

“YOU BUILD IT, YOU RUN IT”

—Werner Vogels, Amazon

“...IT ALSO BRINGS THEM INTO DAY-TO-DAY CONTACT WITH THE CUSTOMER. THIS CUSTOMER FEEDBACK LOOP IS ESSENTIAL FOR IMPROVING THE QUALITY OF THE SERVICE.”

—Werner Vogels, Amazon

**YOU ONLY HAVE TO
CHANGE ONE THING
TO DO THE DEVOPS**

**YOU ONLY HAVE TO
CHANGE ONE THING
TO DO THE DEVOPS**

EVERYTHING

- ▶ (Re)define words for your organization
- ▶ Change your organization to enable DevOps
- ▶ Use modern architectures and technologies
- ▶ Use Continuous Delivery to safely deploy more often

WHO AM I?



- ▶ From Seattle, Washington, USA
- ▶ Technology Advocate at ThoughtWorks
- ▶ DevOpsDays Core Organizer
- ▶ @kmugrage on Twitter



REDEFINE WORDS

FOR YOUR
ORGANIZATION

WHAT ISN'T DEVOPS



- ▶ A Toolset
- ▶ A Role
- ▶ A Team

developING and operatING

- ▶ Culture
- ▶ Automation
- ▶ Measurement
- ▶ Sharing

<https://blog.chef.io/2010/07/16/what-devops-means-to-me/>

@kmugrage

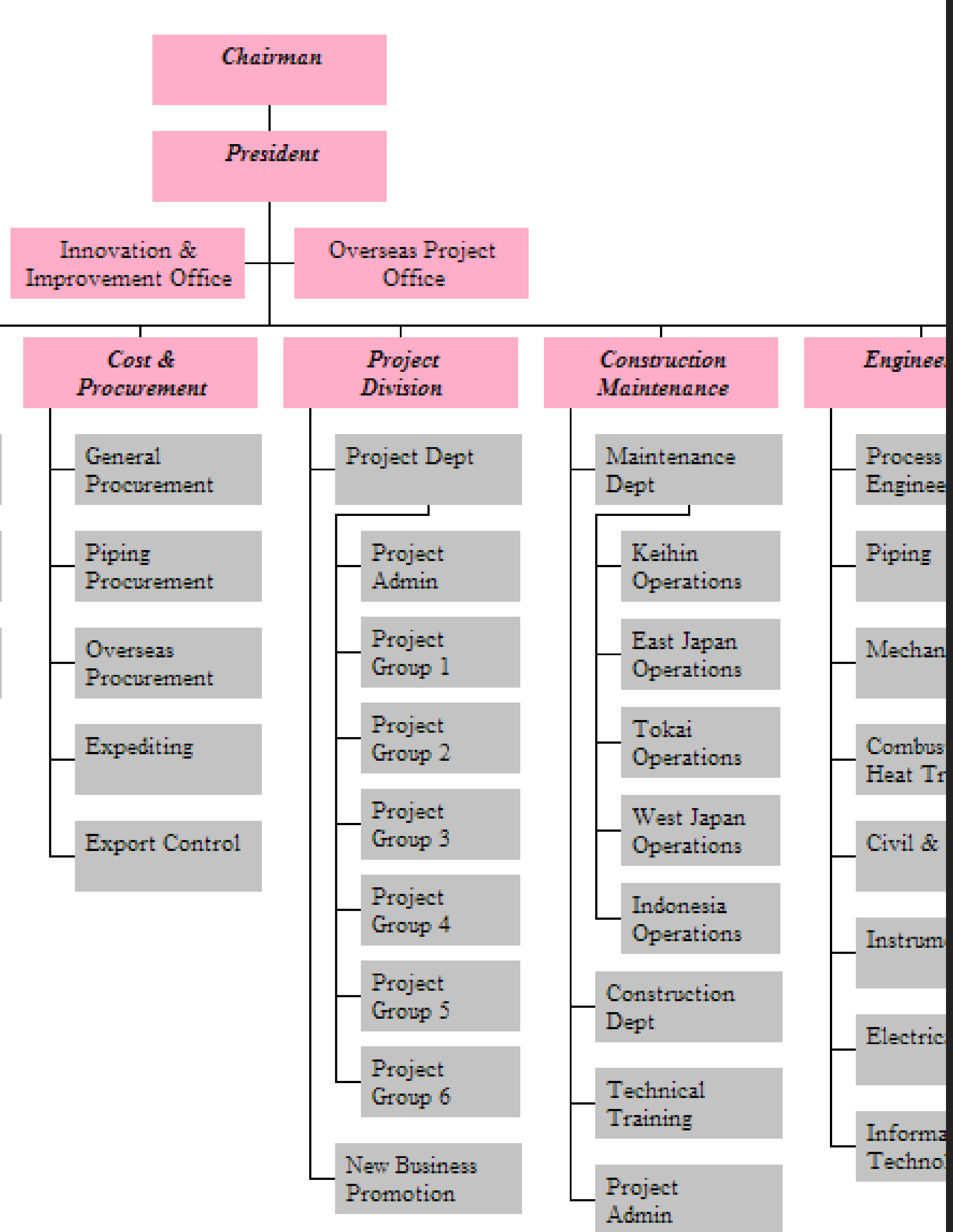
<https://www.gocd.org>

- ▶ Culture
- ▶ Automation
- ▶ Lean
- ▶ Measurement
- ▶ Sharing

<https://blog.chef.io/2010/07/16/what-devops-means-to-me/>

“DEVOPS: A CULTURE WHERE PEOPLE, REGARDLESS OF TITLE OR BACKGROUND, WORK TOGETHER TO IMAGINE, DEVELOP, DEPLOY AND OPERATE A SYSTEM.”

—Me

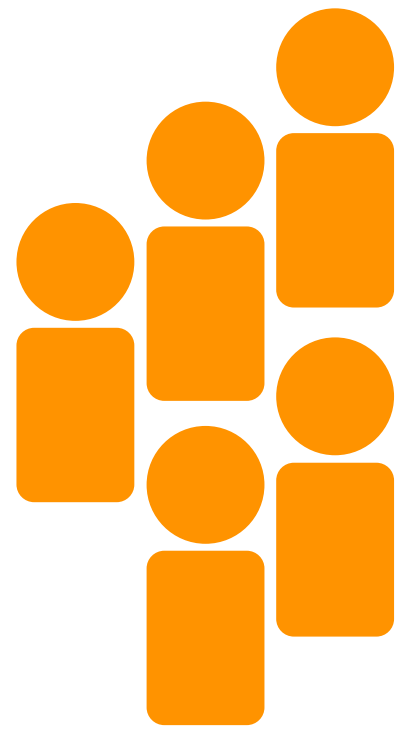
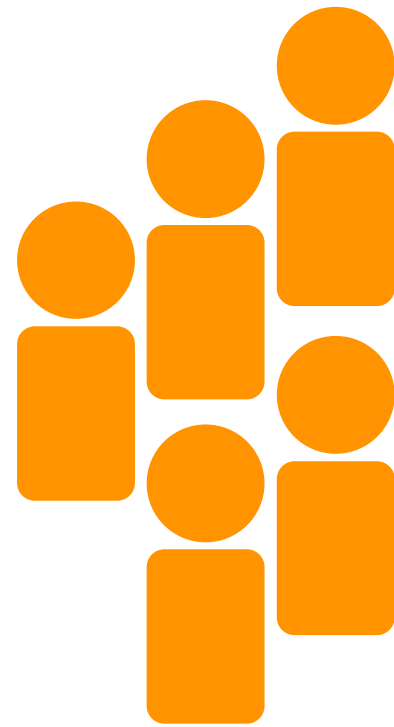
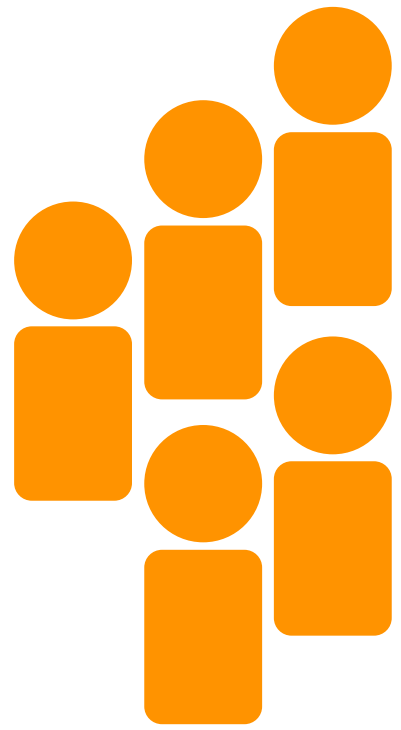


CHANGE YOUR ORG

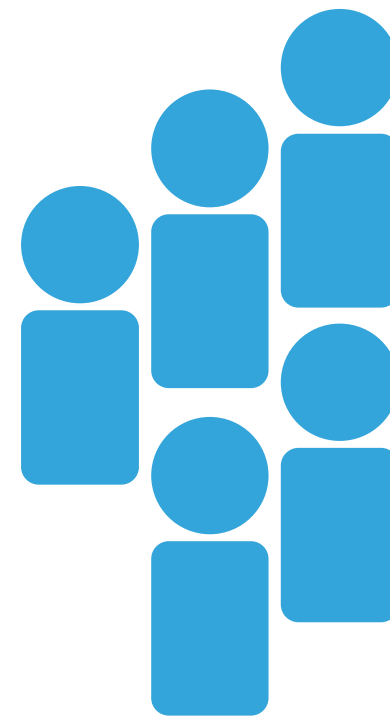
TO ENABLE DEVOPS

TRADITIONAL MODEL

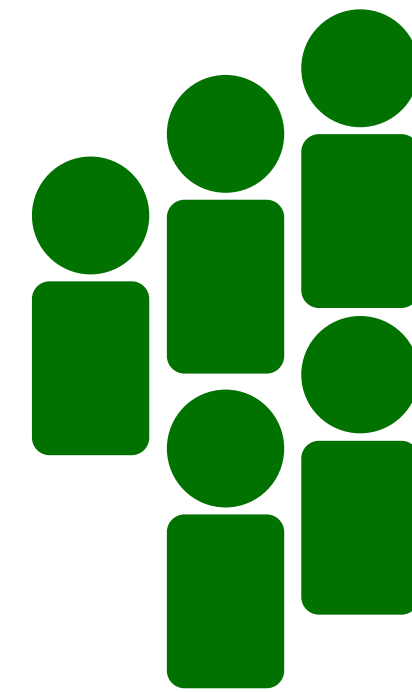
Development Teams



Testing Team



Operations Team

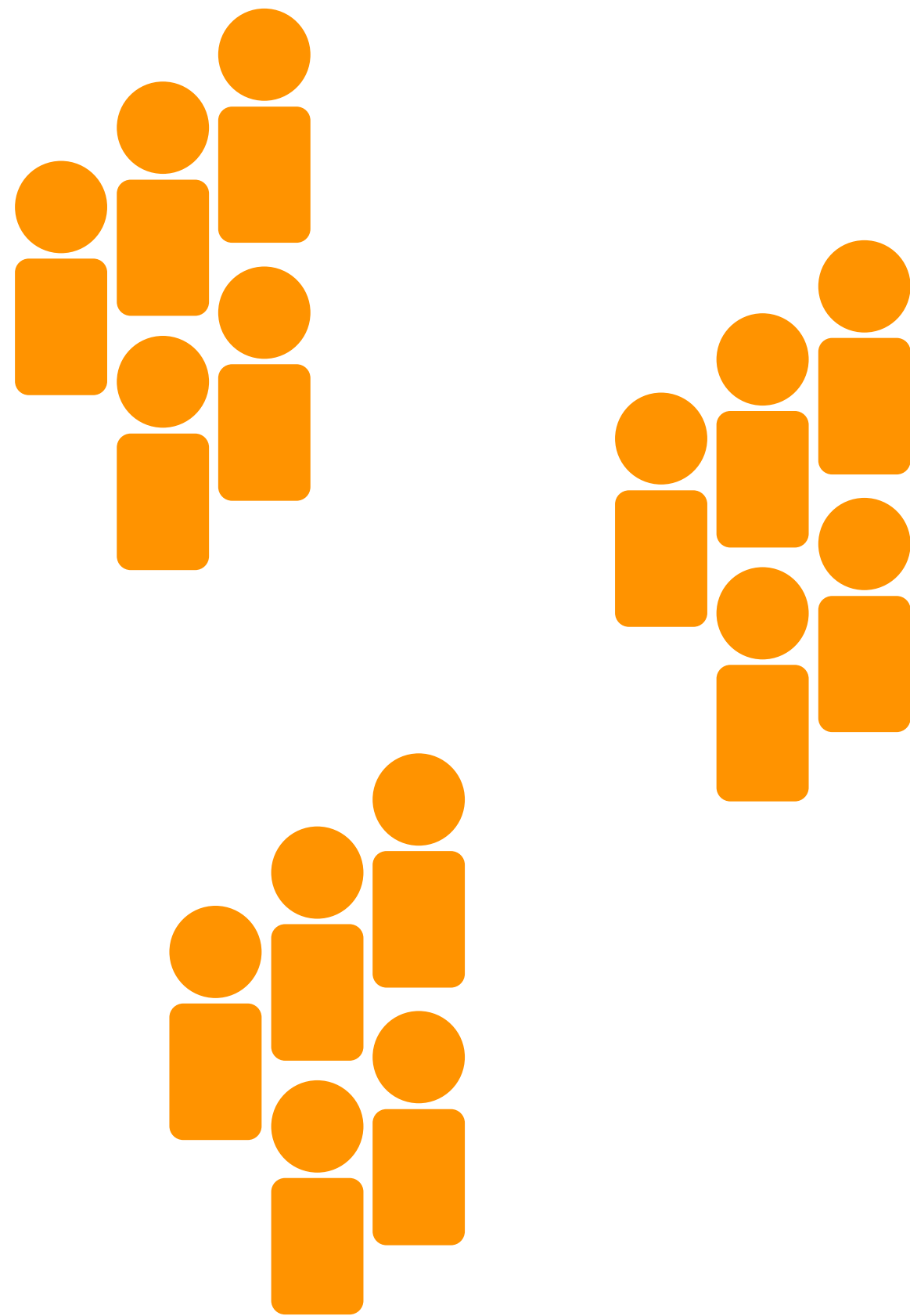


“ANY ORGANIZATION THAT DESIGNS A SYSTEM (DEFINED BROADLY) WILL PRODUCE A DESIGN WHOSE STRUCTURE IS A COPY OF THE ORGANIZATION'S COMMUNICATION STRUCTURE.”

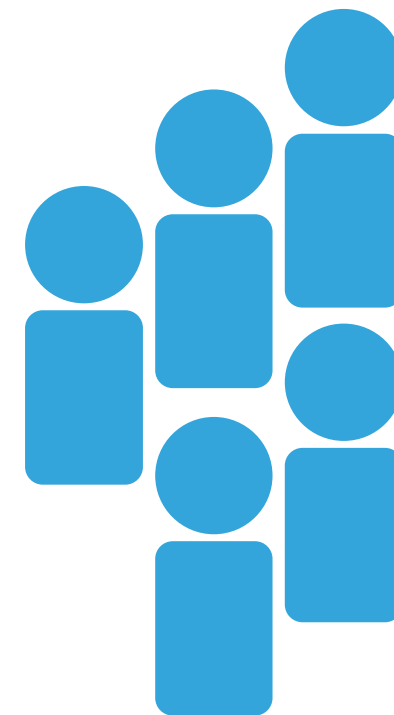
—Mel Conway

TRADITIONAL MODEL

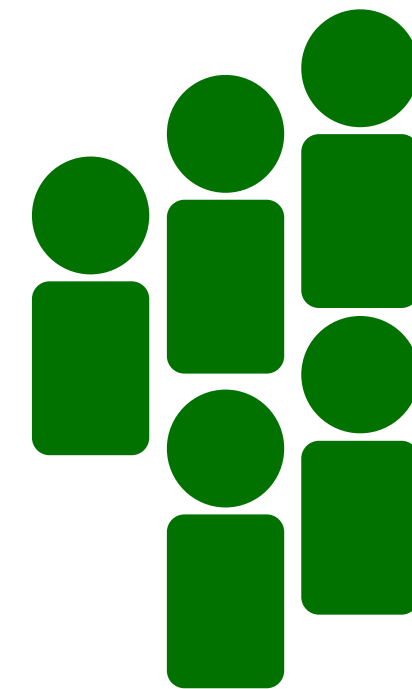
Development Teams



QA Team

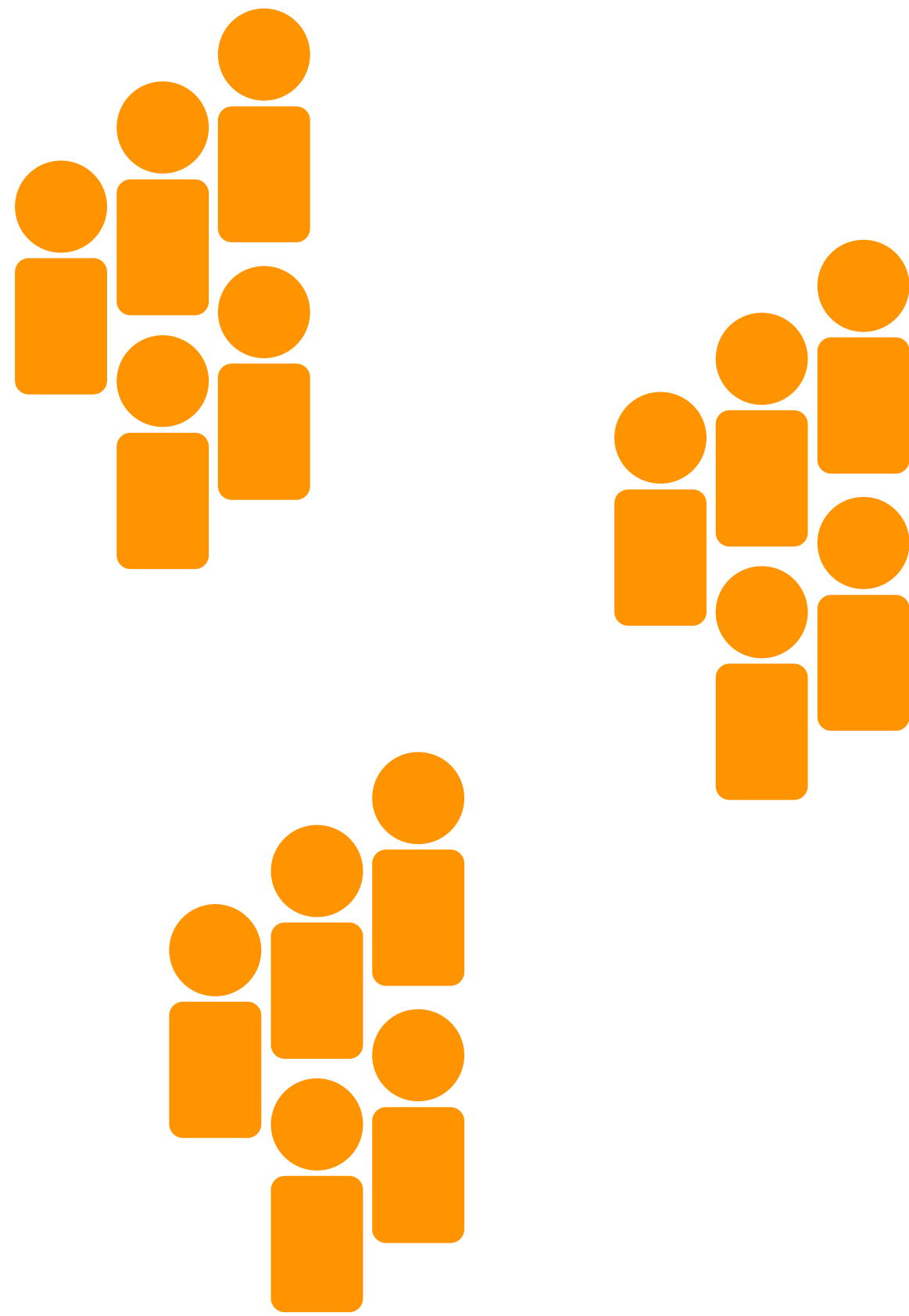


Operations Team

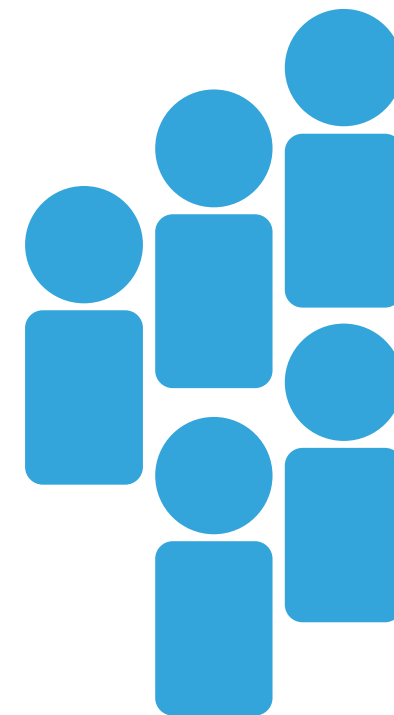


RENAMING OPS WON'T SOLVE THE ISSUE

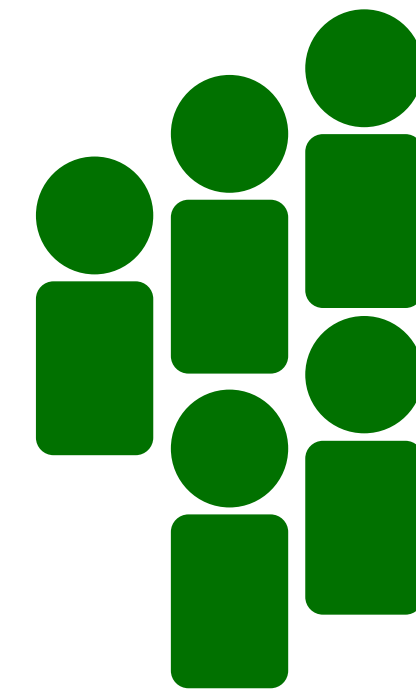
Development Teams



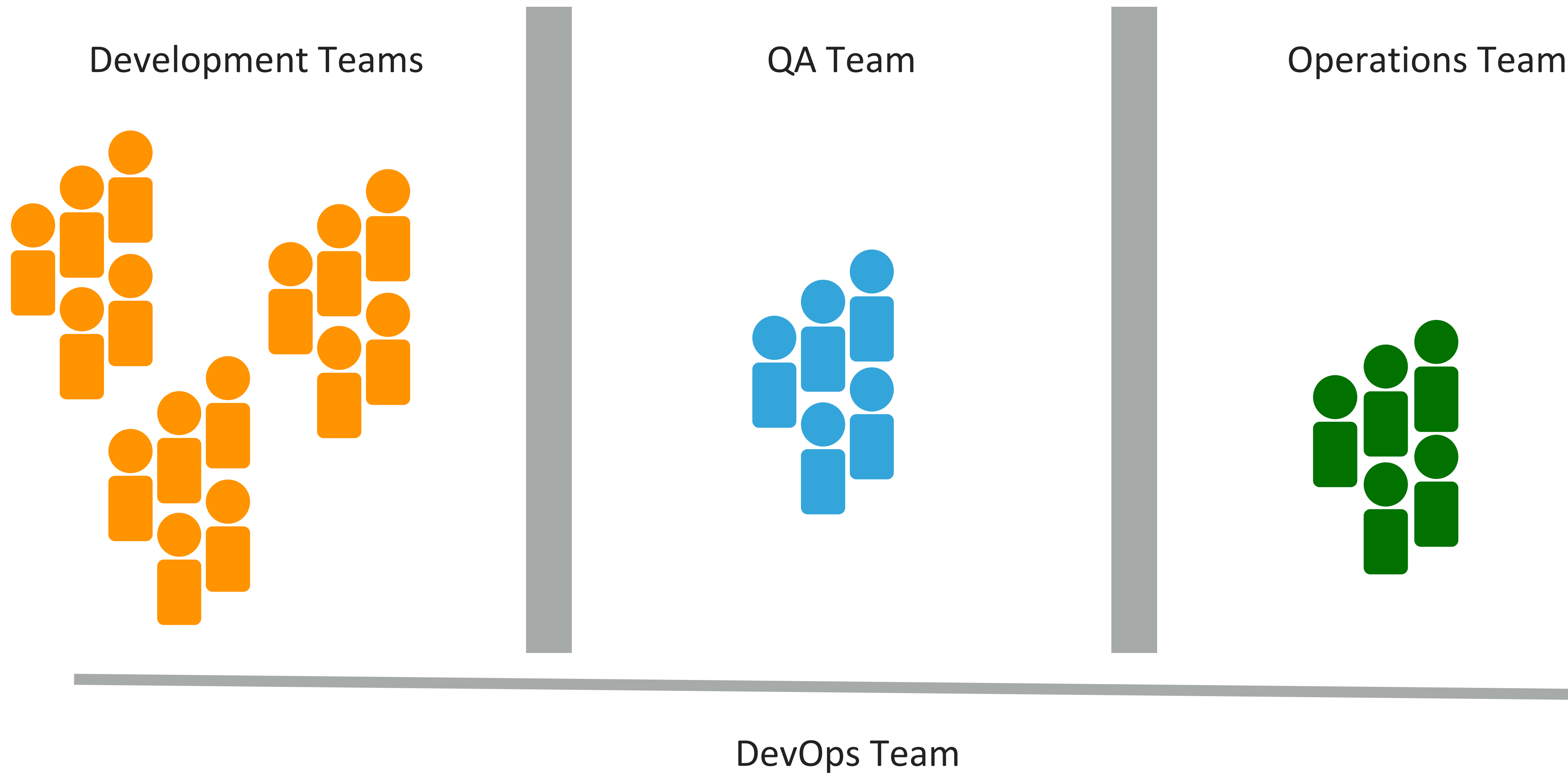
QA Team



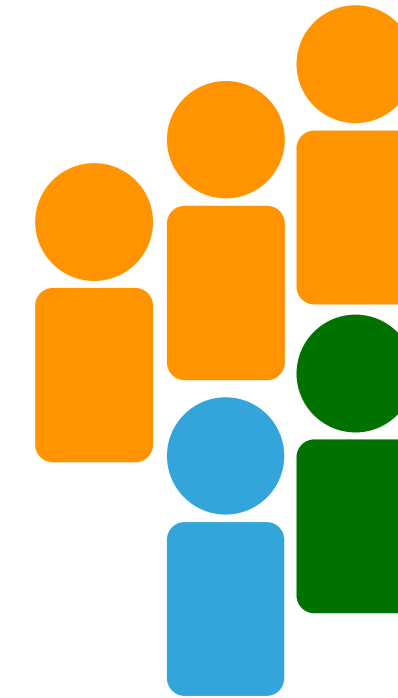
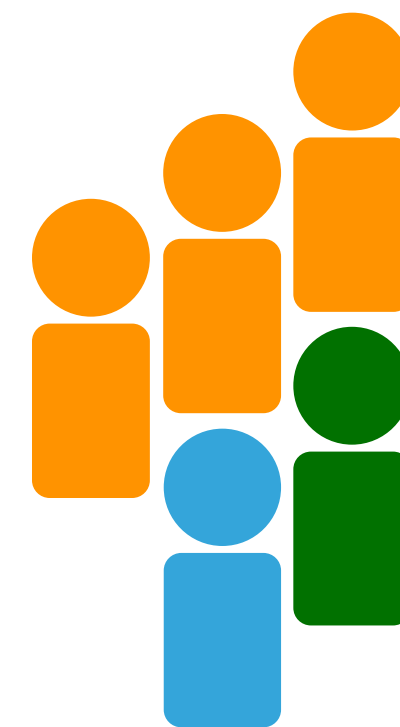
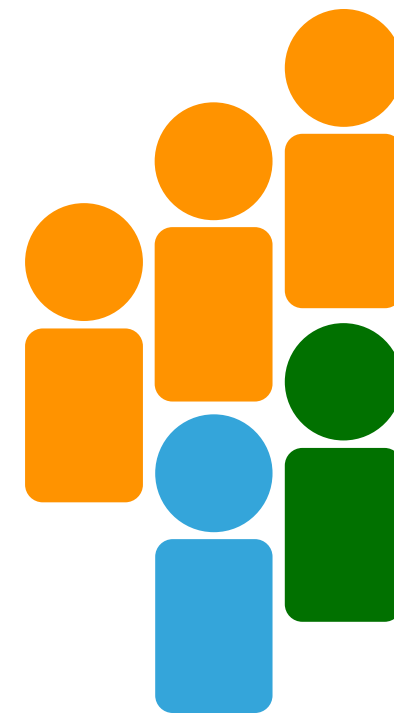
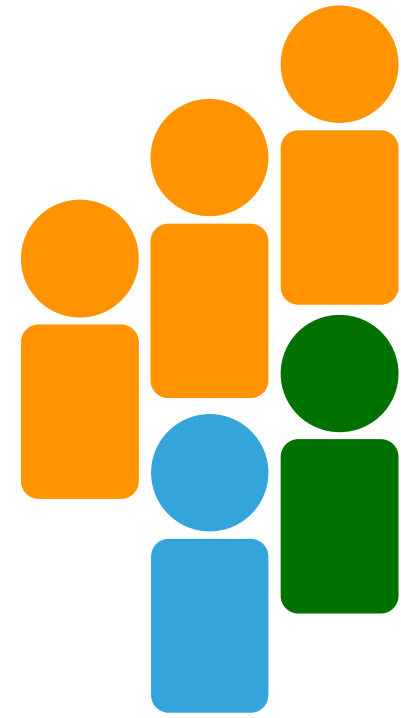
DevOps Team



CREATING ANOTHER SILO DOESN'T SOLVE SILOS



PRODUCT TEAMS



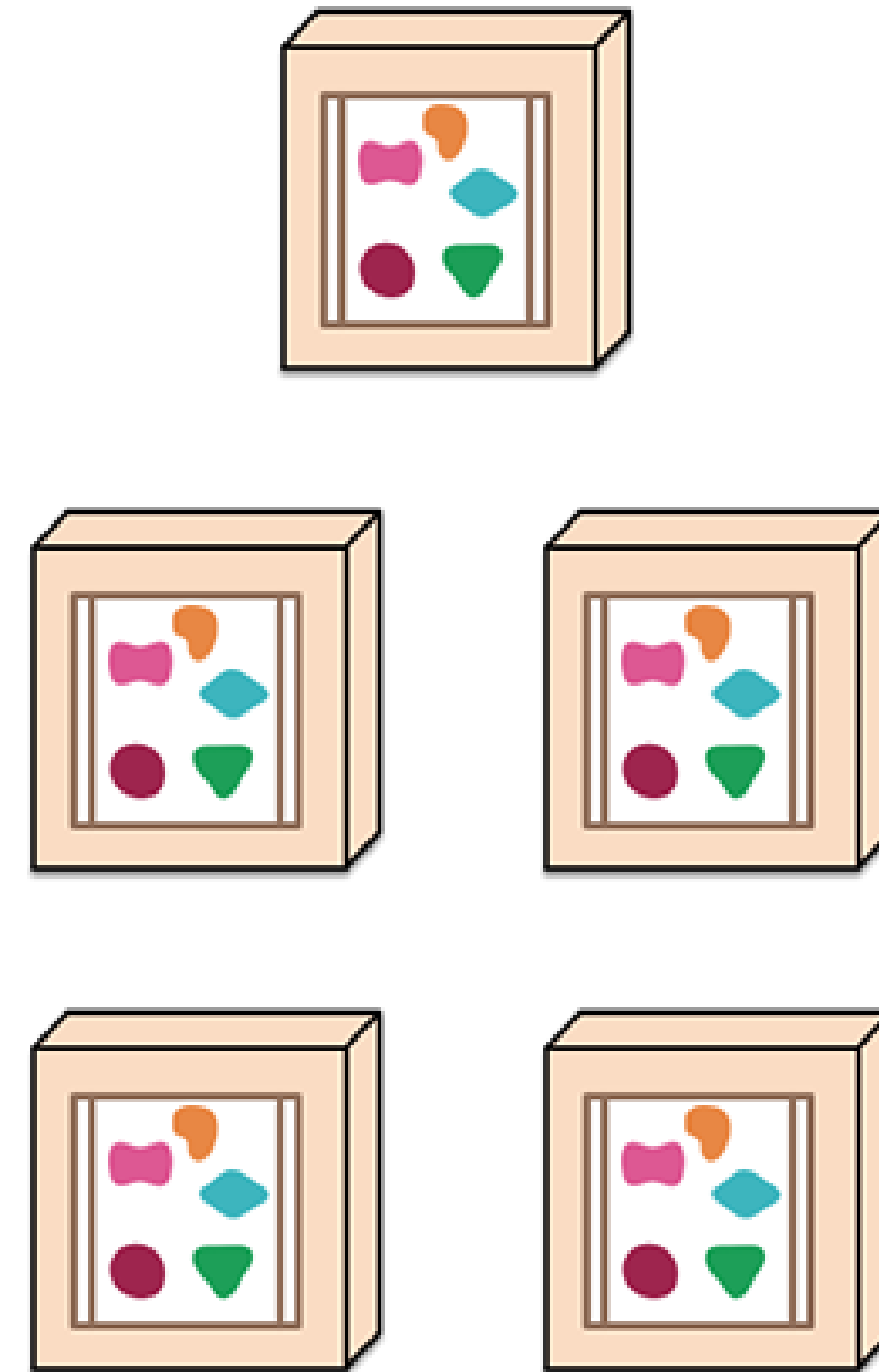


USE MODERN

ARCHITECTURES
AND
TECHNOLOGIES

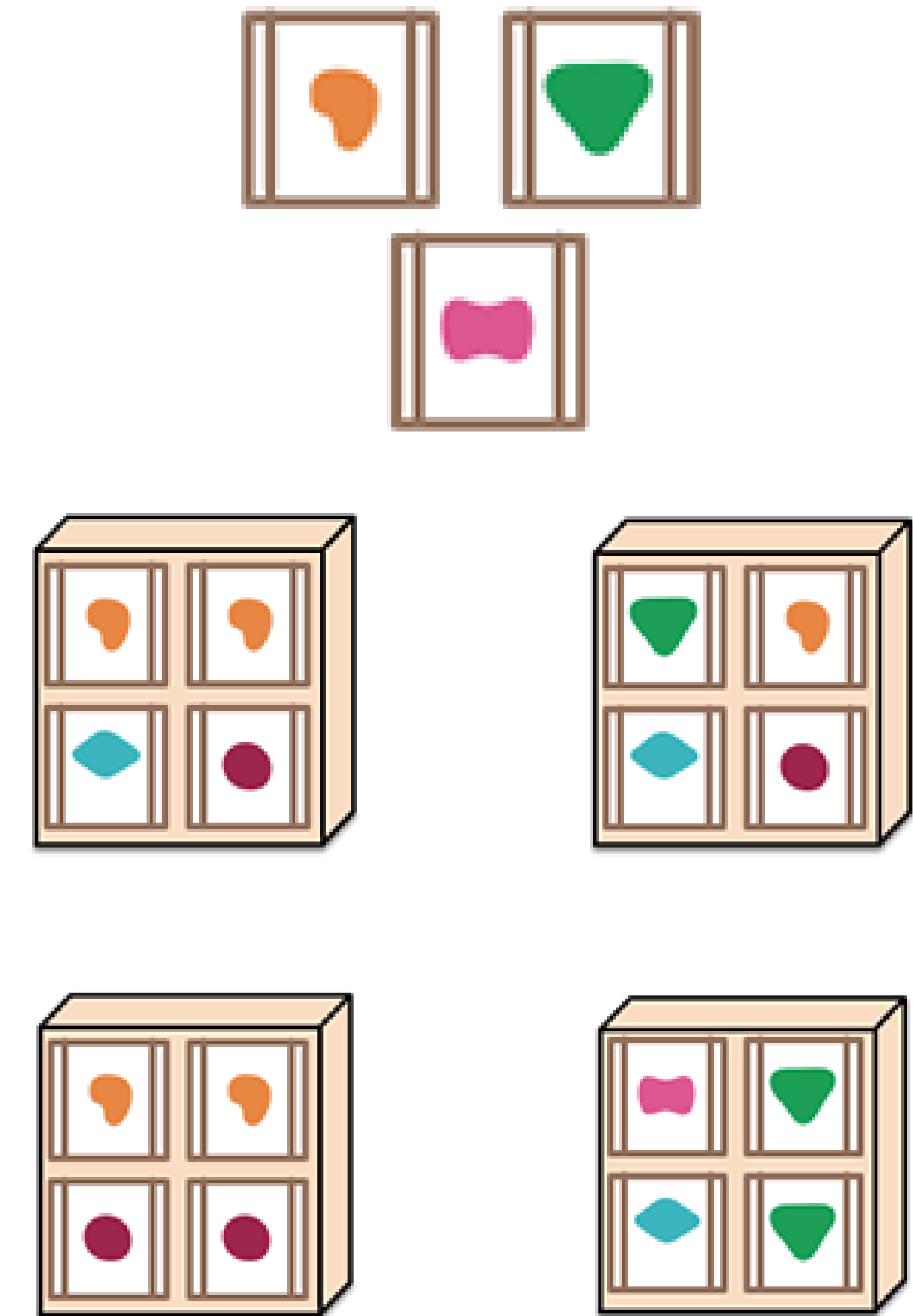
MONOLITHS CAN BE HARD

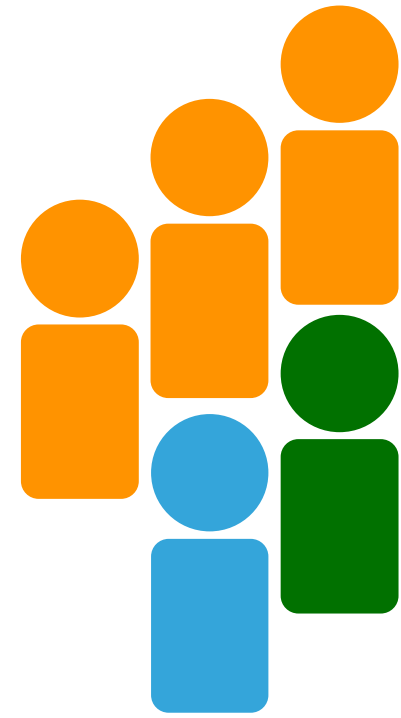
- ▶ All functionality is in one process
- ▶ Scale by replicating the monolith on multiple servers



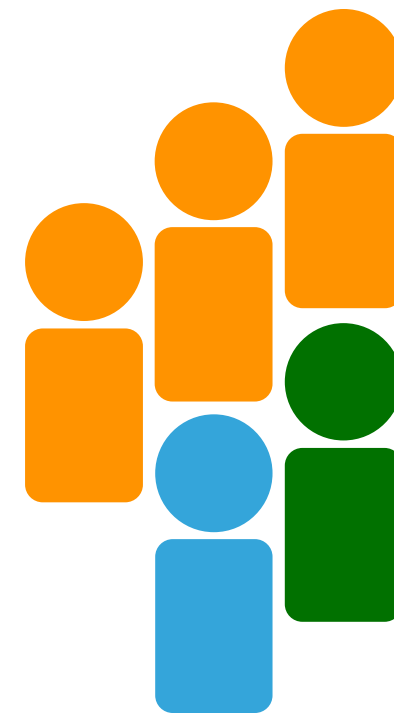
MICROSERVICE ARCHITECTURE

- ▶ Each element of functionality is in a separate service
- ▶ Scale by distributing these services across servers, replicating as needed

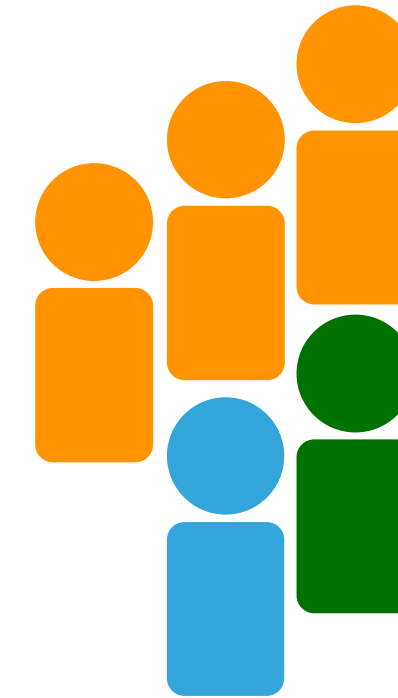




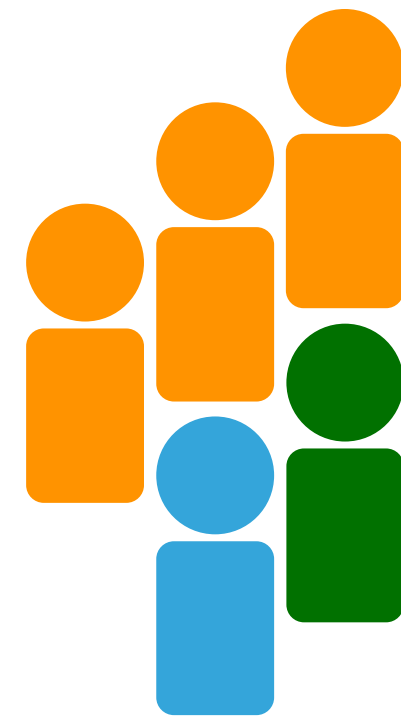
Rental Cars



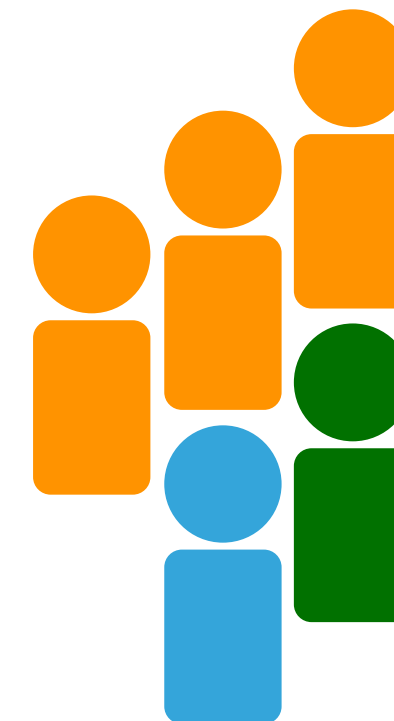
Tax
Payments



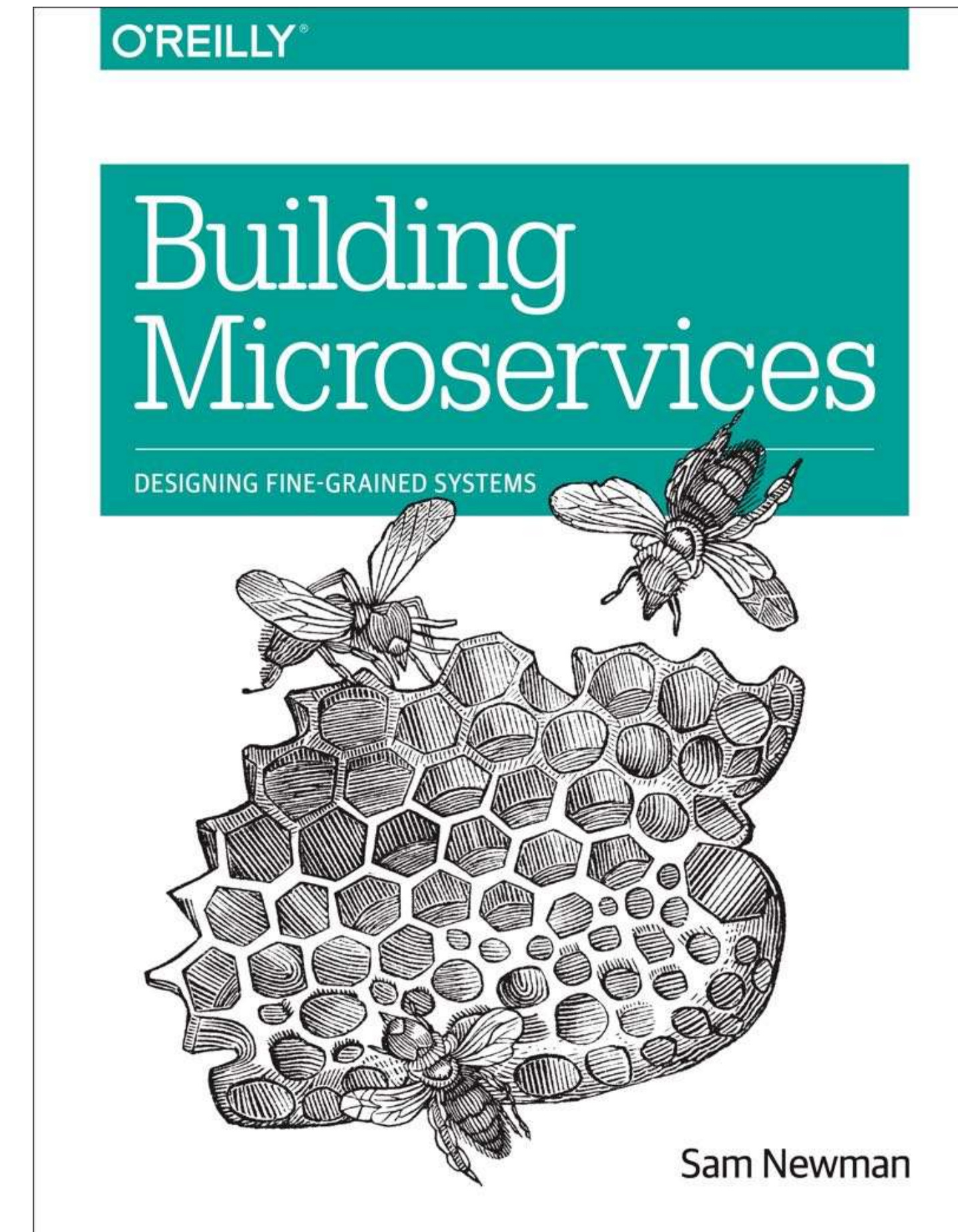
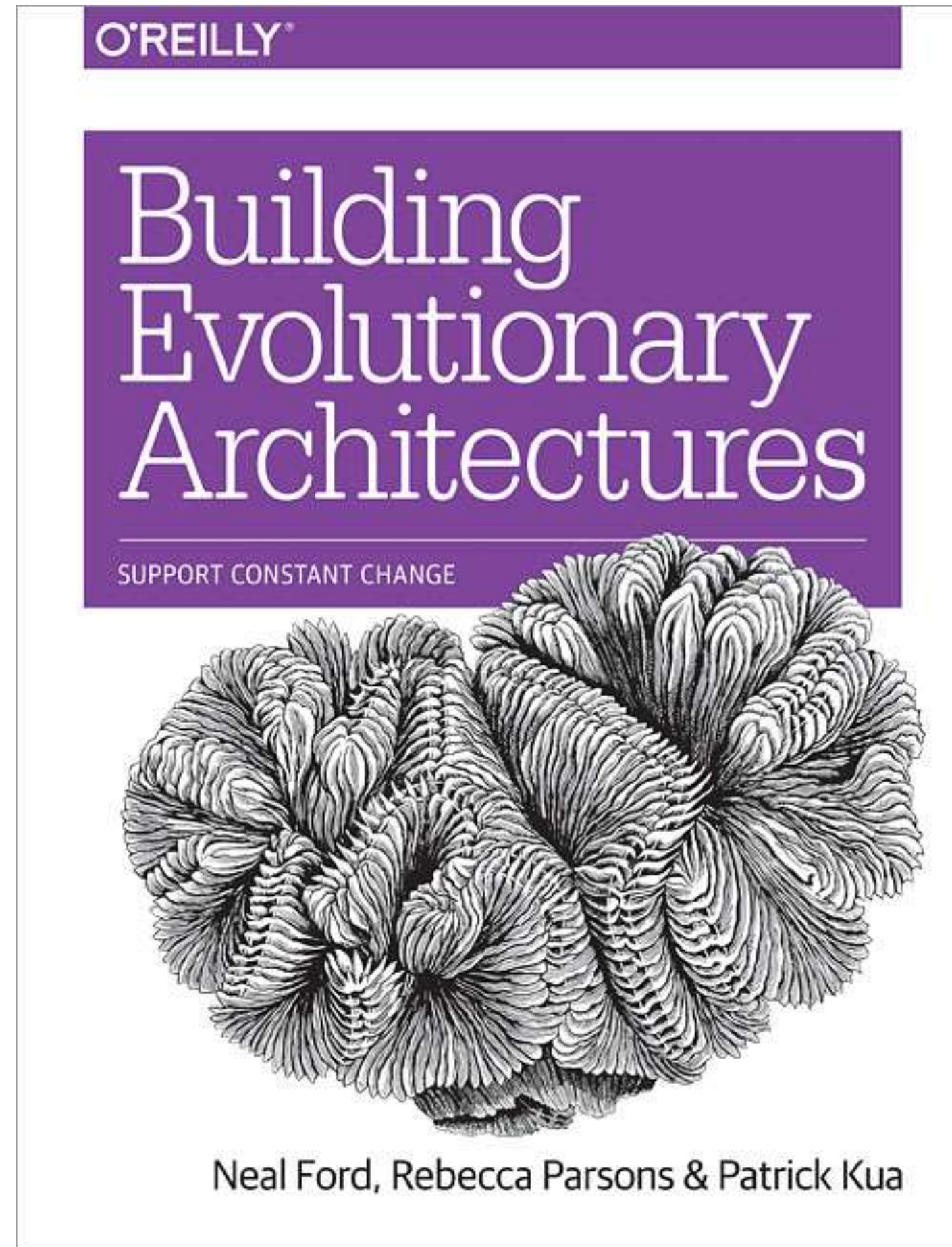
Consumer
Business to Business



Hotels

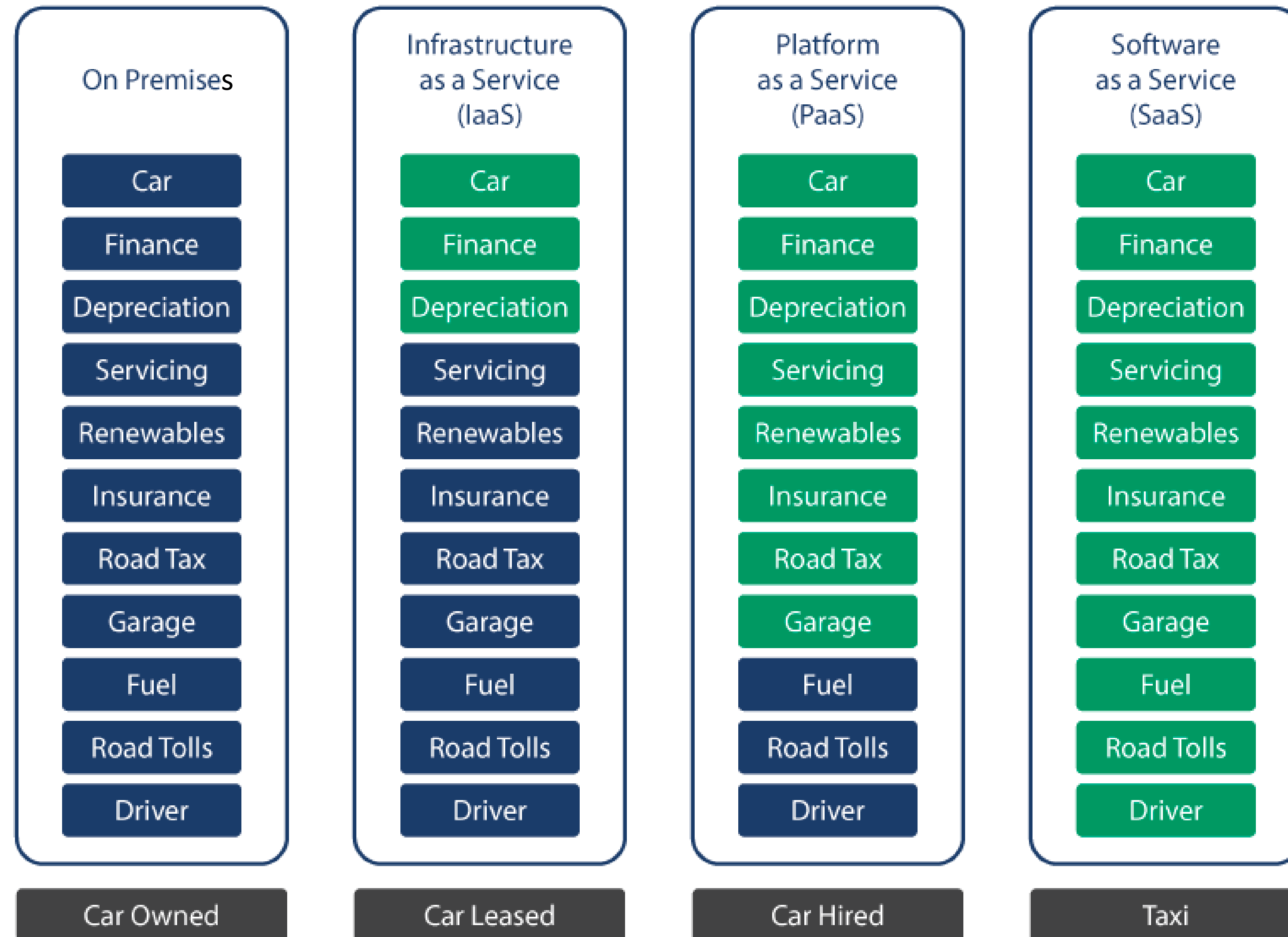


Airlines



WE STILL HAVE TO DEPLOY
SOMEWHERE

CAR AS A SERVICE

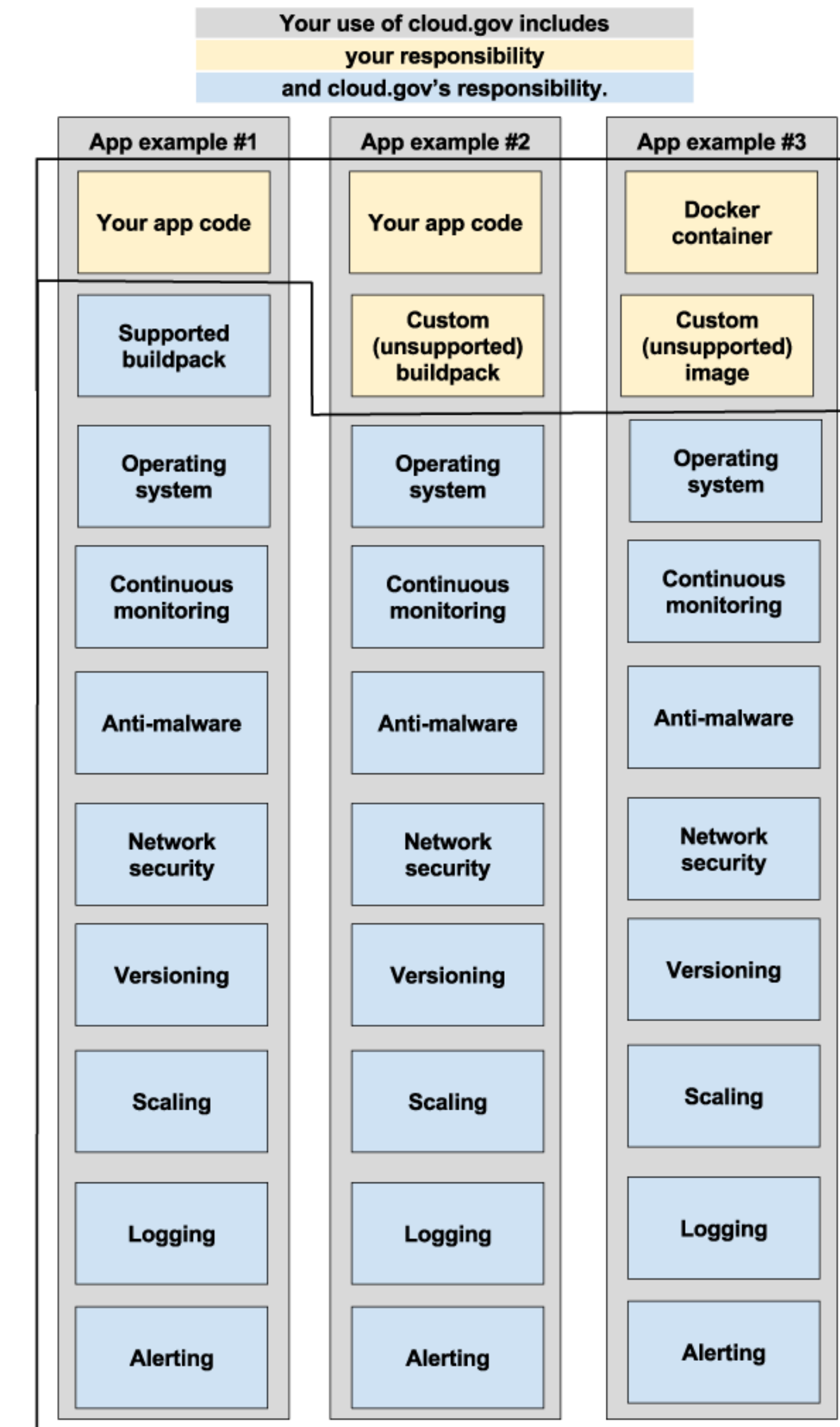


AN EXAMPLE OF PLATFORM AS A SERVICE



CLOUD.GOV

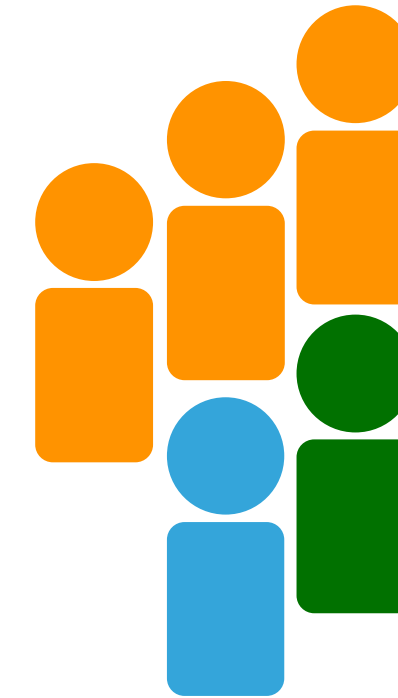
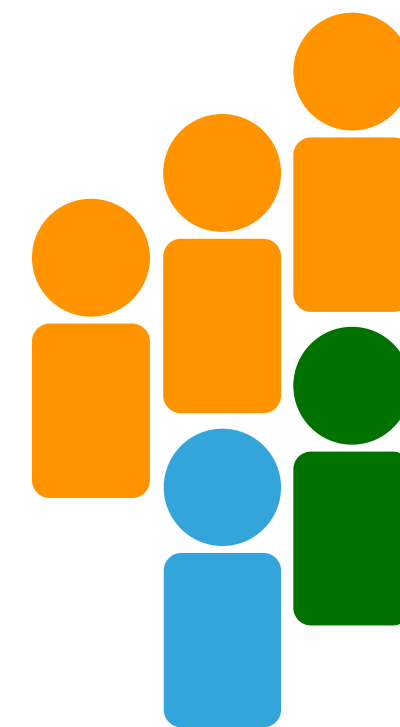
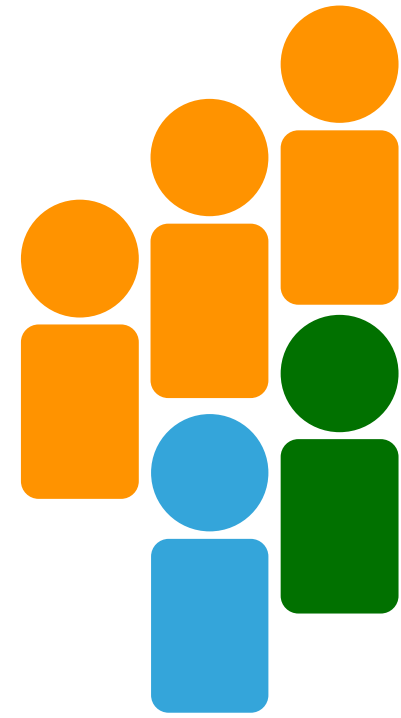
- ▶ Official service of the US Government
- ▶ 325 required security controls
 - ▶ 269 handled by cloud.gov
 - ▶ 41 shared
 - ▶ 15 handled by customer



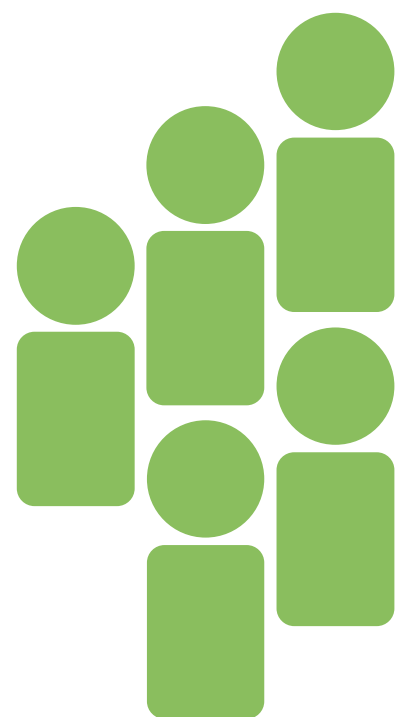
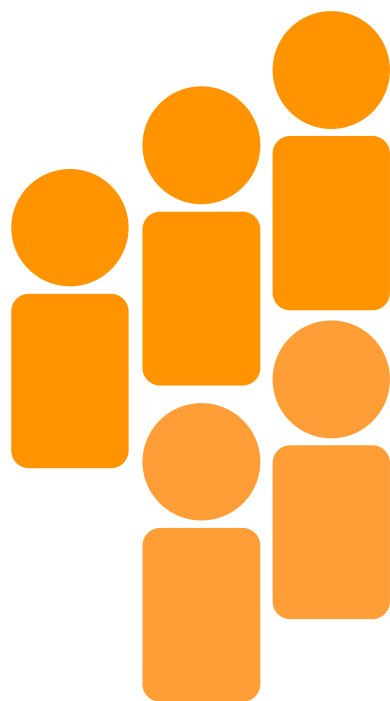
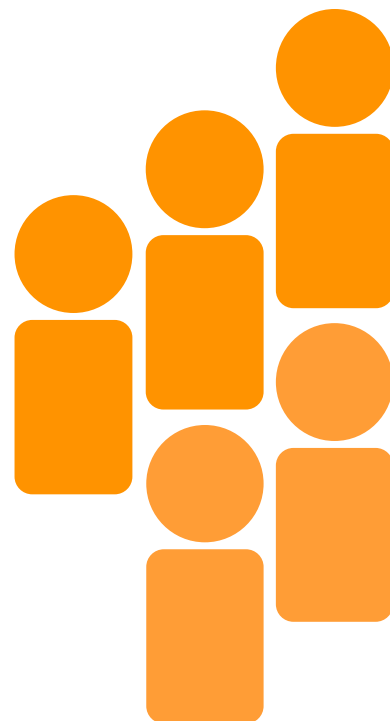
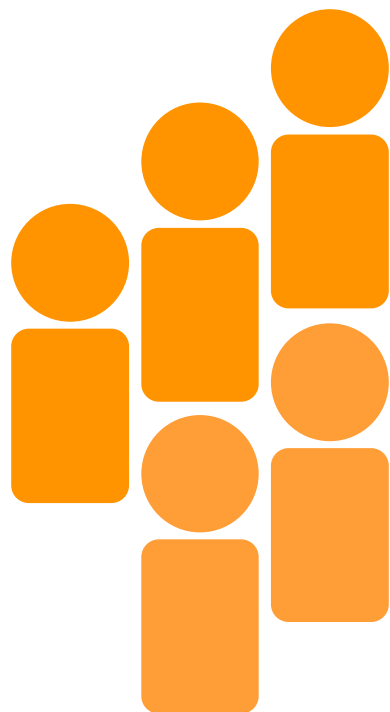
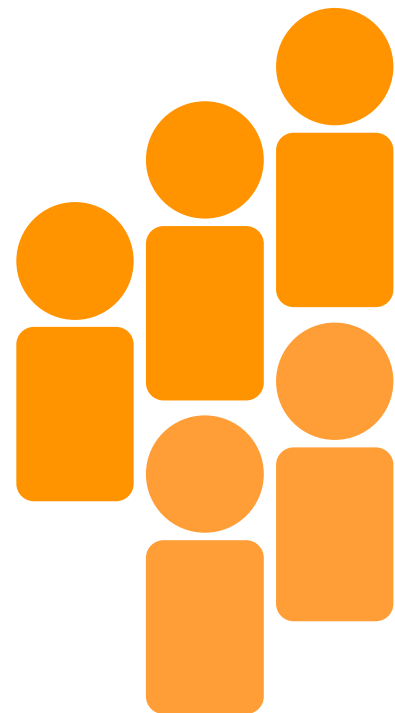
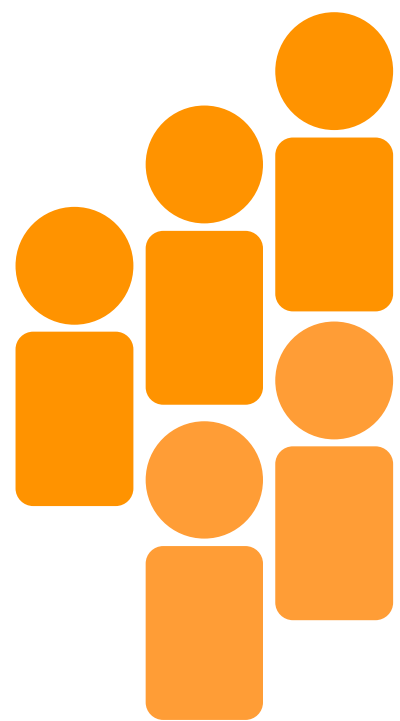
THE CLOUD IS JUST
SOMEBODY ELSE'S
COMPUTER

Someone at every conference

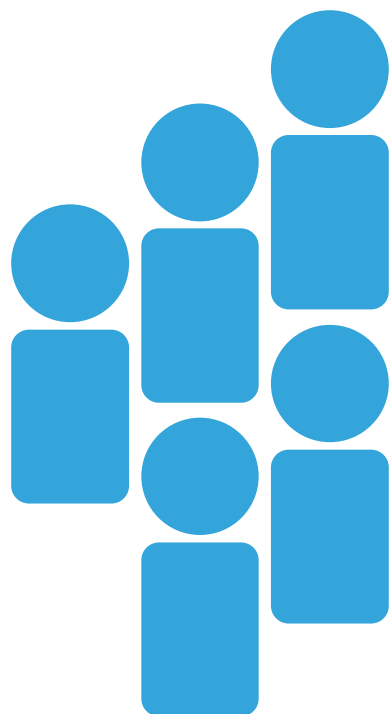
PRODUCT TEAMS



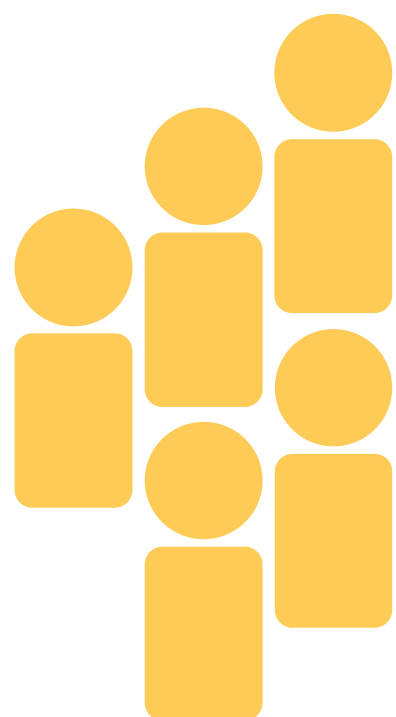
PRODUCT TEAMS



Platform Team

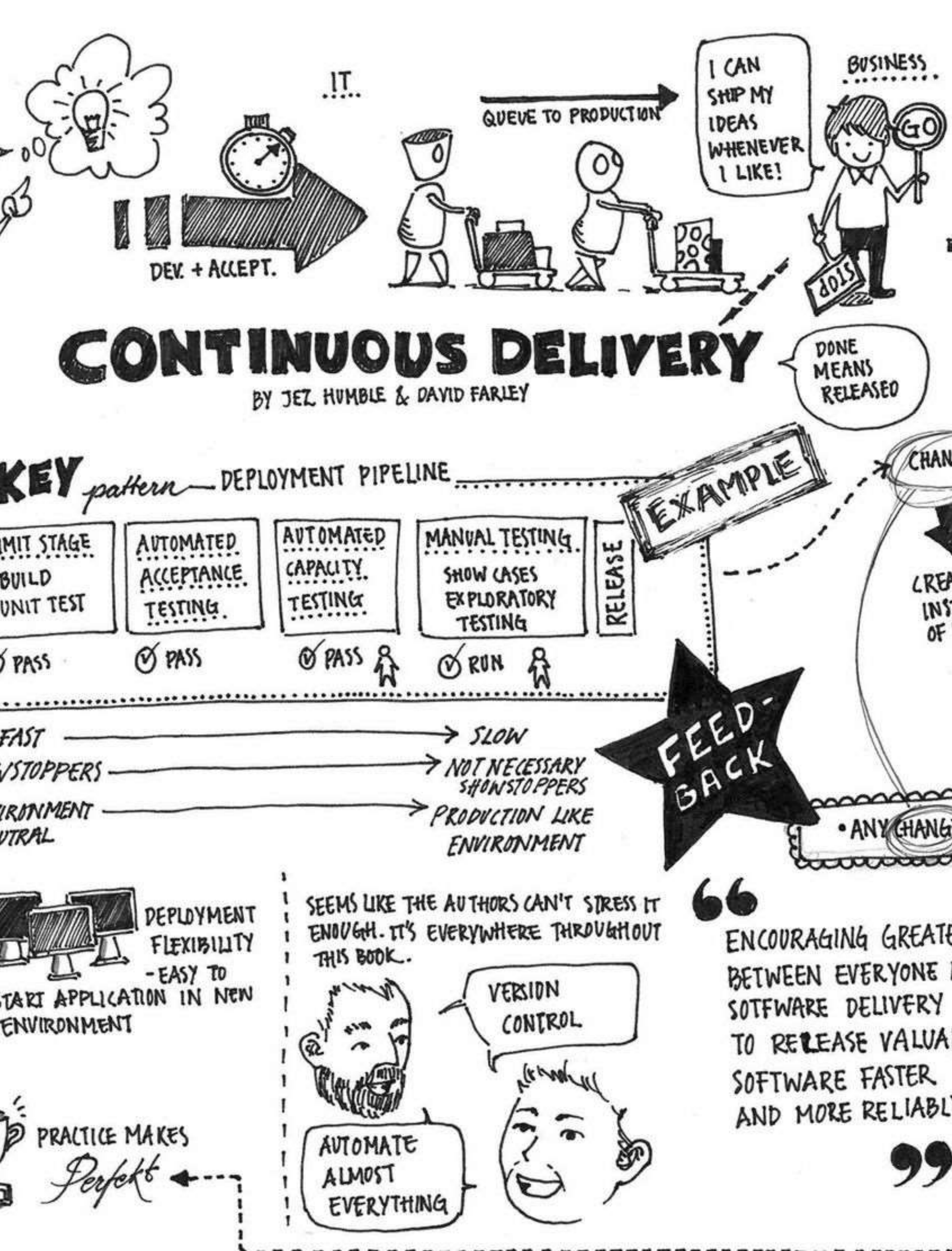


Compliance Team



Security Team

https://commons.wikimedia.org/wiki/File:Continuous_Delivery_by_Jez_Humble_and_David_Farley.jpg



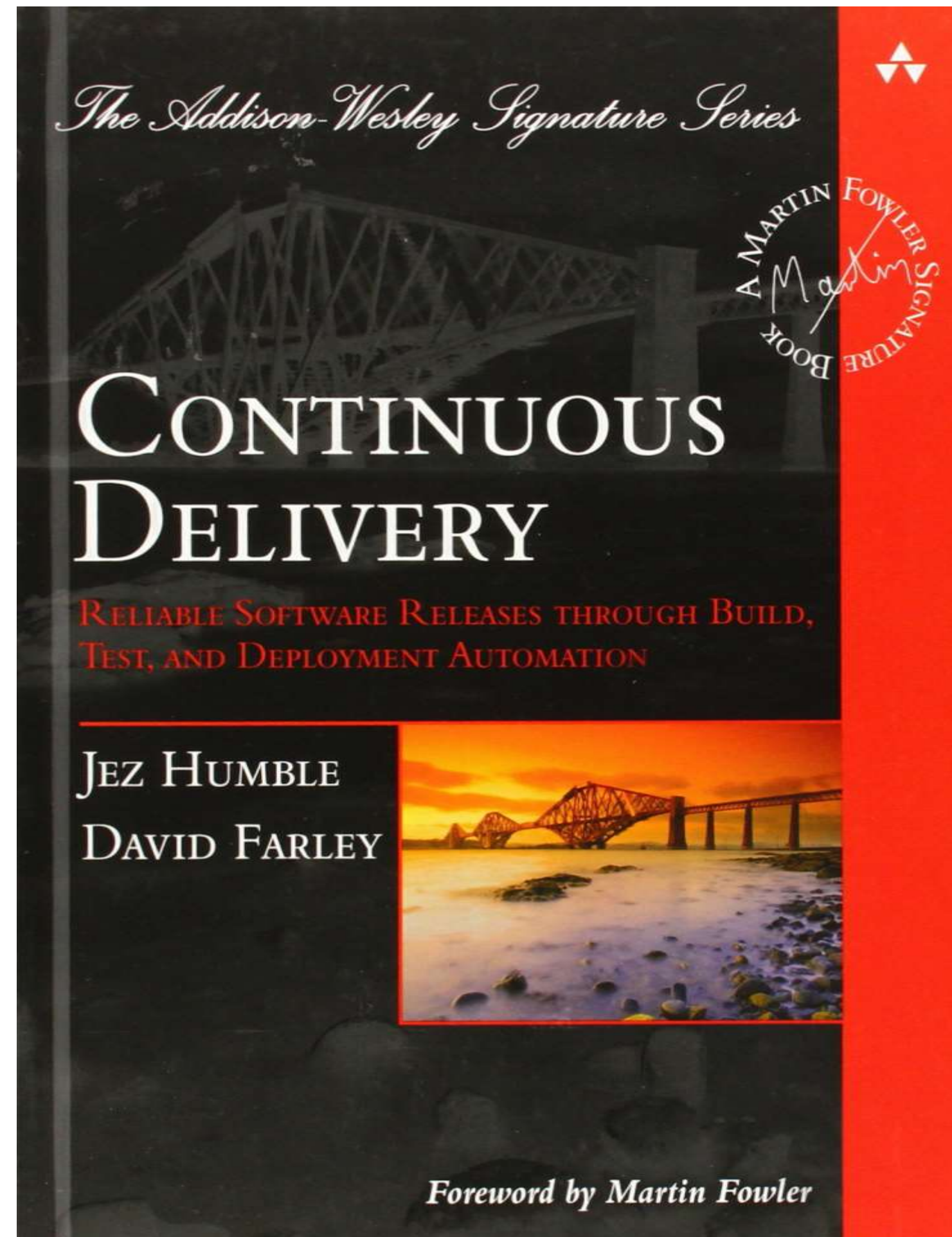
USE CONTINUOUS DELIVERY

TO SAFELY
DEPLOY MORE
OFTEN



CONTINUOUS DELIVERY IS THE ABILITY TO GET CHANGES OF ALL TYPES—INCLUDING NEW FEATURES, CONFIGURATION CHANGES, BUG FIXES AND EXPERIMENTS—INTO PRODUCTION, OR INTO THE HANDS OF USERS, SAFELY AND QUICKLY IN A SUSTAINABLE WAY.

Jez Humble

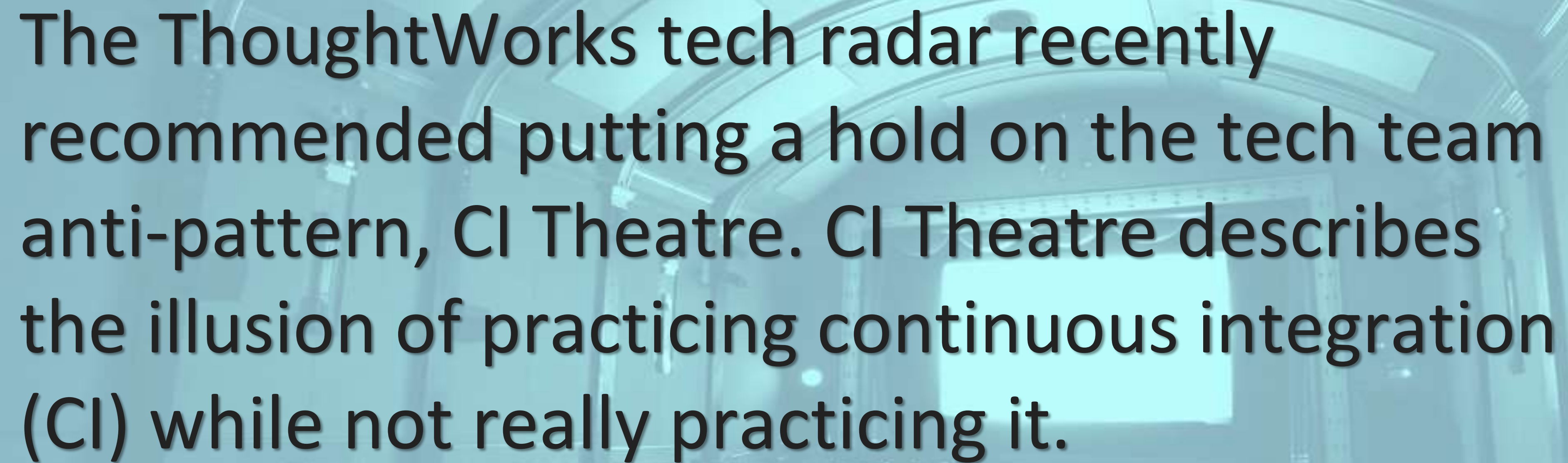


CONTINUOUS DELIVERY IS
WHAT YOU “DO” AS PART OF
A DEVOPS CULTURE

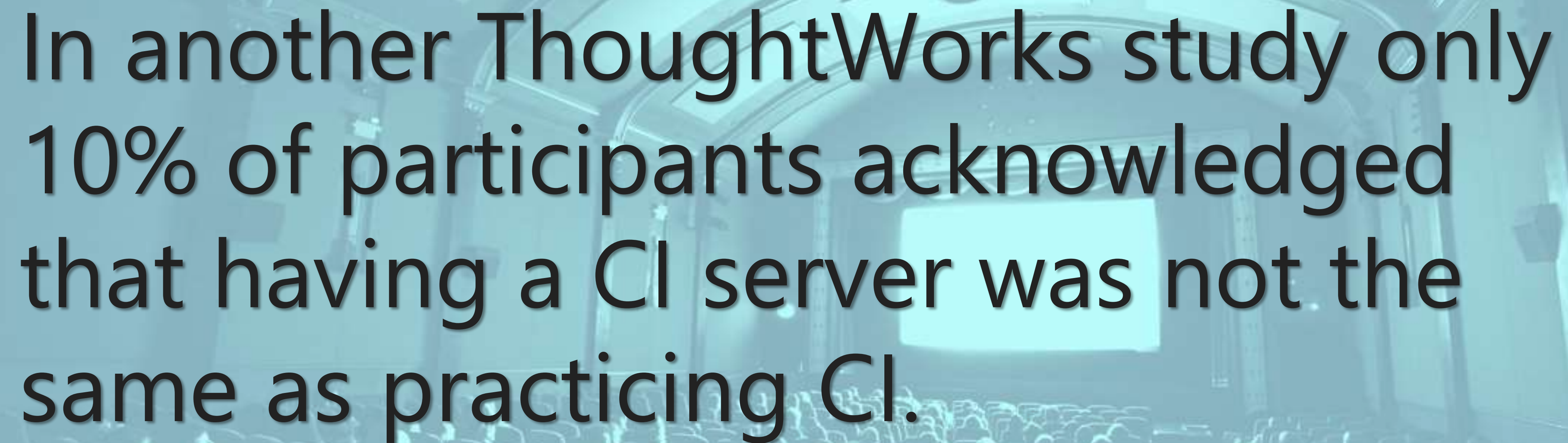
Me

A PREREQUISITE TO CD

CONTINUOUS INTEGRATION



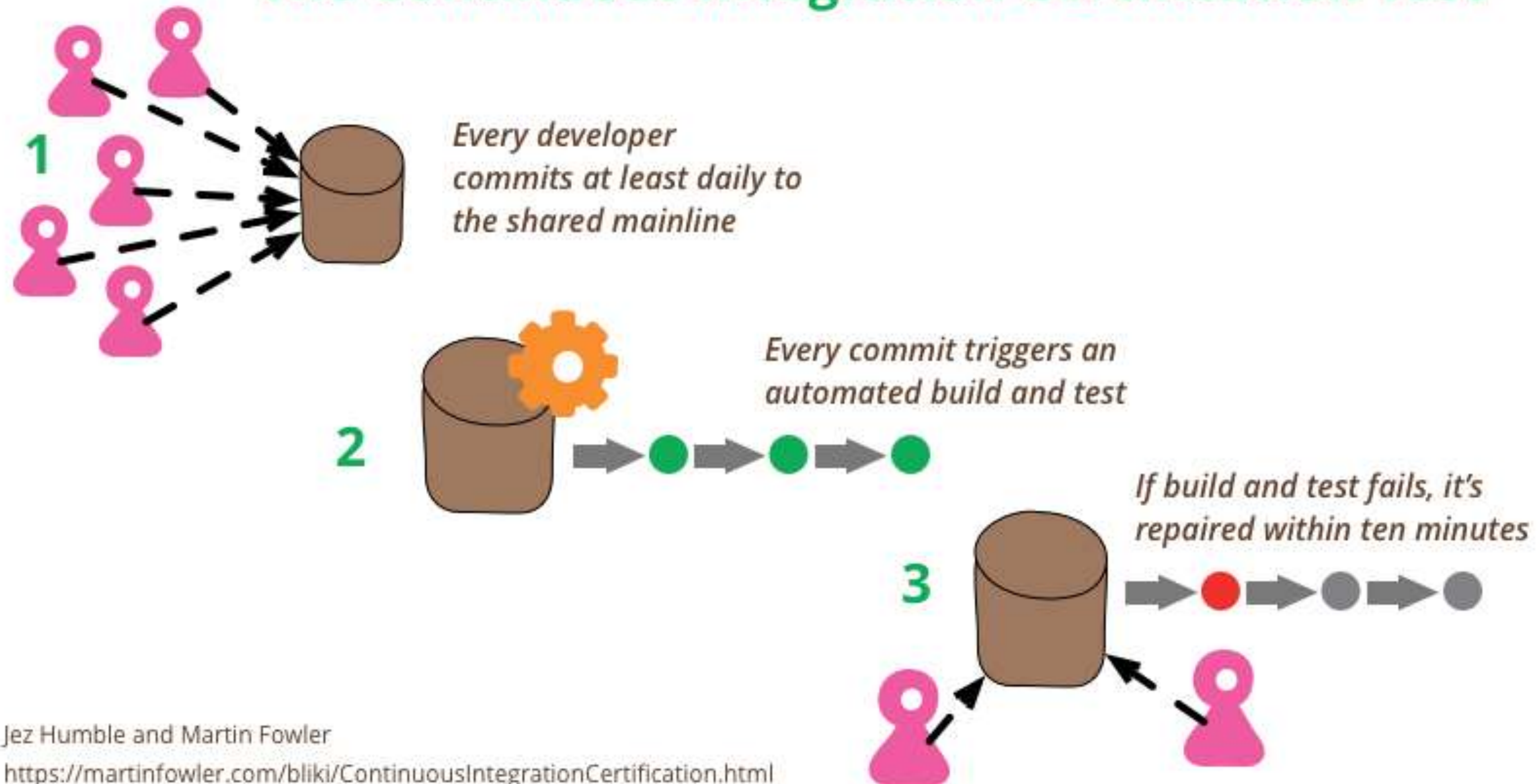
The ThoughtWorks tech radar recently recommended putting a hold on the tech team anti-pattern, CI Theatre. CI Theatre describes the illusion of practicing continuous integration (CI) while not really practicing it.

A background image of a large, ornate theatre interior with rows of seats and a stage, overlaid with a semi-transparent blue filter.

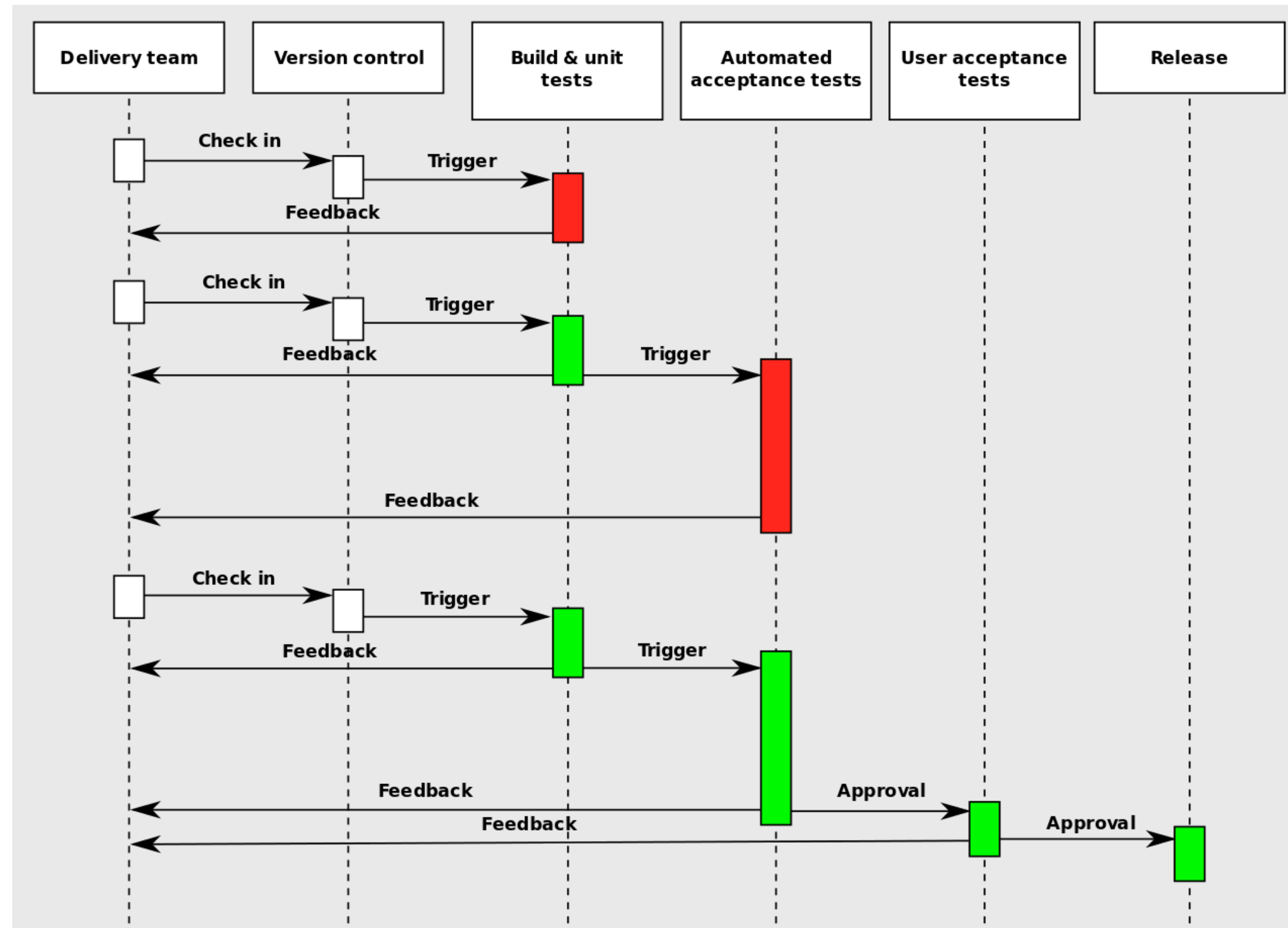
In another ThoughtWorks study only 10% of participants acknowledged that having a CI server was not the same as practicing CI.

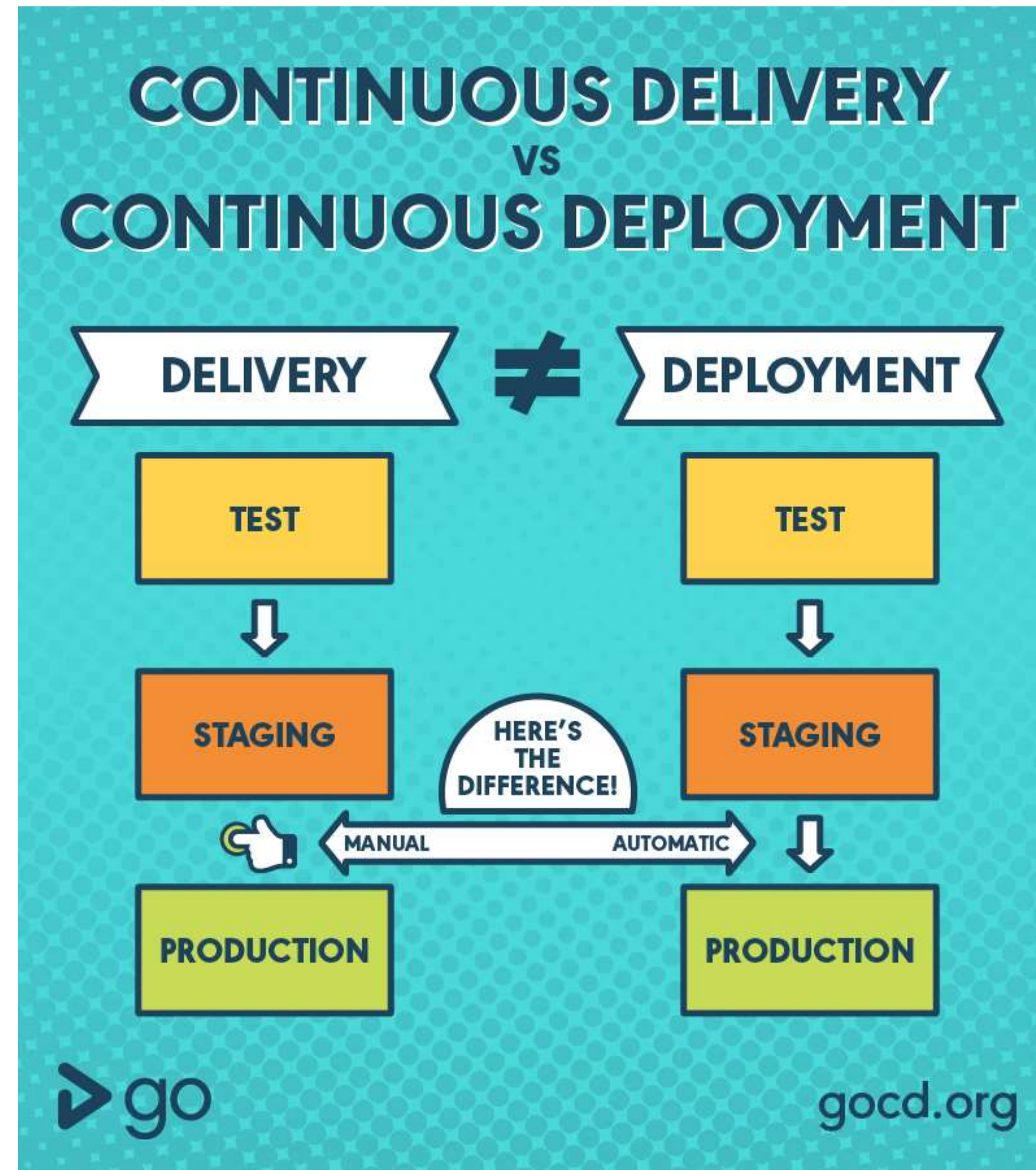
ARE YOU PRACTICING CI?

The Continuous Integration Certification Test

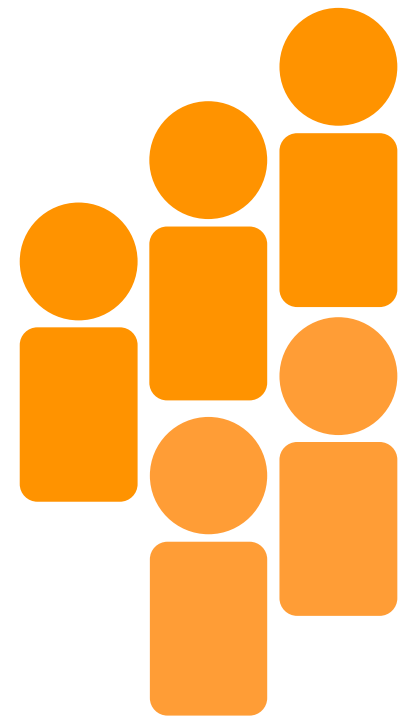


CONTINUOUS DELIVERY PIPELINE

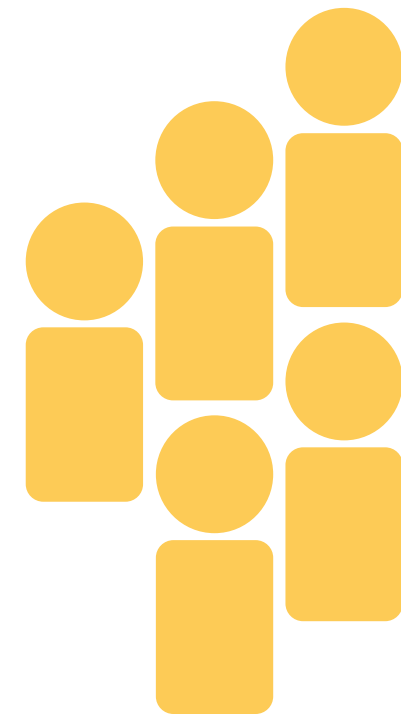




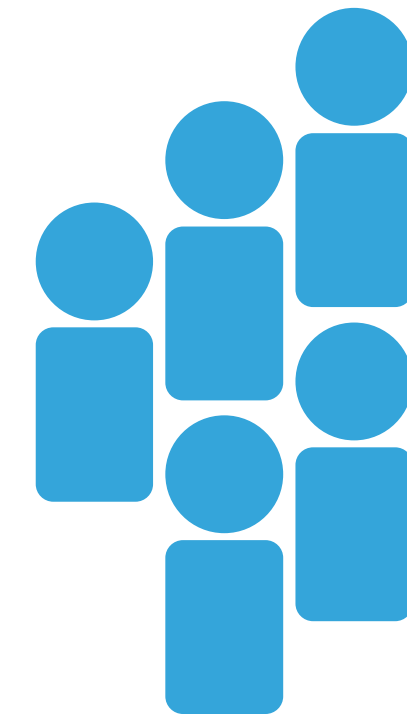
OUR TEAMS



Product Team

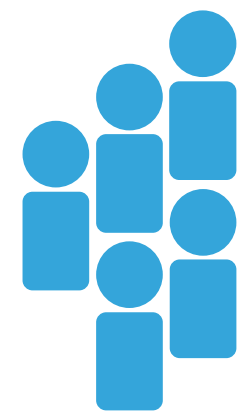
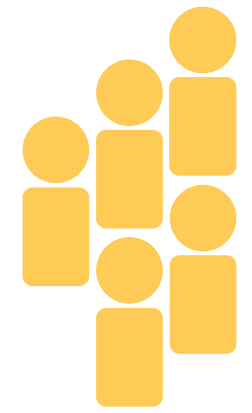
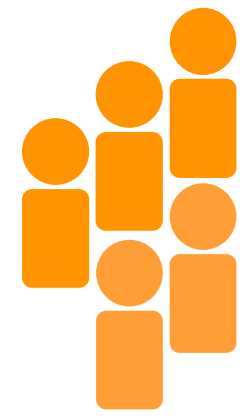


Security Team



Compliance Team

OUR CONTINUOUS DELIVERY PIPELINE



UNIT
TESTS



FUNCTIONAL
TESTS



DEPLOY
STAGING



DEPLOY
PRODUCTION

EXAMPLES OF THINGS WHICH ARE BAD



- ▶ Deploying insecure software
- ▶ Deploying non-performant software
- ▶ Deploying non-complying software
- ▶ Deploying ineffective software

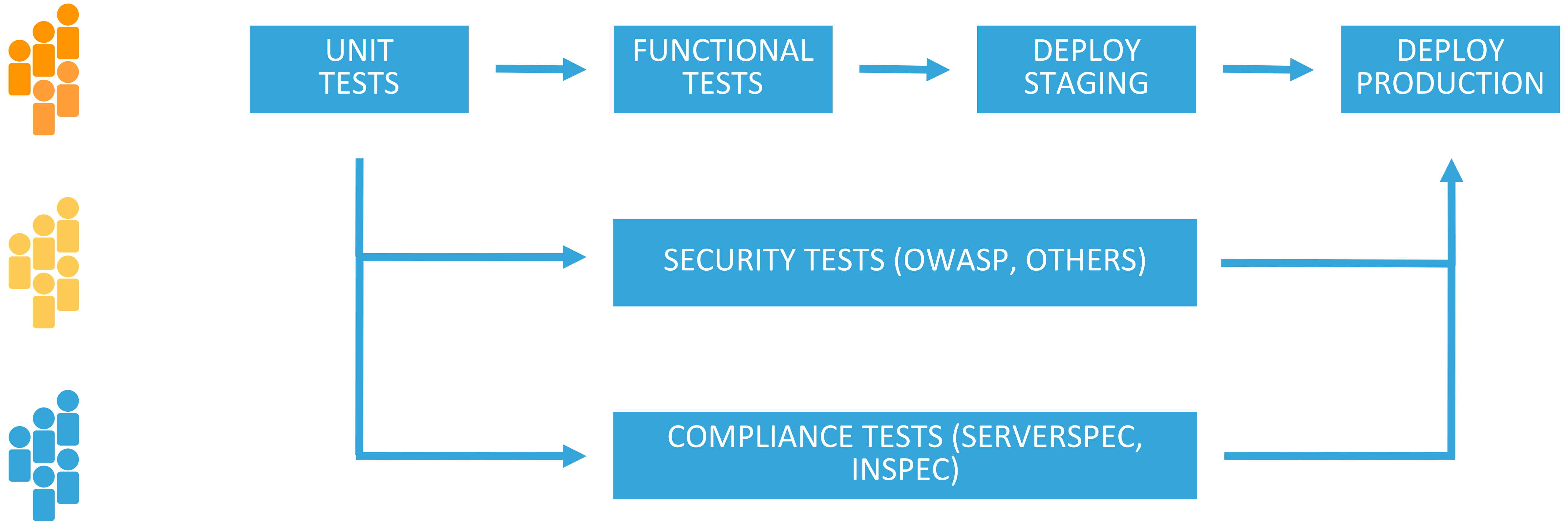
...OF THE 106 COMPONENTS PER APPLICATION, THE REPORT'S ANALYSIS REVEALED AN AVERAGE OF 24 (I.E., 23%) HAVE KNOWN CRITICAL OR SEVERE SECURITY VULNERABILITIES...

Derek Weeks

THE PURPOSE OF A CONTINUOUS
DELIVERY PIPELINE IS TO KILL A
RELEASE CANDIDATE

Me, and a lot of other people

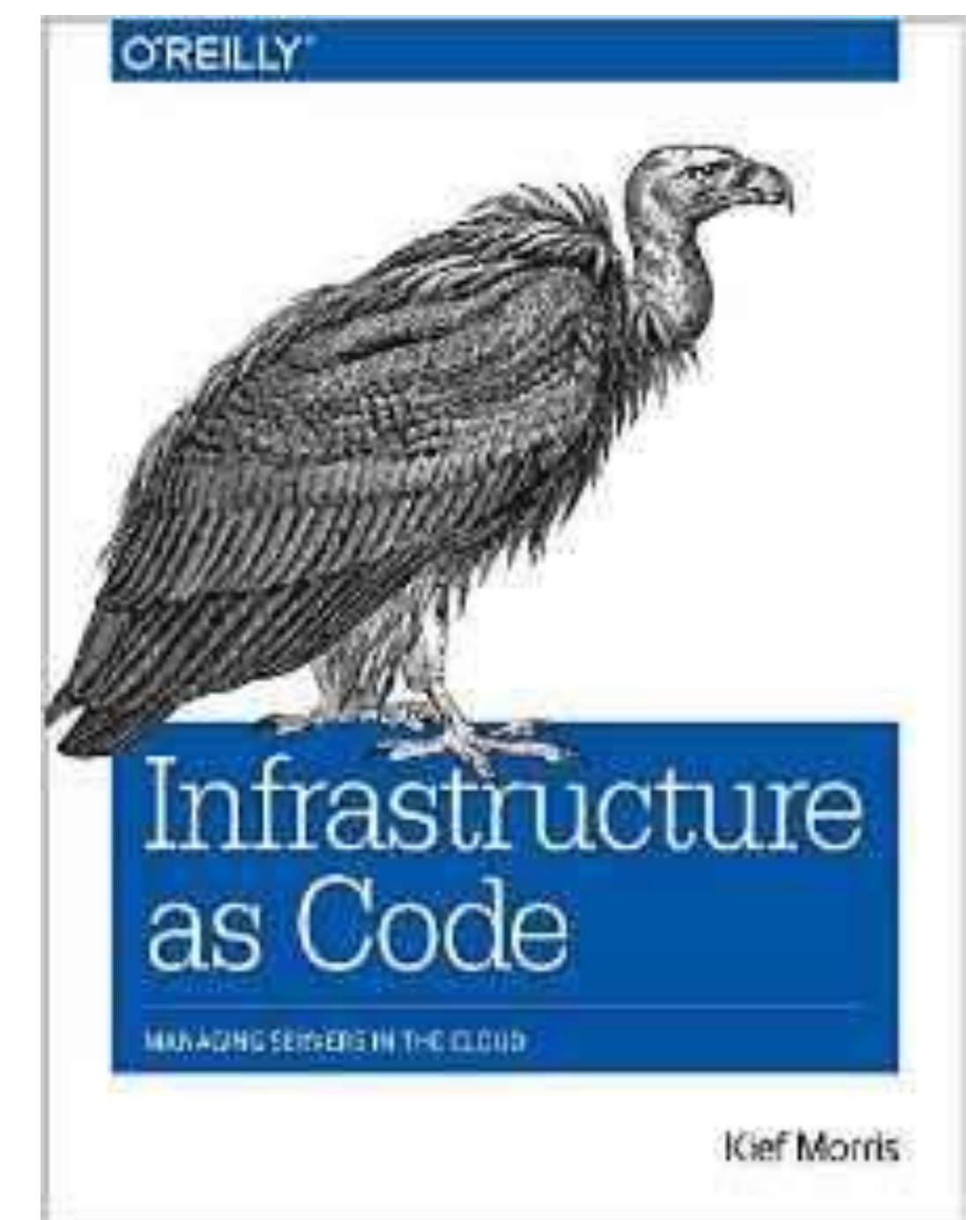
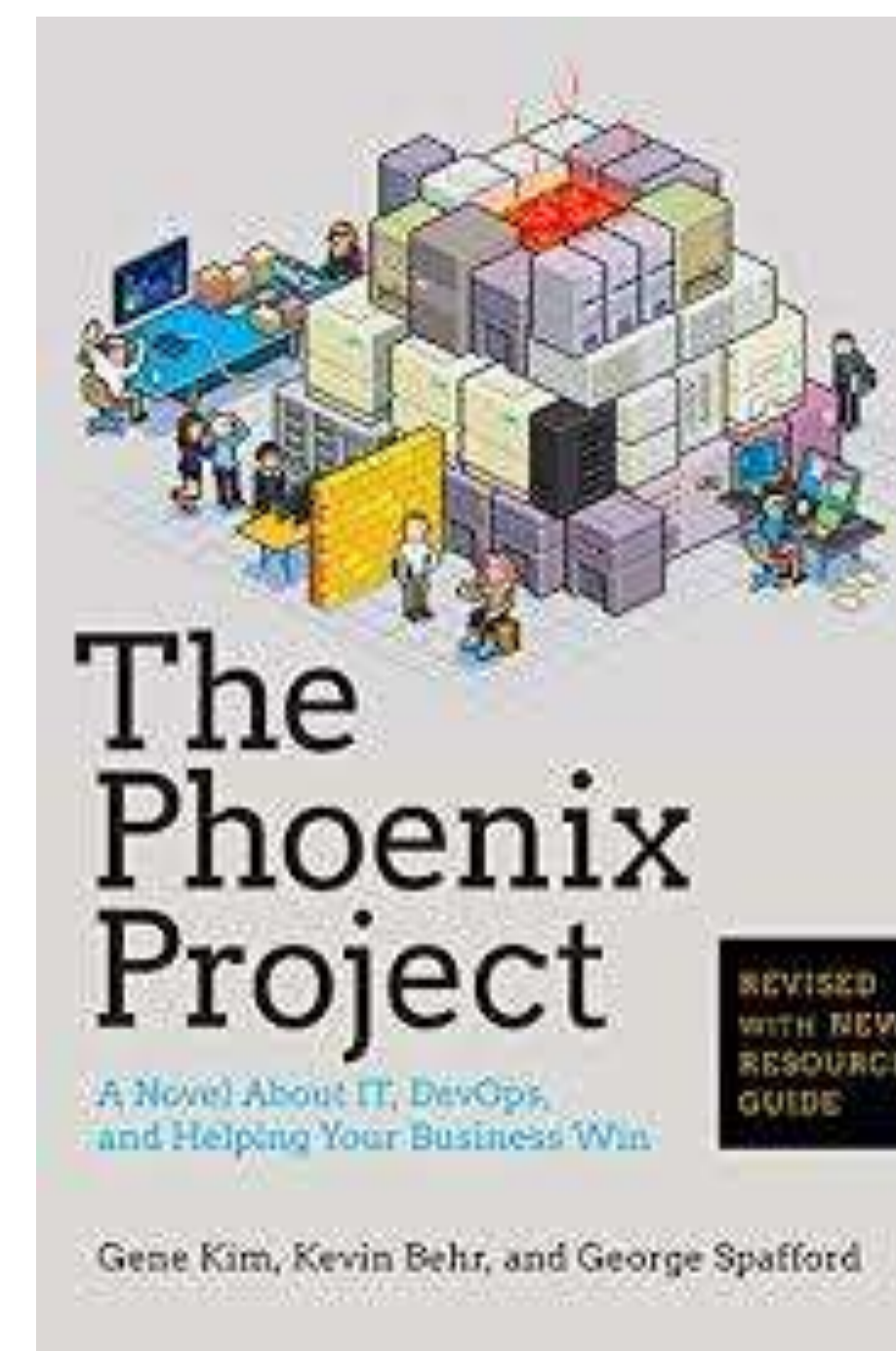
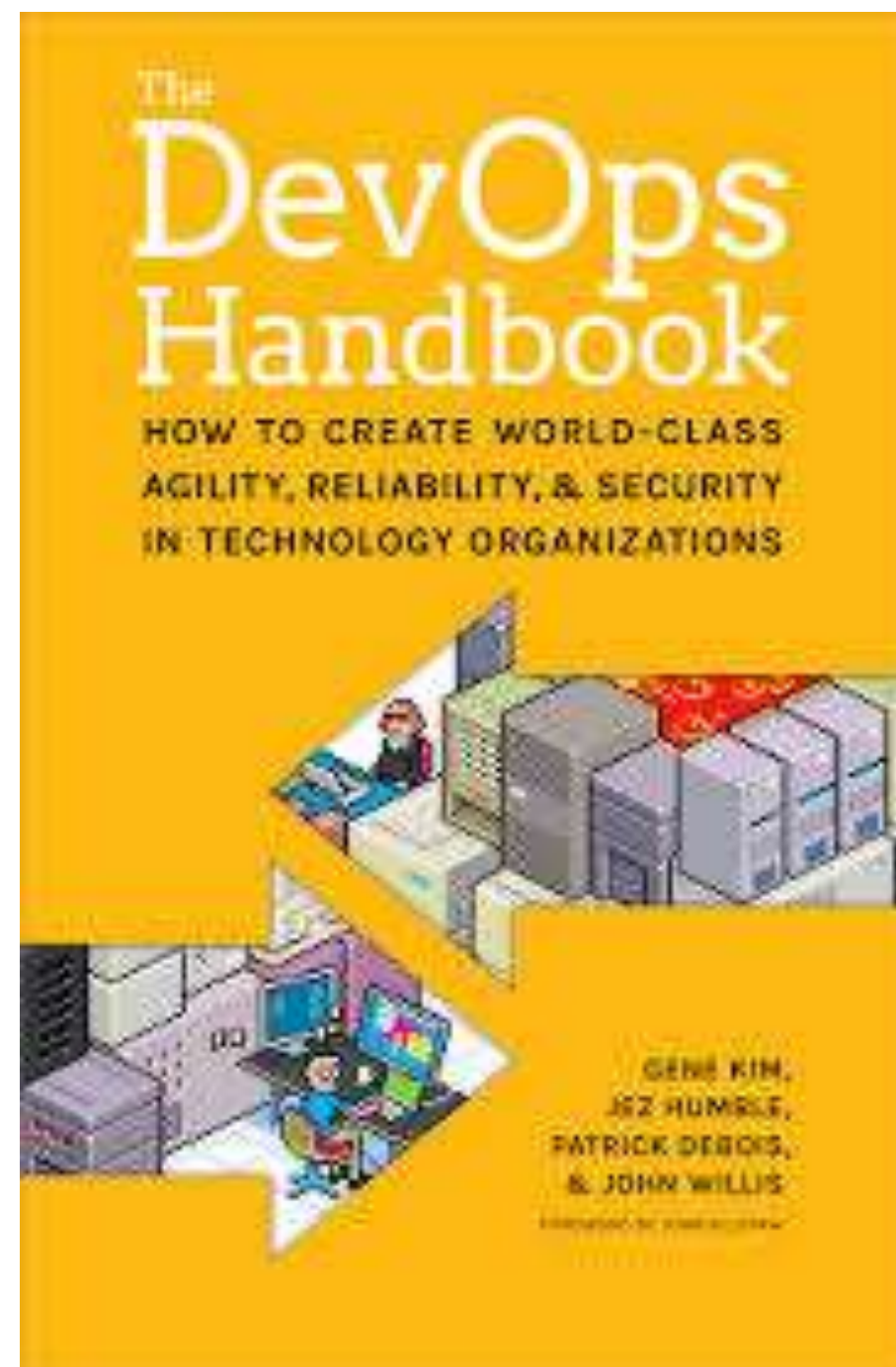
OUR CONTINUOUS DELIVERY PIPELINE



SORRY, THERE'S NO
SILVER BULLET

SORRY, THERE'S NO SILVER BULLET

BUT THESE ARE SOLVED PROBLEMS
AND THERE IS A LOT OF HELP



- ▶ Redefine words for your organization
- ▶ Change your organization to enable DevOps
- ▶ Use modern architectures and technologies
- ▶ Use Continuous Delivery to safely deploy more often

THANK YOU!

@kmugrage

@goforcd

<https://www.gocd.org/>