Breaking Things on Purpose

Kolton Andrus
CEO and co-founder, Gremlin

What is

Chaos Engineering?

Inject something harmful,
in order to build an immunity

Chaos Engineering:

Thoughtful, planned experiments designed to reveal the weakness in our systems.

We test **proactively**, instead of waiting for an outage.

What is

NOT Chaos Engineering?

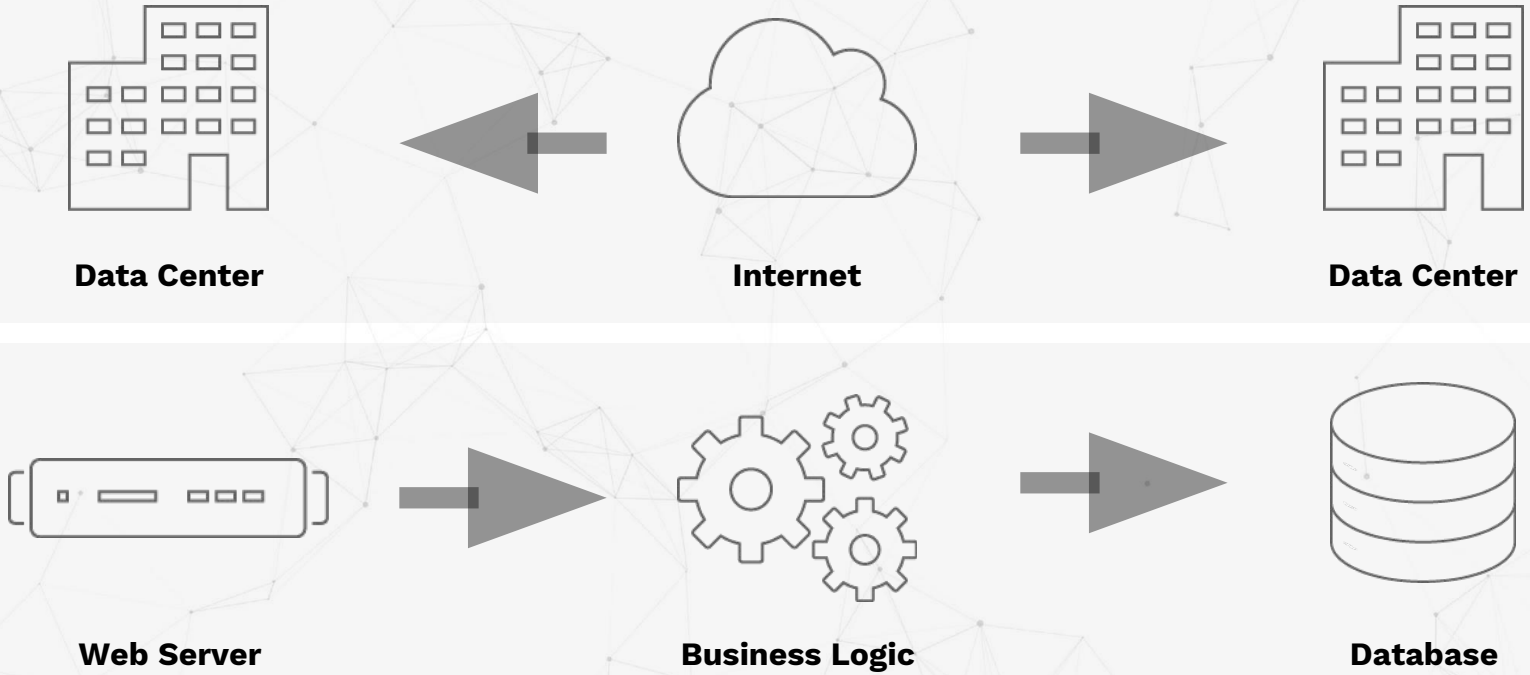
What’s in a name?

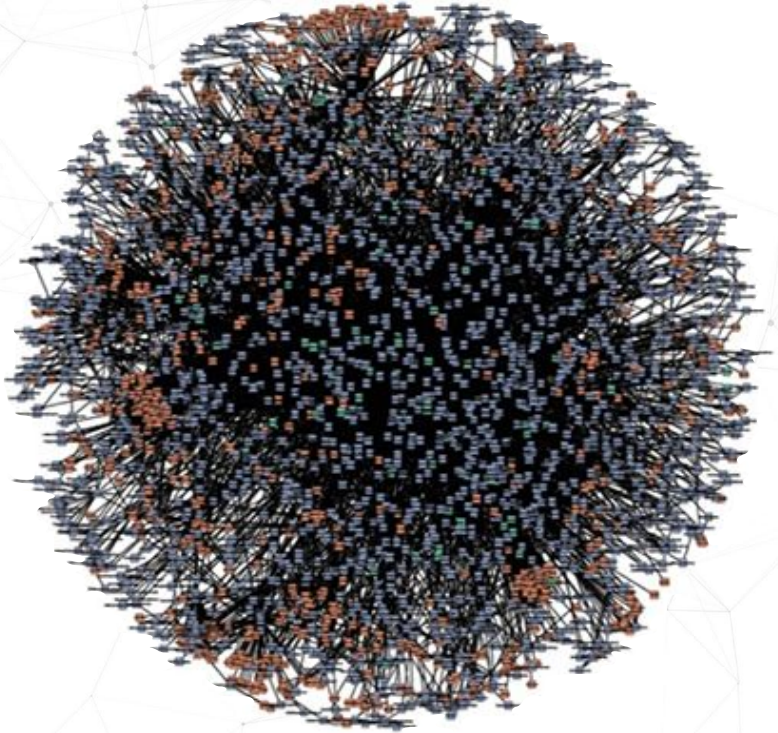
CHAOS	**ENGINEERING**
Exciting	Disciplined
Mischievous	Respectable

What’s in a name?

ENGINEERING **CHAOS**

Why now?


Data Center
Internet
Data Center
Web Server
Business Logic
Database



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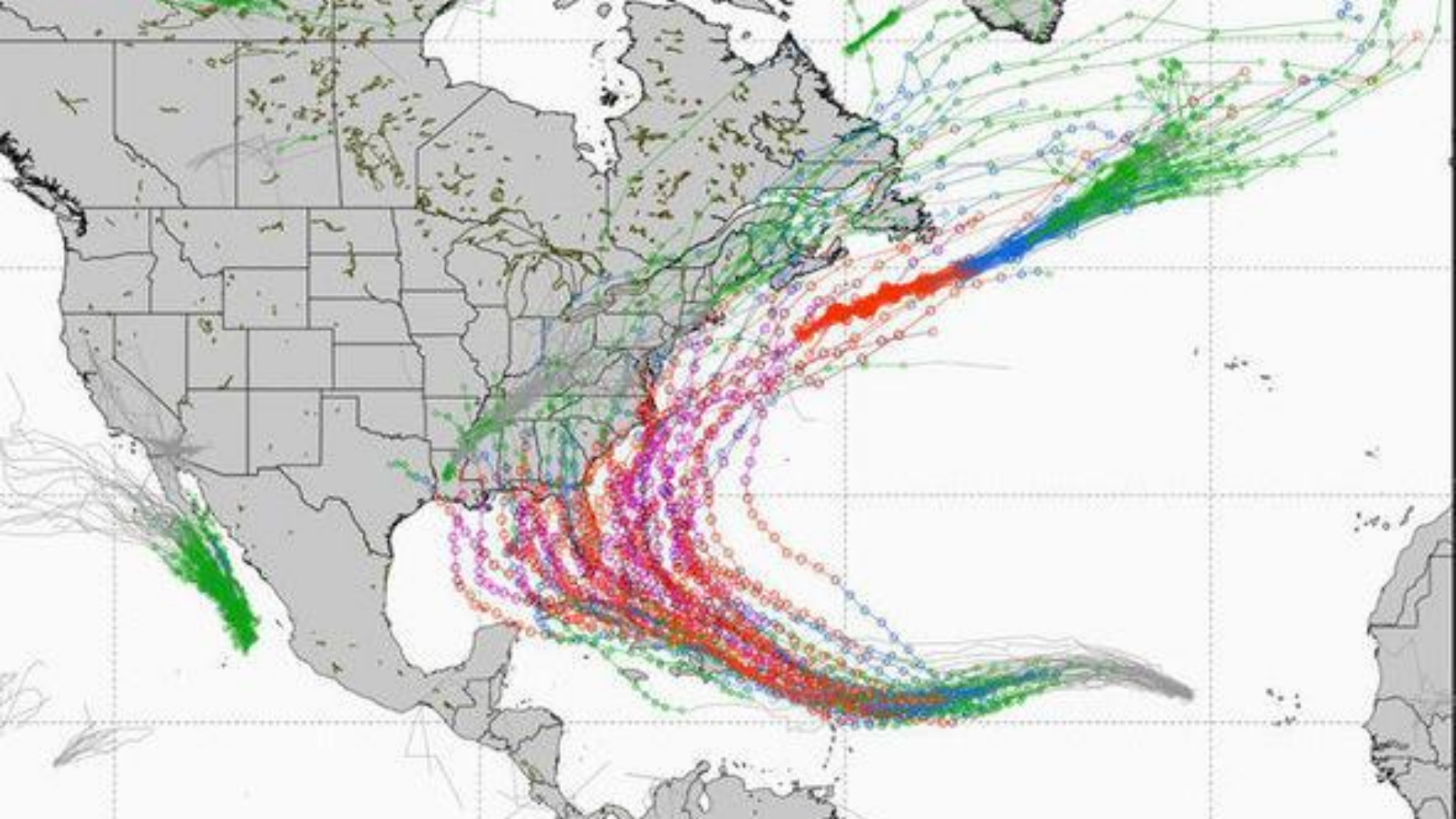
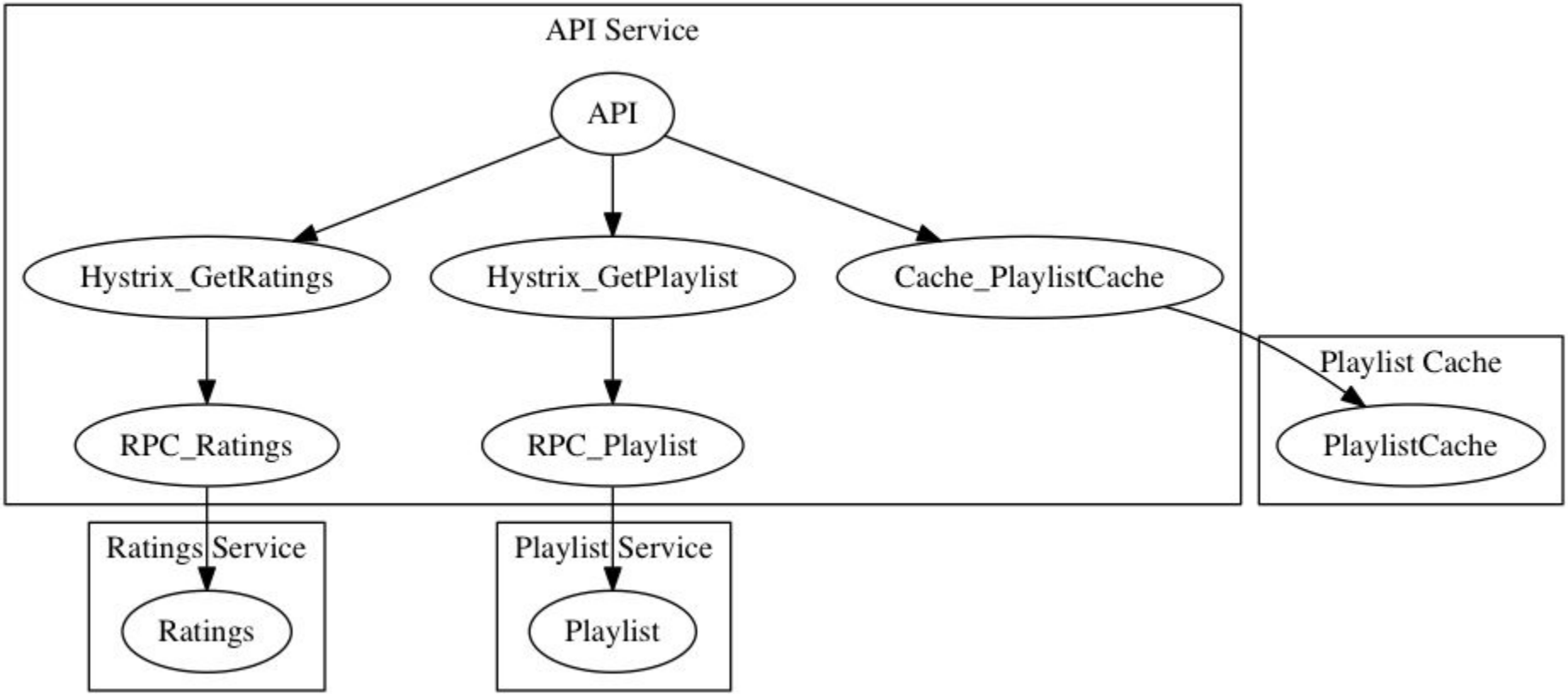


Planning a GameDay

“What could go wrong?”


API Service
API
Hystrix_GetRatings
Hystrix_GetPlaylist
Cache_PlaylistCache
RPC_Ratings
RPC_Playlist
Playlist Cache
PlaylistCache
Ratings Service
Ratings
Playlist Service
Playlist

“How likely is this to occur?”

“What is the cost of being wrong?”

S3 **$150M**

Delta **$100M**

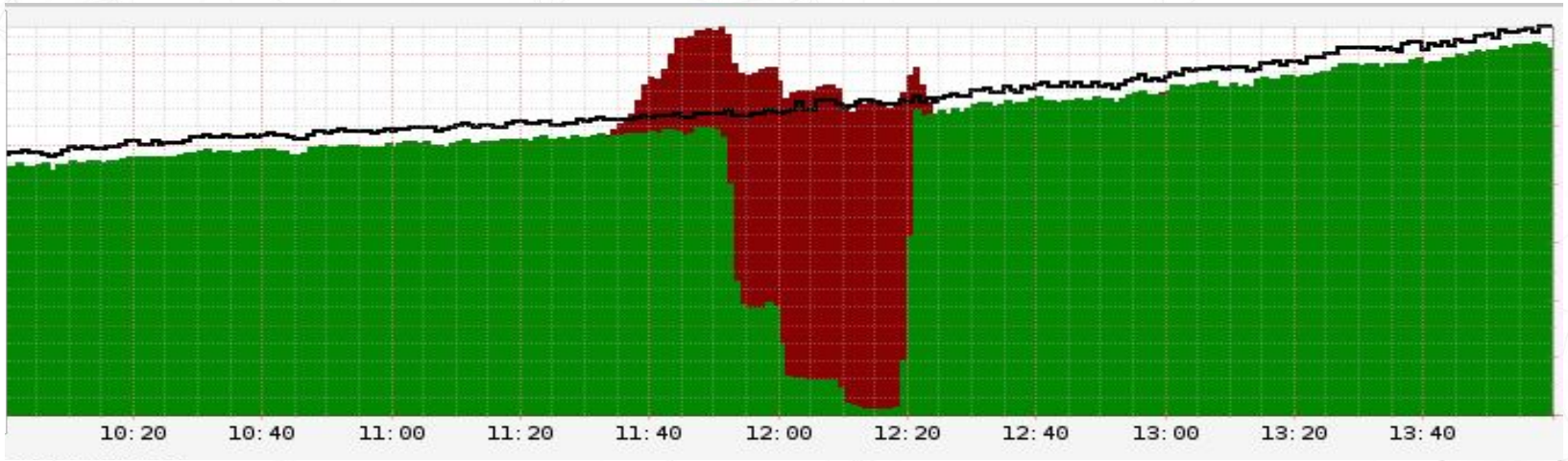
US Annually **$700B**

Running an Experiment

Communicate

Form a hypothesis.
Run an experiment.
Minimize the blast radius.
Abort Conditions
Failure
Success
Find and fix issues.
Scale up and repeat.

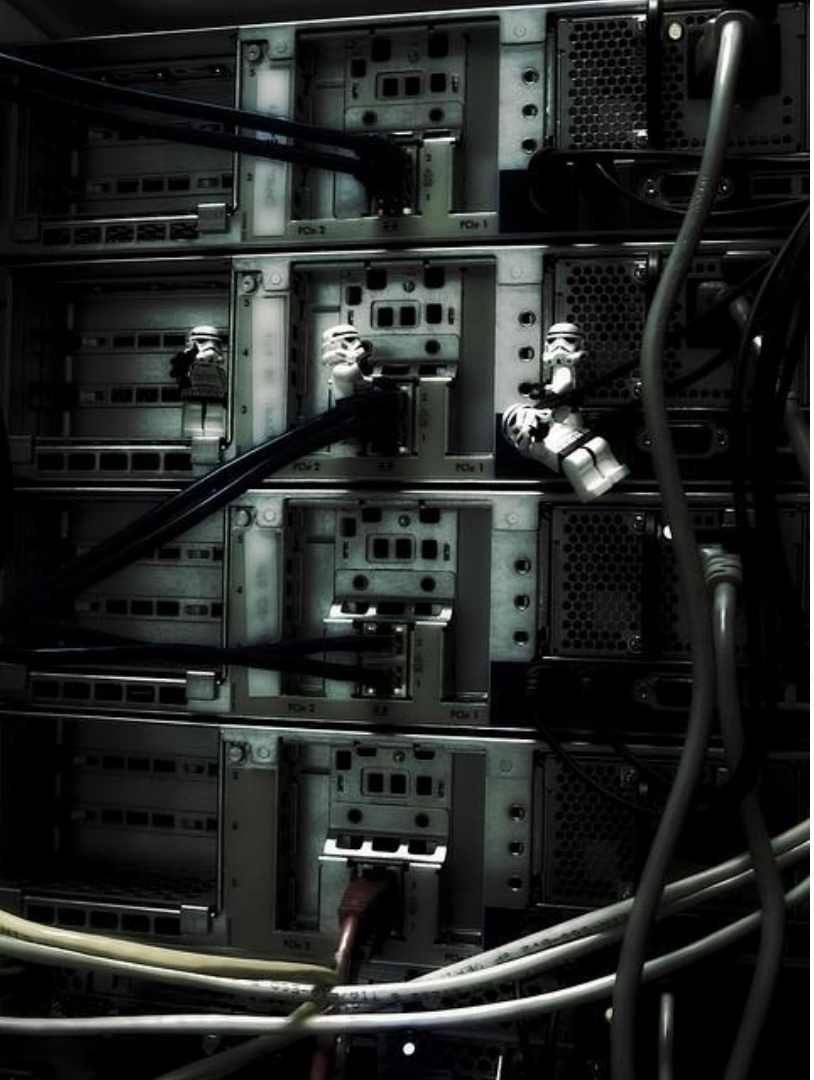
Validate



Practice

Picard Tips @PicardTips · 20 Dec 2015

Picard management tip: Run crisis drills when all is well. A real calamity is not a good time for training.



Those unwilling to test in production aren't yet confident that the service will continue operating through failures.

And, without production testing, recovery won't work when called upon.

James Hamilton
Distinguished Engineer, AWS

Prepare for

Real World Scenarios.

Region Evacuation

“What is Tier 1?”

Finding the Critical Services

Automating Failure Testing Research at Internet Scale

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Reduce Toil

Increase Reliability

Prepare for the outages that WILL occur

Join the community!

gremlin.com/community

Join us at Chaos Conf!

chaosconf.io

September 28th

Thanks!

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