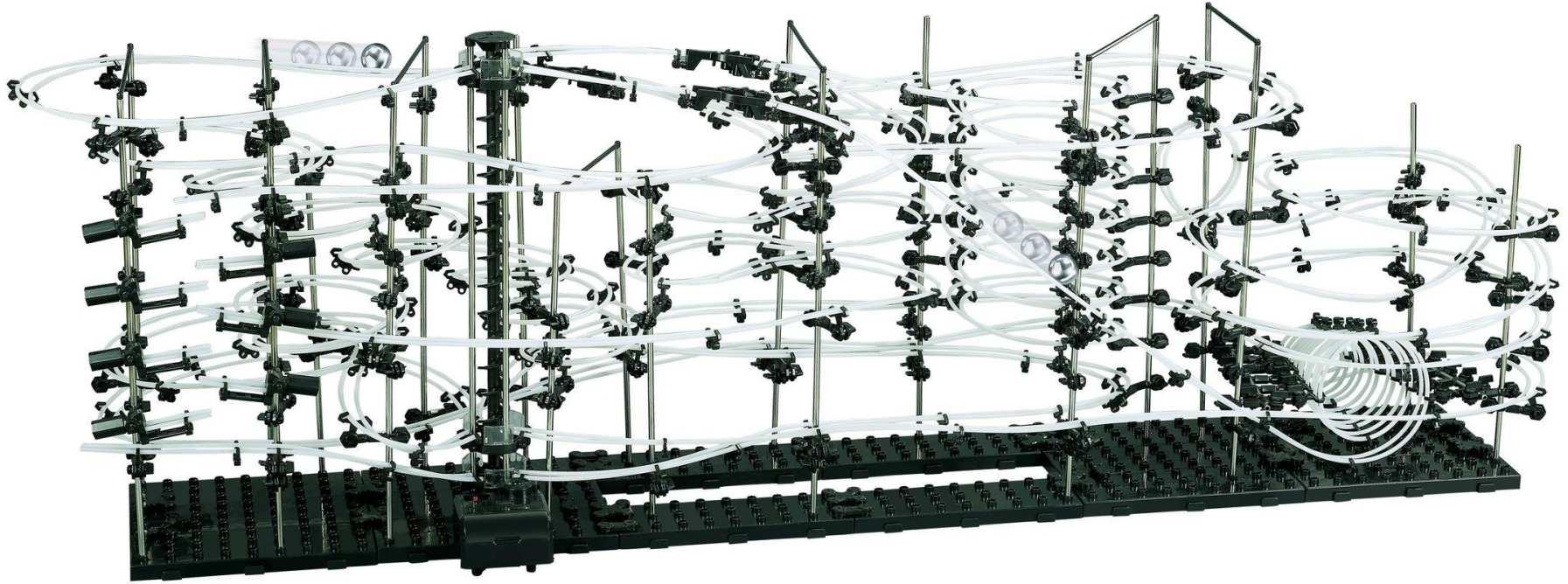
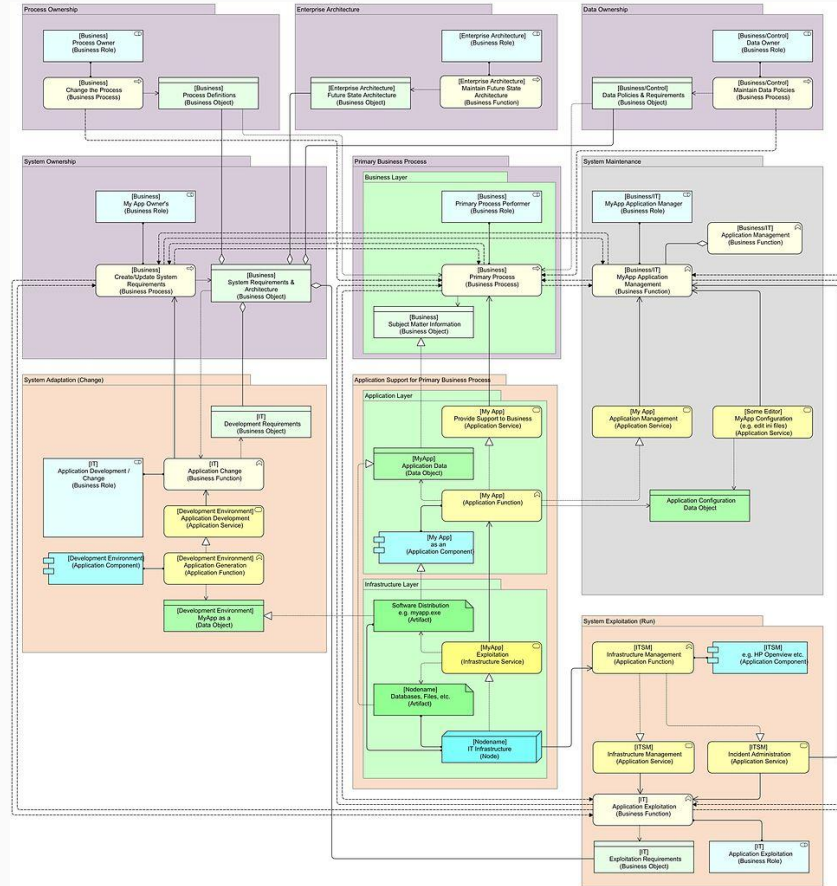


Tinkertoys, Microservices, and Feature Management

How to build for the future



Could be worse



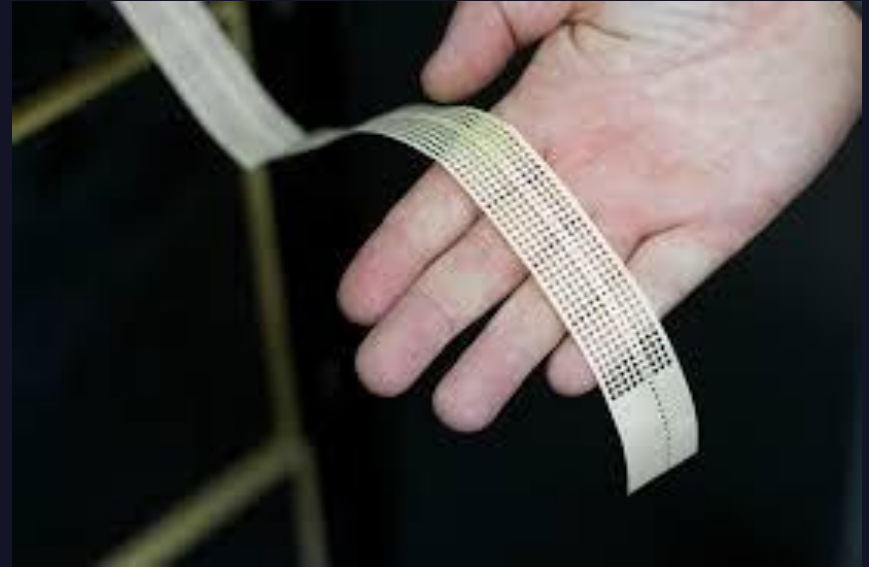
The state of the now

Moving the Locus of Control

Brief computing history

- Hardware
- Operating System
- Virtual Machine
- Container
- Orchestration
- Serverless

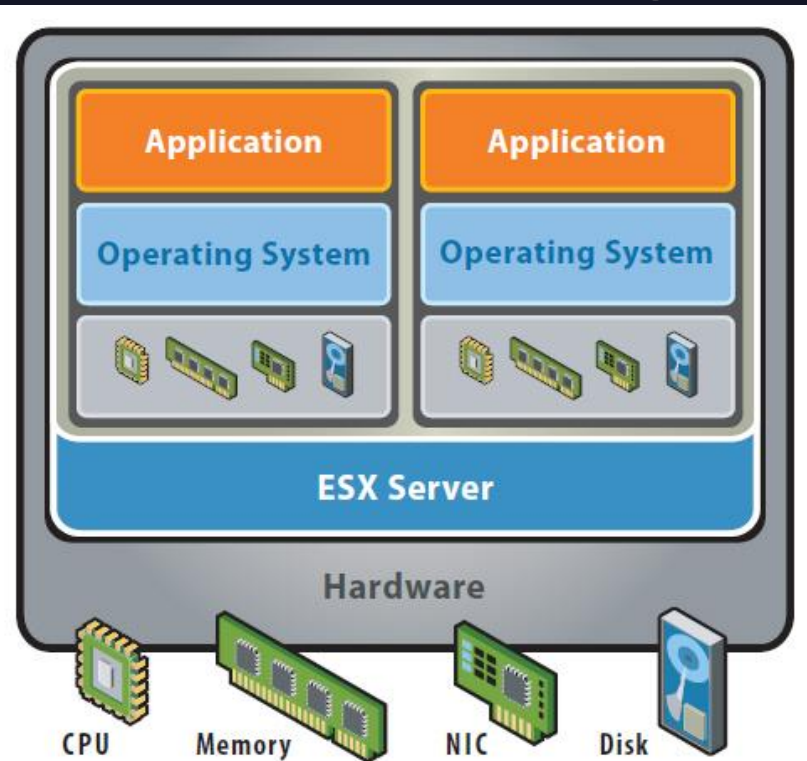
Hardware



Operating System

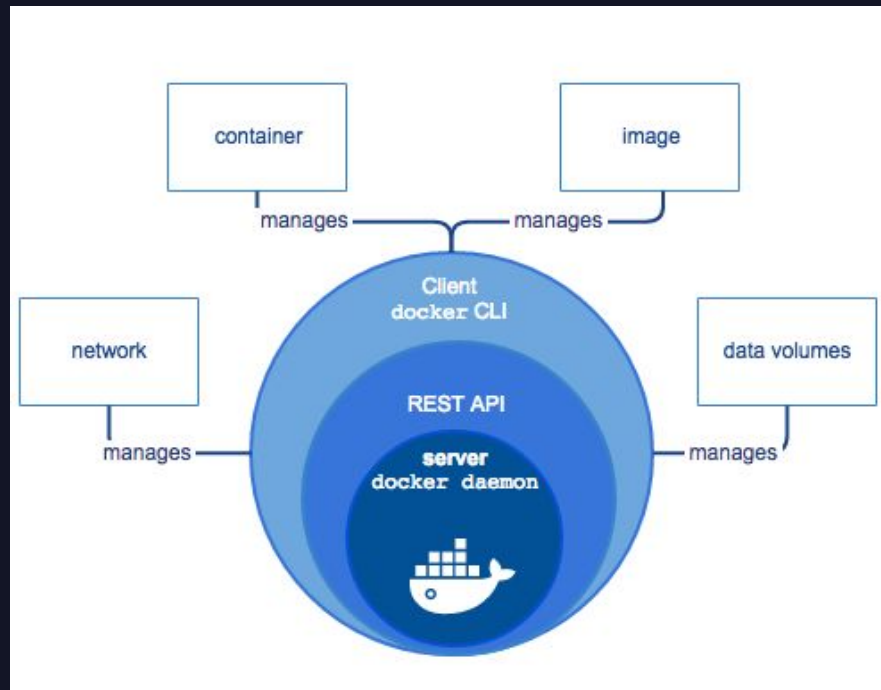


Virtual Machine

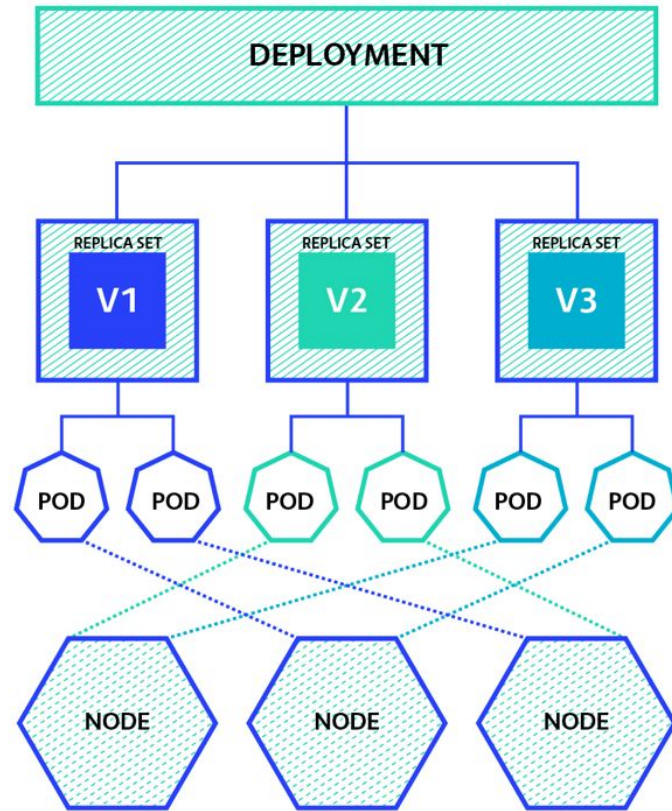


VMware ESX Server virtualizes server storage and networking, allowing multiple applications to run in virtual machines on the same physical server.

Container



Orchestration



Serverless



The future is fractal

Operational != Perfect

Sneaky testing

Why do we test?

What do we test for?



**9s don't matter if the
user is unhappy.**

@mipsytipsy

The trouble is toil

- Manual
- Repetitive
- Automatable
- Tactical
- No enduring value
- Scales badly

Useful tests

- End-to-end message time
- Availability
- Request performance
- Accurate responses
- Usability
- Accessibility

Facade tests

- Code coverage
- Only the happy path
- Only clean data
- Staging

The beautiful future

Self-healing

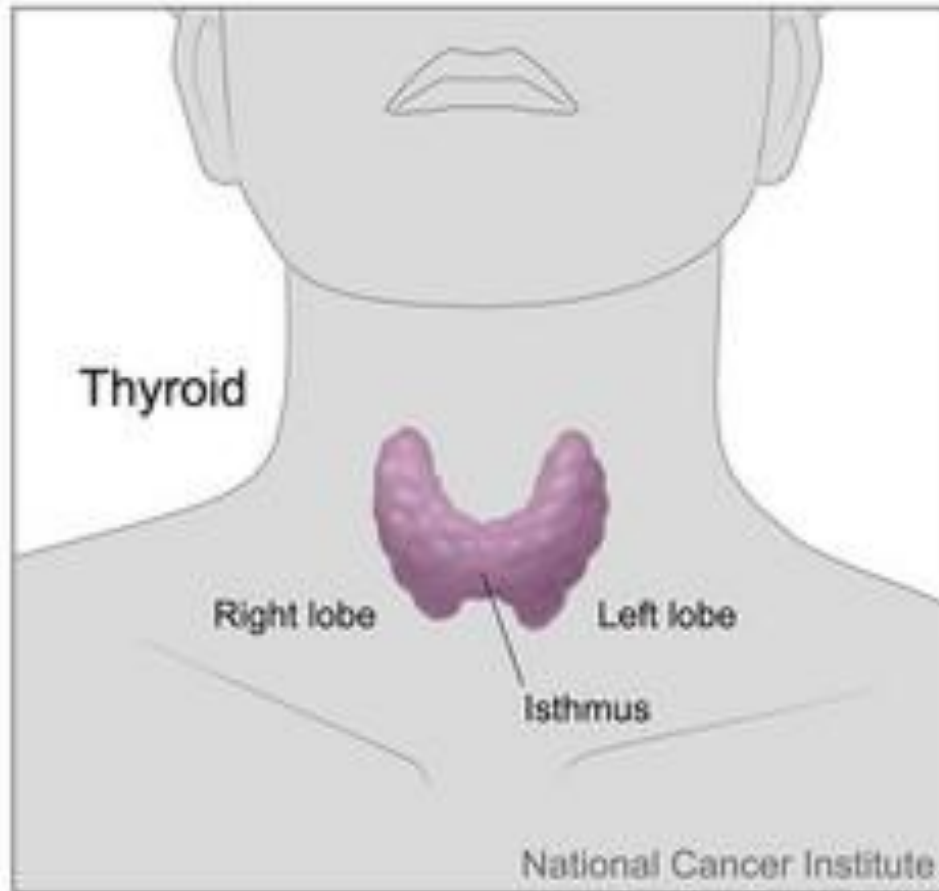




Semantics > Syntax



Testing experience, not embodiment



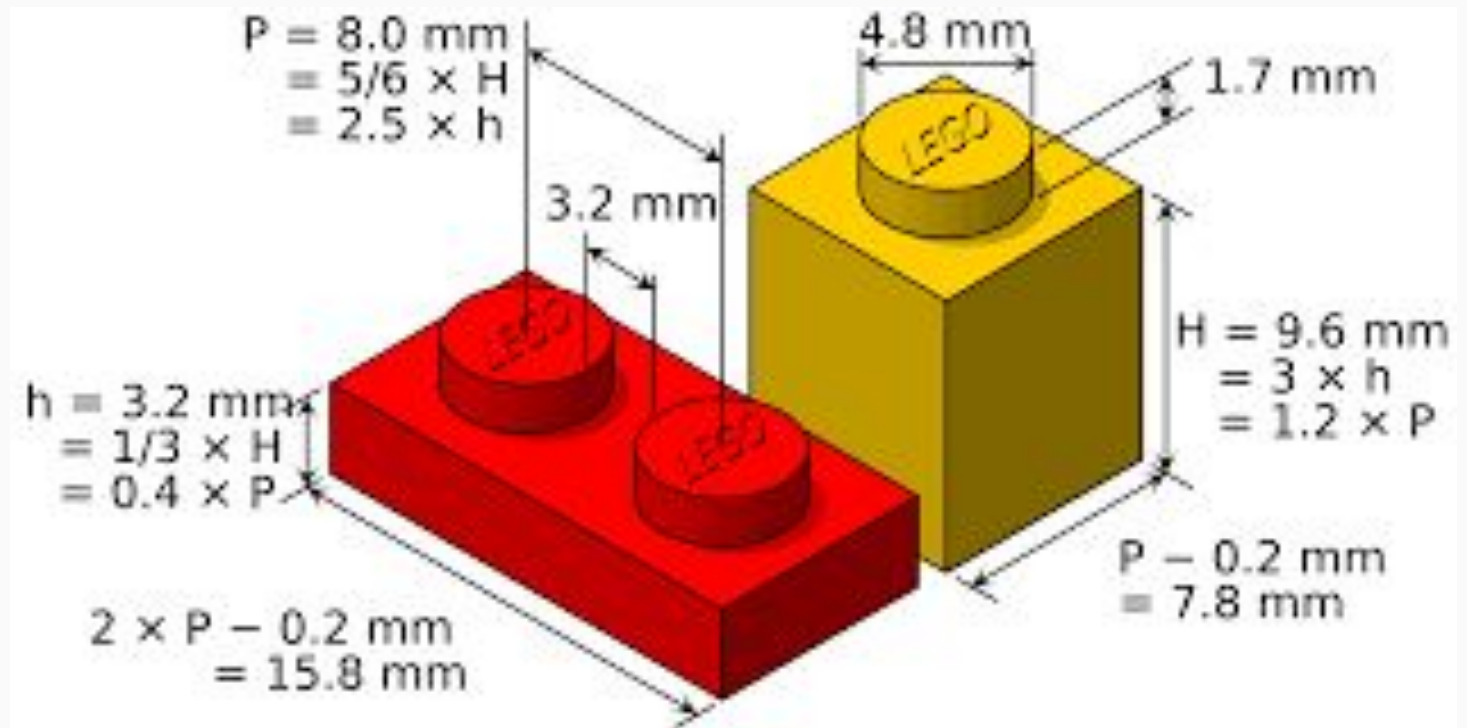
How's your thyroid feel?

@wiredferret

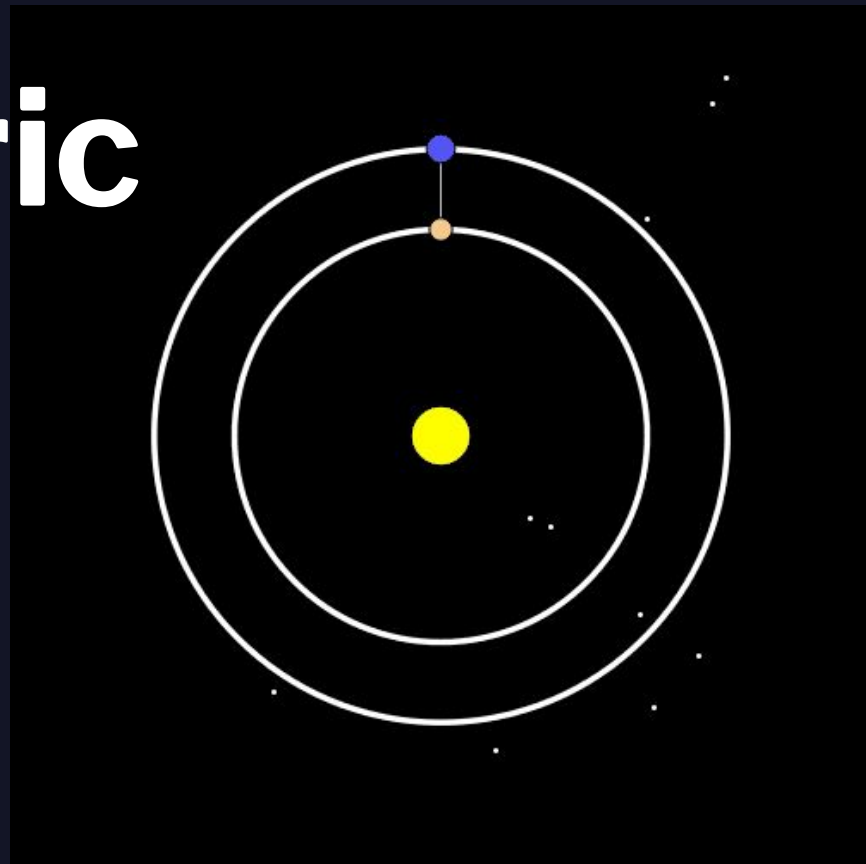
Why microservices are like Tinkertoys



By honeyflorida (ebay item 120137669430, GNU FDL granted by owner.)



Combinatoric Testing Complexity





All On

All Off

Status Quo

**Status Quo
+/- Flag**

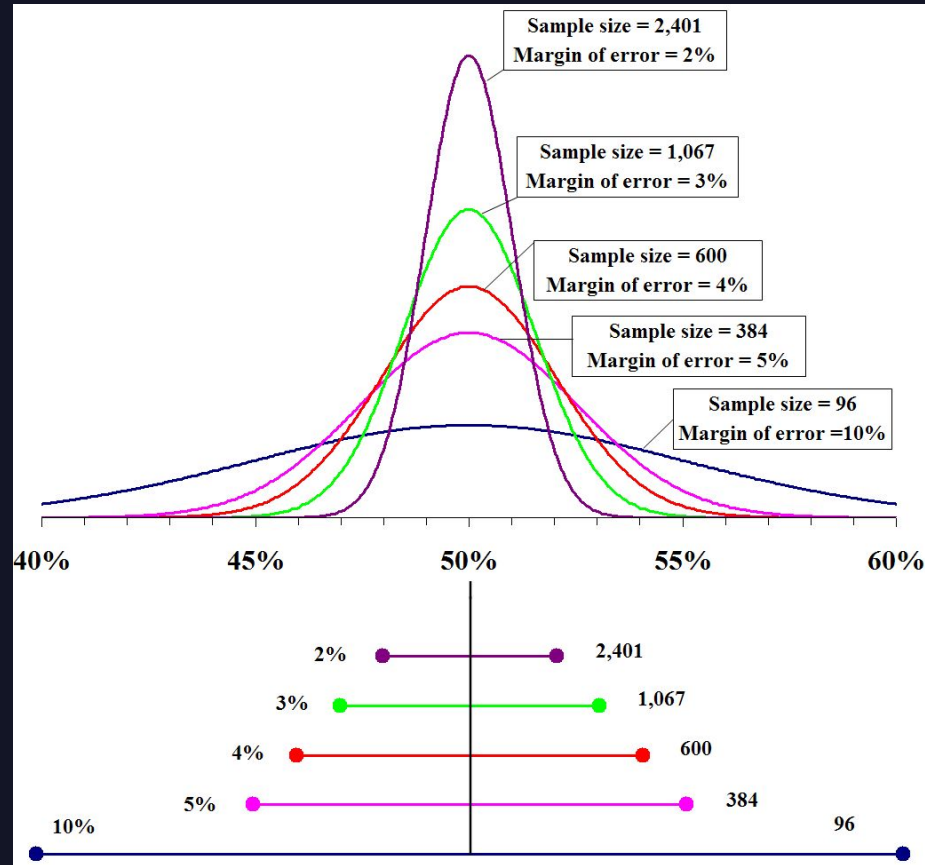
**Do it all
in production**

Complexity Has Inherent Problems

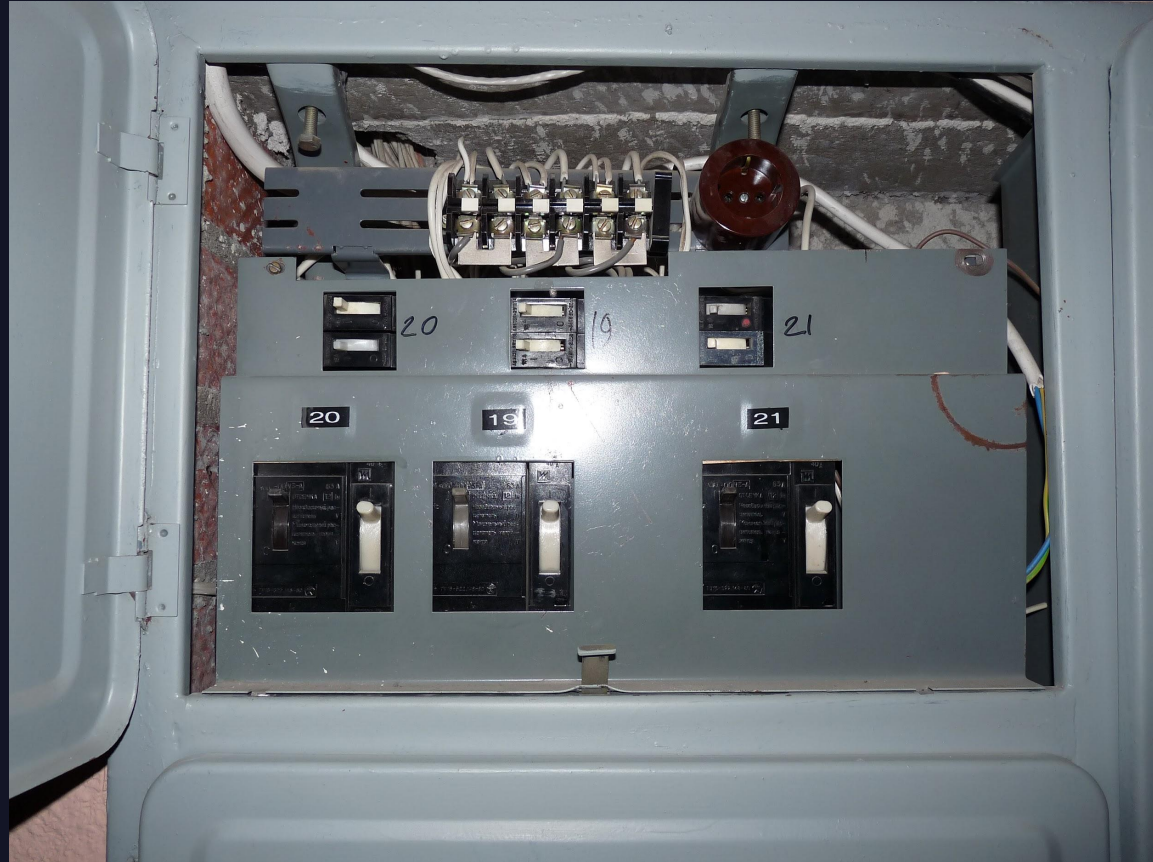


So!

How Much Failure is Tolerable?



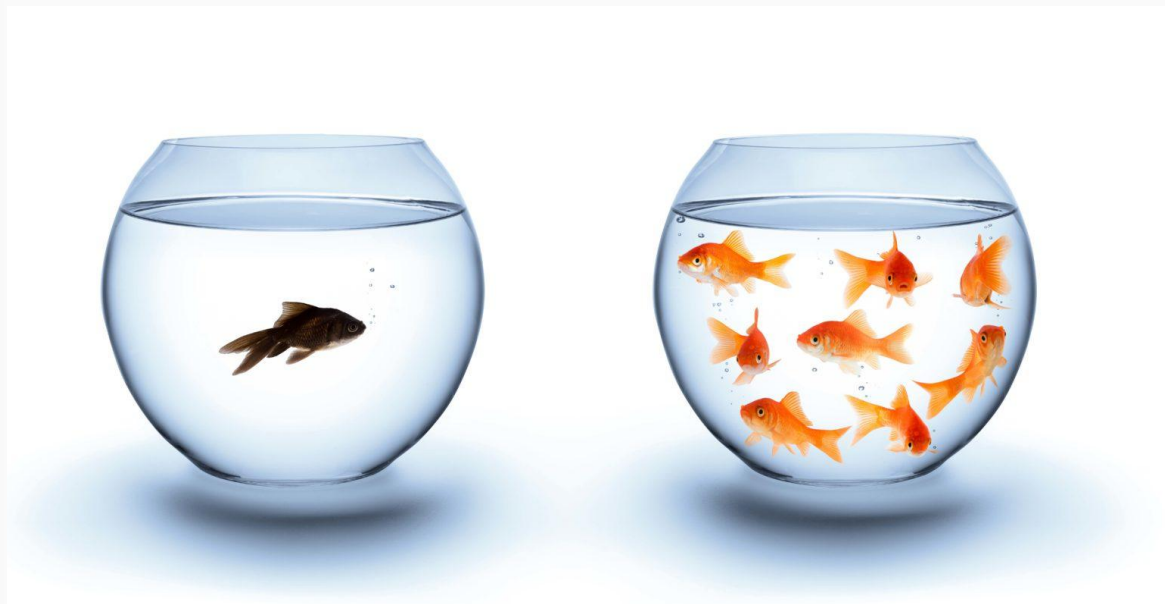
Reduce Catastrophes



Circuit breakers



Isolations



Control Points



Rapid Rollback



Layered Access



No Direct Access

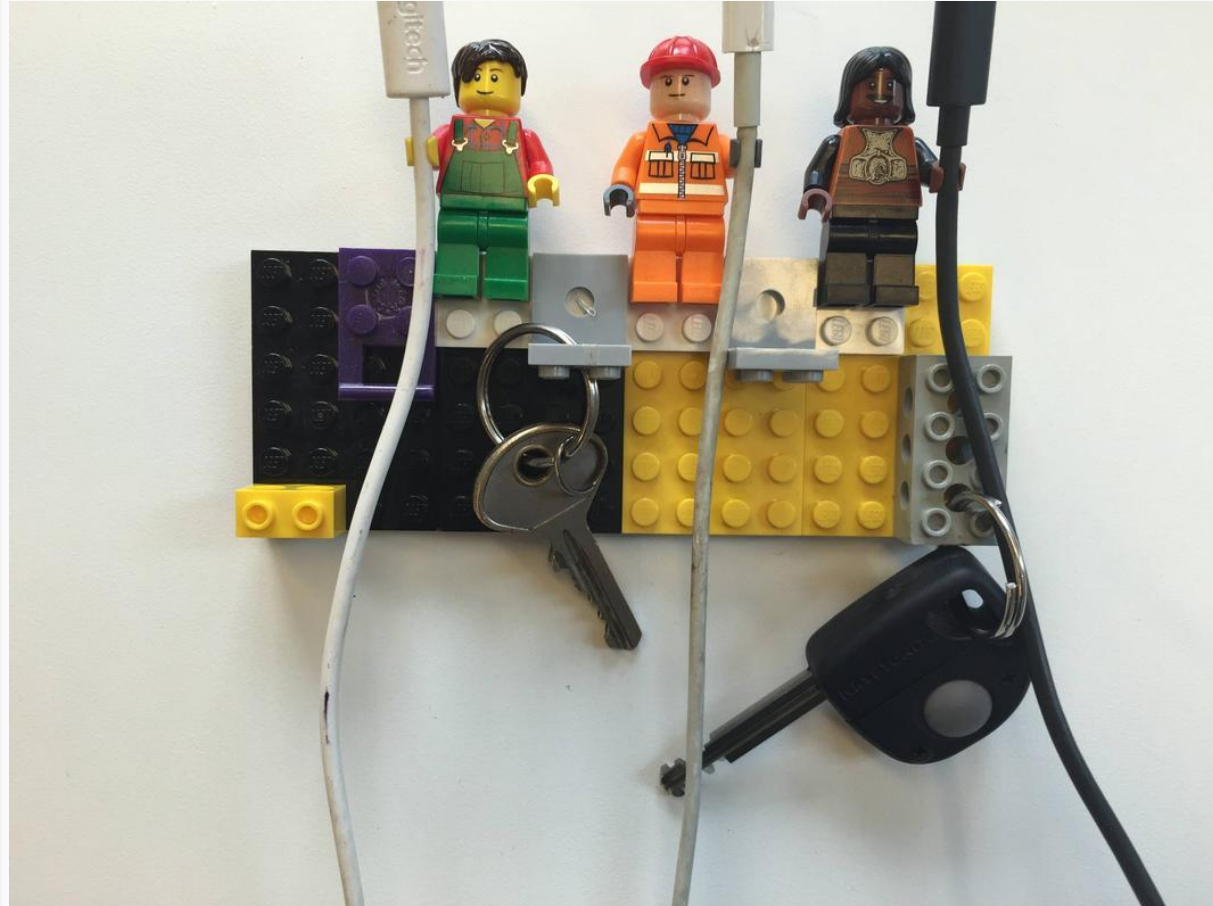


Authorized Users Make Changes



401
Unauthorized

Abstractions Manage Change



This is a roadmap

It may not be your
roadmap



When it goes well

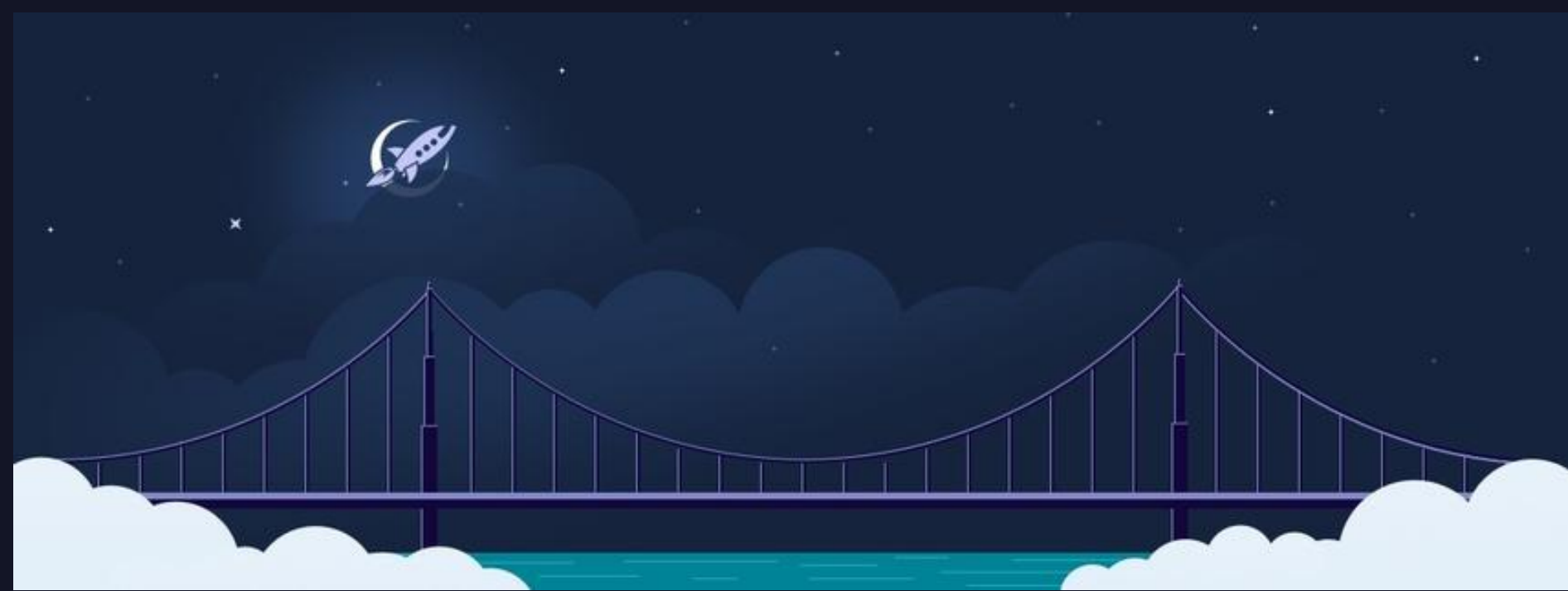




When it's bumpy

tl;rt

- Full test coverage is not a thing anymore
- **What** is more important than **how**
- Test in production
- Plan for failure



launchdarkly.com/heidi

@wiredferret