Chaos Engineering

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DevOps Engineer at Ellmount

Essential

Monitoring

What gets measured gets managed.

Monitoring levels

- Server

Monitoring levels

- Server
- Network

Monitoring levels

- Server
- Network
- Application
  - Lint
  - Coverage
  - Unit
  - API

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- Application
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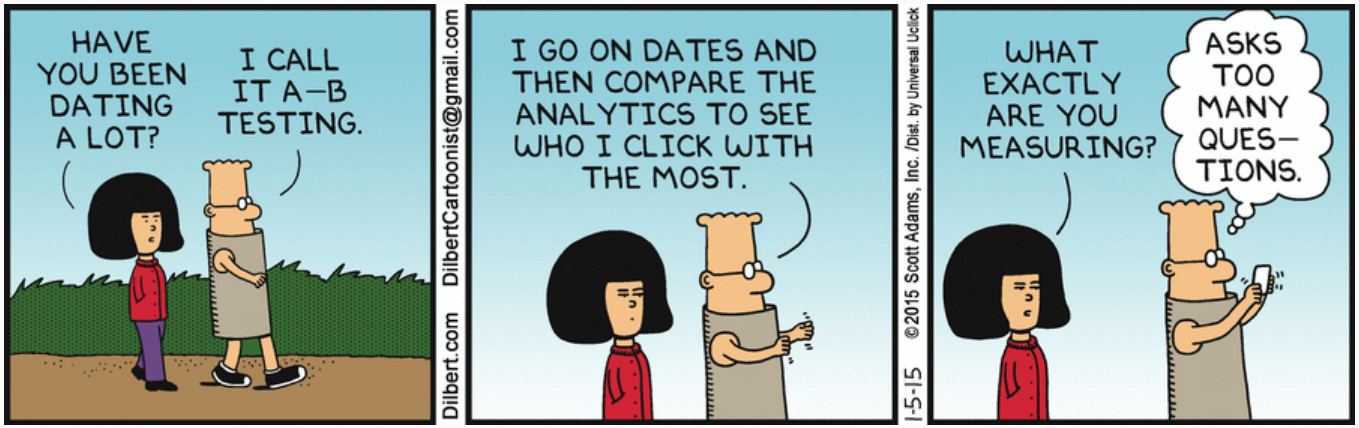
  - API
- UI

Monitoring levels

- Server
- Network
- Application
  - Lint
  - Coverage
  - Unit
  - API
- UI
- Performance

Testing


HAVE YOU BEEN DATING A LOT?
I CALL IT A–B TESTING.
Dilbert.com DilbertCartoonist@gmail.com
I GO ON DATES AND THEN COMPARE THE ANALYTICS TO SEE WHO I CLICK WITH THE MOST.
1-5-15 ©2015 Scott Adams, Inc. /Dist. by Universal Uclick
WHAT EXACTLY ARE YOU MEASURING?
ASKS TOO MANY QUES–TIONS.

Chaos Engineering

Definition

Chaos Engineering is the discipline of **experimenting** on a distributed system in order to **build confidence** in the system's capability to withstand turbulent conditions in **production**.

Reasons


I'VE NEVER SEEN YOU TAKE A VACA-TION.
I TAKE MENTAL VACA-TIONS.
Dilbert.com @ScottAdamsSays
ALL I DO IS SWITCH TO DECAF. AFTER A FEW HOURS, I CAN'T REMEMBER WHAT COUNTRY I'M IN.
9-12-17 © 2017 Scott Adams, Inc./Dist. by Andrews McMeel
SOUNDS DUMB. IS THERE ANY DOWN-SIDE?
THE LOCALS COULD BE FRIENDLIER.

Failure injection

- Killing daemons

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- Partially deleting database, cache and queues

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  - Injecting latency between services
  - Dropping packages
  - Blocking ports

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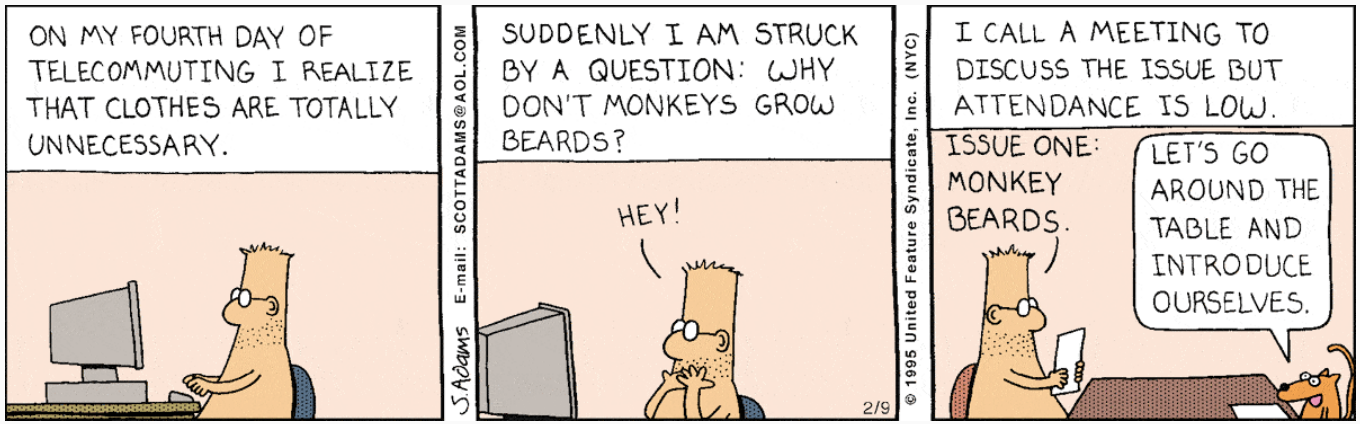
Use your imagination!

Log


ON MY FOURTH DAY OF TELECOMMUTING I REALIZE THAT CLOTHES ARE TOTALLY UNNECESSARY.
SUDDENLY I AM STRUCK BY A QUESTION: WHY DON'T MONKEYS GROW BEARDS?
HEY!
2/9
I CALL A MEETING TO DISCUSS THE ISSUE BUT ATTENDANCE IS LOW.
ISSUE ONE: MONKEY BEARDS.
LET'S GO AROUND THE TABLE AND INTRODUCE OURSELVES.
S.Adams
E-mail: SCOTTADAMS@AOL.COM
© 1995 United Feature Syndicate, Inc. (NYC)

Happy path

- Reproduce past events or break random services?

Happy path

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- Warn people or just break it?

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Happy path

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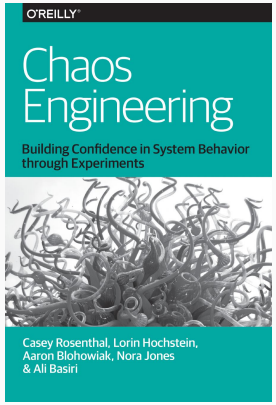
- Warn people or just break it?
- Graceful restart services
- Break it!
- Monitor, analyze and document
- Repeat

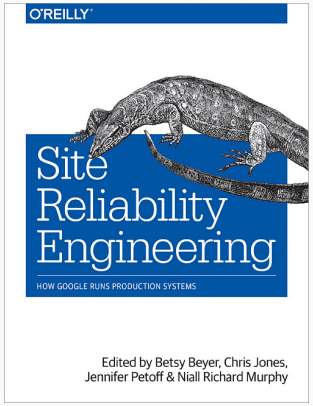
Chaos Monkey

github.com/Netflix/chaosmonkey

References

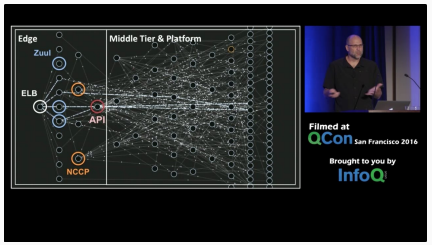


Chaos Engineering



Site Reliability Engineering

References

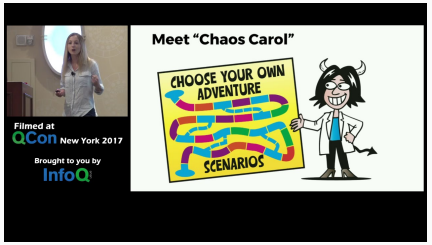


A Netflix Guide to Microservices

Engineering Netflix Global Operations in the Cloud

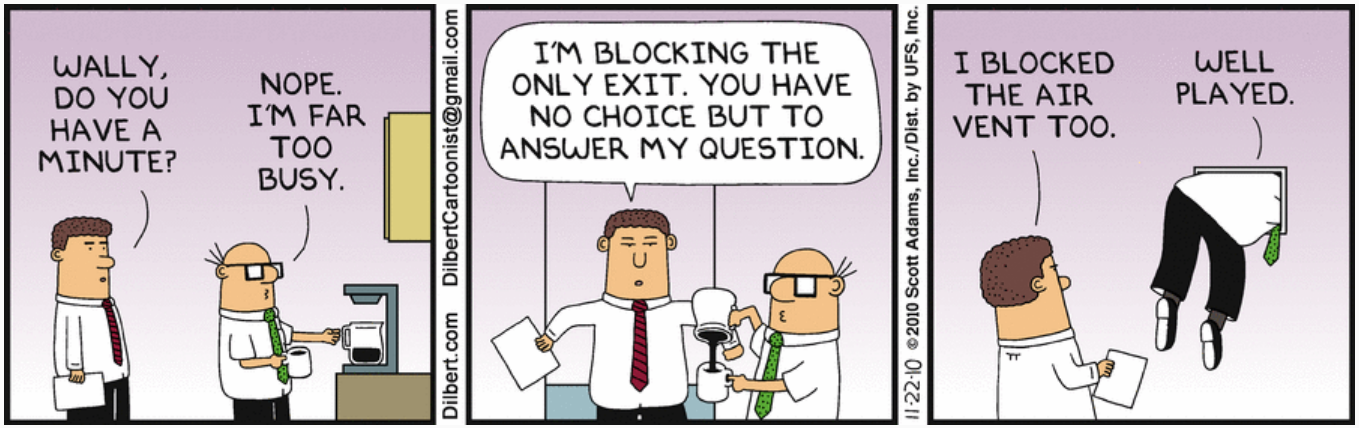
References

Chaos & Intuition Engineering at Netflix



Choose Your Own Adventure

Questions?


WALLY, DO YOU HAVE A MINUTE?
NOPE. I'M FAR TOO BUSY.
I'M BLOCKING THE ONLY EXIT. YOU HAVE NO CHOICE BUT TO ANSWER MY QUESTION.
I BLOCKED THE AIR VENT TOO.
WELL PLAYED.
Dilbert.com DilbertCartoonist@gmail.com
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