

# Reliability Lessons

From My 10 Years Of  
High Traffic Online  
Systems

# Who is Augusto?

- Father of two teenage children
- Avid reader (1 to 2 books a week), mostly Science Fiction
- Originally from Angola, Africa. Now a long time Canadian.
- 18 years long career in IT, and doing DevOps, SRE for a large part of it.
- Expert in AWS, Azure, Video Streaming, Applications and many other little things.
- Mostly proud of building great teams and making people happy.



Slalom Build

2011

Established

7

Regional Build Centers

600+

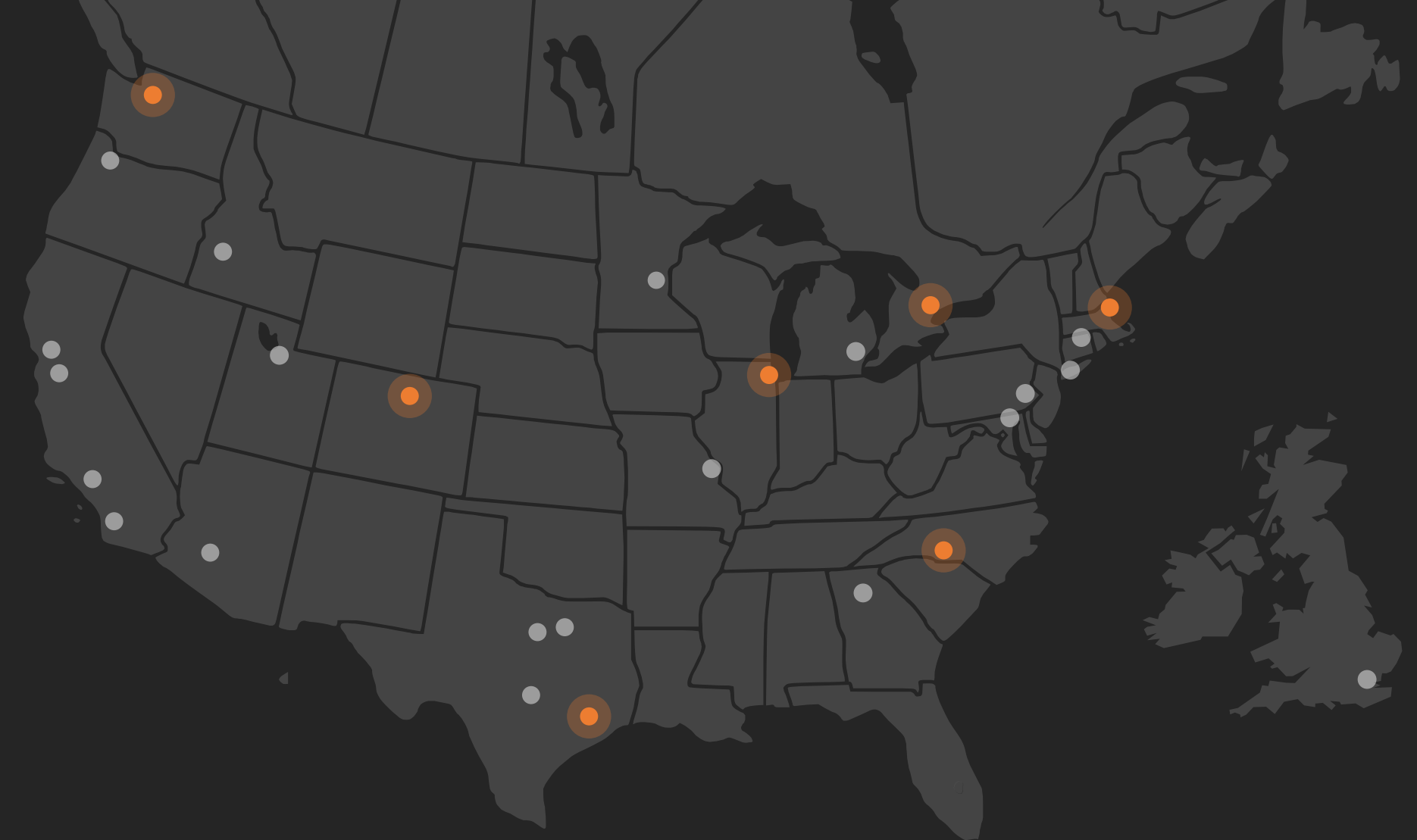
Build Clients

2500+

Consumer-Grade Products Built

1000+

Builders Internationally



Seattle



Charlotte



Denver



Chicago



Houston



Boston



Toronto



Market + Build Center



Local Market



# Things That Happened

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simple page-views, petabyte level video traffic, and large Black Friday retail commerce transactions, and real-time services



# Bigbrother Canada

- Call outs to Vote lead to big outages
- Lack of load testing
- Lack of real knowledge how popular the show would be
- No load balancer or CDN a week before

## Black Friday in Retail

- Lots of pre-work, still not enough
- Game days
- Visibility
- Still adding servers manually until late hours
- Load balancing algorithms

North-America  
5<sup>th</sup> largest  
Video  
Streaming  
Service



shomi<sup>TM</sup>



- At airport to pick family
- Everything goes down
- 4 hours later we are back online
- Code bug around date calculation (multiple problems)
- Database SDK expecting results in a certain format past a certain date and time

# Cloud Horror Stories

- Automation erases all configuration from most microservices
- Back when multiple availability zones still went down somewhat frequently
- An IPV6 bug in serverless
- Cloud is not your physical datacenter







# My Lessons

Learned over 10 years

# Transparency in Ops, Dev and Testing



Infrastructure as code with CI/CD



Git Pull Requests and Branching



Scrum-ban boards are important for transparency (a mix of Scrum and Kanban)



Having the scrum ceremonies (plan, grooming, retros) helped the team a lot



Collaborate with all other practices. You are as good as what you are providing the other practices



If you made a mistake. Be ready to admit without any reservations



Learn from your mistakes

# Collaboration is your first Priority



Its not about you and your team



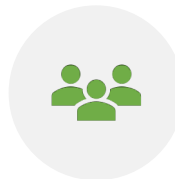
Its about delivering value to the business



You are the team advocate with other teams, so his everyone in the team



Sells your ideas over time



Collaborate with everyone on small changes over time, not big changes



Focus on de-risking the changes through small incremental changes

# Testing, testing and testing



Everyone should be testing



Your team needs to know how  
the application works



How to run automated tests, so  
you can run some tests on your  
own



Do not pass infrastructure  
changes without testing yourself  
or having a buddy to test

# Measure Everything

Keep important logs and metrics

Measure from the customer perspective

Measure all stages of the distributed system

Dashboard and more drill down dashboards

Its all about  
the team

At Slalom, we have a saying,  
“this is a team sport”. Reliability is  
a team sport!

However, I learned long time ago  
that I needed everyone to be in it,  
Product Owners, Business people,  
Finance, Developers, Quality,  
Support team or SRE engineers.

# Teams or Team Members need Safety



APPROACH CONFLICT AS A  
COLLABORATOR, NOT AN  
ADVERSARY

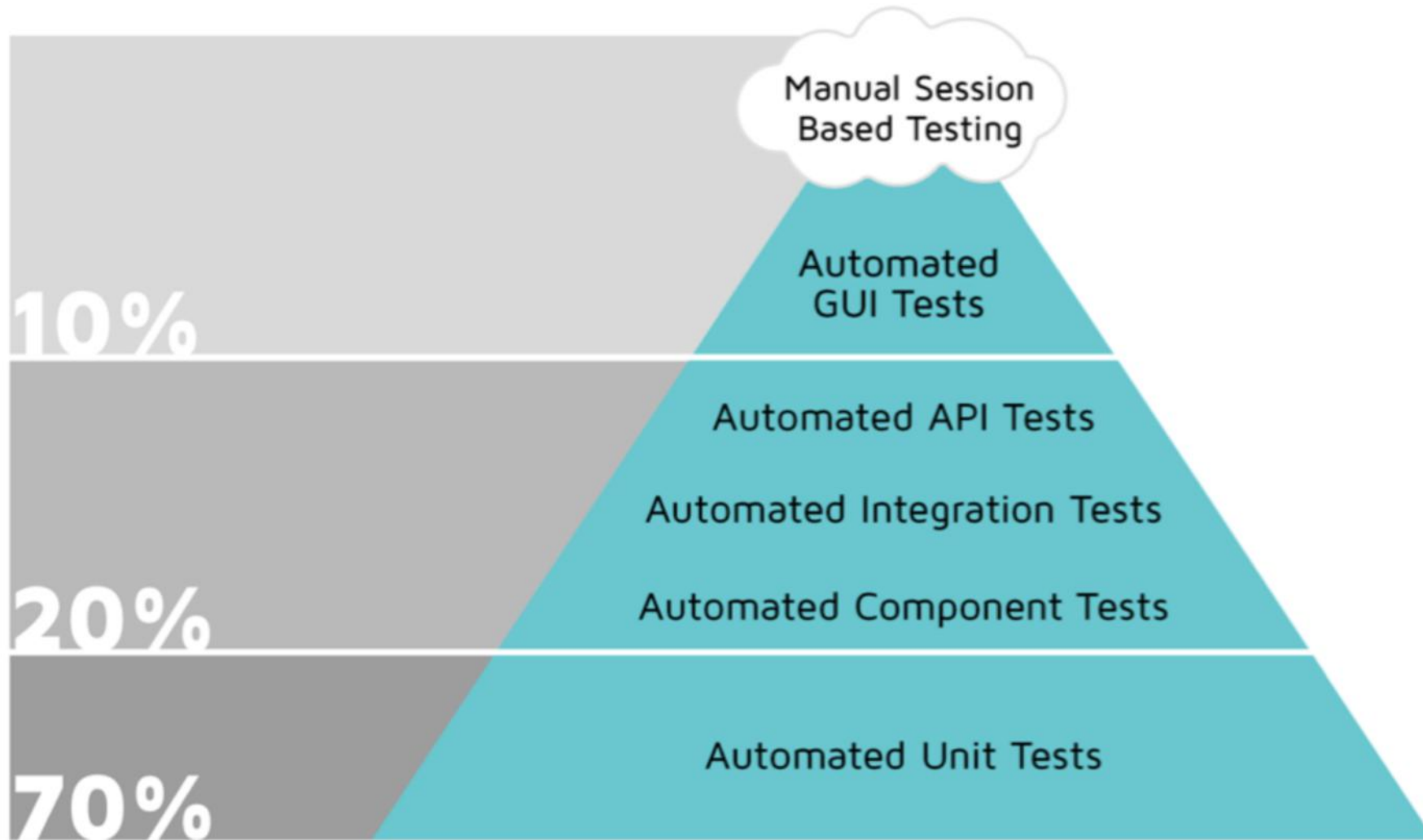


PEOPLE NEED TO BE ALLOWED  
TO MAKE MISTAKES AND LEARN  
FROM THEM



REPLACE BLAME WITH  
CURIOSITY

# Testing



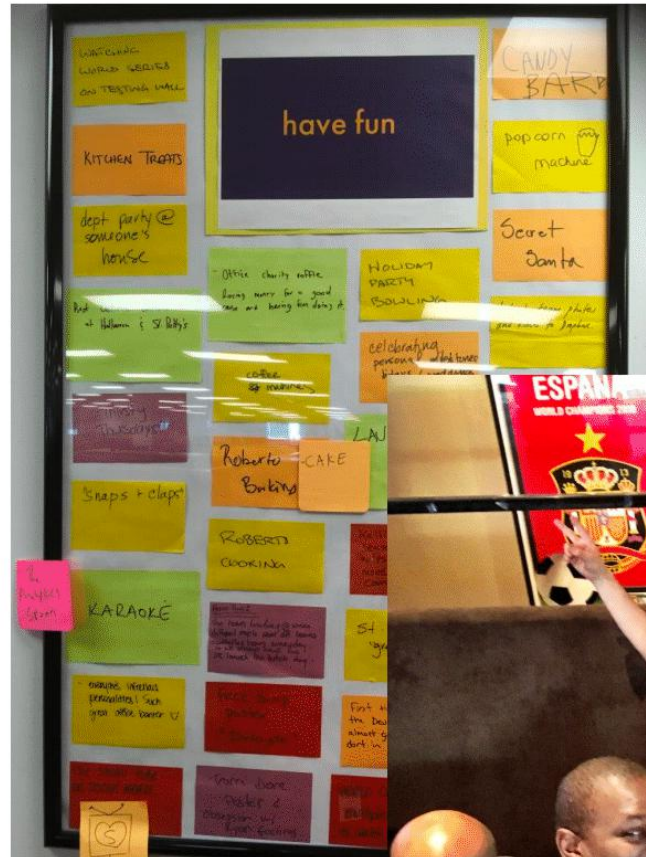


Keep it Simple – Stupid (KISS)

stupid

keep it simple, ~~stupid~~

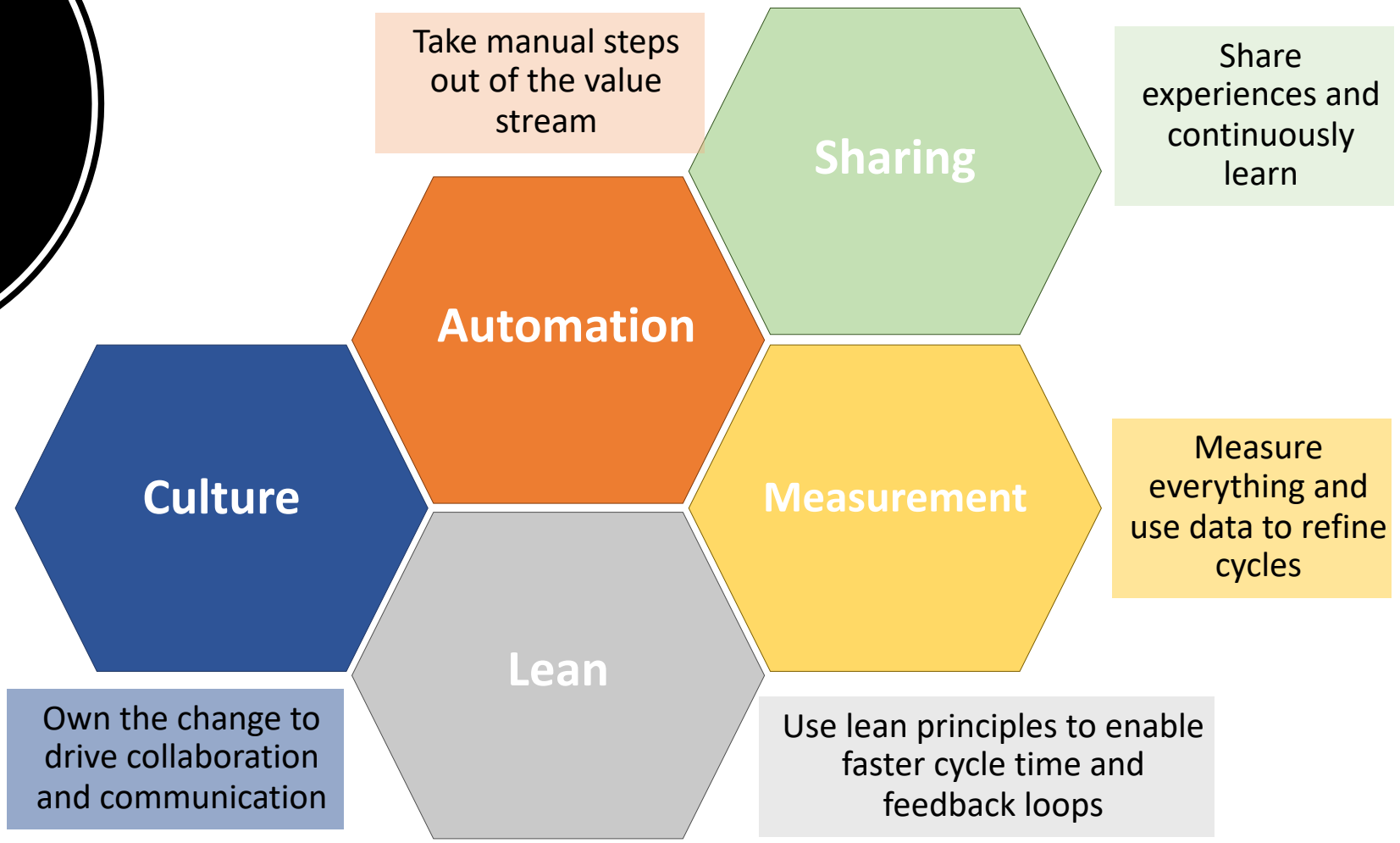
# Have Fun





Practices That  
Helped Before  
They Existed

# DevOps Framework: CALMS



Change key behaviors. Change results.

Site Reliability Engineering

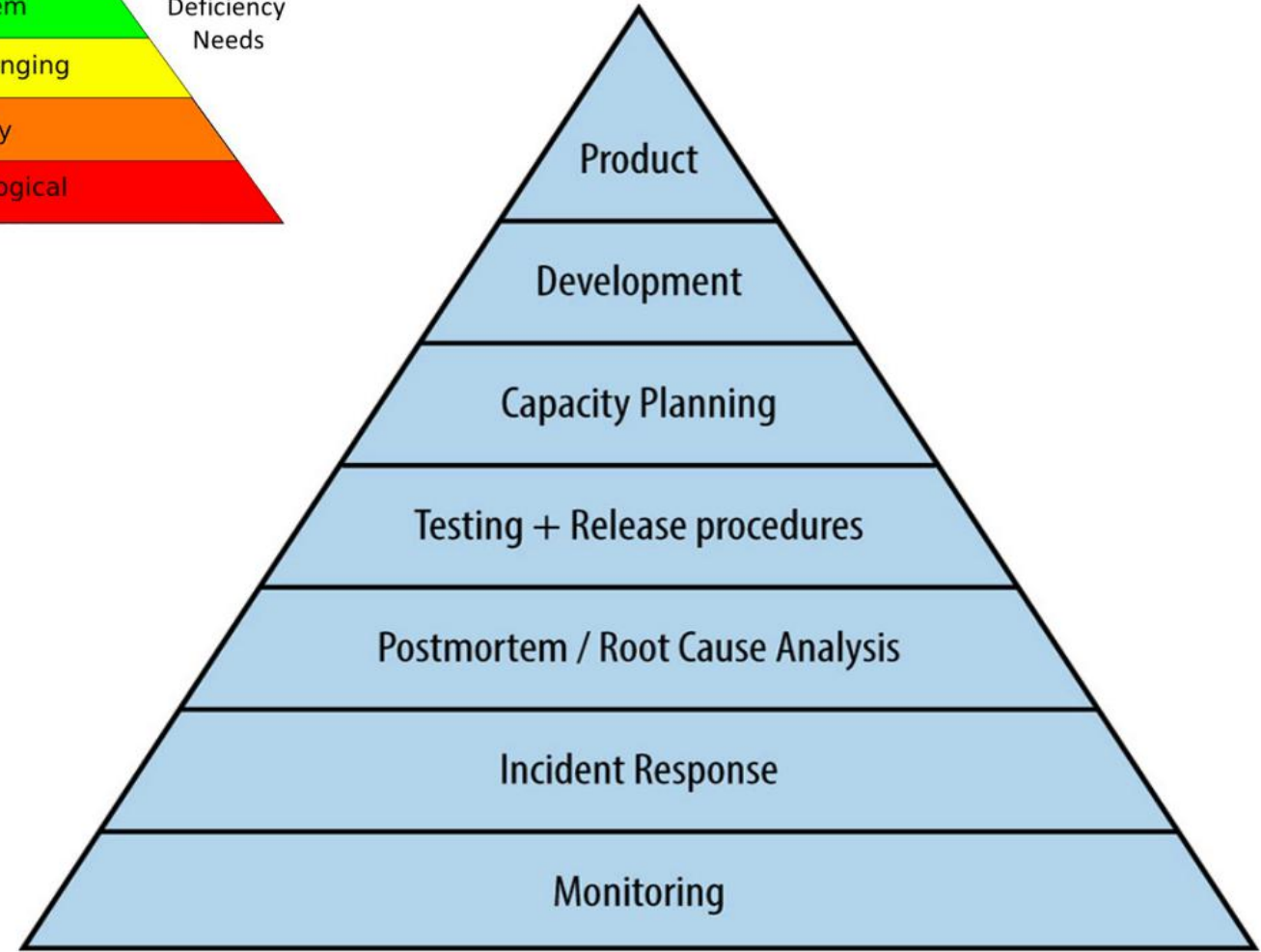
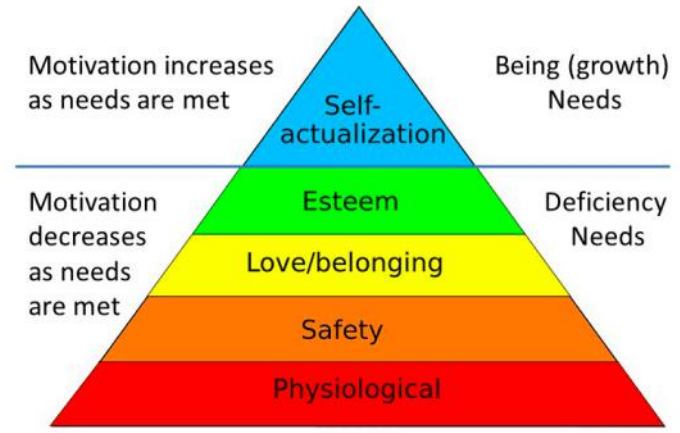
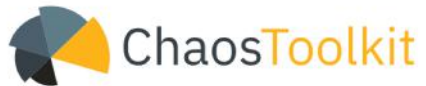


Figure III-1. Service Reliability Hierarchy



# Chaos Engineering

- Netflix made it popular
- Break things on purpose (small scale)
  - Break DNS
  - Network
  - Databases
- Game days



# Thank you DevOps Pro Europe 2019

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