

#DATADRIVENDEVOPS

Setting up your DevOps
team to success with data

SHOWNOTES

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 Slides

 Video

 Links

 Comments, Ratings

 Raffle

@jbaruch

@DevOpsDaysBoise

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ABOUT ME

THAT'S WHAT I DO:
I DRINK AND
I KNOW THINGS.



@jbaruch

**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



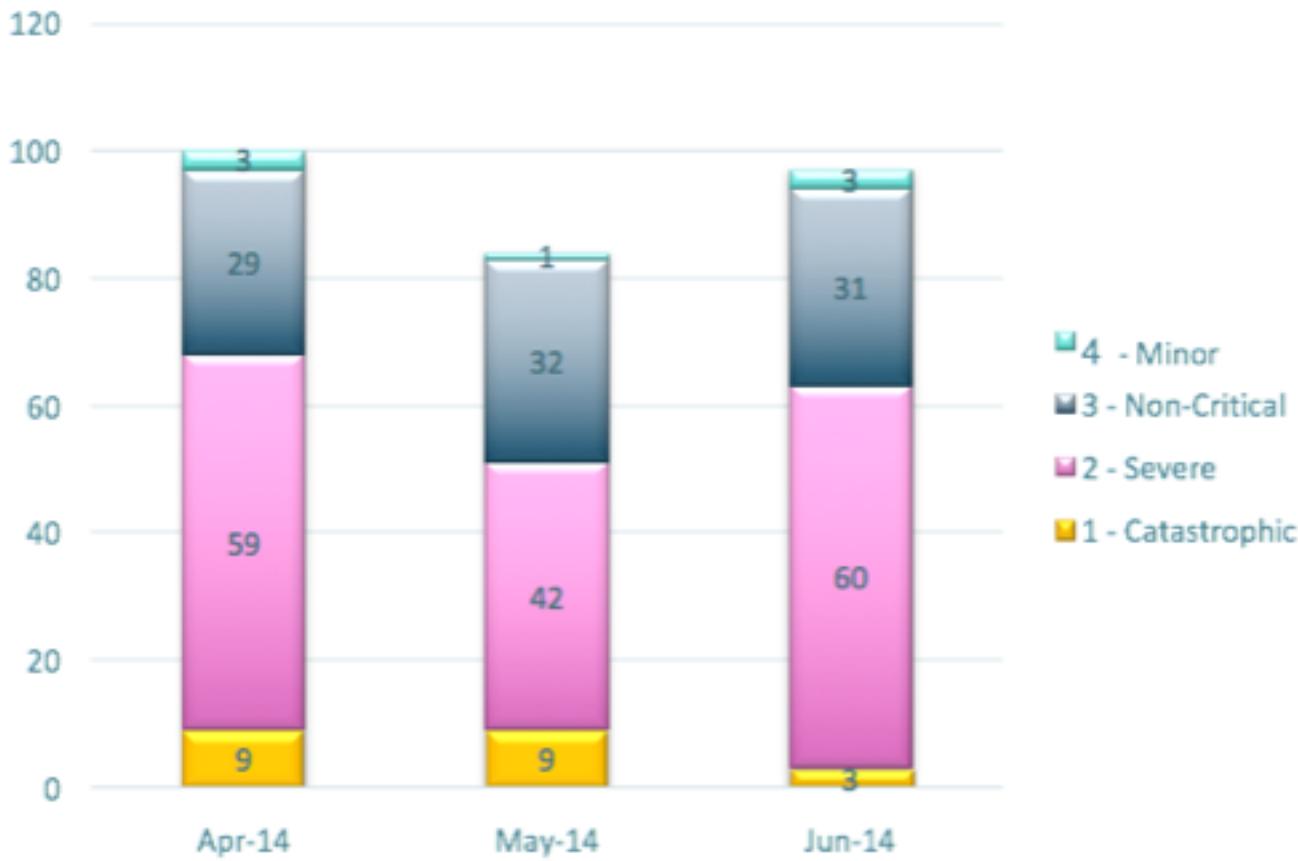
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Q1FY15 Customer Defects by Severity



281 – Total Q1FY15 Customer Defects(escalated by Support to Engineering)

182 (65%) – S1 & S2 Tickets



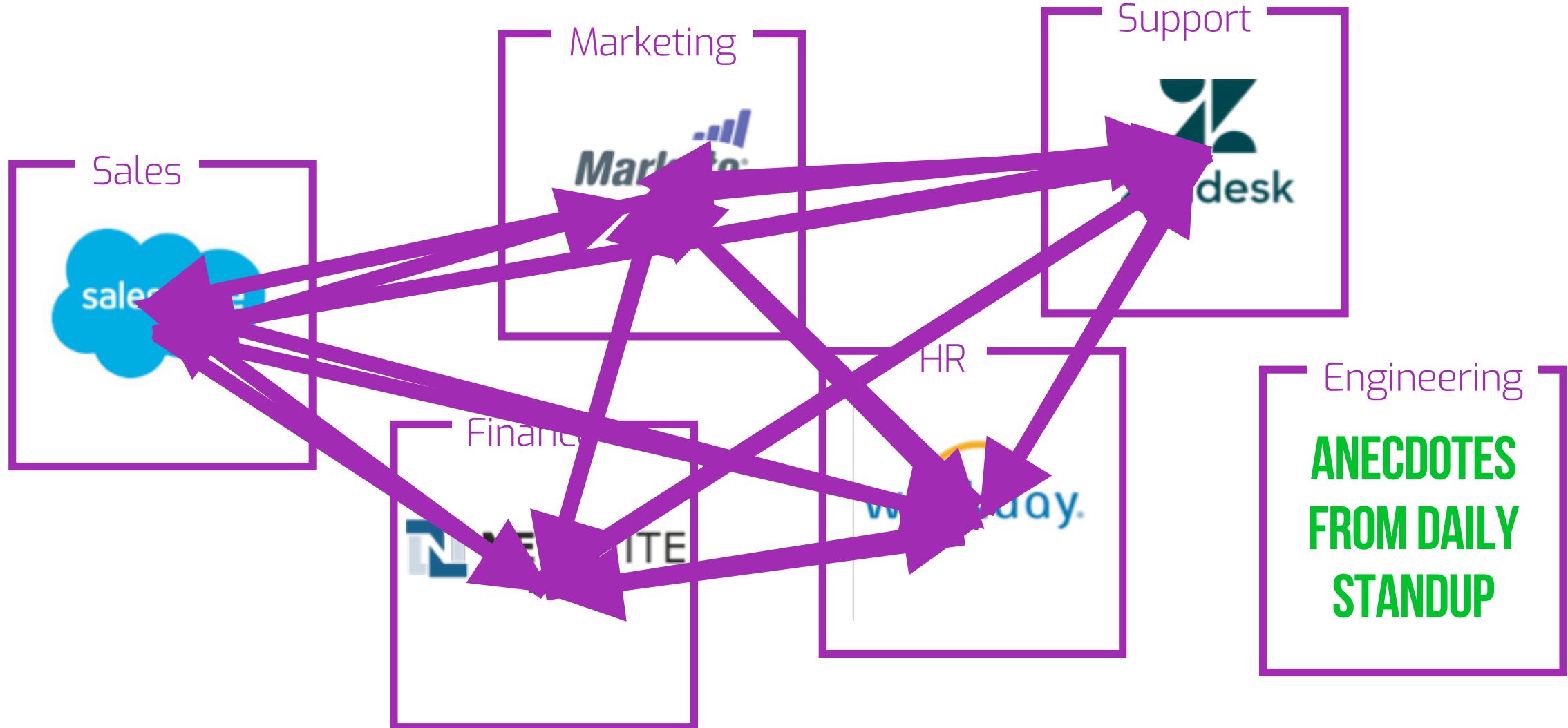
HOW DEPARTMENTS MEASURE



Engineering

**ANECDOTES
FROM DAILY
STANDUP**

HOW DEPARTMENTS MEASURE





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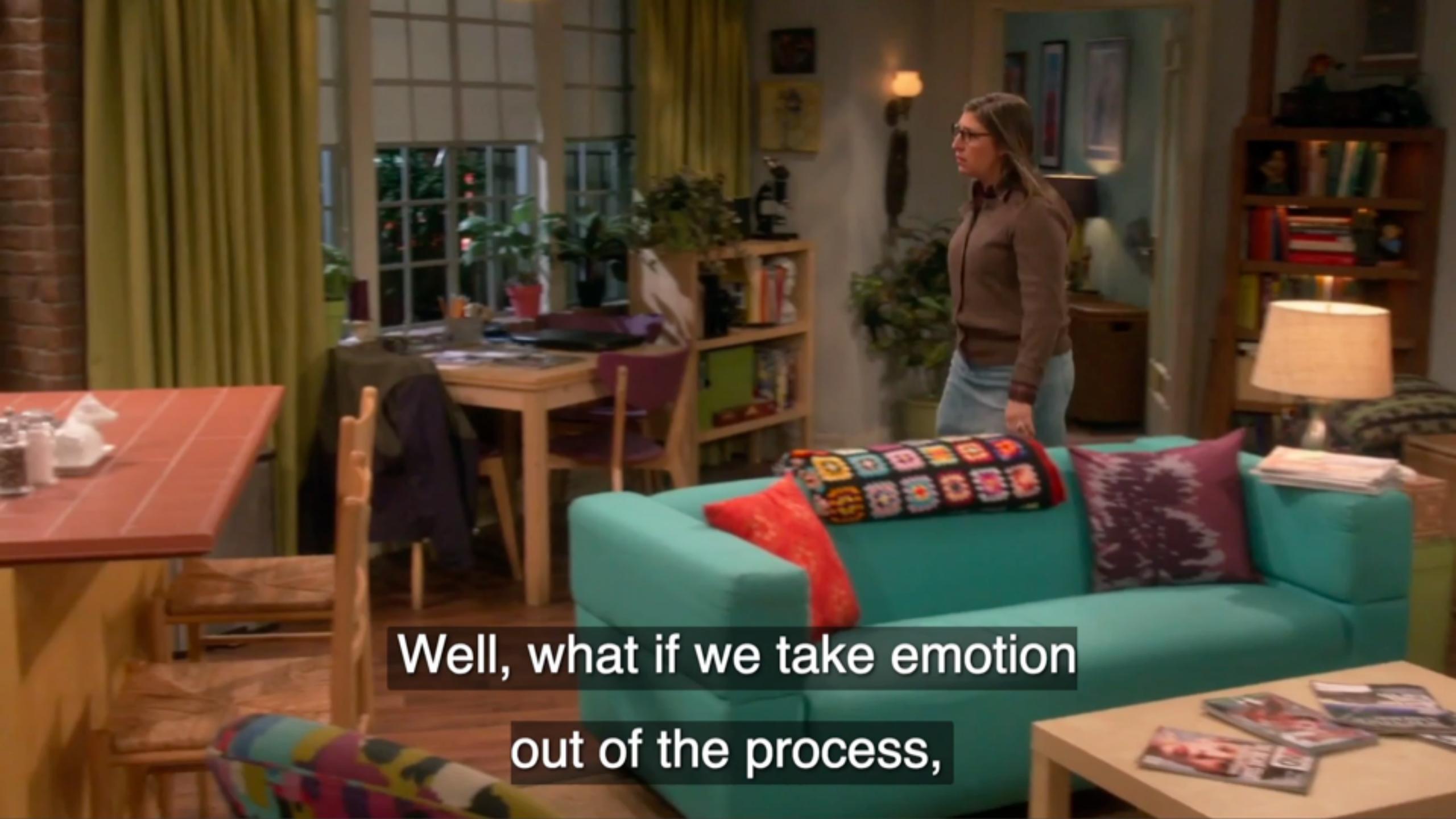


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Well, what if we take emotion
out of the process,

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			

VERY MUCH ALIKE!

METRIC	EASILY UNDERSTANDABLE	UNITY	
Profit	✓		
Velocity	✓		

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	✓	✓	✗

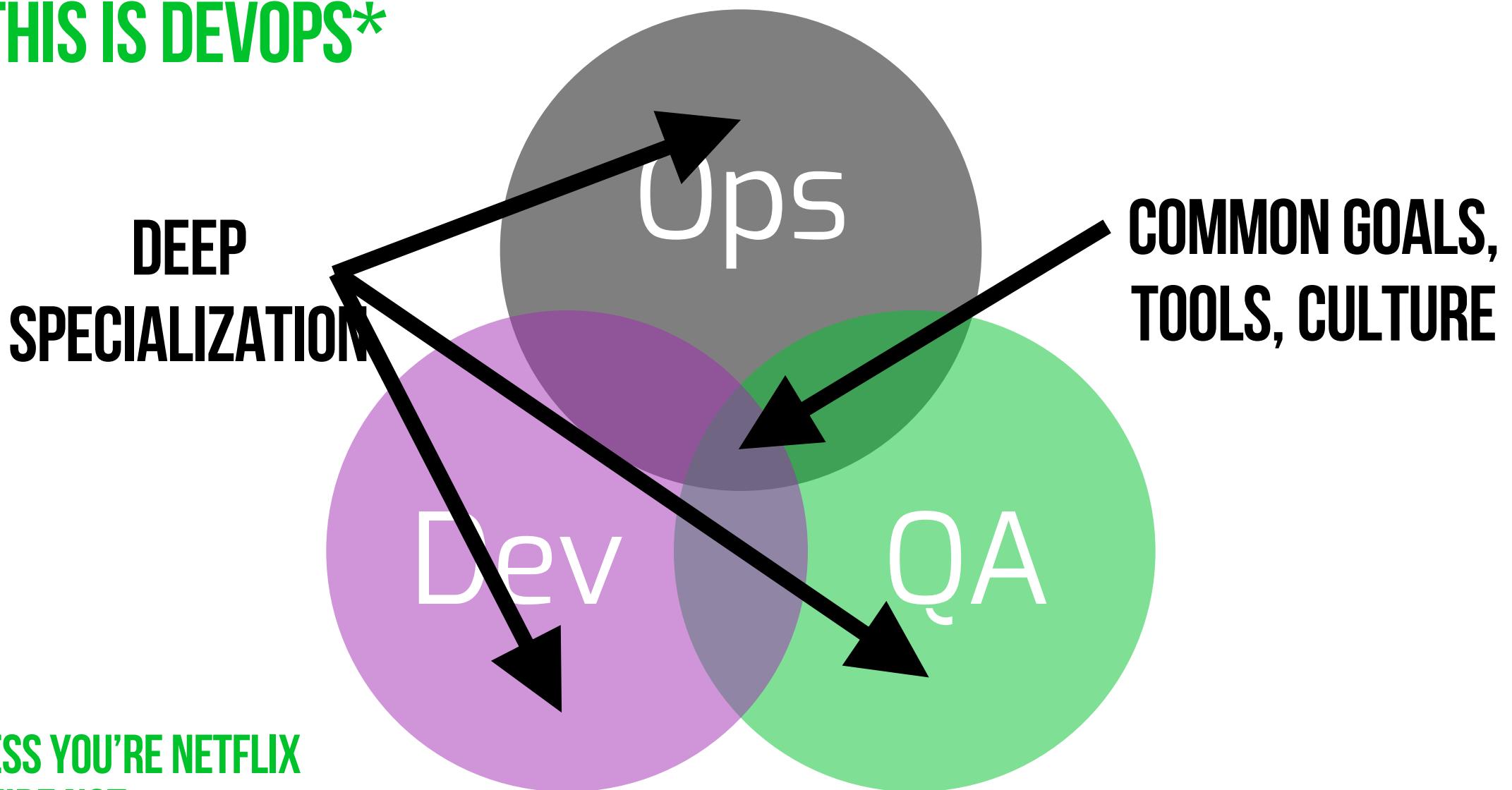
TOO COARSE!



TOO COARSE!



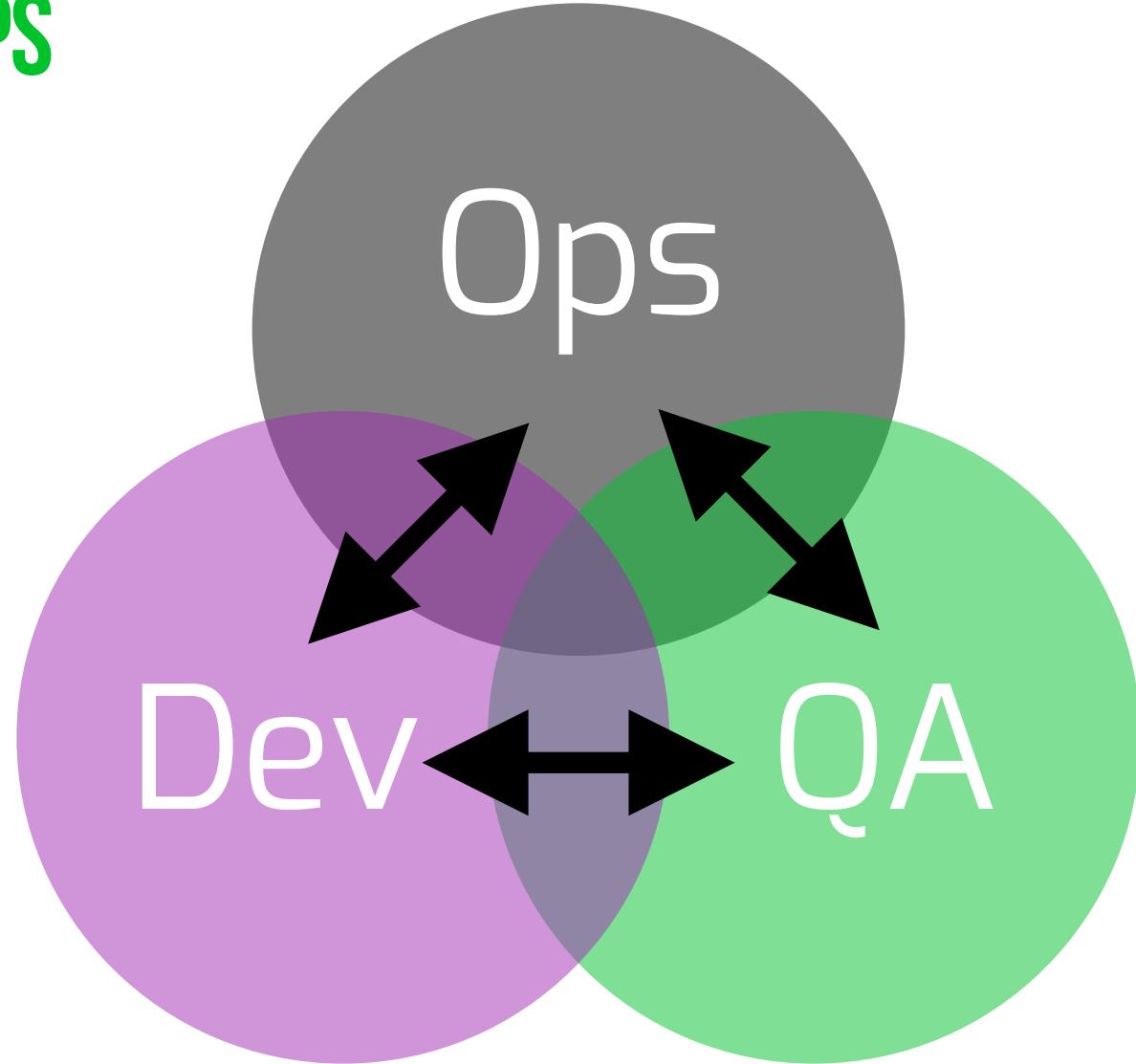
THIS IS DEVOPS*



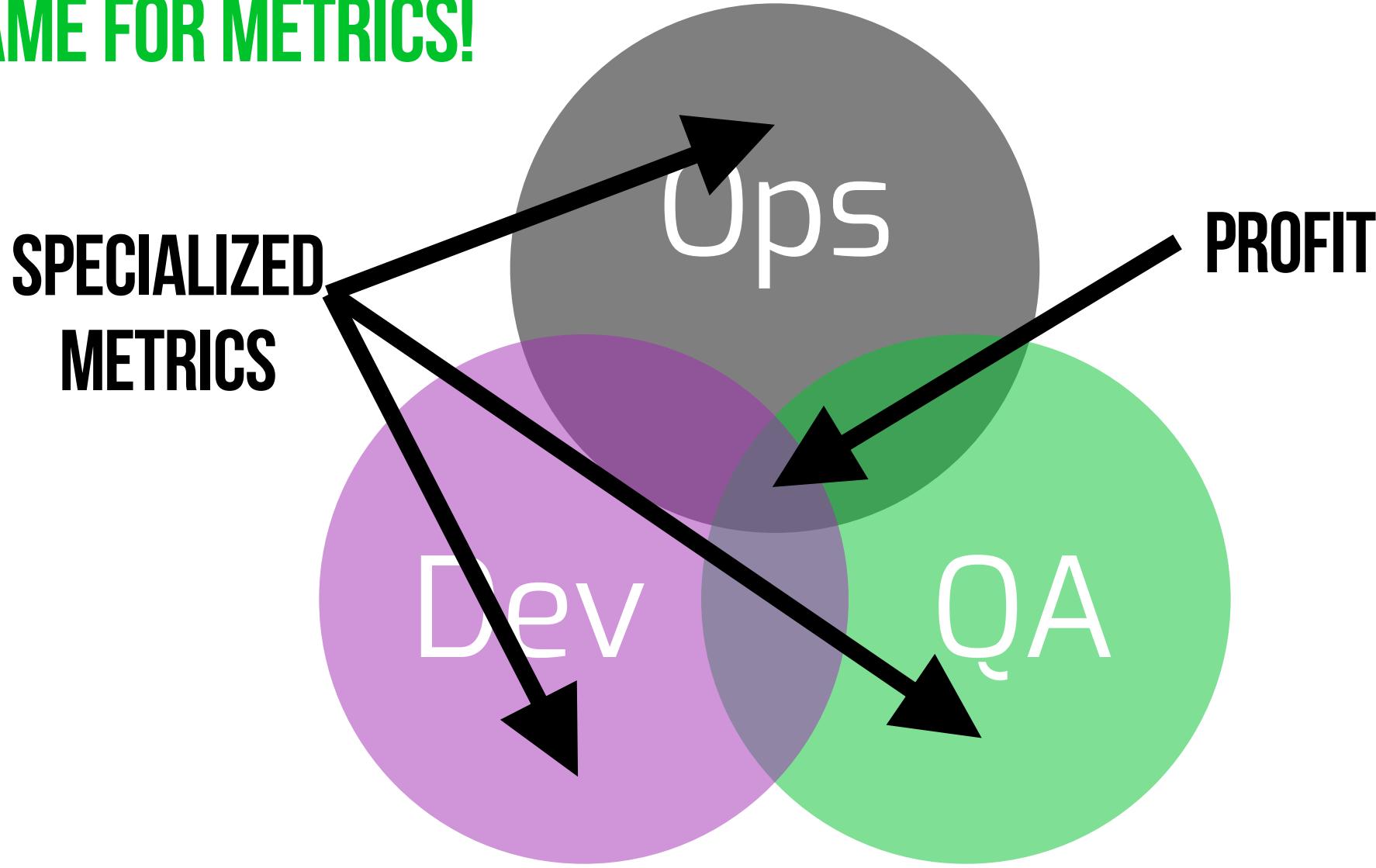
*UNLESS YOU'RE NETFLIX

**YOU'RE NOT

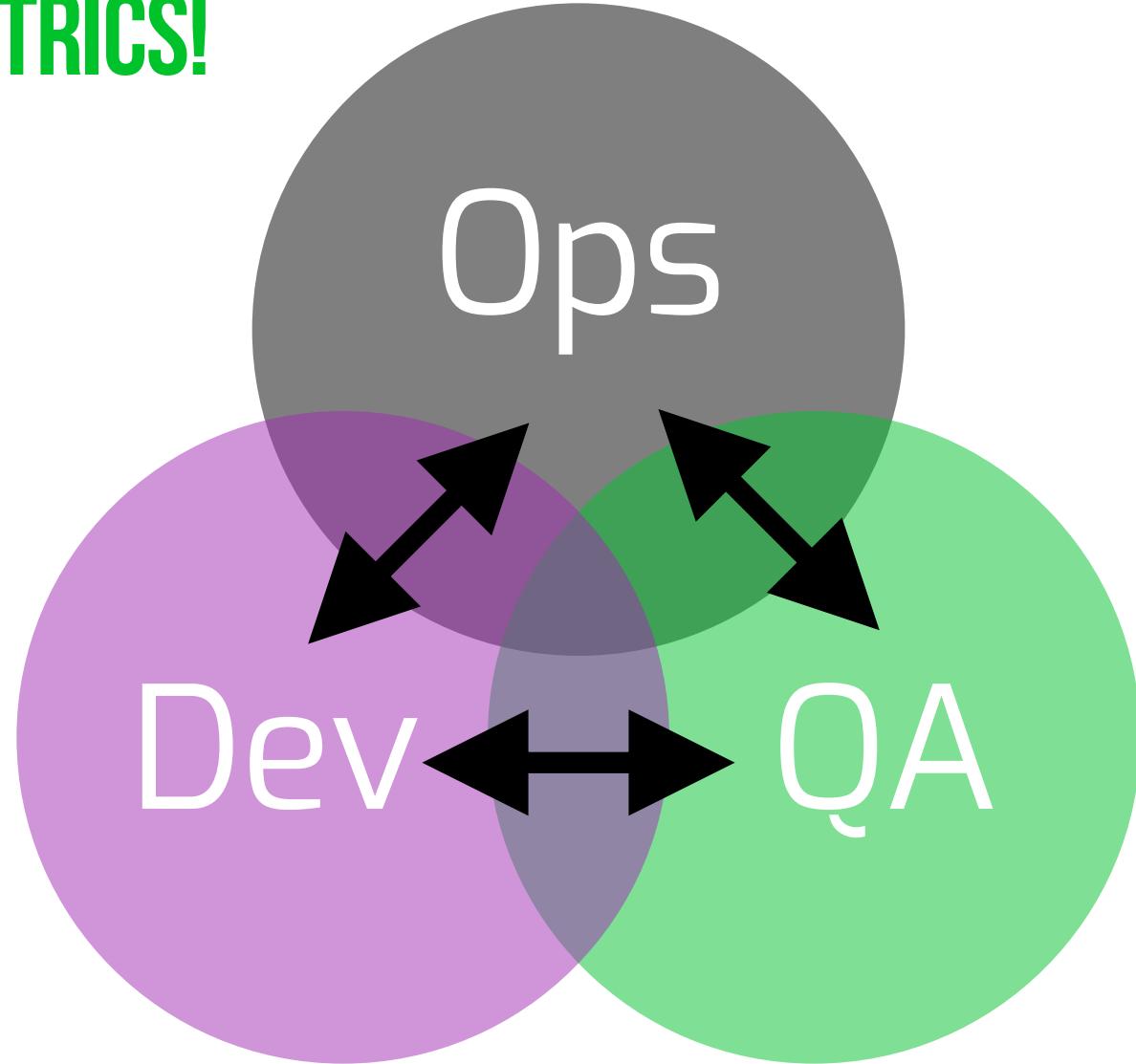
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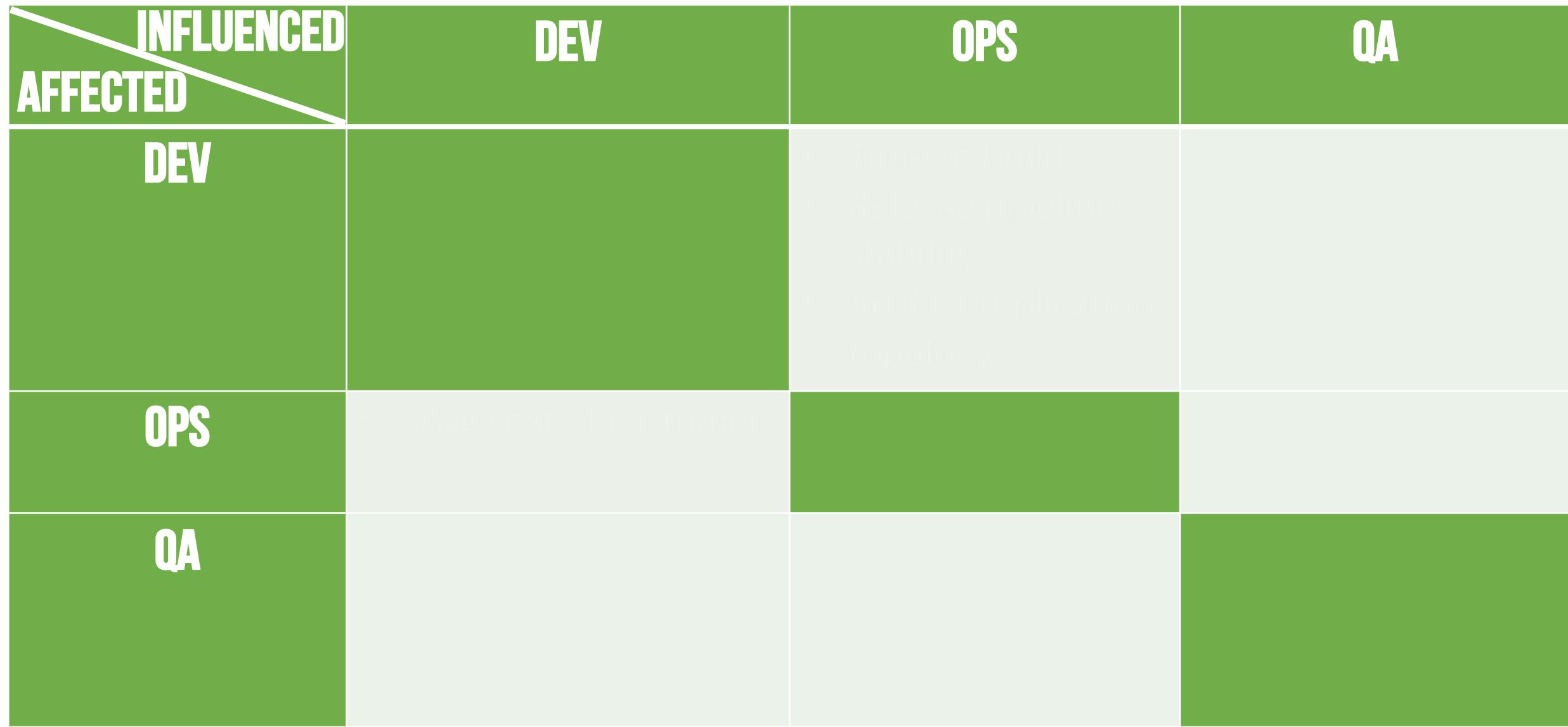
SAME FOR METRICS!



SAME FOR METRICS!



HOW DO METRICS COLLABORATE?



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	
OPS			
QA			

HOW DO METRICS COLLABORATE?

INFLUENCED AFFECTED	DEV	OPS	QA
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OPS			
QA			

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OPS	<ul style="list-style-type: none">• Avg cost of customer		
QA			

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QA			

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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

METRICS CATEGORIZATION

Fresh
125 mL

Leafy vegetables
Cooked: 125 mL ($\frac{1}{2}$ cup)
Raw: 250 mL (1 cup)

Fresh, frozen or
canned fruits
1 fruit or 125 mL ($\frac{1}{2}$ cup)

100% Juice
125 mL ($\frac{1}{2}$ cup)

Bread
1 slice (35g)

Flat breads
 $\frac{1}{8}$ pita or $\frac{1}{8}$ tortilla (35 g)

Cooked rice,
bulgur or quinoa
125 mL ($\frac{1}{2}$ cup)

Cereal
Cold: 30 g
Hot: 175 mL ($\frac{1}{2}$ cup)

Cooked pasta
or couscous
125 mL ($\frac{1}{2}$ cup)

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

Canned milk
(evaporated)
125 mL ($\frac{1}{2}$ cup)

Fortified soy
beverage
250 mL (1 cup)

Yogurt
175 g
($\frac{3}{4}$ cup)

Kefir
175 g
($\frac{3}{4}$ cup)

Cheese
50 g (1 $\frac{1}{2}$ oz.)

WHY?

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

A photograph of a kitchen interior. In the foreground, a stovetop burner is engulfed in a massive, intense orange and yellow flame, casting a warm glow on the surrounding area. To the left of the burning burner, a dark circular lid rests on the counter. Behind the flames, a small decorative jar with a floral pattern sits on the counter. To the right, a built-in oven with a digital control panel is visible. The overall atmosphere is one of a dramatic, unexpected event in a domestic setting.

CONTINUOUS IMPROVEMENT

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TRUST

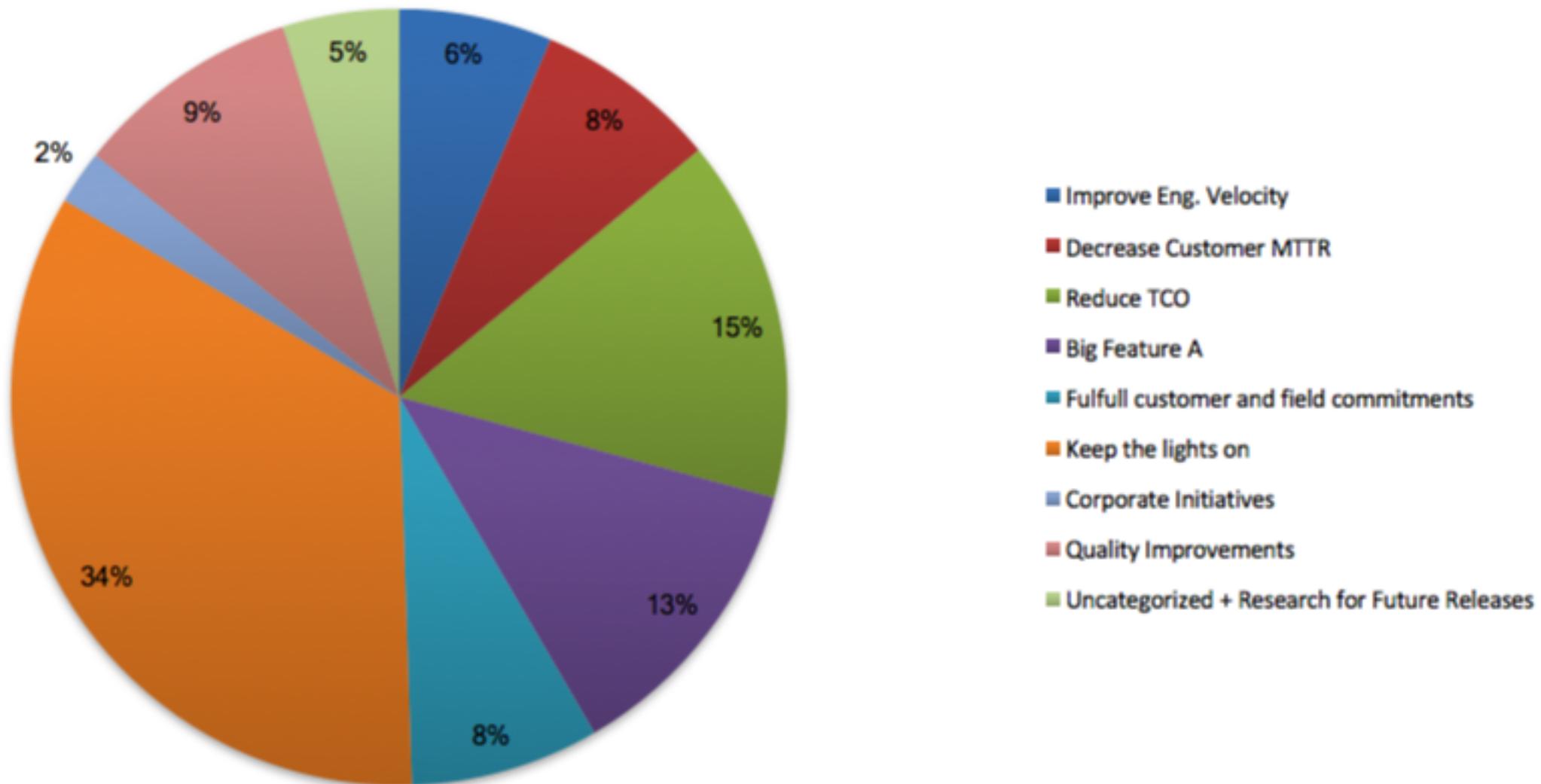
SAMPLING

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COMPLETE SAMPLE

Engineering effort allocation





REPRESENTATIVE SAMPLE

HOW EFFECTIVE ARE WE?

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

A close-up photograph of a woman's face. She has a crown of gold coins on her forehead and stars hanging from the coins. She is looking directly at a bright, glowing white orb held in her hands. Her hands are positioned with fingers spread, supporting the orb from both sides. The background is dark.

PREDICTING THE FUTURE



MEET SCRUM TEAM “AVENGERS”

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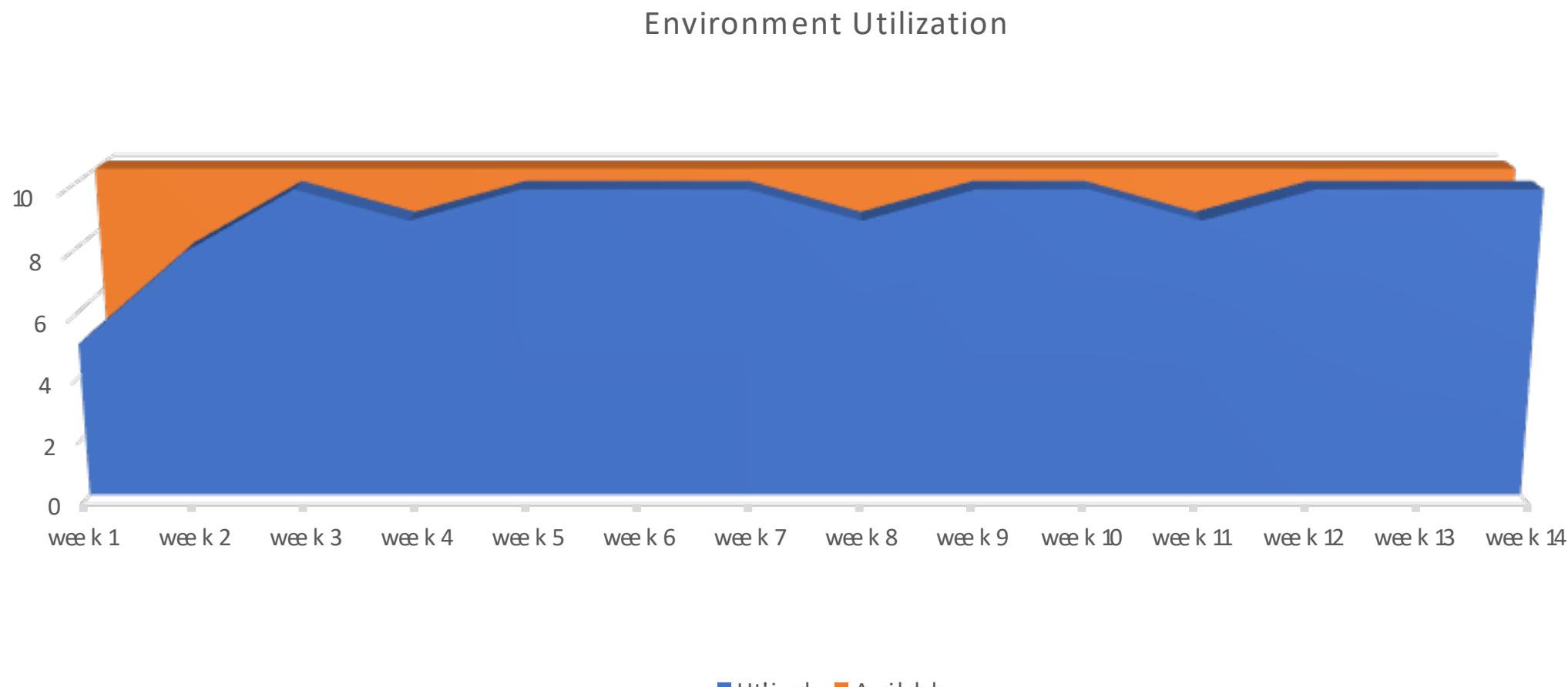
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ANECDOTES FROM THE DAILY SCRUM STAND-UPS

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

Scrum team “Avengers”

LET'S GATHER SOME DATA!



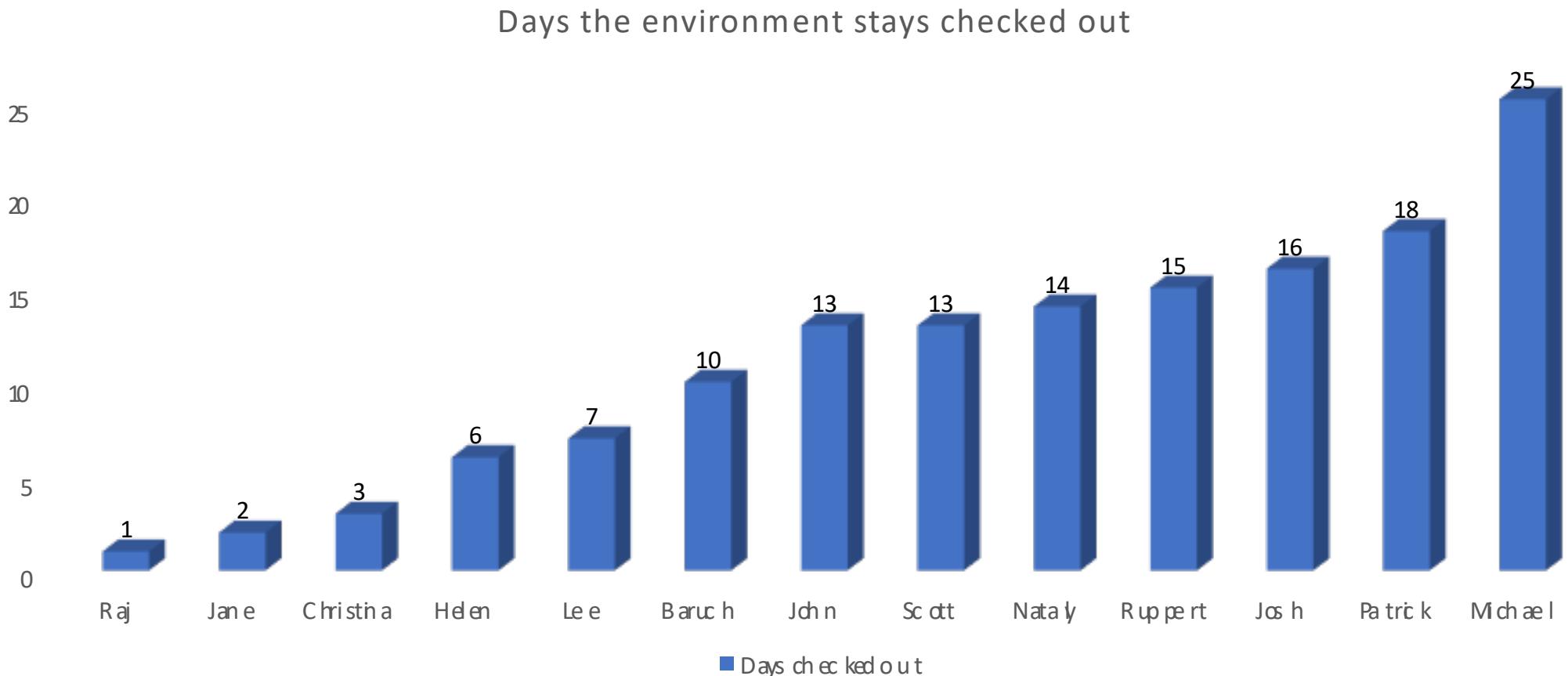
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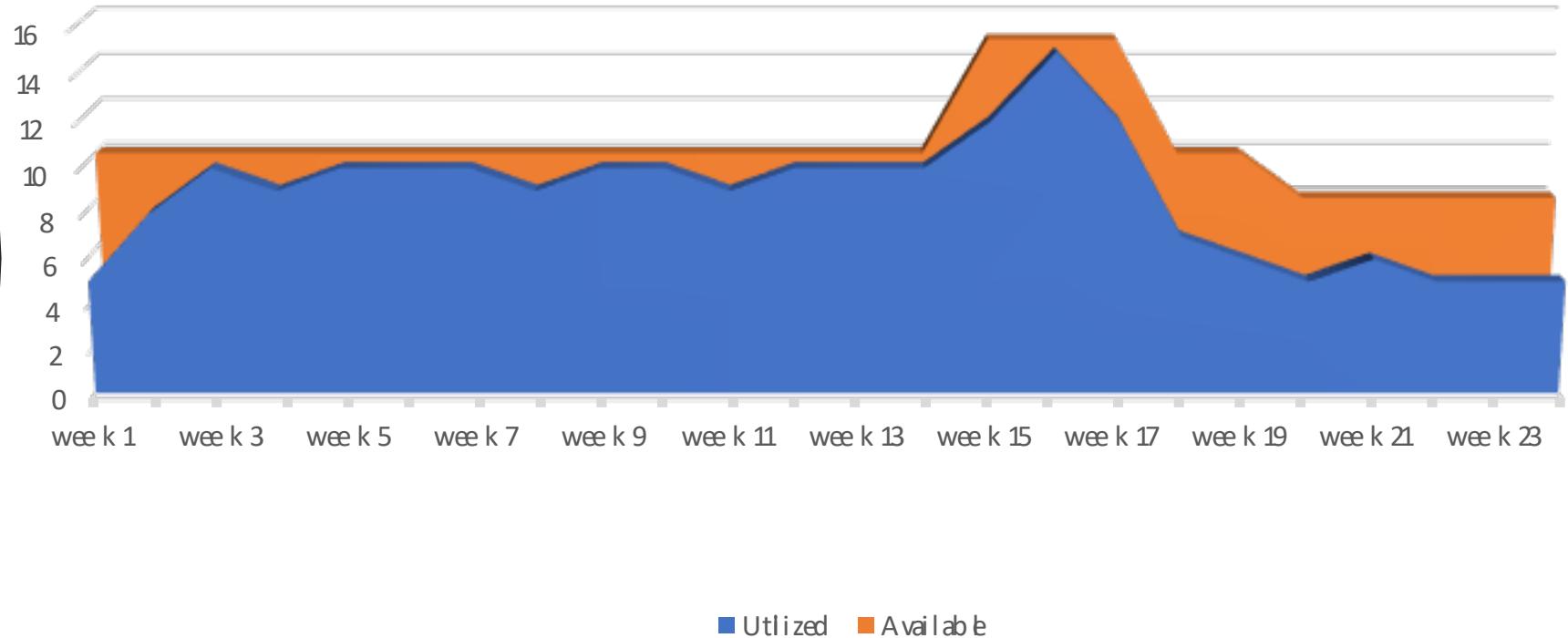
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THAT DOESN'T LOOK GOOD! BUT WHY?



**CONTINUOUS
IMPROVEMENT**

Environment Utilization



Utilized Available

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!

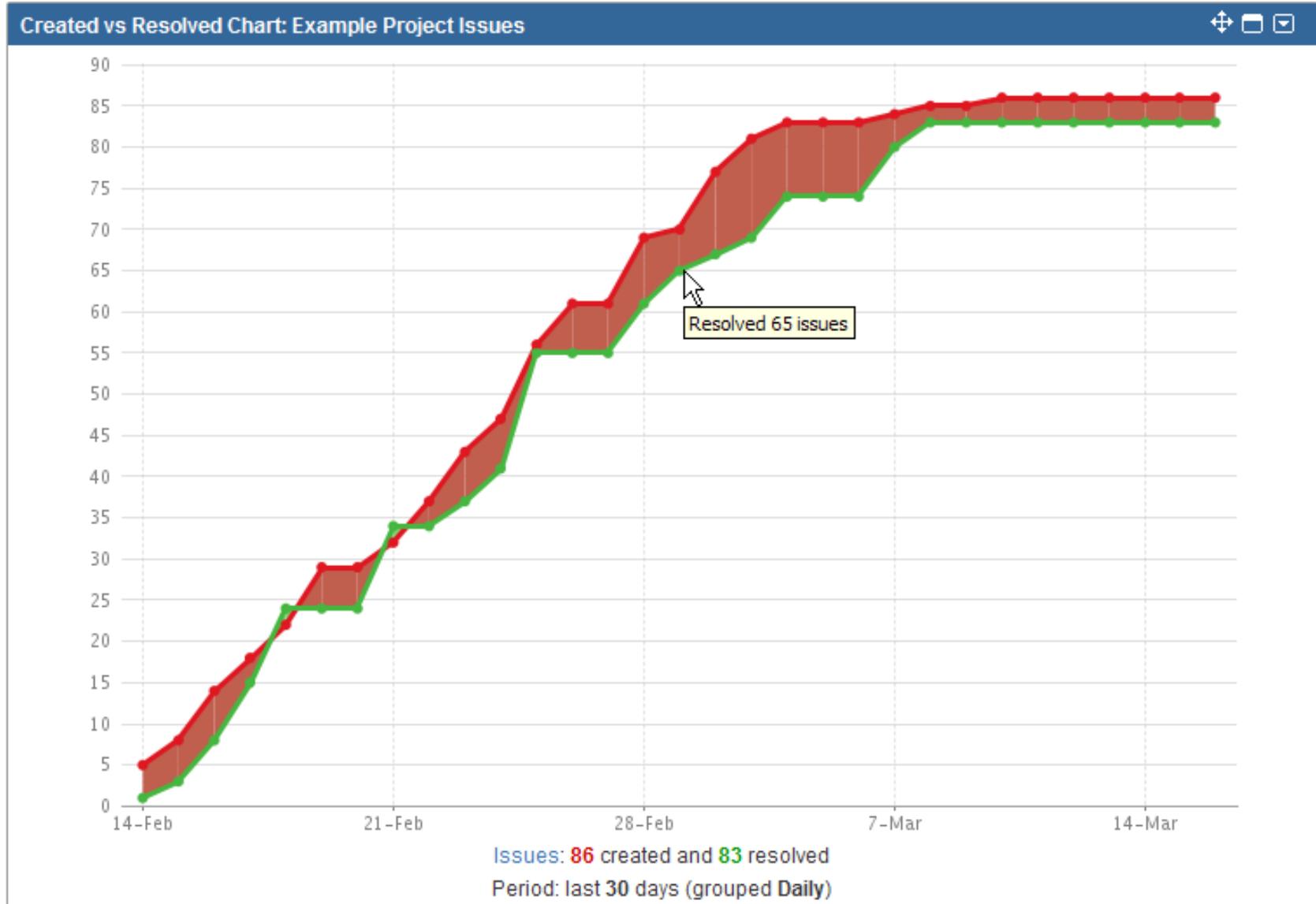
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RETURN ON INVESTMENT

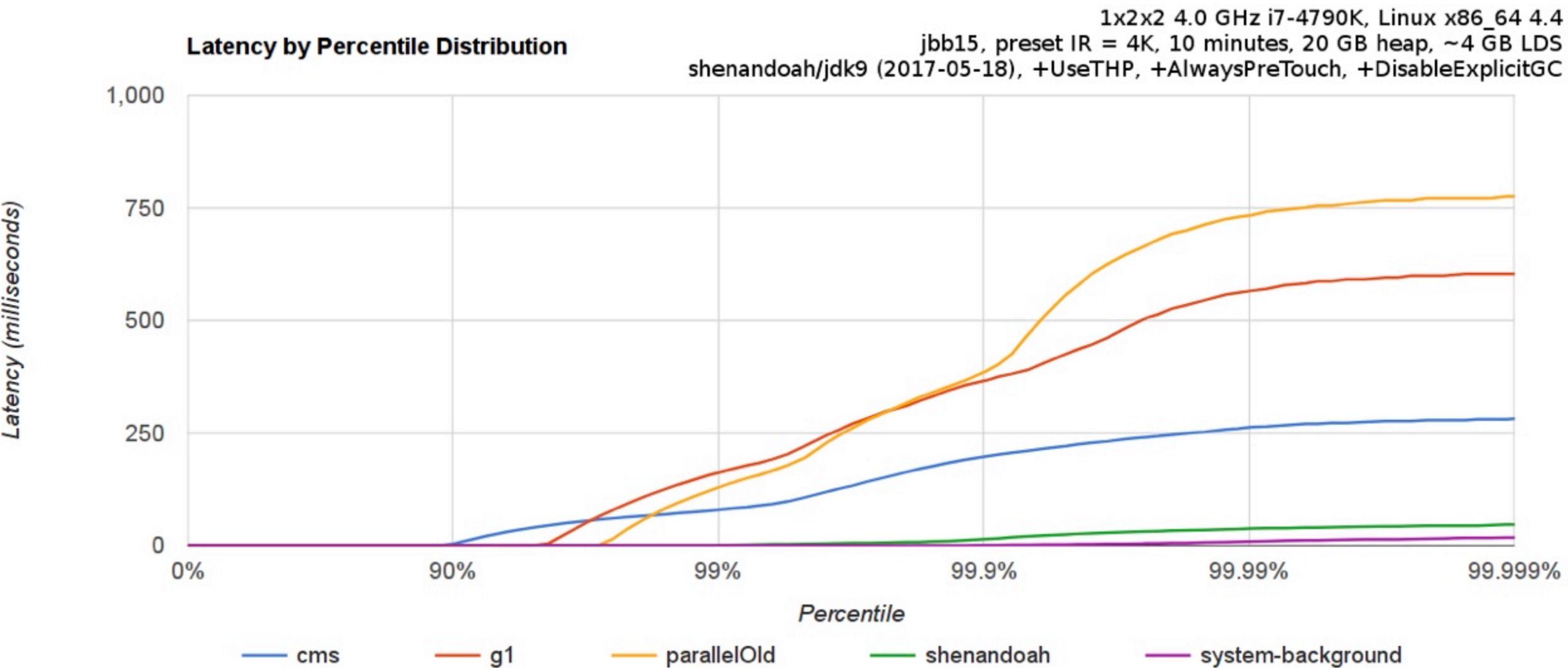


ANECDOTES FROM THE DAILY SCRUM STAND-UPS

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

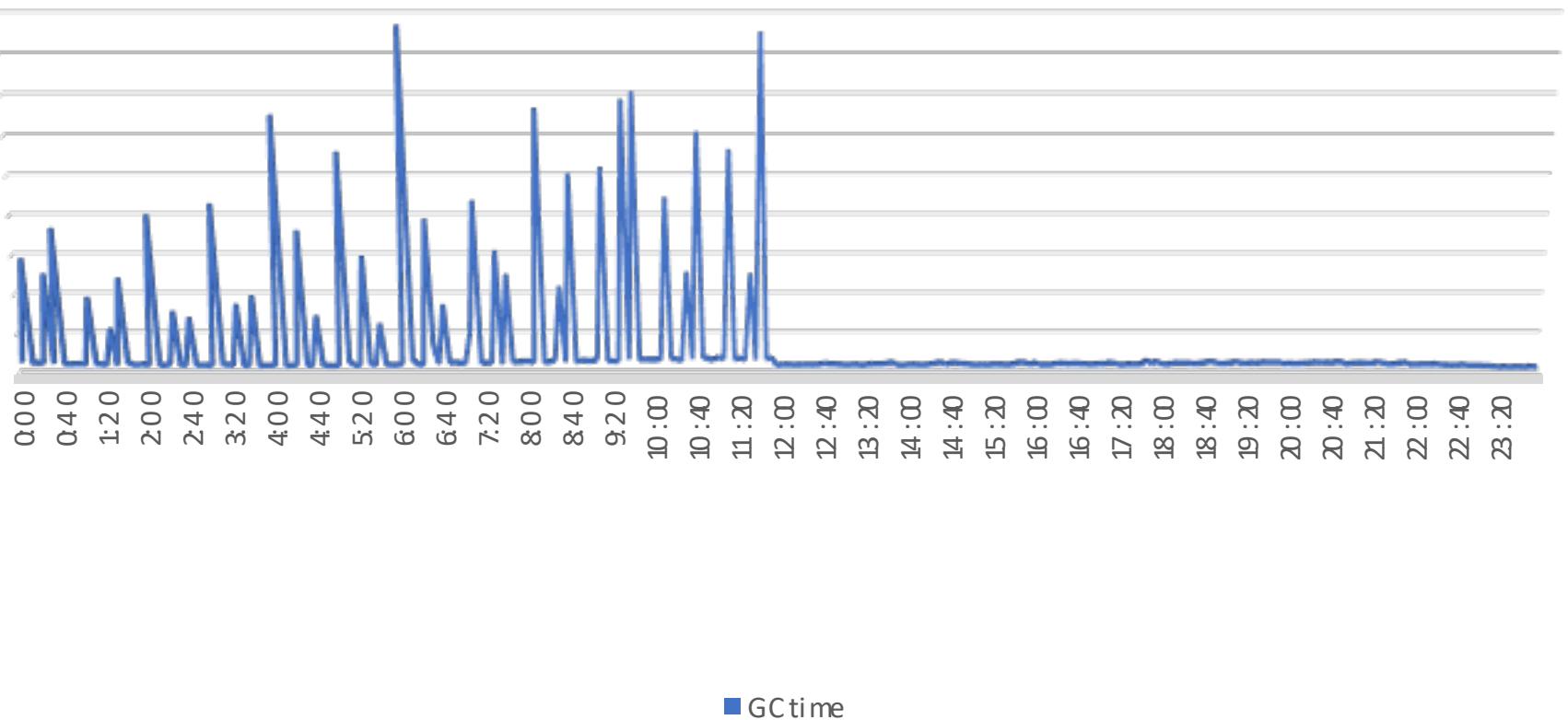
Scrum team “Avengers”

LET'S GATHER SOME DATA!



TRUST AND PREDICTABILITY

GC time



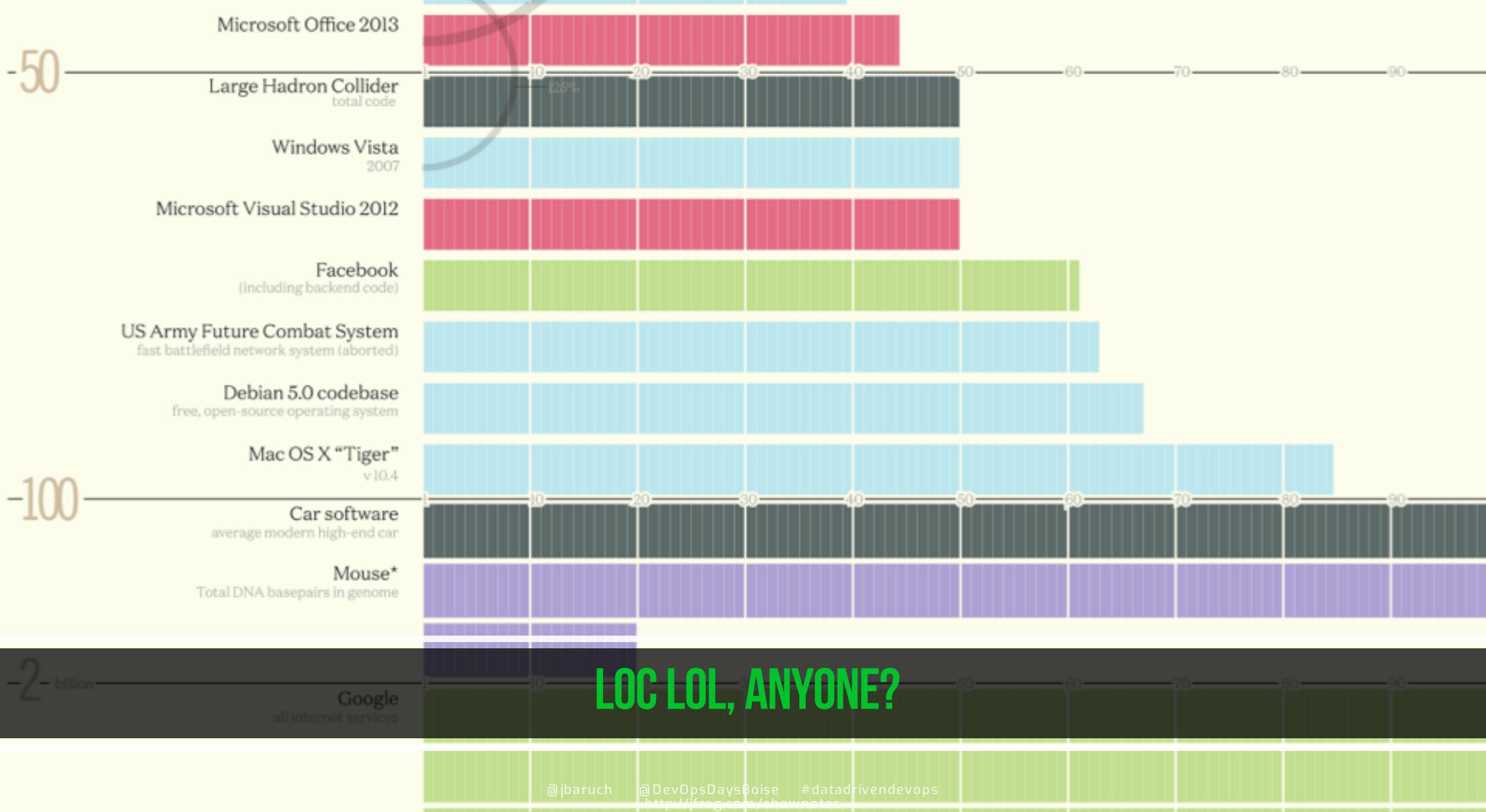
■ GC time

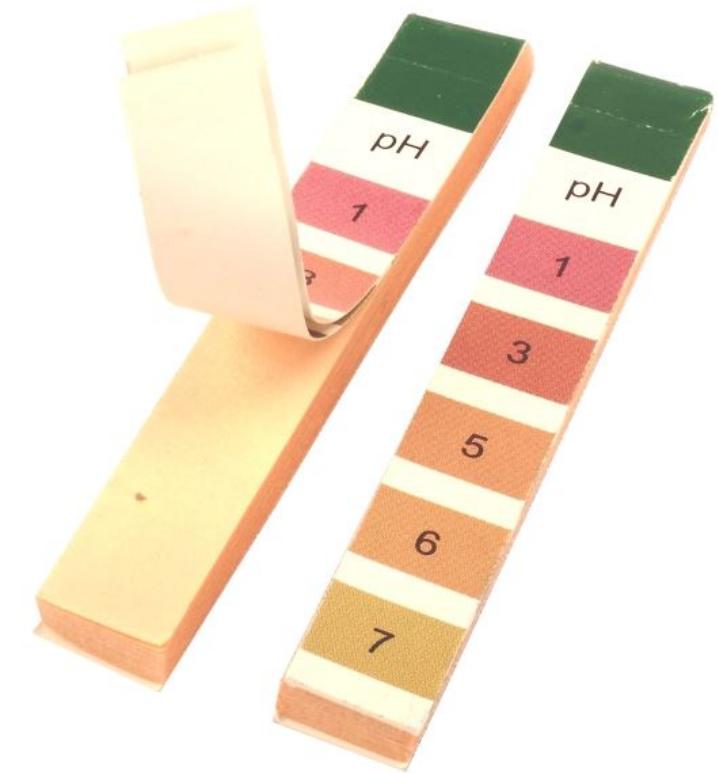
DOS AND DON'TS



MEASURING THE RIGHT THING

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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!



S. Adams E-mail: SCOTTADAMS@aol.com



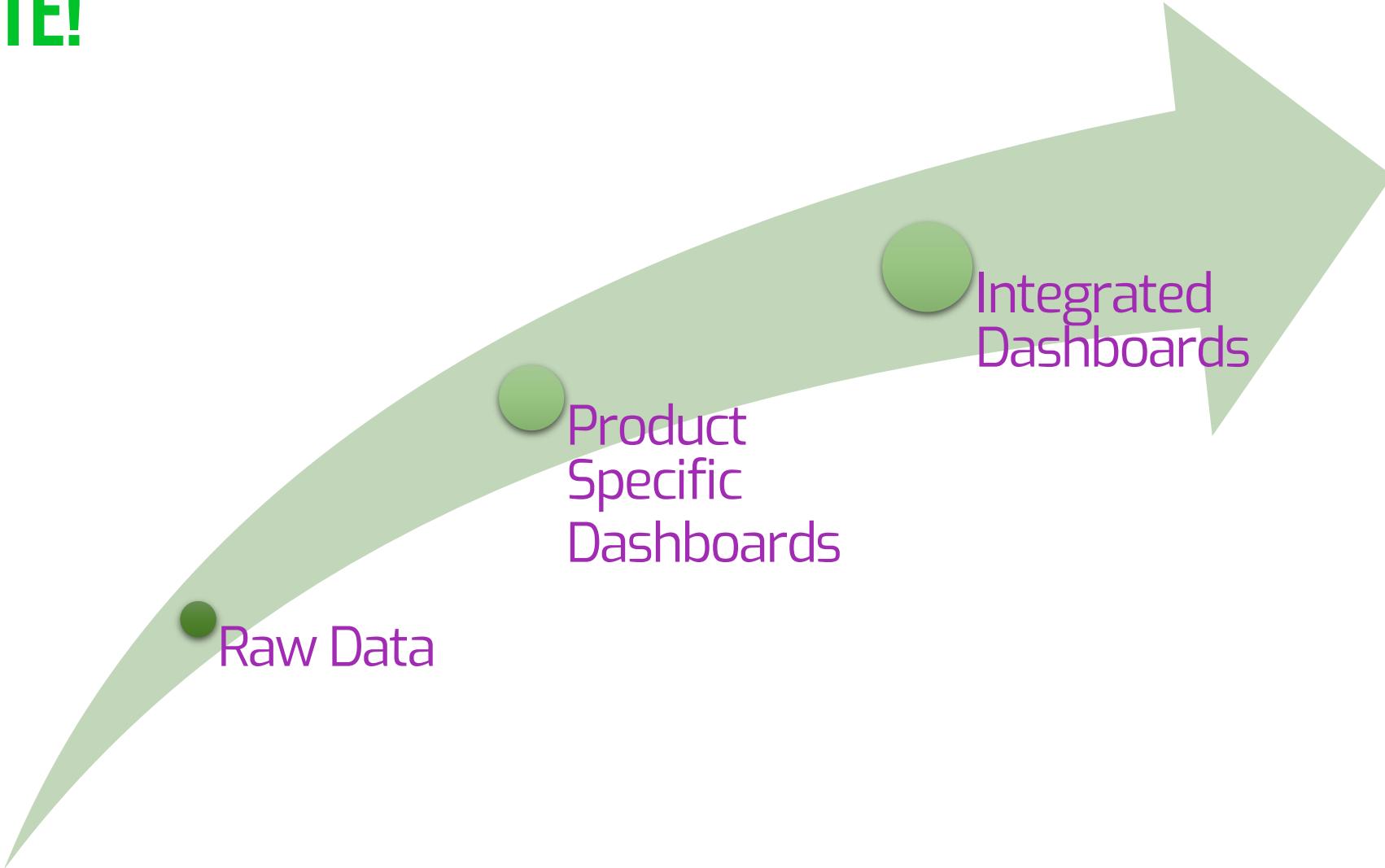
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TWEAK AS YOU GO

ELEVATE!





- Explore
- Services
- Projects
- Graphs
- Admin

Project Name X

[Back to all projects](#)

Time range

12 Hours

24 Hours

3 Days

Week

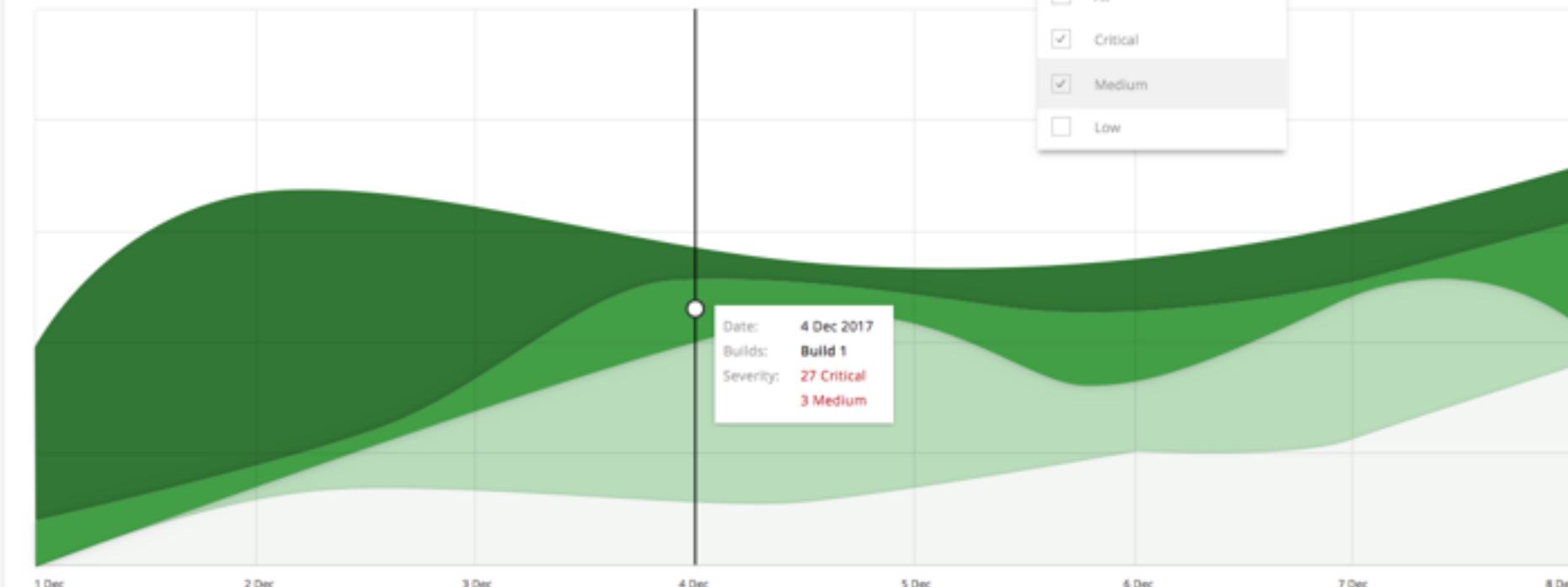
Month

Security Vulnerabilities

Show By:

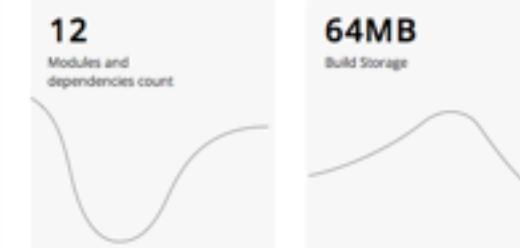
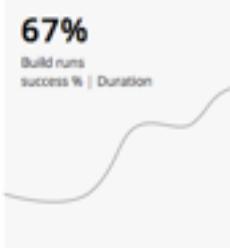
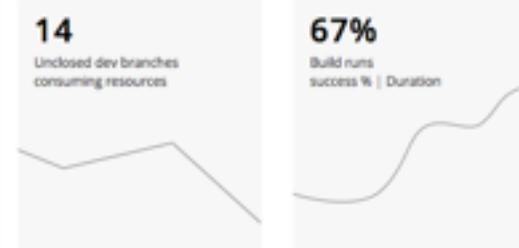
Severity

Build Name

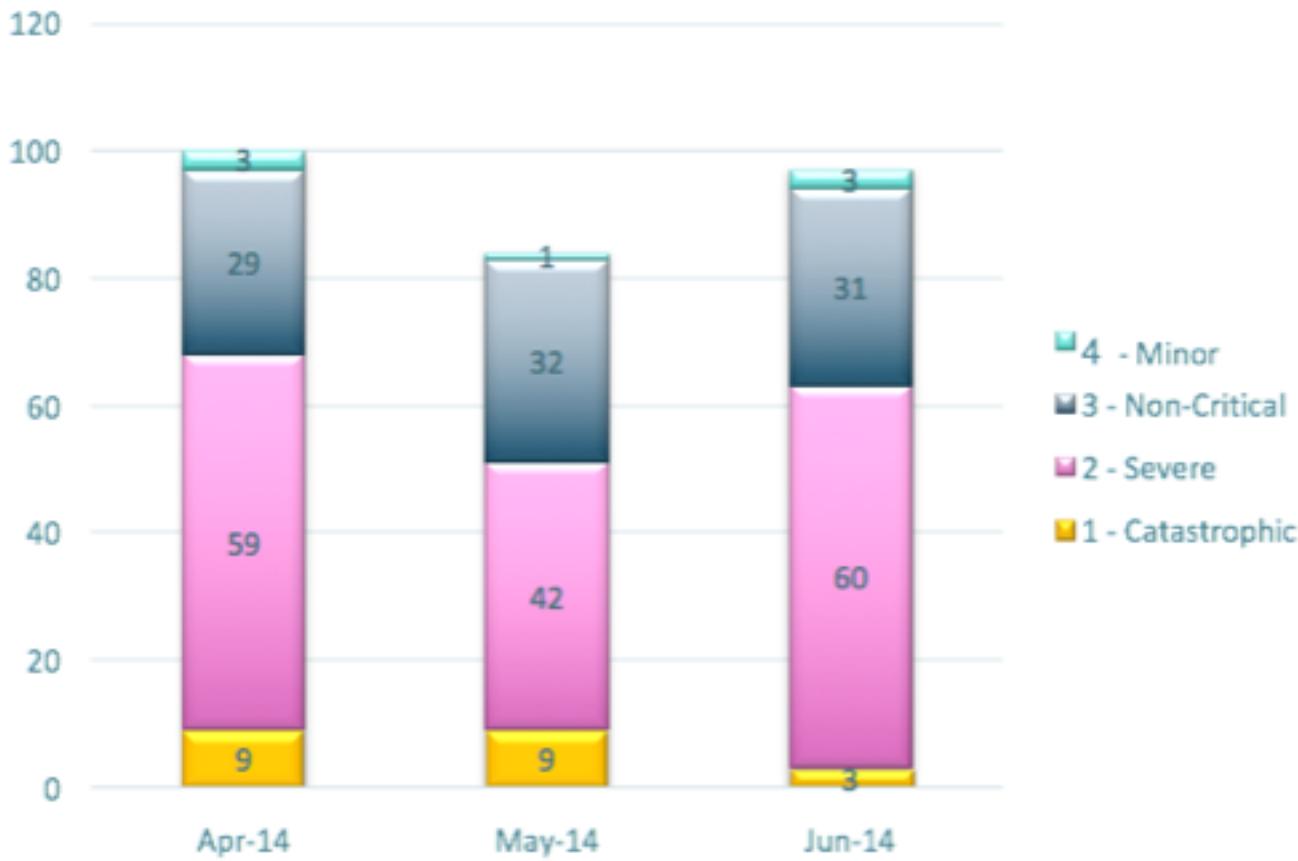
 All Critical Medium Low

- Build 1
- Build 2
- Build 3
- Build 4

Build 1 - 11 issues



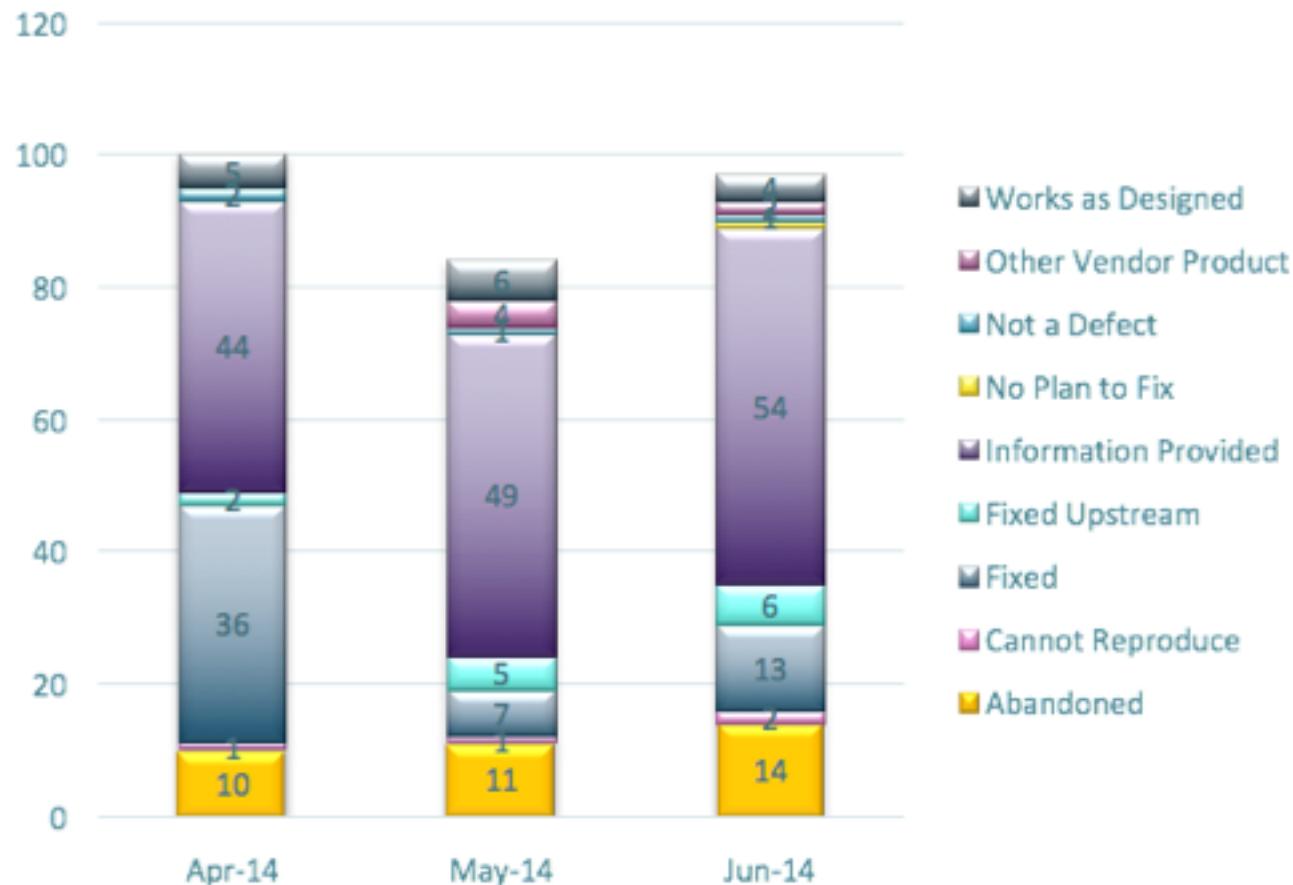
Q1FY15 Customer Defects by Severity



281 – Total Q1FY15 Customer Defects(escalated by Support to Engineering)

182 (65%) – S1 & S2 Tickets

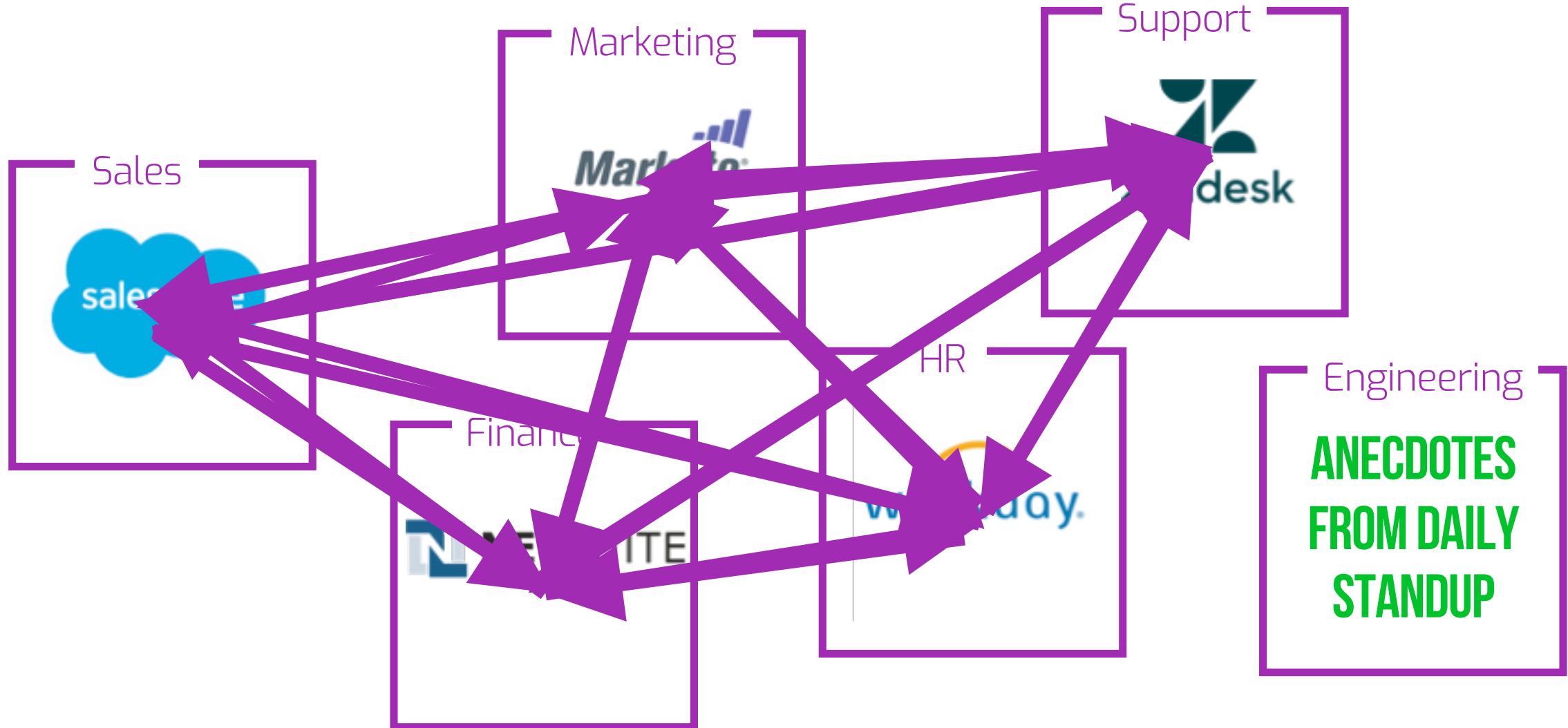
Q1FY15 Customer defects by Resolution



56 (19.9%) defects – Resolution = Code Fix

147 (52.3%) defects – Resolution = Information Provided

HOW DEPARTMENTS MEASURE



STEP INTO DATA-DRIVEN LIFE

- ⌚ Removes blame game
- ⌚ Builds accountability and trust
- ⌚ Creates common base for discussion

Q&A AND TWITTER AIDS

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