THE ART OF CHAOS ENGINEERING

FAILURE AT NETFLIX VELOCITY
Cannot Connect to the Netflix Service
When a young boy vanishes, a small town uncovers a mystery involving secret experiments, terrifying supernatural forces and one strange little girl.

Winona Ryder, David Harbour, Matthew Modine
TV Shows, TV Sci-Fi & Fantasy, Teen TV Shows
IMPACT: 1%
LATENCY: 50 ms
50% IMPACT 50ms LATENCY
IMPACT: 100%
LATENCY: 50ms
25% IMPACT

250ms LATENCY
50% IMPACT 250 MS LATENCY
IMPACT
50%

LATENCY
500 ms
IMPACT

LATENCY
HYPOTHESIS

PROVEN
LEARNINGS

Application Behavior
Blast Radius
Consistency
You already know all that
REMEMBER THE GRAY AREA?
Systems | People
don’t react predictably when exposed
to non–typical behavior.
INCIDENT MANAGEMENT
WHAT’S THE BIG DEAL?
FIX IT AND MOVE ON!
INCIDENTS ARE:

Expensive

Stressful

Potentially Public
INCIDENTS ARE:

Expensive
INCIDENTS ARE:

- Expensive
- Stressful
INCIDENTS ARE:

- Expensive
- Stressful
- Public
'Luke Cage' overload? Netflix viewers report outage amid binge of new show

Got some heroes at #Netflix fixing things. They're all over it. Meantime, keep this in mind. #LukeCage

Netflix is back up after more than 2-hour outage

The streaming service crashed as 'Luke Cage' premiered — and the Internet acted accordingly

NICK ROMANO @NICKAROMANO
This is Washington. There's always a leak. All 13 episodes will launch February 27.
Why Netflix didn’t sink when Amazon S3 went down

When a typo caused an outage in part of Amazon Simple Storage Service’s (S3) cloud infrastructure on February 28, many of their customers’ websites went down but Netflix survived unblemished.

Hey, just wondering why 10% of you chose to watch a giant rock cover a giant ball of gas when I HAVE ALWAYS BEEN THERE FOR YOU.

6:25 PM - 21 Aug 2017

13,836 Retweets 54,533 Likes
WHAT CAUSES INCIDENTS?
CHANGE
THINGS WE CAN'T CONTROL
THINGS WE DON'T CONTROL
THINGS WE CAN CONTROL
THAT ALL SOUNDS REALLLLLLY NICE
HOW?
INCIDENT MANAGEMENT

GOALS

Short

Unique

Never Forget
Killed Production
Achievement Unlocked
FOUR PARTS
1 ENGAGEMENT
2

COMMUNICATIONS
3

COORDINATION
4
MEMORIALIZATION
TECHNIQUES
SPECIALISTS
BEFORE INCIDENTS

Education

Best Practices

Drilling
DURING INCIDENTS

Incident Leader
AFTER INCIDENTS

Memorialization

Research Coordination

Incident Review
How We Think
WE EXPECT

Failure
Incidents
Empathy
INCIDENT MANAGEMENT
CONTEXT

People
“Human operators have **dual roles:** producers of & defenders against failure”

— Richard I Cook
INCIDENT MANAGEMENT

CONTEXT

Failure
Constant Failures

Degraded is Normal

Any Change is a Gamble
INCIDENT MANAGEMENT

CONTEXT

Biases
Hindsight

Single Attribution

Anchoring
MEASURING SUCCESS

Short & Less Impact

More Incidents

Better Team Engagement
Dave Hahn — Senior SRE, Netflix

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