SKILUP SM DAYS

by: DevOps Institute
ADVANCING THE HUMANS OF DEVOPS

When metrics are not enough, and everyone is on-call

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Chris Riley
@hoardinginfo

1995 - 2003

Was an IT Pro

2003 - 2009

Tried to be a developer & product manager

2009 - now

Became an Advocate

If you can't do it, talk about it

- Community engagement
- Increase understanding of market

Agenda

- The unicorn told me to do it
- Why should I care?
- What is “SRE” and “Observability”?
- On-Call for Modern Apps

The Unicorn Told Me To Do It

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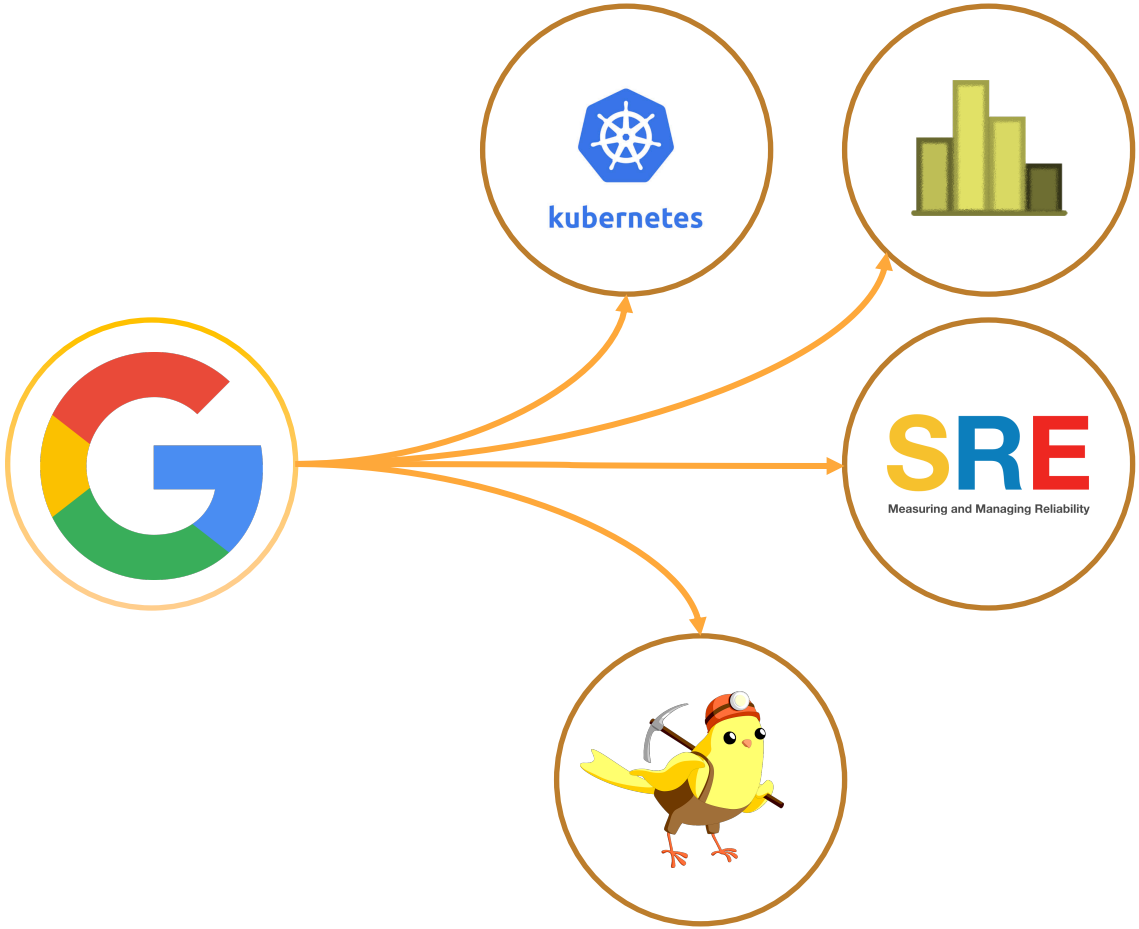
kubernetes
SRE
Measuring and Managing Reliability

What Really Drives Change?

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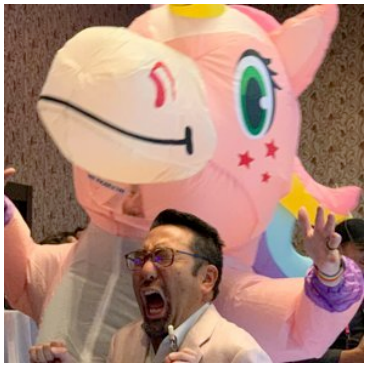
Why?

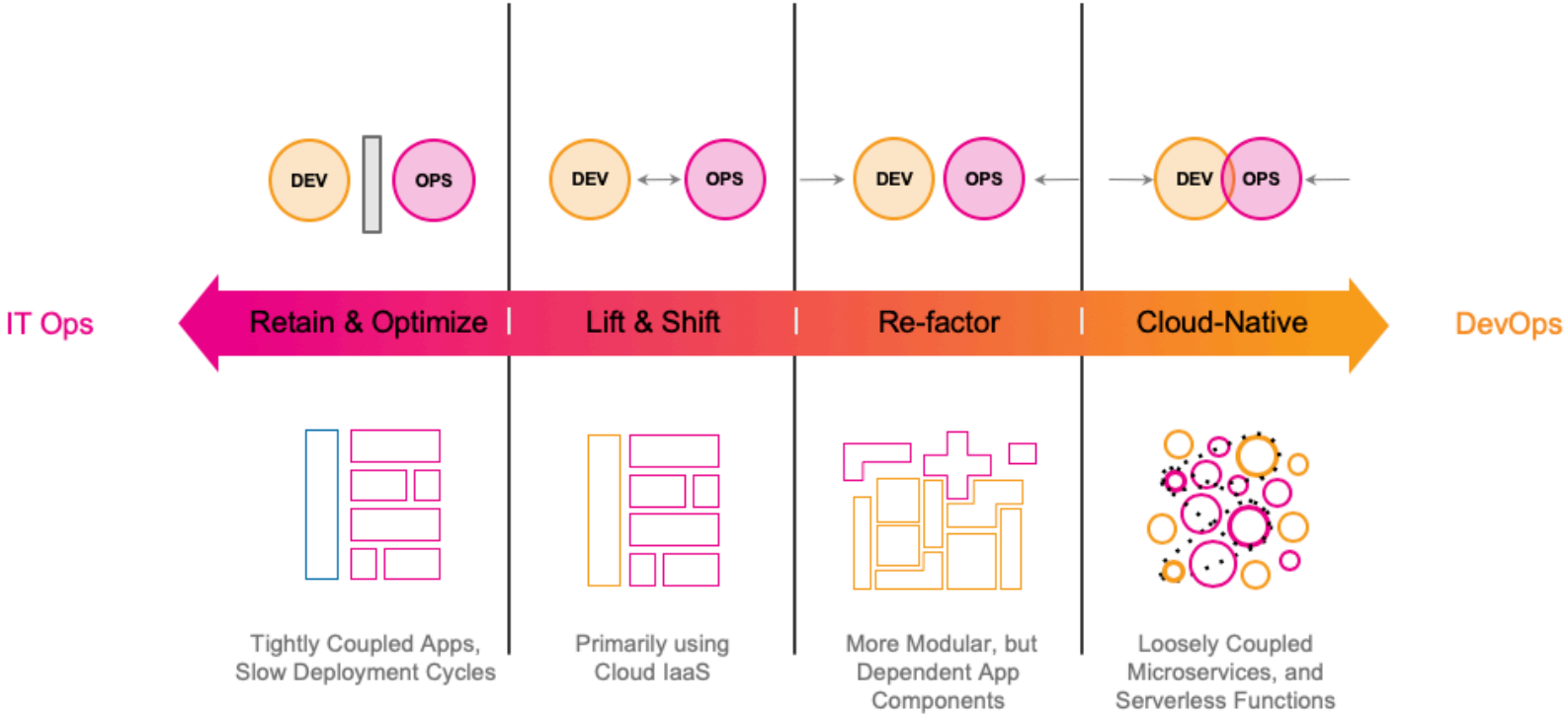


Gene Kim DOES 2019

To Be Google?

The Unicorn Project

Become a Unicorn?


DEV
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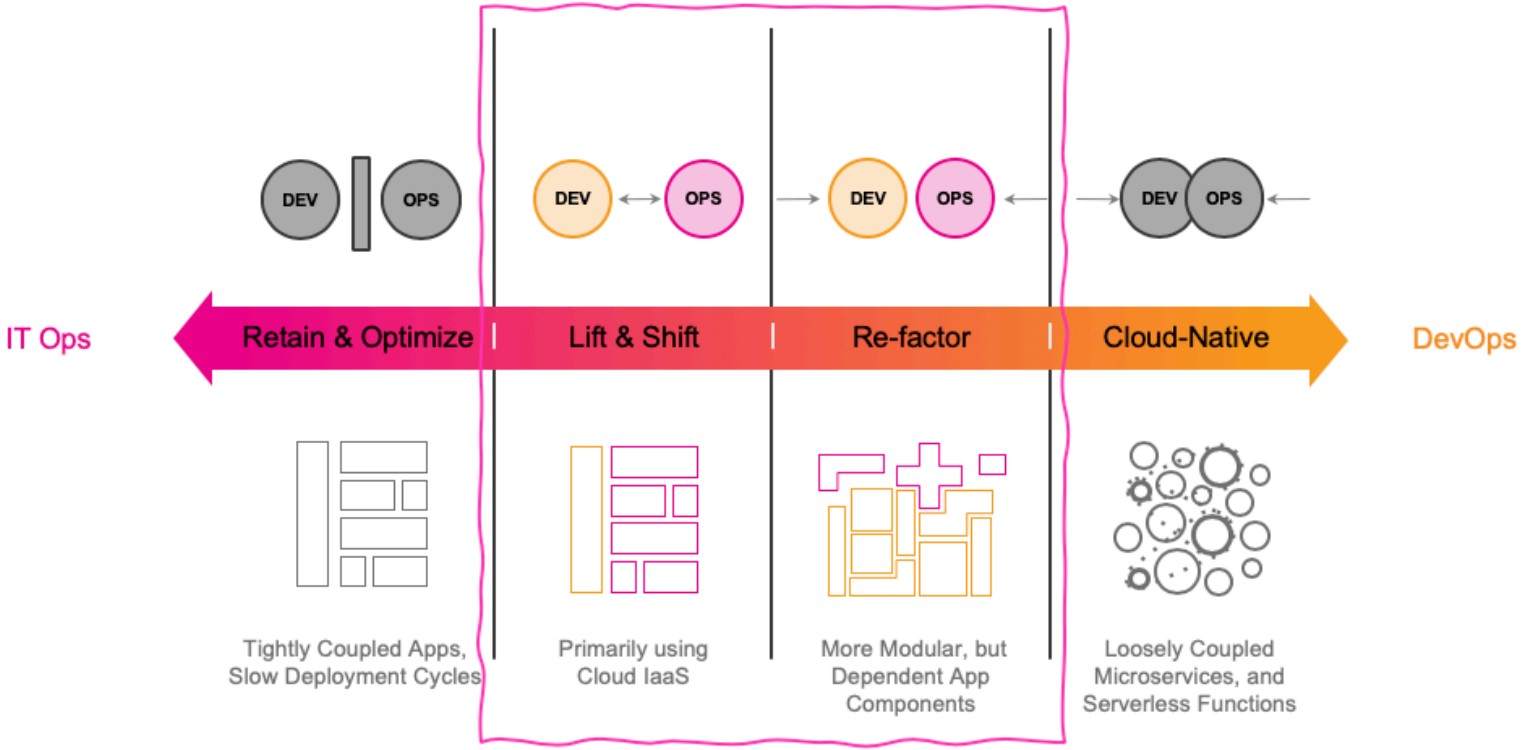
IT Ops
Retain & Optimize
Lift & Shift
Re-factor
Cloud-Native
DevOps
Tightly Coupled Apps, Slow Deployment Cycles
Primarily using Cloud IaaS
More Modular, but Dependent App Components
Loosely Coupled Microservices, and Serverless Functions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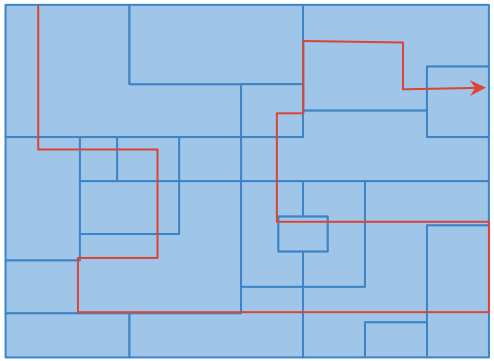
How Applications Are Being Built Is Changing

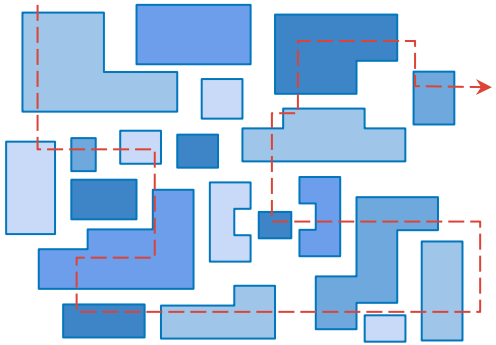
Monolithic Architecture



Monitored Environment

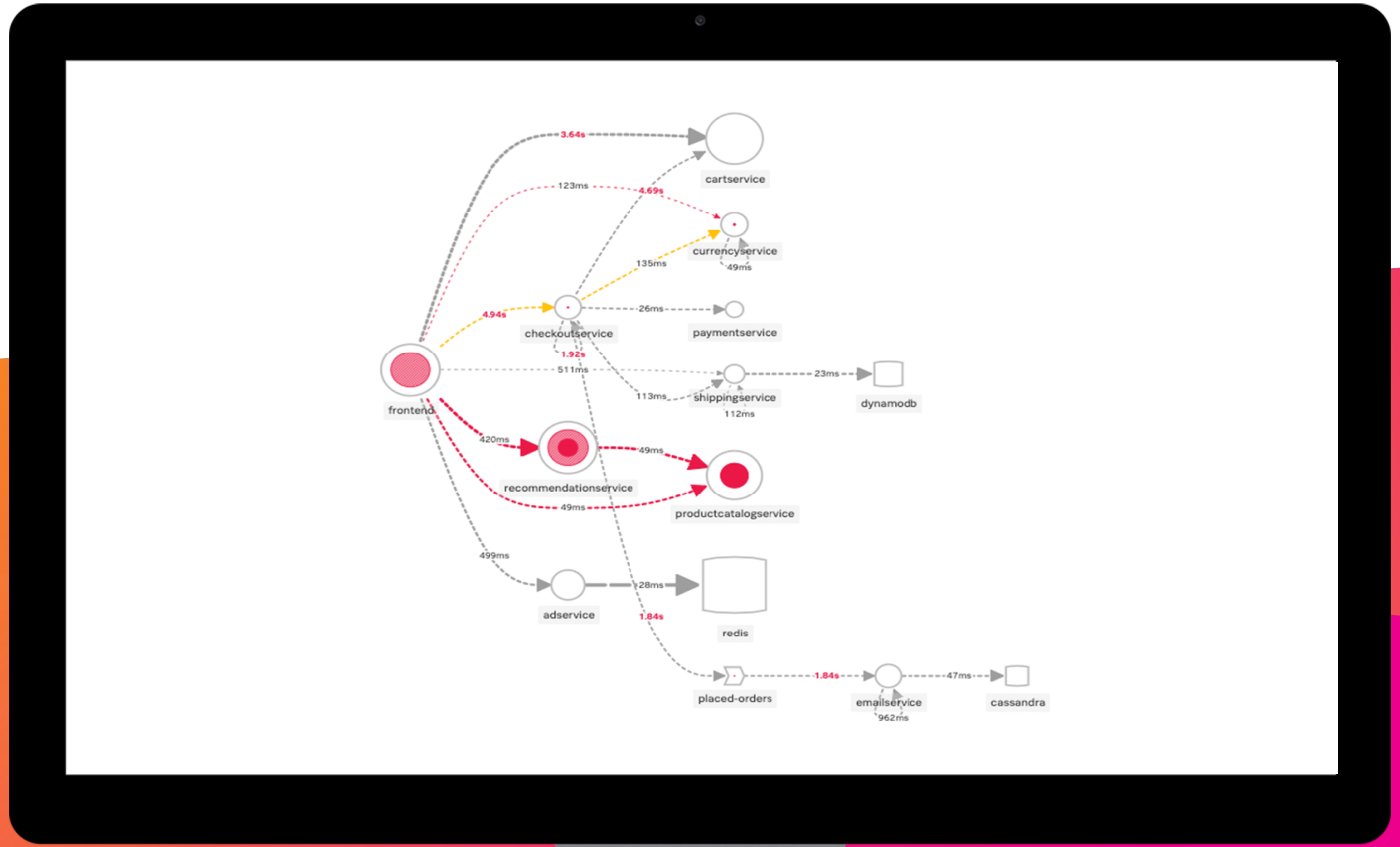
- Slow moving
- Infrequently changed
- Limited user transactions

Microservices Architecture



Monitored Environment

- Distributed services (10s to 100s)
- Many hosts, Multi-Cloud
- High transaction volume
- Frequent code-pushes (CI/CD)


3.64s
cartservice
123ms
4.69s
currencyservice
49ms
135ms
4.94s
checkoutservice
26ms
paymentservice
1.92s
511ms
frontend
23ms
dynamodb
113ms
shippingservice
112ms
420ms
49ms
recommendationservice
productcatalogservice
49ms
499ms
28ms
adservice
redis
1.84s
placed-orders
1.84s
47ms
emailservice
962ms
cassandra

Aggressive Drive to Modernize

- The cost of downtime is going up
- Latent data is a huge opportunity cost
- Traditional infrastructure is impacting enterprises ability to compete
- Organizations want confidence they can respond to future crisis
- Technical talent requires it

I give you … “Monitoring” I mean “Observability”

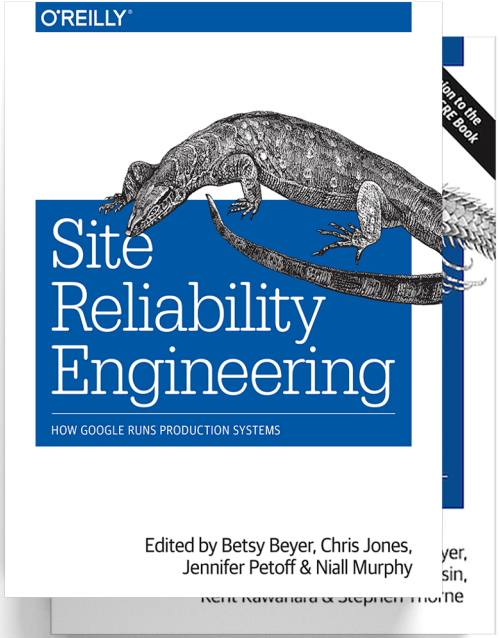
Observability Is:

1. Development and deployment strategy
2. Approach to monitoring applications
3. Tooling to make the added complexity easier

Observability When:

1. Infra, Config, and Code are tied together
2. Metrics are not enough
3. Applications are increasingly distributed
4. Application components are stateless and ephemeral

The SRE is Observability's best friend



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“SRE is about being customer obsessed.”

Because latency is the new down.

1. Modernize the NOC
2. Keep pace with release velocity
3. Customers demand more
4. Development teams need an operational partner

Before and After the NOC

Network Operations Model

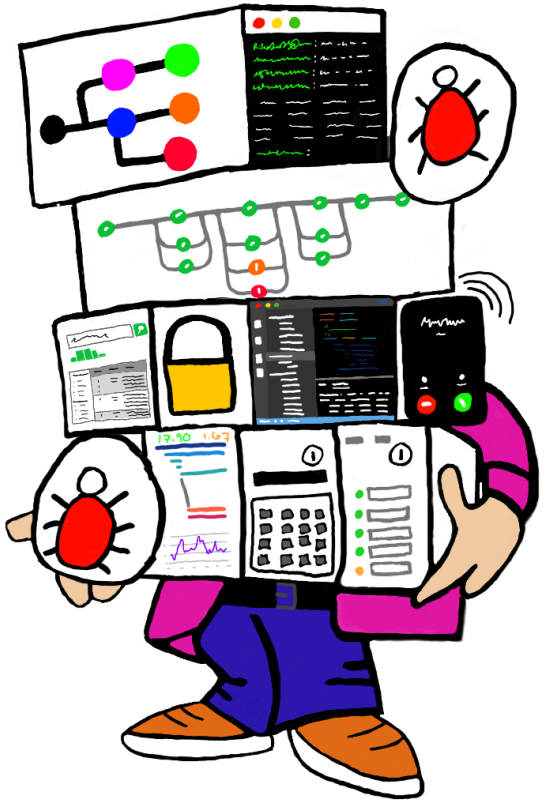
- Spreadsheets managed who to call
- 24x7 staffed operations centers
- NOCs abilities were limited to infra
- IT focused with little dev experience
- Spray and pray OR lazy mobilization

SRE Model

- Automation is mandatory
- Application layer is part of production support
- “Anyone” can be on-call
- Both a Strategy and a Role

Responsibility of SRE

- Strategy
  - Metrics (RED, USE, Etc.)
  - Deploy Prep
- Stewardship
- Operations
- Owners of On-Call



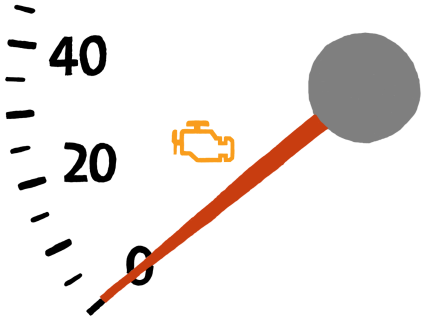
Your app just called… it wants its resources back

Observability
Alert & Context

Incident Response
Mobilization and Action

Incident Management
Record and Track

Alert



Incident Response

Incident Management

Powertrain

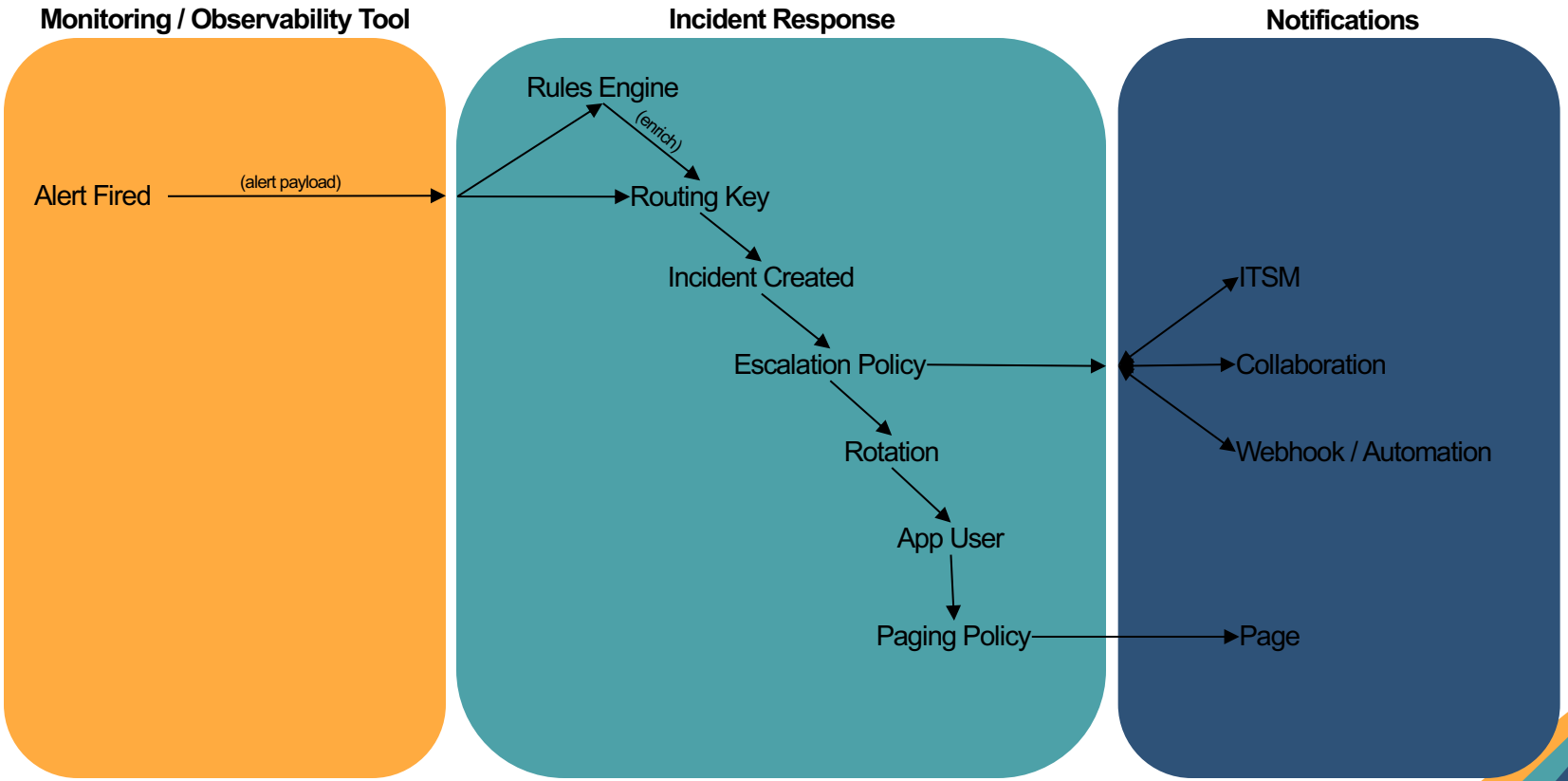
Transmission	✓	Engine	⚠

Safety

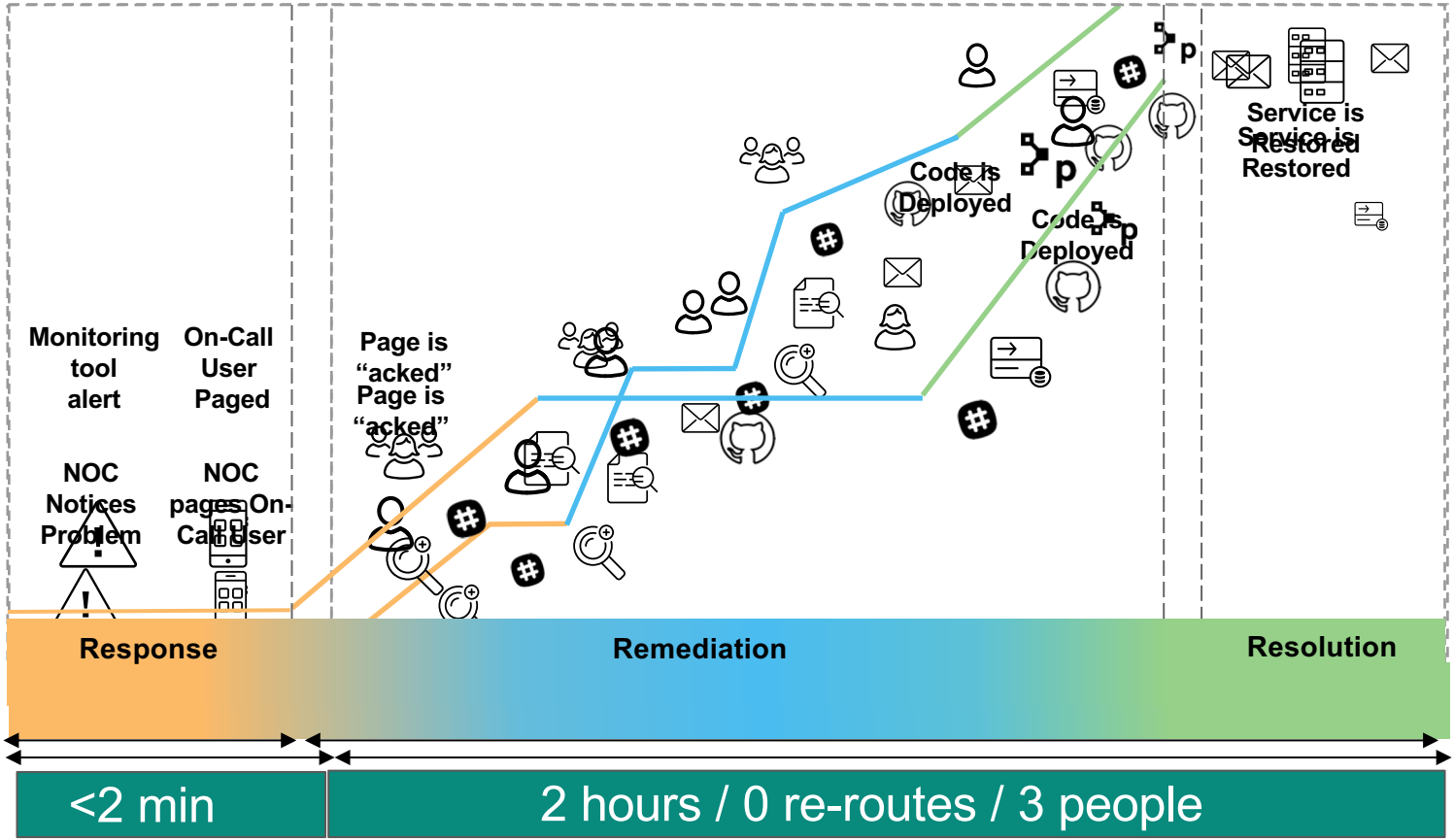
Air Bag	✓	Anti-Lock Braking System	✓

Electrical

Electronic Power Brake	✓	Smart Cruise Control	✓
Electronic Power Steering	✓		

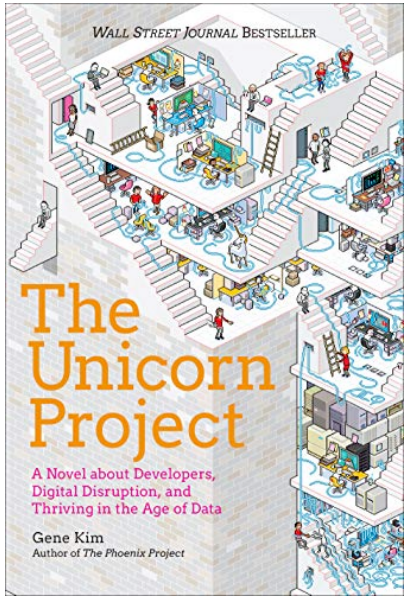

Monitoring / Observability Tool
Incident Response
Notifications
Alert Fired
(alert payload)
Rules Engine
(enrich)
Routing Key
Incident Created
Escalation Policy
Rotation
App User
Paging Policy
ITSM
Collaboration
Webhook / Automation
Page

Simplify Incident Response
The Typical Incident Lifecycle Is Confusing and Slow



Resources

- How Splunk Does SRE: https://www.splunk.com/en_us/blog/it/the-sre-dogfood-series-signalfx-sre-team.html
- Modernize The NOC: https://devops.com/moving-from-noc-to-the-sre-model/
- SRE Strategy Webinar: https://victorops.hubs.vidyard.com/watch/bqyuTmgC48kj9wQizSZ91K
- Developers Eating the World: www.sweetcode.io/detw
- OpenTelemetry Project: https://opentelemetry.io/



THANK YOU!

Meet Me in the Network Chat Lounge for Questions

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