

# Go Faster: Tech, Process, & Organization

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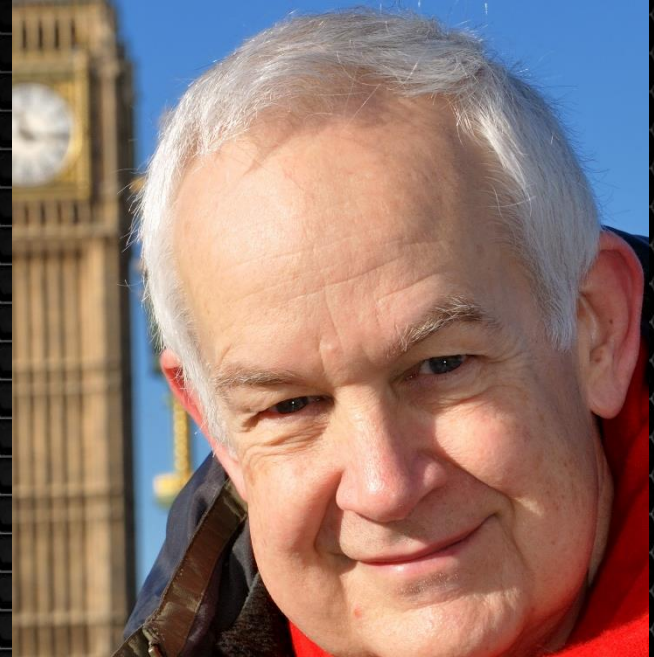
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# Fred George

## Consulting Roles

- Change Agent
- Disruptor
- “Hand grenade I am throwing into development”
  - CTO describing Fred to his Vice President





Lean startup  
Cassandra  
Programmer  
MicroServices  
anarchy  
Industry “Hot” Topics  
Go Faster  
Dev/Ops  
Cloud  
Full-stack  
developer  
Event bus  
Agile  
MVP (minimum  
viable product  
No-SQL



# Why New Problem Domains: The Cynetic Disorder Framework

Complex

Complicated

Cause? Effect?

Cause  $\Rightarrow \Rightarrow \Rightarrow$  Effect

Chaotic

Simple

Effect? Cause?

Cause  $\Leftrightarrow$  Effect



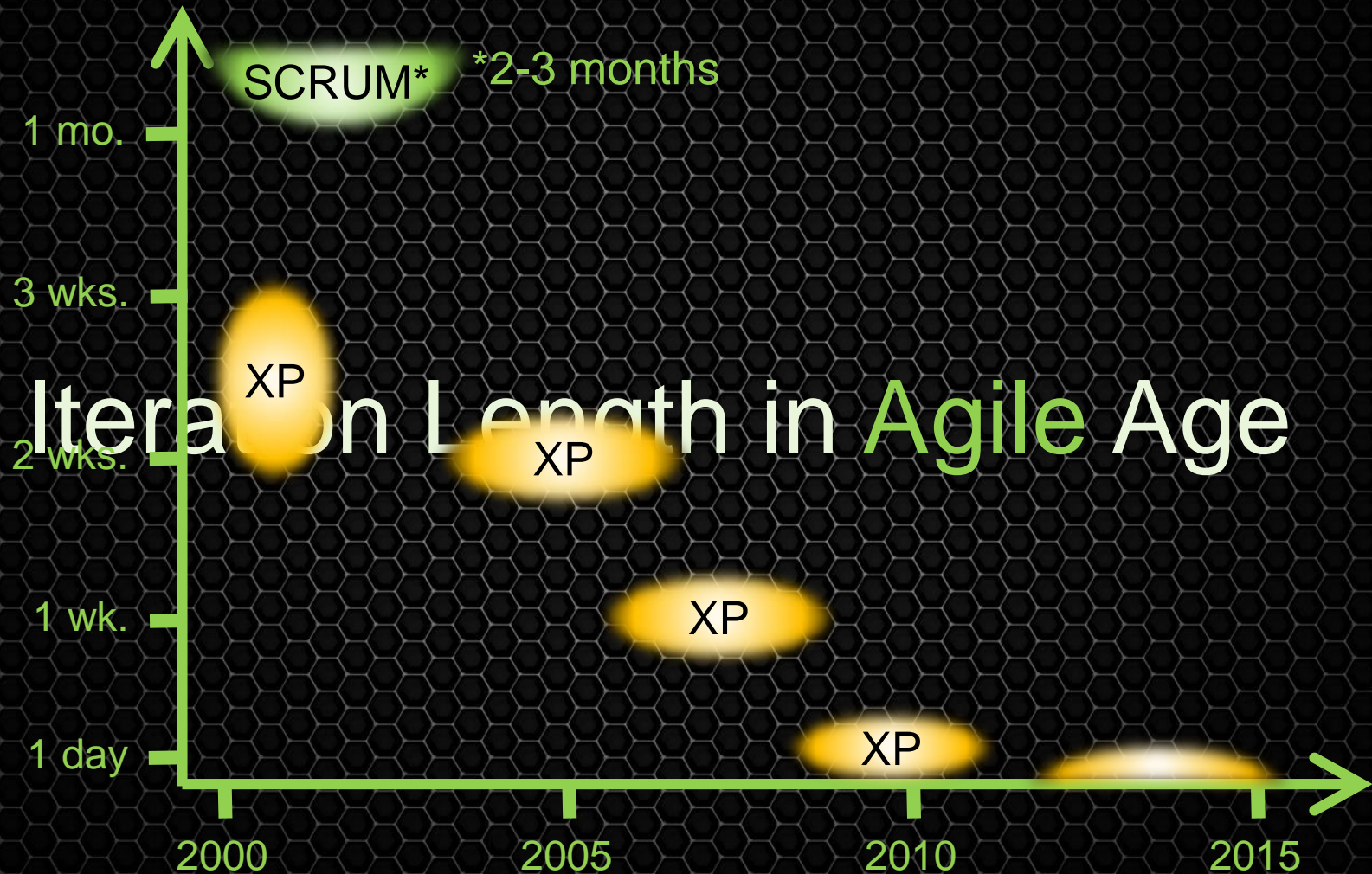
- Enablement through technologies
    - Cloud computing
    - Ubiquitous, high bandwidth
    - Languages (and supporting frameworks)
  - Recognition of business opportunities
- # Why: Competition is coming
- Silicon Valley innovators as role models
  - Accelerating business needs
  - Few inhibitors for global competitors
  - Reduction of entry barriers for niche competitors
  - Micro-marketing to specific customer niches



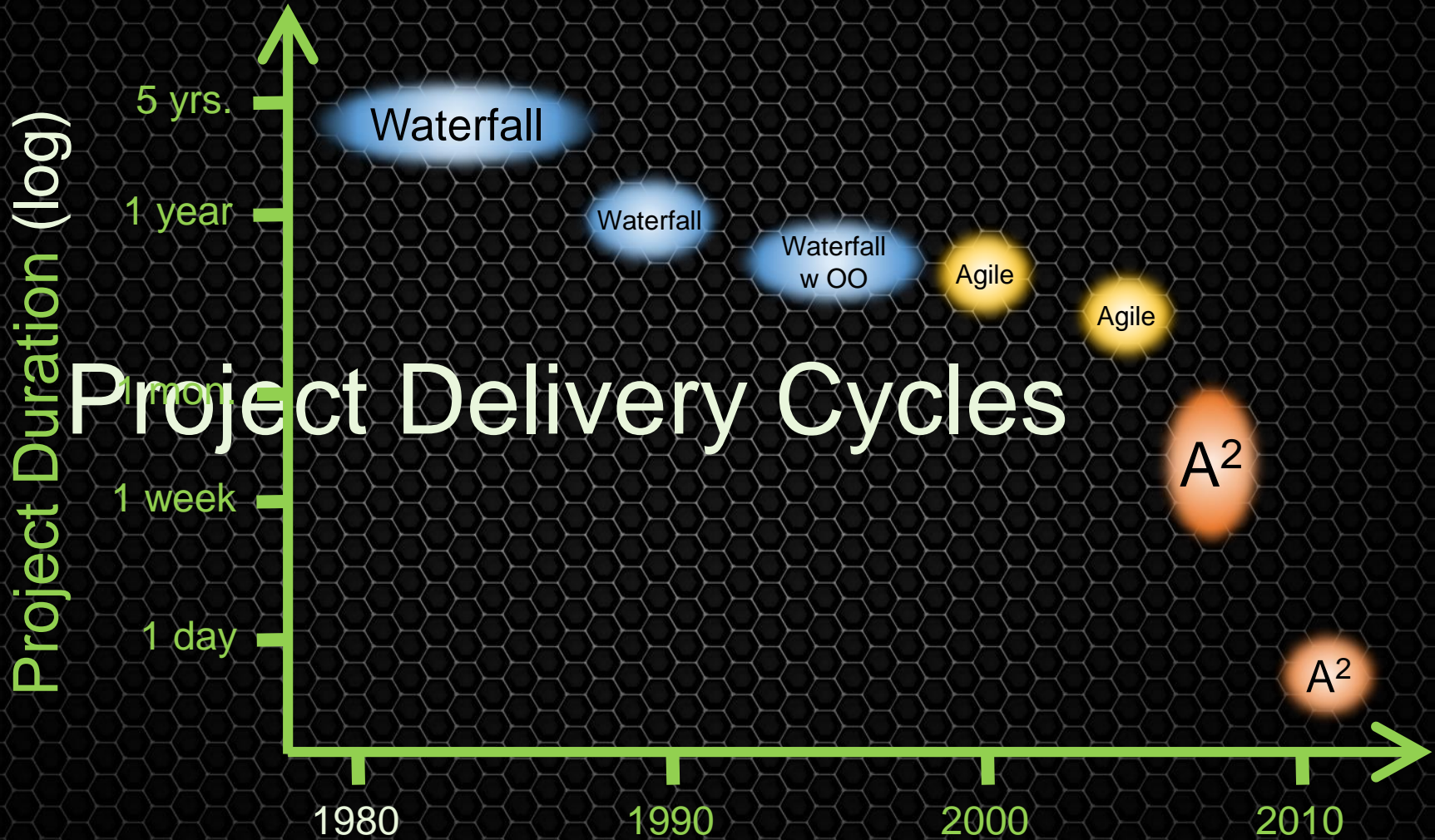
# How Fast Can You Go?













# We've Been Busy

In the last 7 days **53** developers have made **882** commits resulting in **652** deploys

Deployment to Production Every 3.5 minutes



# Inhibitors





- Cloud exploitation

- Specialized databases

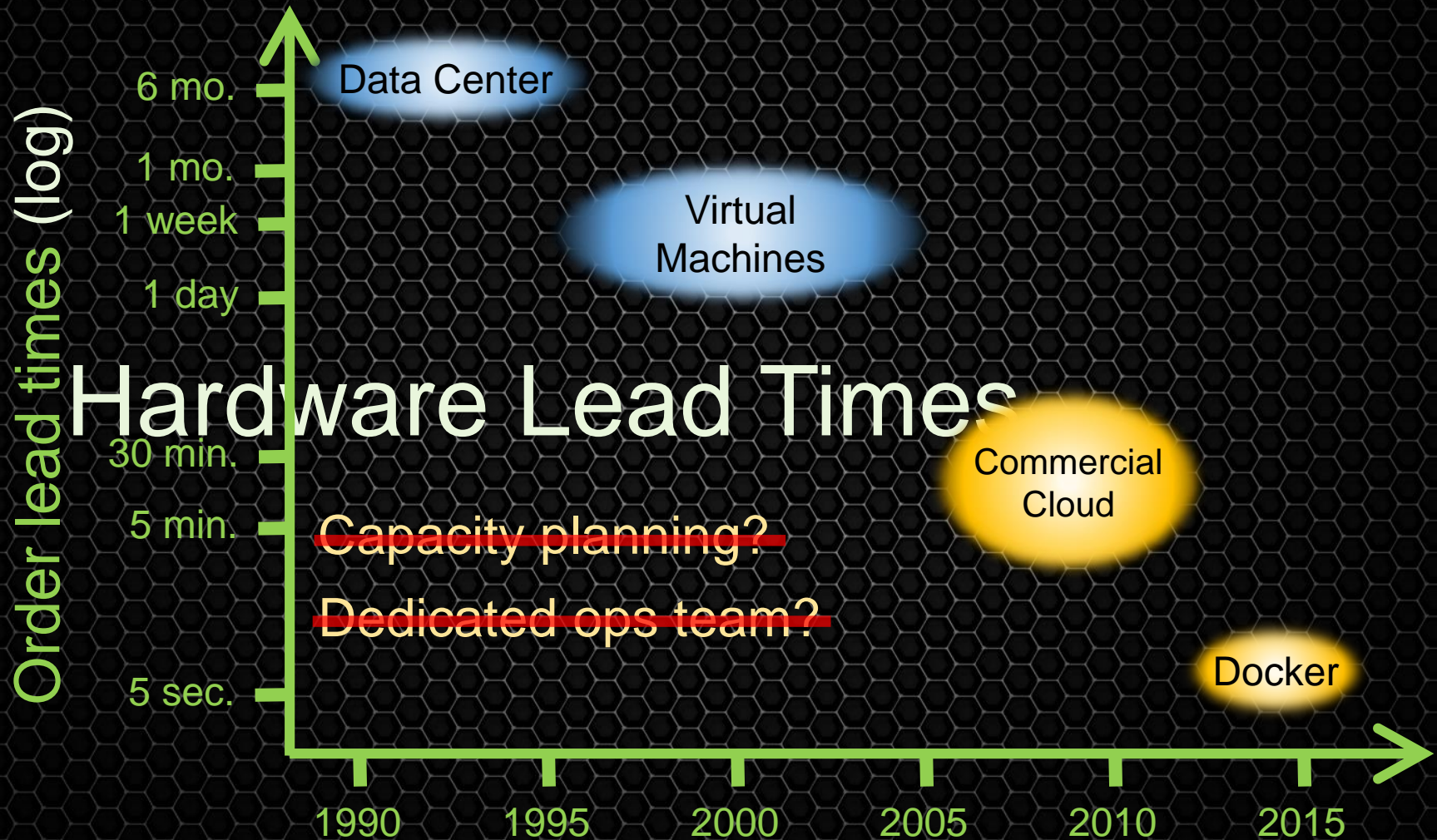
“Valley Tech”

- New programming languages

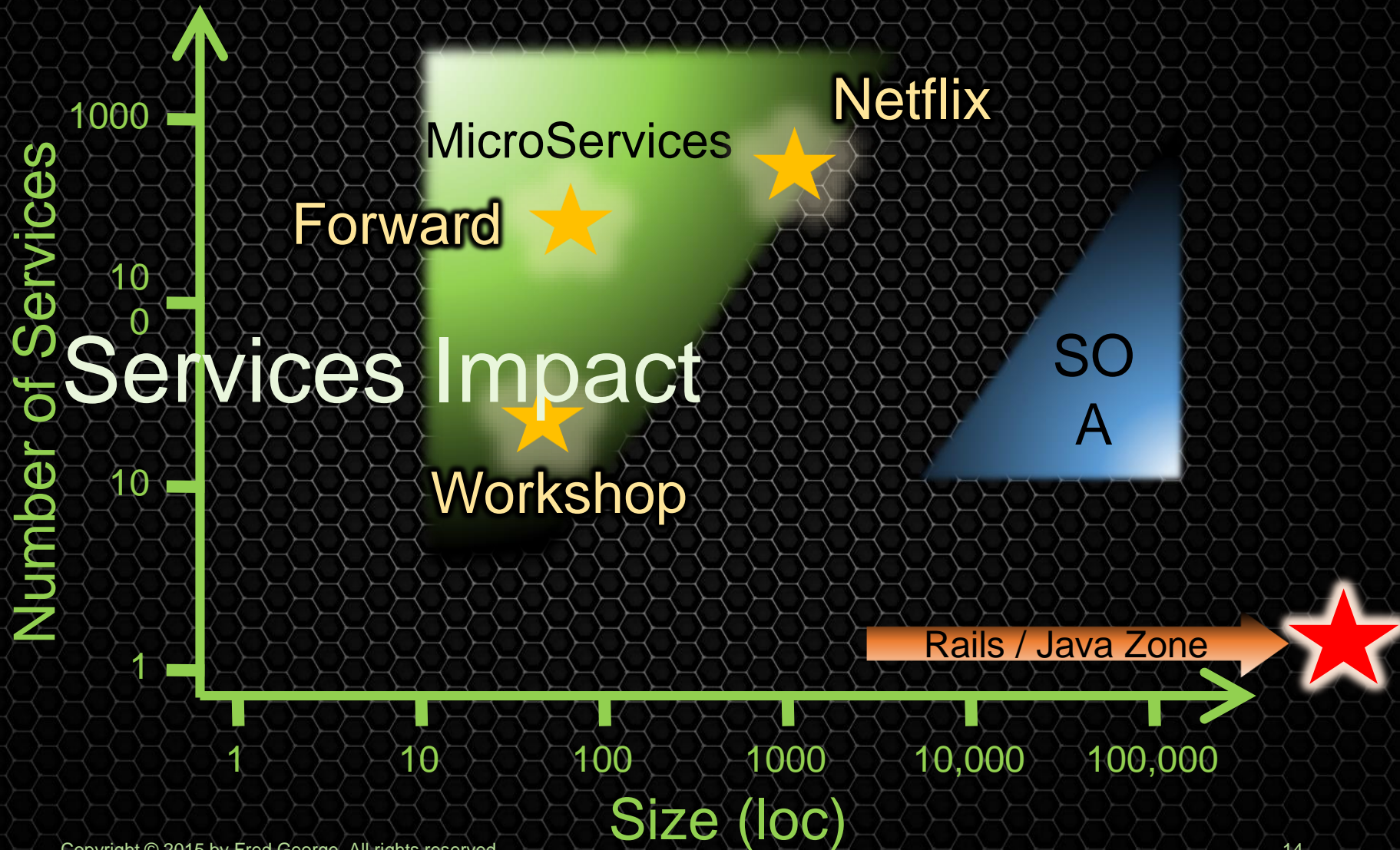
- Open source frameworks (users and creators)

- Continuous releases

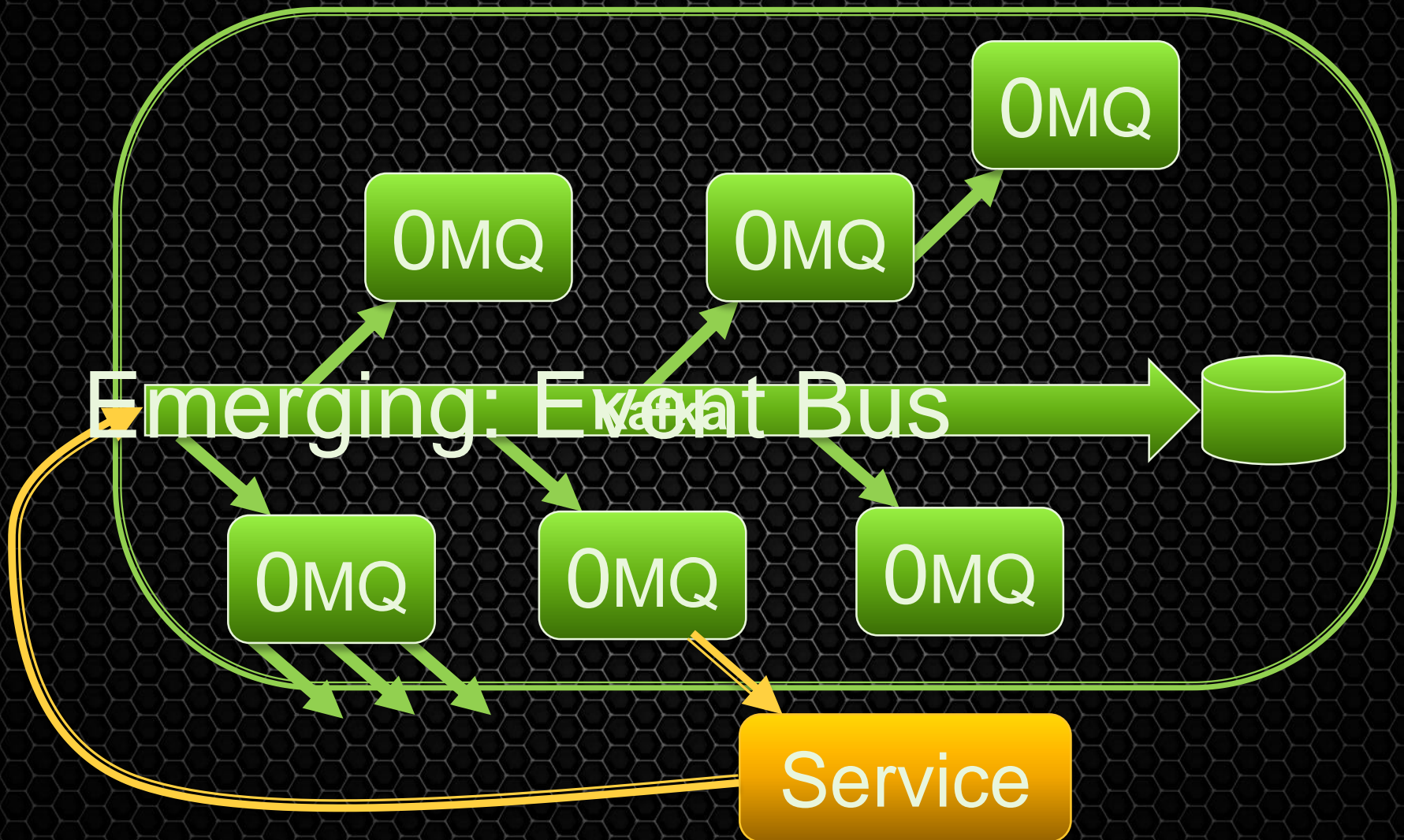




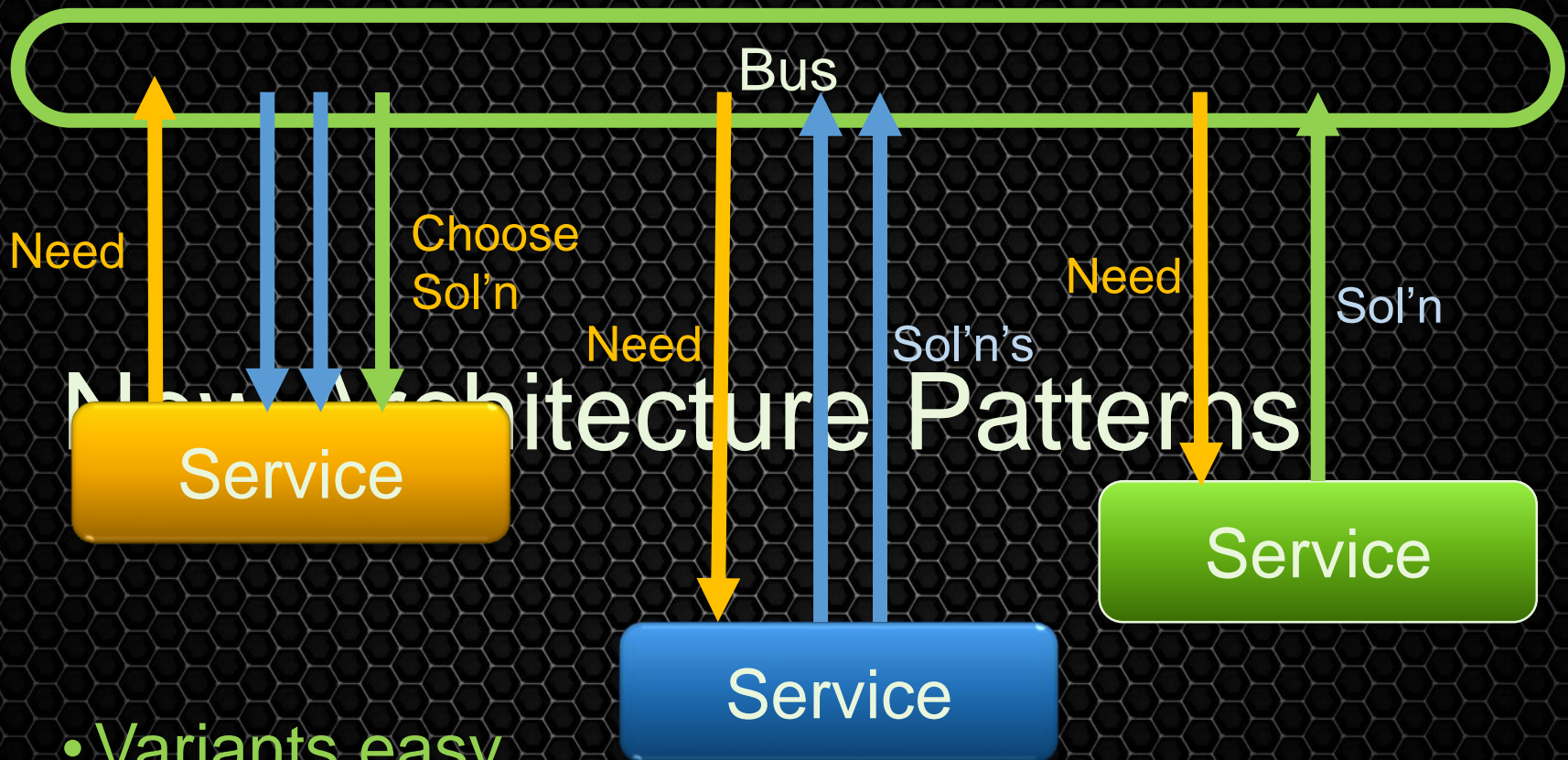












- Variants easy
- Graceful degradation



CarRent.com Login

A B



Rental offers

Legacy server

# Incremental Applications

Event Bus

Segmentation

Membership

Location offers

Brand offers



- Fortune 100 view:

- Entity-oriented; consistency essential

- As few as possible

- MicroService view:

- Shift to Event Bus, plus

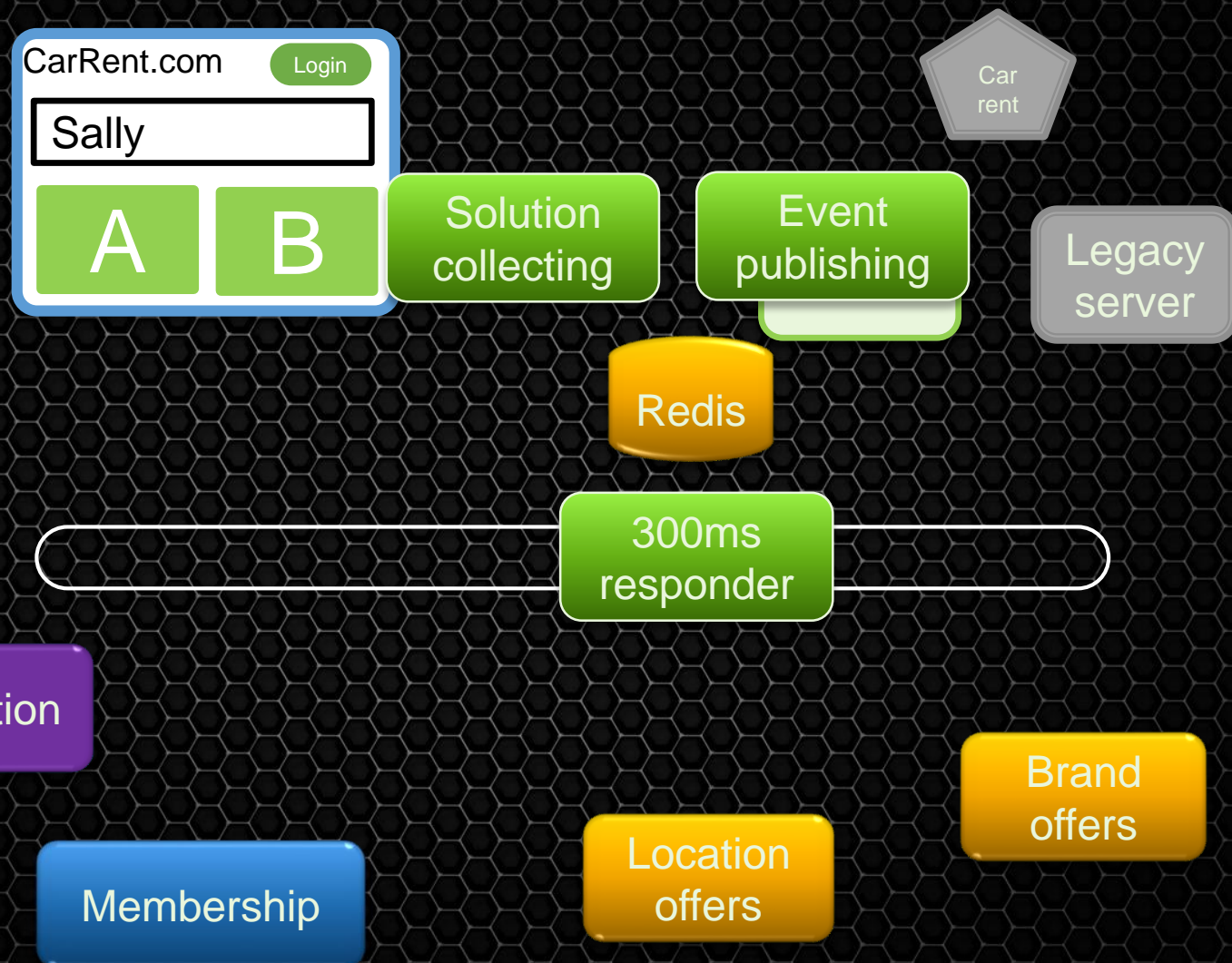
- DB per MicroService (if persistence needed)

- Poly-glot (various NoSQL, SQL) + event buses

- Few (10%) writable; even fewer transactional

# Databases: Holy Grail or Ball-and-Chain?







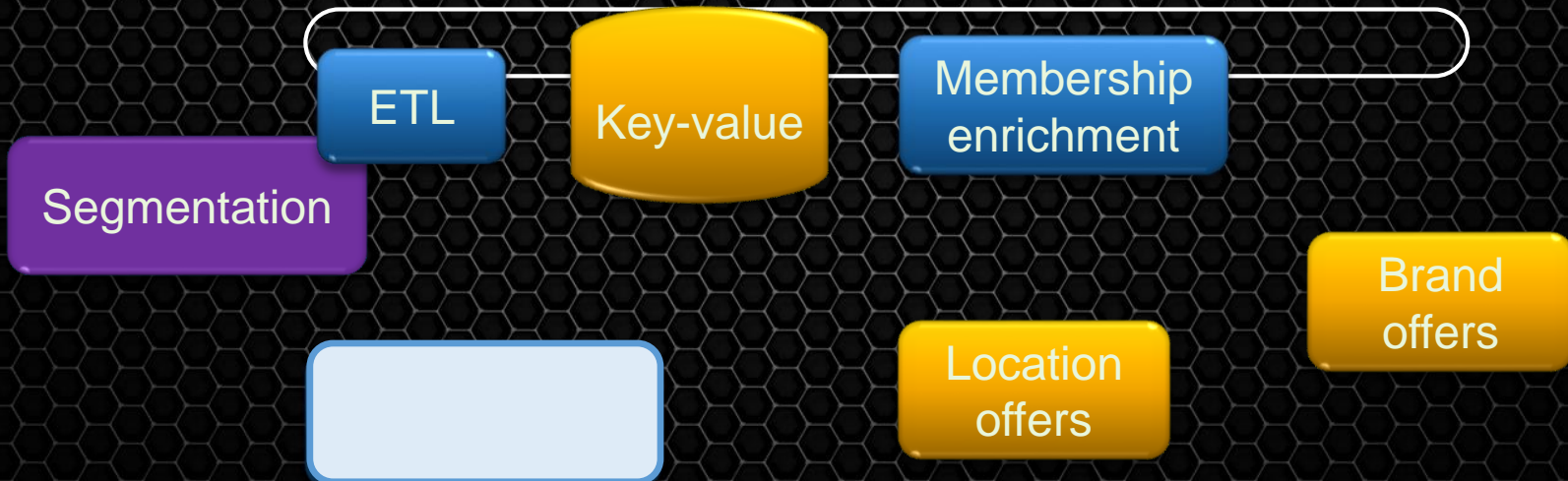
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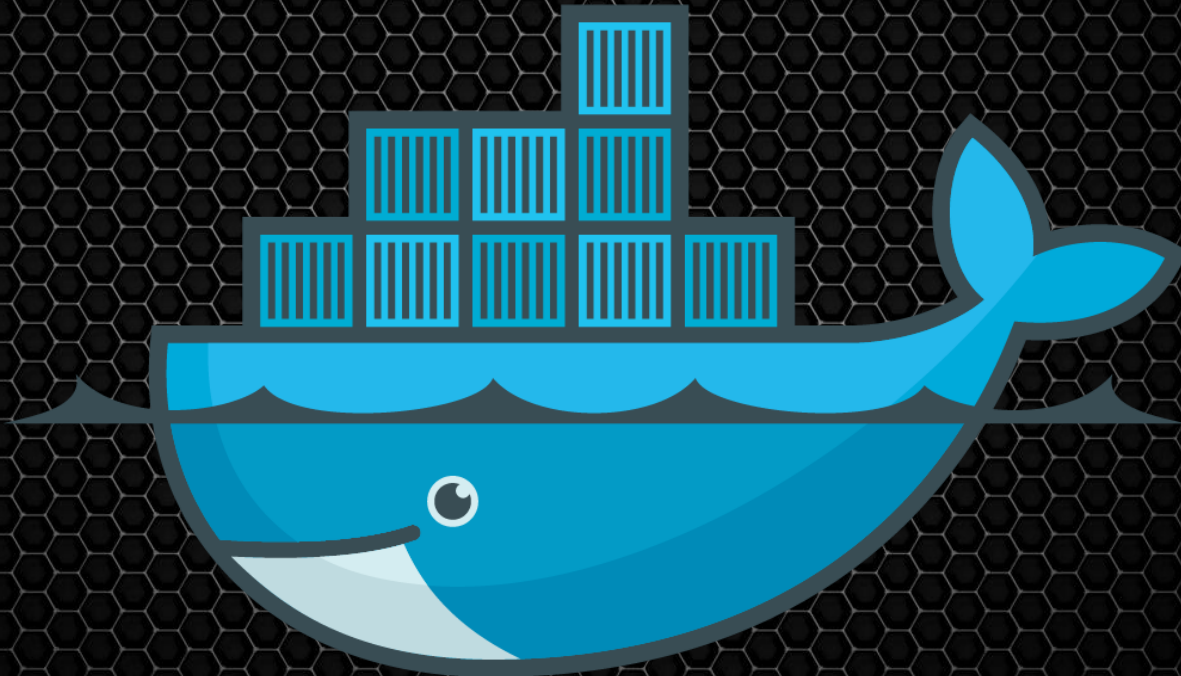


Open Source: Netflix

The Netflix logo, consisting of the word "NETFLIX" in a bold, white, sans-serif font with a black drop shadow, centered on a red rectangular background.



# Open Source: Docker





- Middleware exploiting:

- Kafka written in Scala

- RabbitMQ written in Erlang

## Disruptive Technology:

## Functional Languages

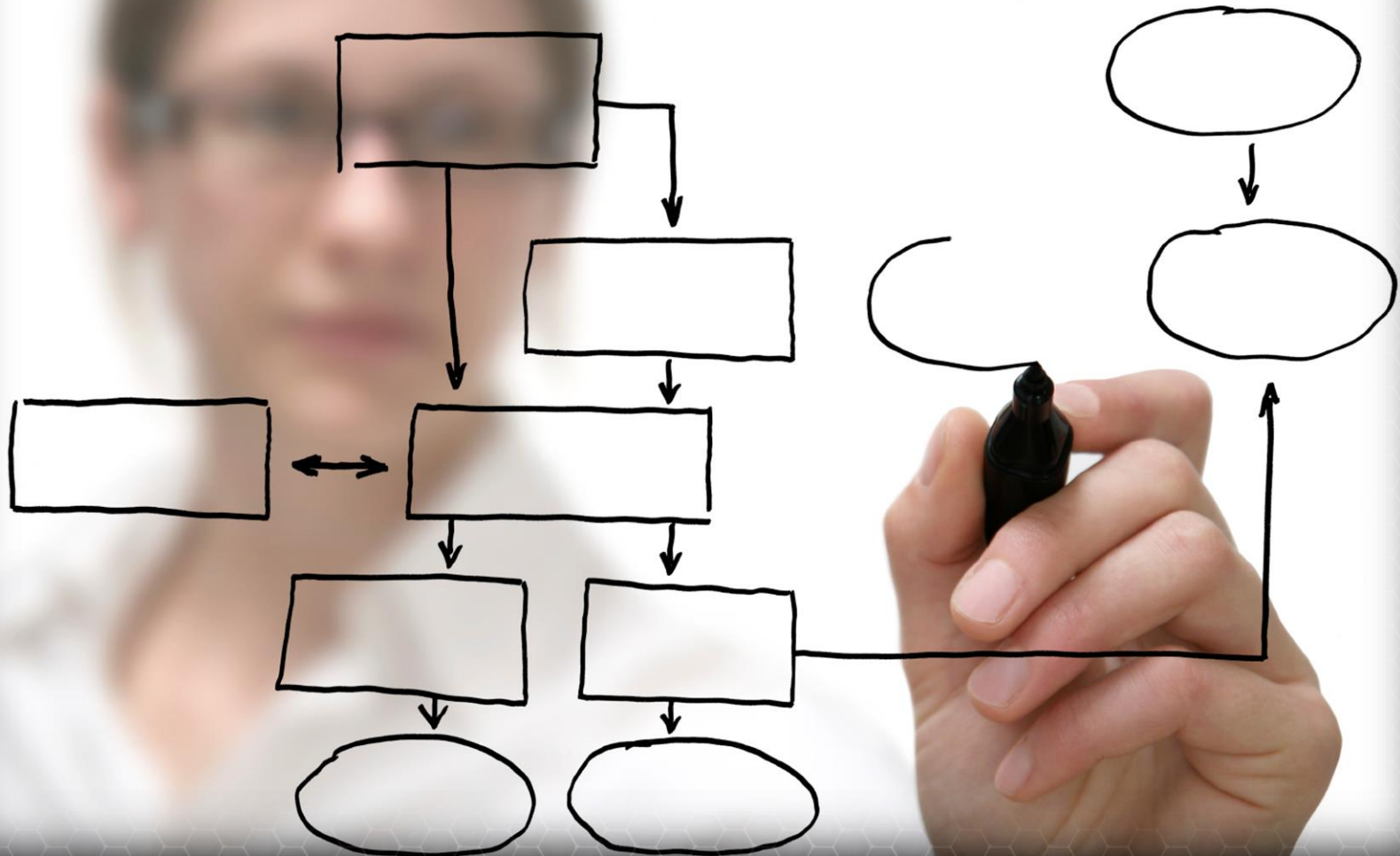
- Case study: MailOnline page rendering

- Legacy system: 130K loc Java/JSP's

- Replacement: 4,000 loc Clojure

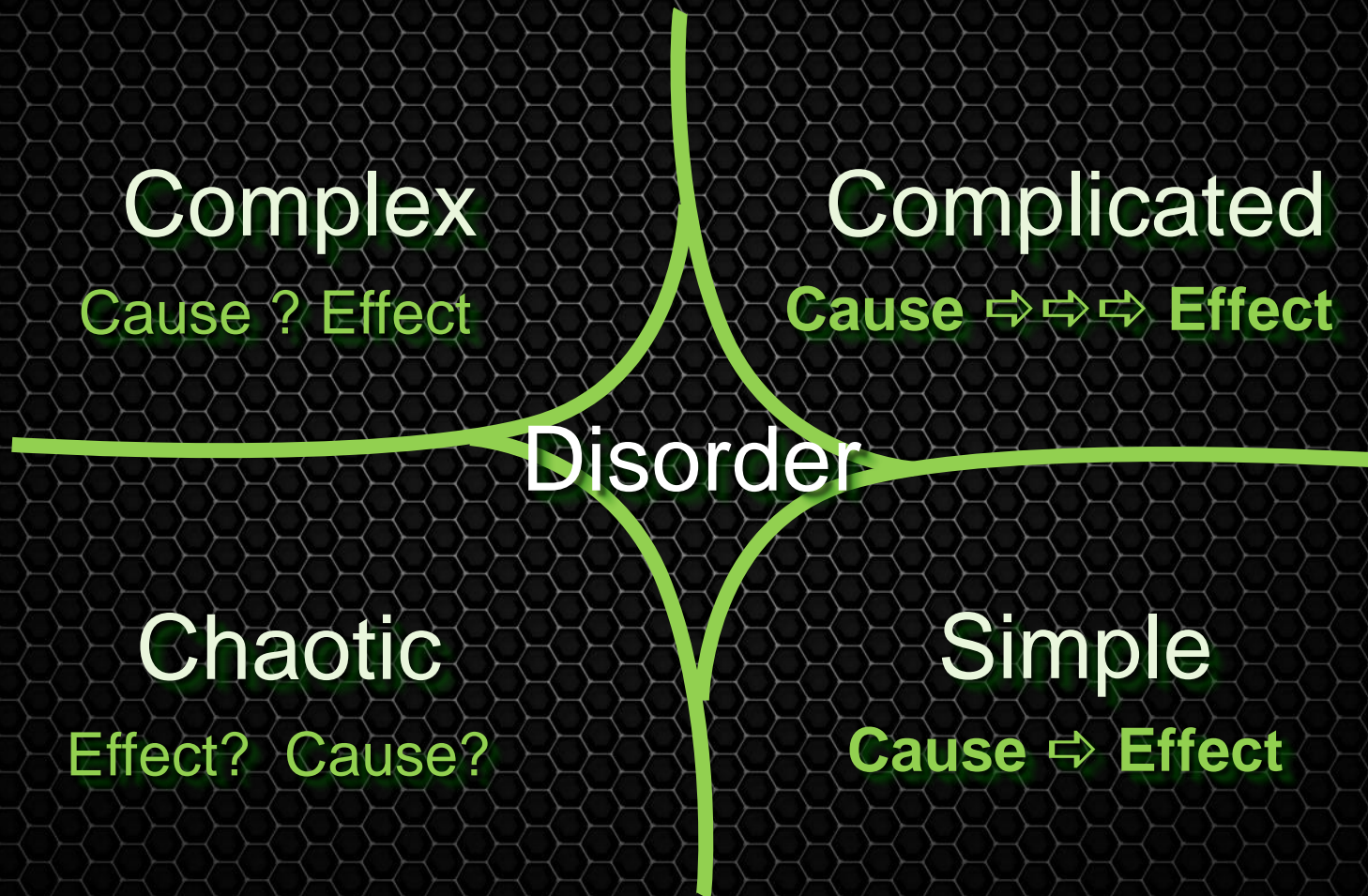


# Mitigate **Process** Inhibitors





# Understand Your Problem





# New Vision of “What” to Build



Requirements



Trying ideas

“Experimentation  
drives Innovation”







- Bad metrics:

- Lines of code

# Measure What Matters

- Business success metrics:

- Sales, clicks, registrations, customer retention, etc.



# Mitigate Organization Inhibitors





- Theory:

- Specialist are more productive

- Practice.

# Over Specialization

- Overhead of communication is under-estimated
  - Unbalanced workload creates delays



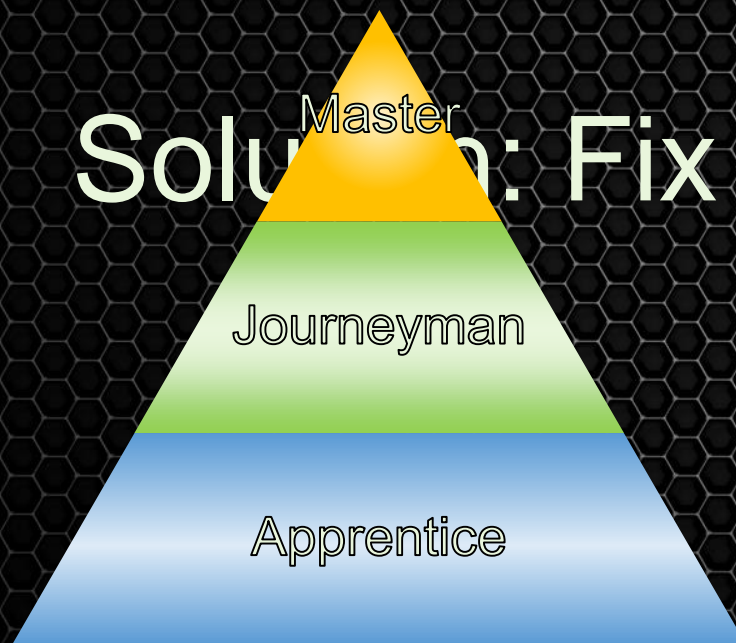
## Case Study:

50 IT professionals  
with titles  
Specialization Institutionalized

- 0 people understanding projects



## Step 1: Define competence in key technologies



# Solution: Fix the Titles

### Strategic Technologies

- Ruby
- Java
- iOS
- Android
- DB (SQL and non-SQL)
- Testing
- OO Design
- Node.js
- HTML/CSS/JavaScript
- ...



# New Titles

Master  
Developer

Expert in 3-5 key  
technologies  
Competent in 5-7  
key technologies

Senior  
Developer

System  
Developer

key  
titles

Developer

Competent in a key  
technology

Graduate  
Developer

Not competent in a  
key technology

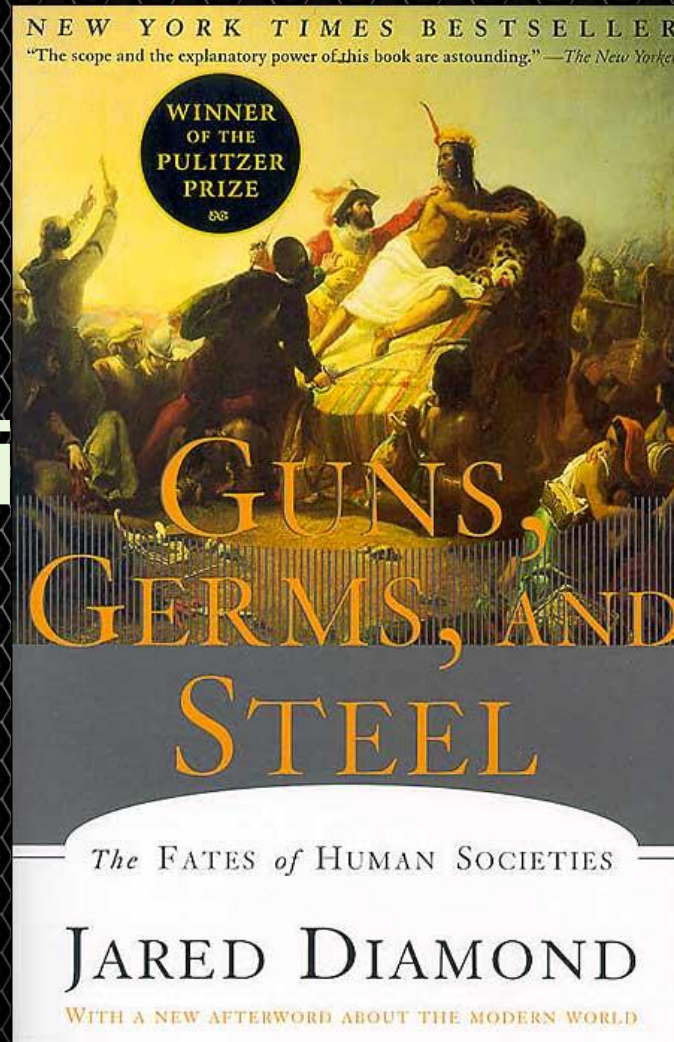


# “Fix the Furniture”\*





# Non-dedicated







# Bring Work to the Team...

Not musical  
chairs for each  
small project

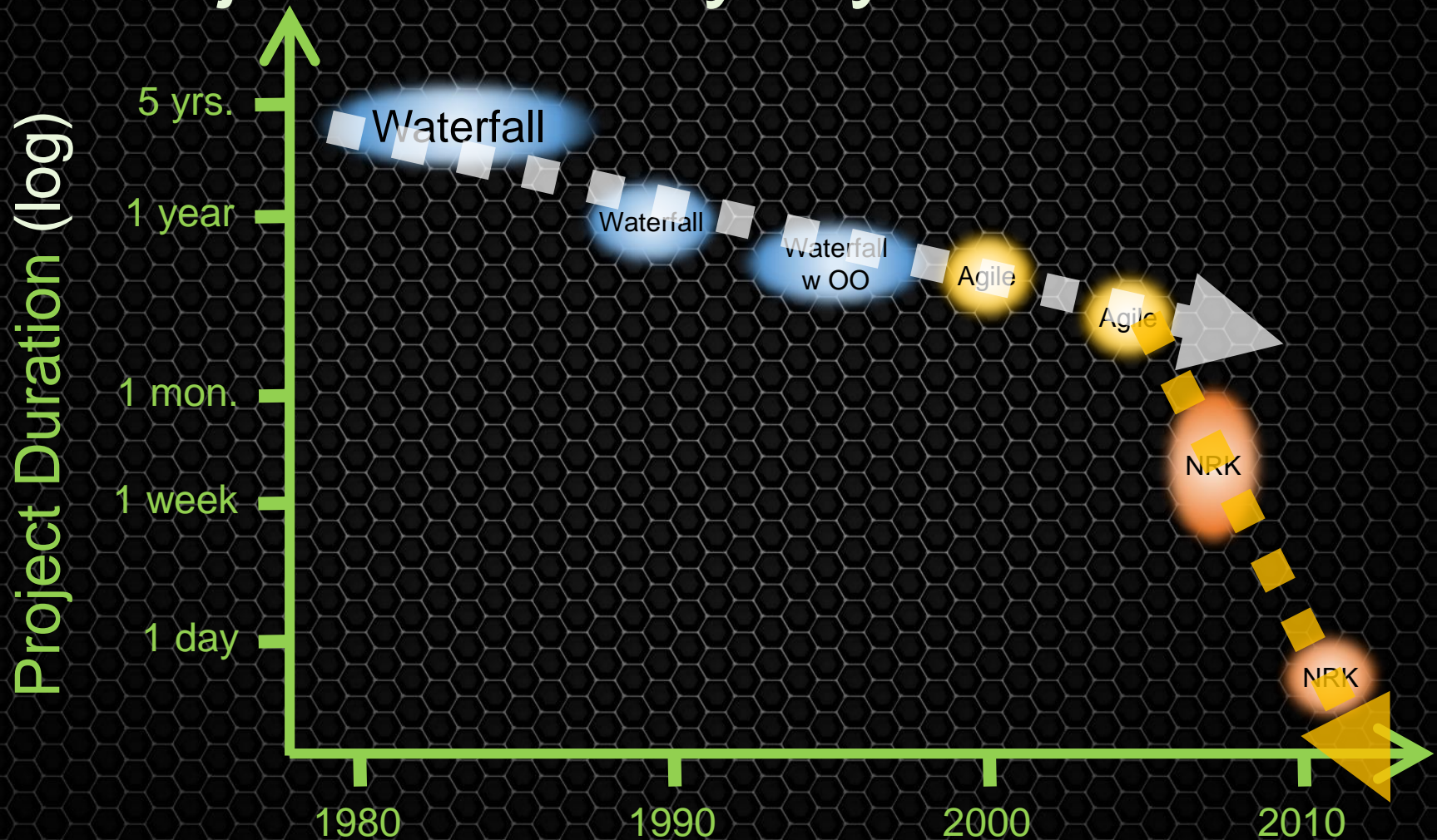


# Reinforcing Movements





# Project Delivery Cycles





- Neil Hutchinson – Founder of Forward
  - Adopting a “Fail Fast” culture

## Acknowledgements

- Former programmer who wanted to Go Faster
- Paul Ingles and Mike Jones
  - Implementers of “Experimentation drives innovation”



- Google:

# More Information...

- MicroService Architecture for videos
- MicroXchg 2015 conference
- Programmer Anarchy for managerless teams
- Docker for latest container deployment



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