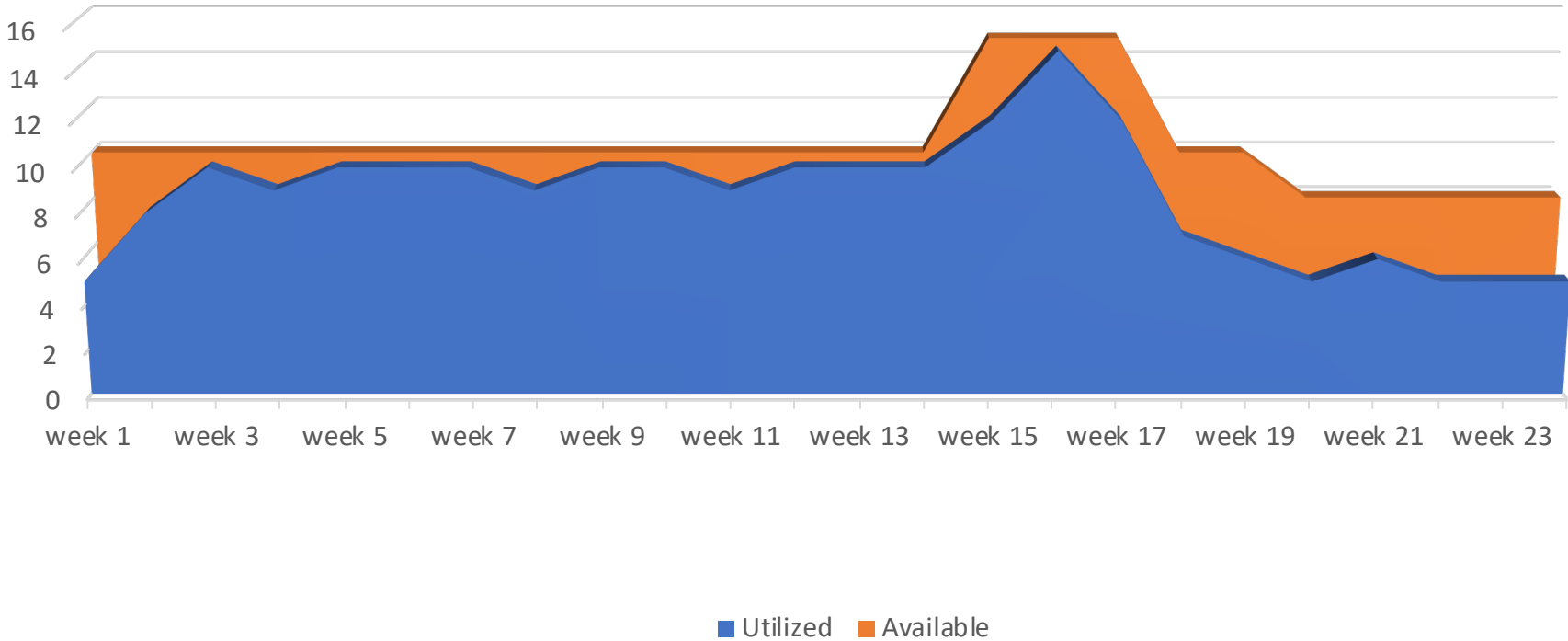
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**CONTINUOUS
IMPROVEMENT**

Environment Utilization



ANECDOTES FROM THE DAILY SCRUM STAND-UPS

“ Tests are failing, because the test suite is not stable, QA makes our builds fail without reason.

Scrum team “Avengers”

LET'S GATHER SOME DATA!

Create Issue

[Configure Fields](#)

Project

Issue Type

Summary

Component/s

Start typing to get a list of possible matches or press down to select.

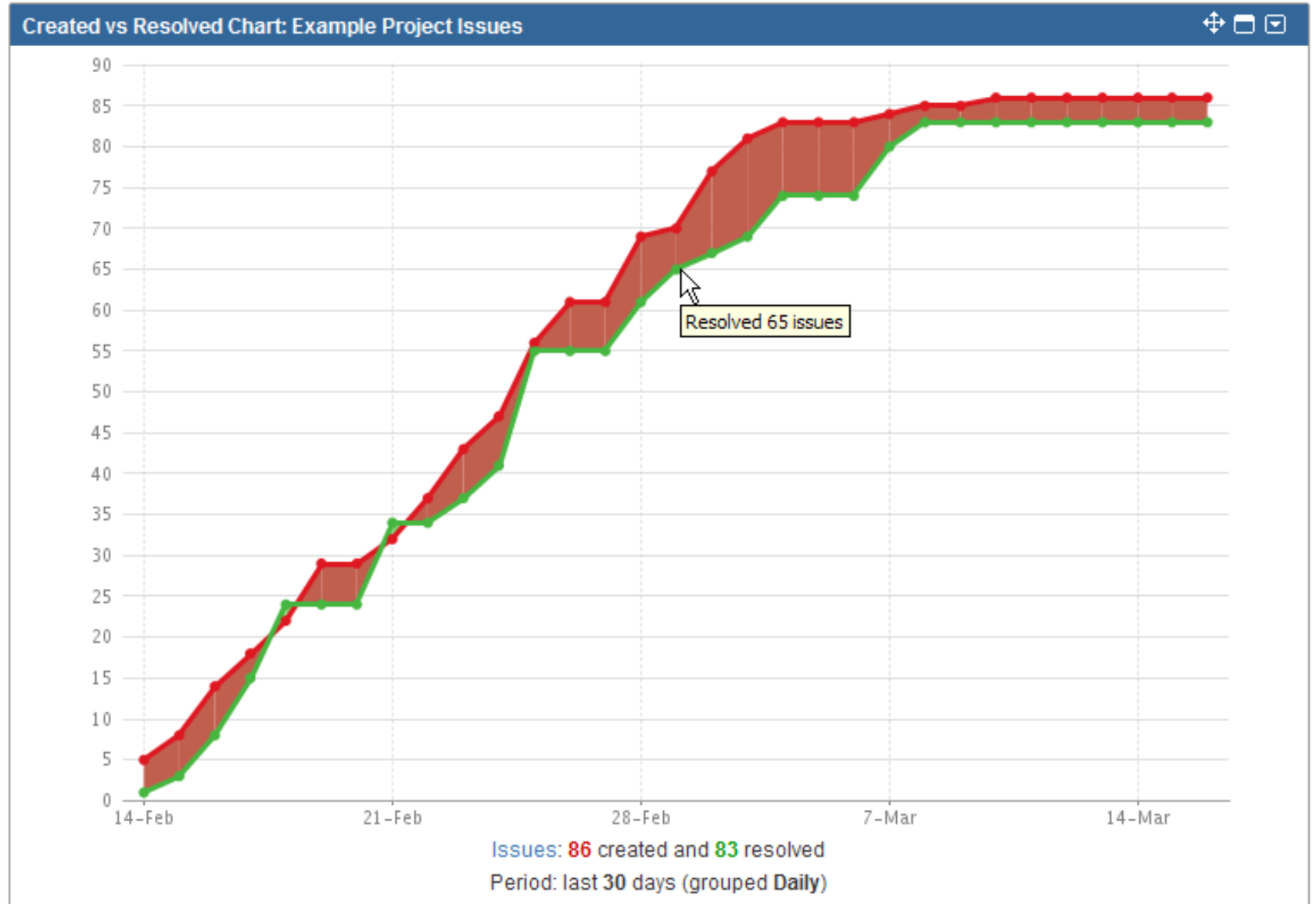
Description

Style | B | I | U | A | A | | | | | | | |

Priority

Create another

RETURN ON INVESTMENT



ANECDOTES FROM THE DAILY SCRUM STAND-UPS

“ Those developers want to deploy new GC, its tons of work, without any profit.

Scrum team “Avengers”

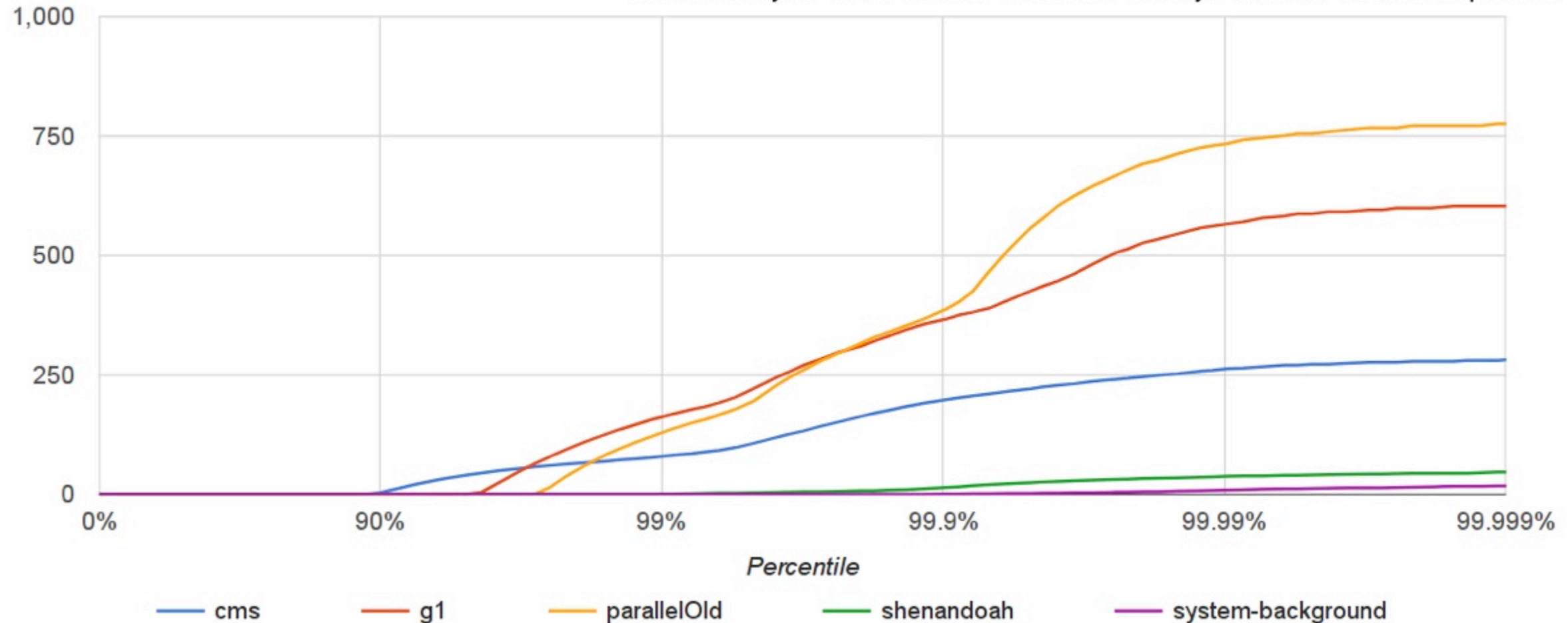
LET'S GATHER SOME DATA!

1x2x2 4.0 GHz i7-4790K, Linux x86_64 4.4

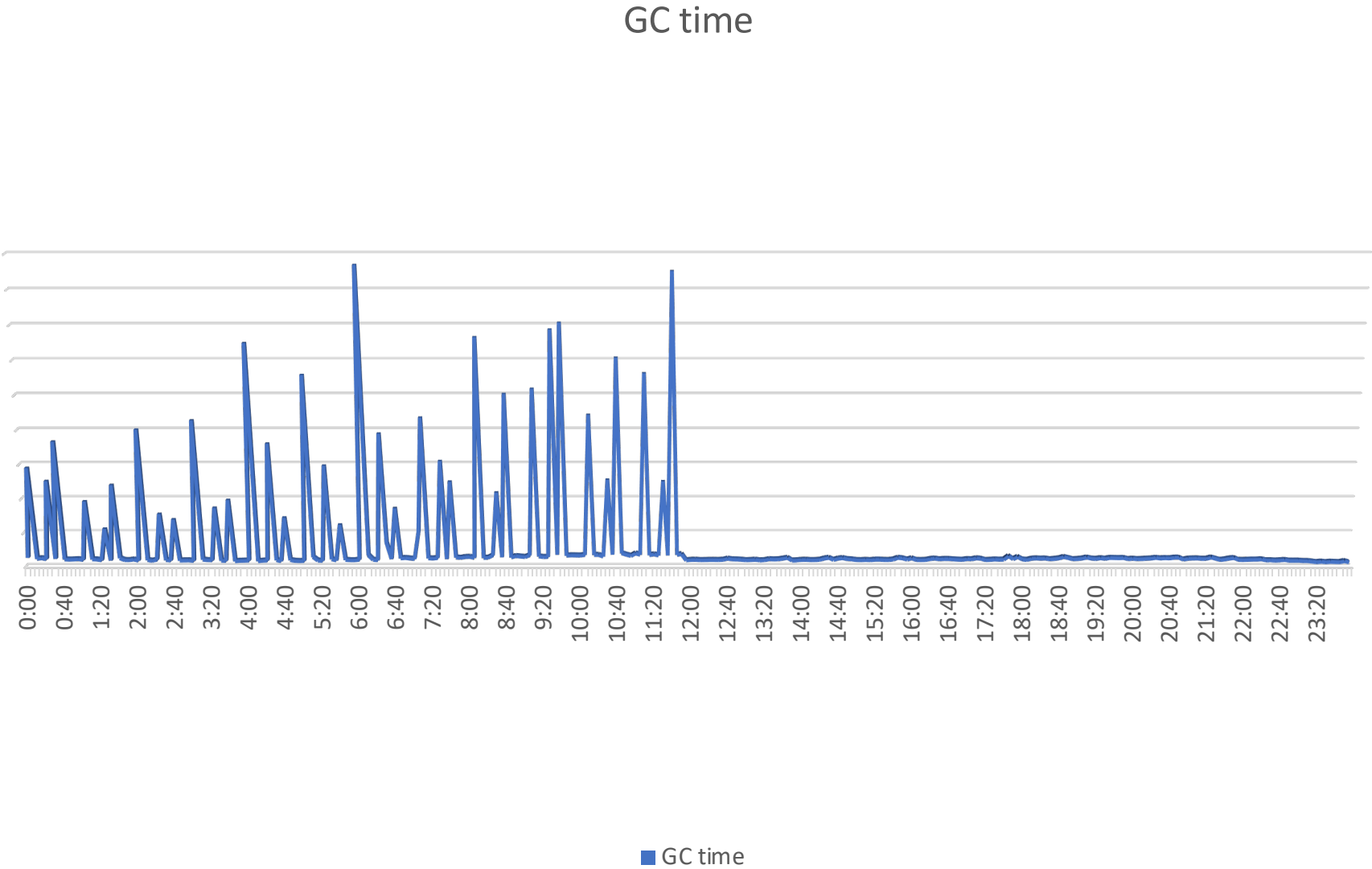
jbb15, preset IR = 4K, 10 minutes, 20 GB heap, ~4 GB LDS

shenandoah/jdk9 (2017-05-18), +UseTHP, +AlwaysPreTouch, +DisableExplicitGC

Latency by Percentile Distribution



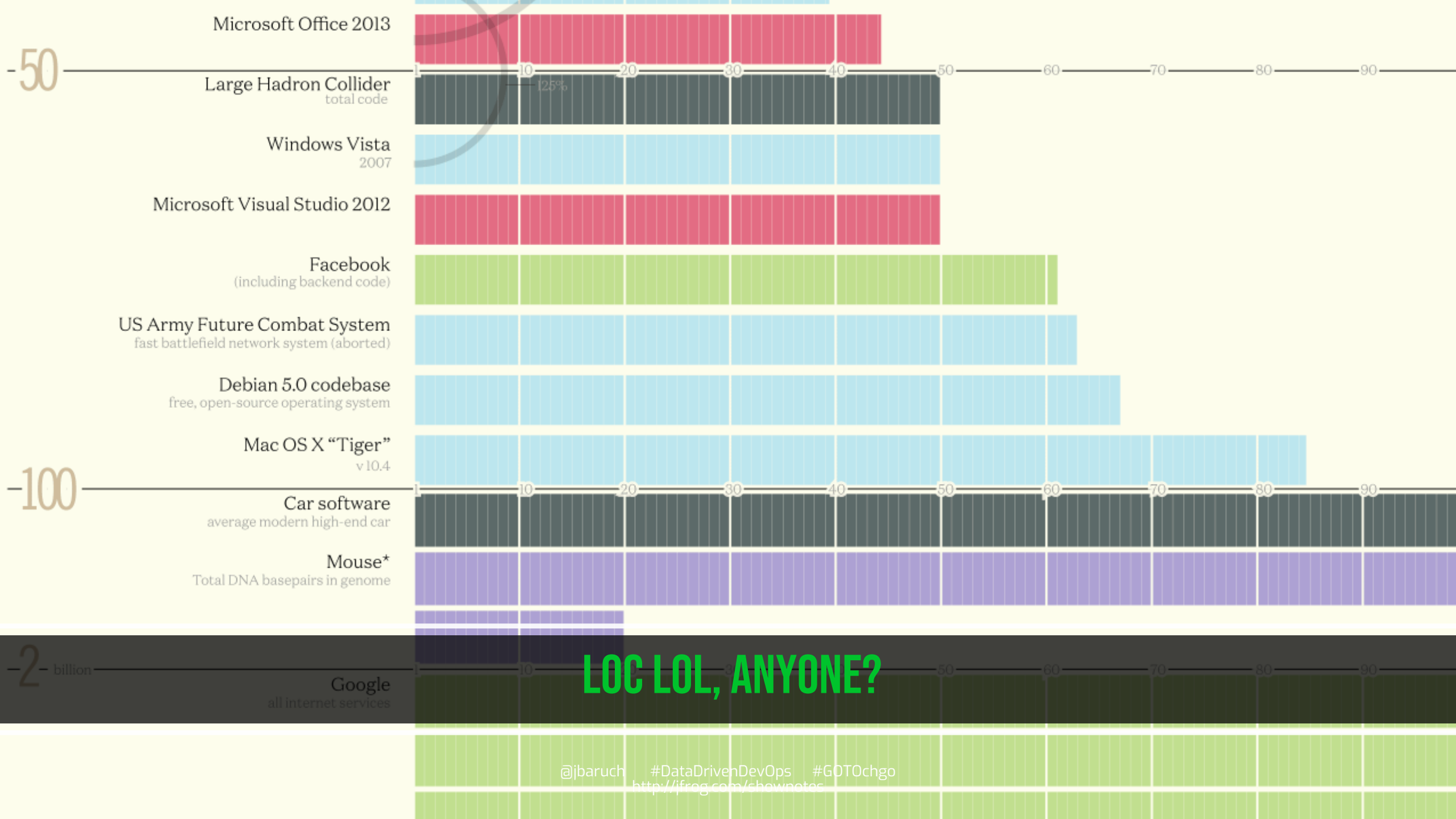
**TRUST AND
PREDICTABILITY**



DOS AND DON'TS



MEASURING THE RIGHT THING



50

Microsoft Office 2013

Large Hadron Collider
total code

Windows Vista
2007

Microsoft Visual Studio 2012

Facebook
(including backend code)

US Army Future Combat System
fast battlefield network system (aborted)

Debian 5.0 codebase
free, open-source operating system

Mac OS X "Tiger"
v10.4

100

Car software
average modern high-end car

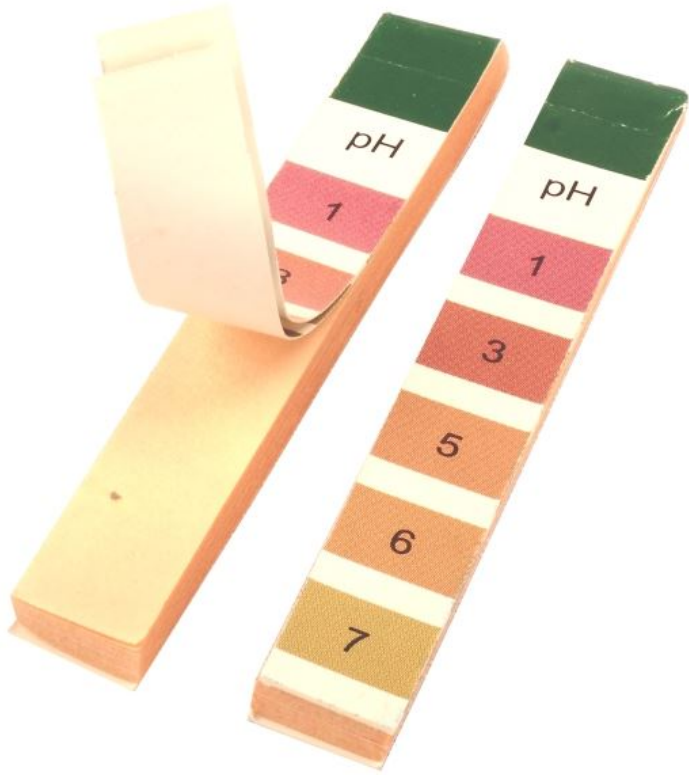
Mouse*
Total DNA basepairs in genome

2 billion

Google
all internet services

LOC LOL, ANYONE?

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AVOID DATA OVERLOAD



USE RELIABLE DATA



"MEDIUM" IN BRAZIL



"MEDIUM" IN RUSSIA

COMMON VOCABULARY IS IMPORTANT

**METRICS
GENERATE
INCENTIVES, BE
AWARE!**



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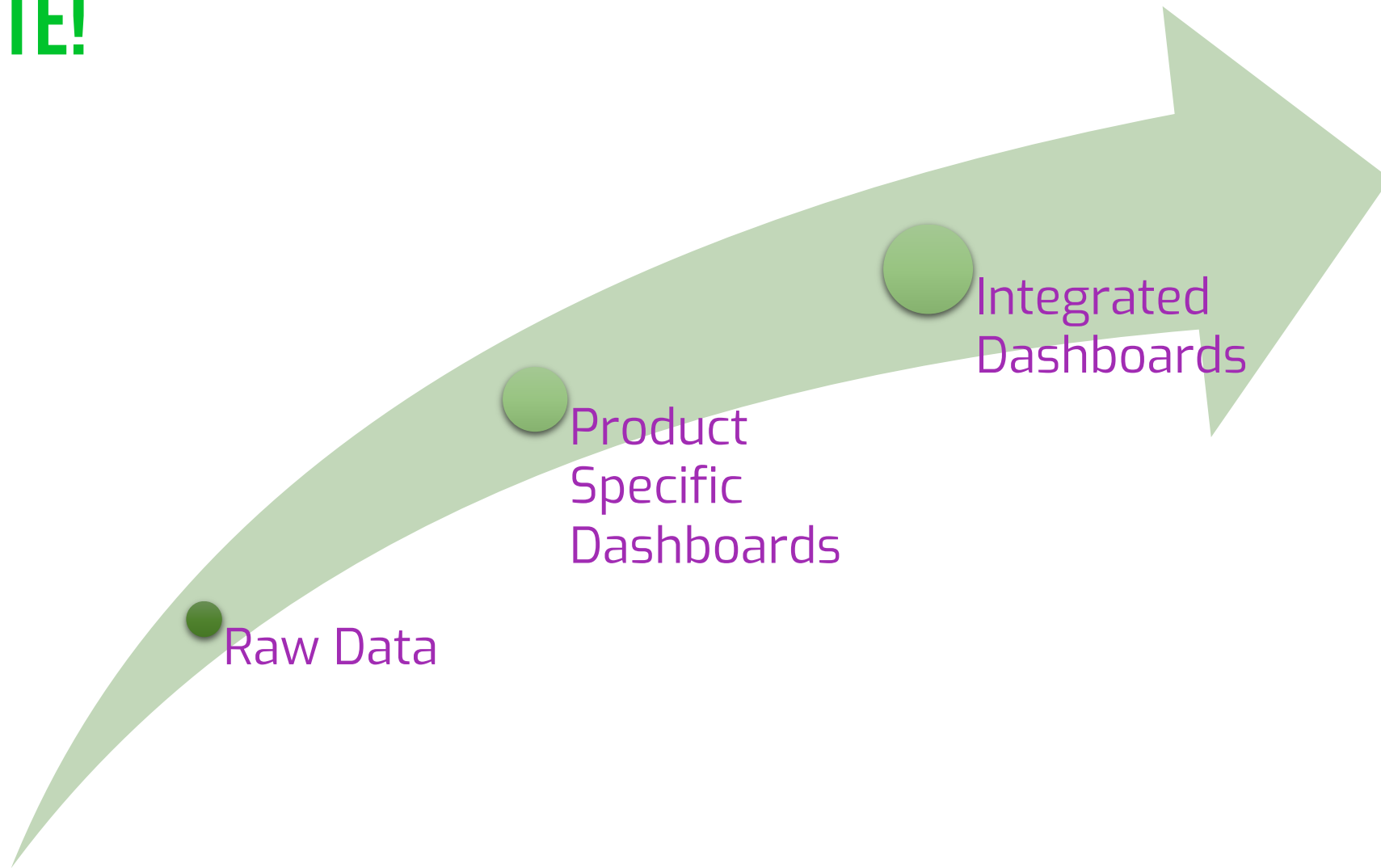
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TWEAK AS YOU GO

ELEVATE!

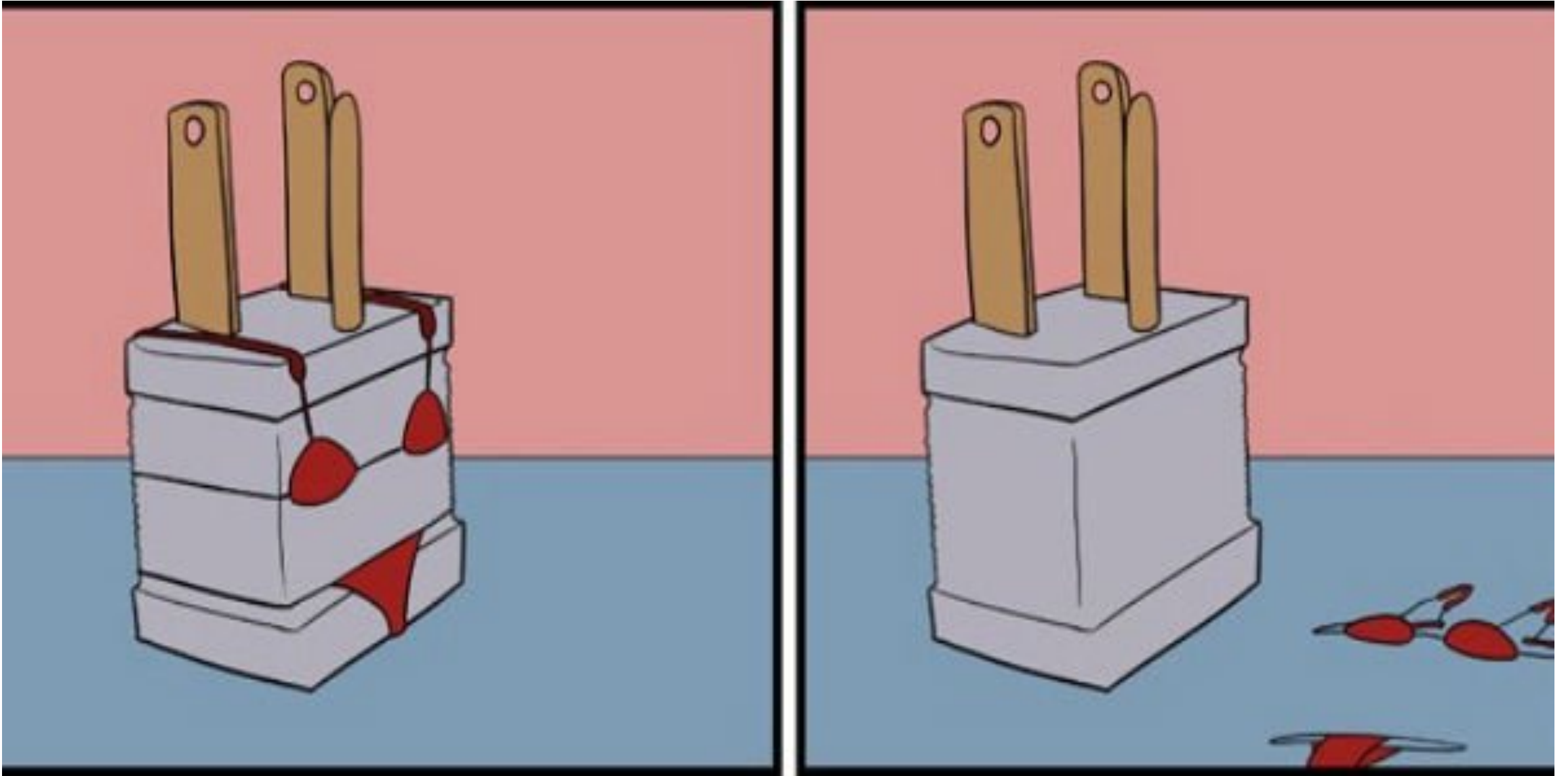


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demo-application

Time Range:

Last Year

Show Builds:

step2-create-docker-image-te... x

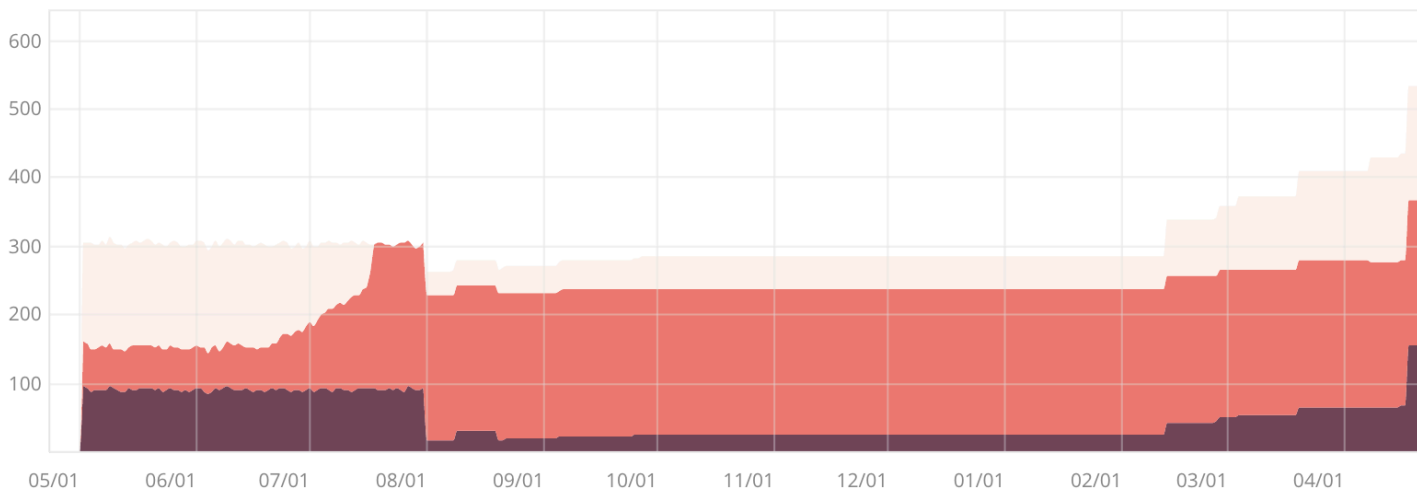
Status:

All

Actions

Last time refreshed: Tue Apr 23 2019 17:45:33 -0700 GMT

Build Runs Promotion



Apr 23 2019

| Stage | Build | Total Run... % |
|-------|----------|----------------|
| > | Released | 157 |
| > | default | 156 |

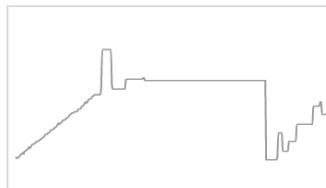
691

Total commits



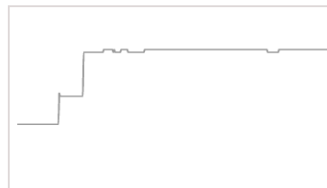
00:01:23

Average build duration



45

Total dependencies



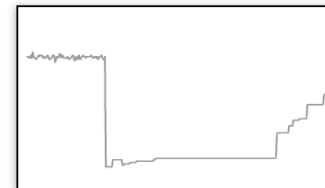
908.72MB

Average build storage



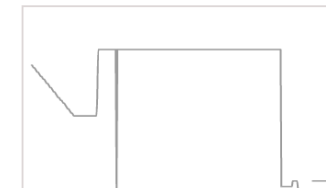
99.36%

Average build promotions

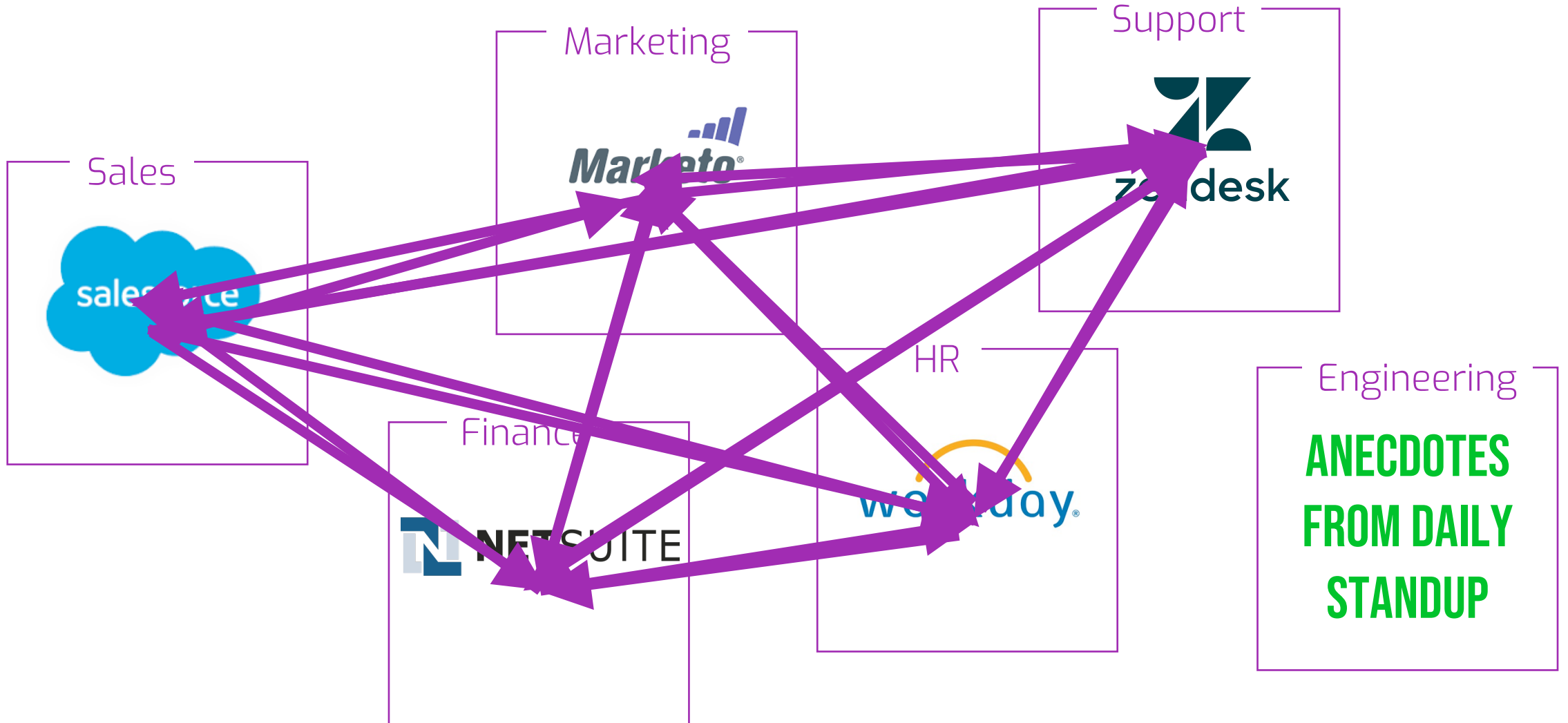


238

Average vulnerabilities count



HOW DEPARTMENTS MEASURE



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STEP INTO DATA-DRIVEN LIFE



Removes blame game



Builds accountability and trust



Creates common base for discussion



Enables DevOps

Q&A AND TWITTER ADS

 @jbaruch

 #GOTOchgo

 #DataDrivenDevOps

 <http://jfrog.com/shownotes>

goto;
chicago



Click 'Rate Session'

Rate **5** sessions to get the supercool GOTO reward



**KEEP
CALM
AND
ATTEND
swampUP**

SEE WHY >

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20% off!