Continuous Delivery at Scale

(DevOps for Big Kids)

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Who are you?

And what did you do to DevOps?

SAFe At a Glance

SAFe® PROVIDED BY SCALED AGILE®

600,000
SAFe-trained professionals in 110+ countries

20,000
SAFe enterprises across every industry from healthcare to aircraft manufacturing

350
Scaled Agile Partners in 50+ countries

SAFe Training

SAFe® Certified

A comprehensive role-based curriculum for successfully implementing SAFe and skills validation through professional certification.

- Business Leaders
- Tech Teams
- Business Teams
- Agile Experts
- Trainers & Coaches

SAFe Case Studies
Typical results

50% Faster Time-to-Market

35% Increase in Productivity

50% Improvements in Quality

30% Increased Employee Engagement

PLEDGE 1%
Scaled Agile stock equity and employee time to Pledge 1% campaign

SAFe® SUMMIT
Annual gatherings for the SAFe community in the U.S. and Europe.

Clear Leader in Agility at Scale

Gartner Agile in the Enterprise Survey

CollabNet VersionOne State of Agile Report

Inclusive

SAFe integrates practices from Lean, Agile, DevOps, Scrum, Kanban, XP, Design Thinking, and Product Development Flow

" Those who master large-scale software delivery will define the economic landscape of the 21st century.

—Mik Kersten

Who are the masters of large-scale software delivery?

Combined market cap: ~$2 Trillion USD
Add AAPL, MSFT: ~$4 Trillion USD

Every business is a software business now. Achieving a state of **business agility** means that the entire organization—*not just development*—is engaged in continually and proactively delivering innovative business solutions faster than the competition.

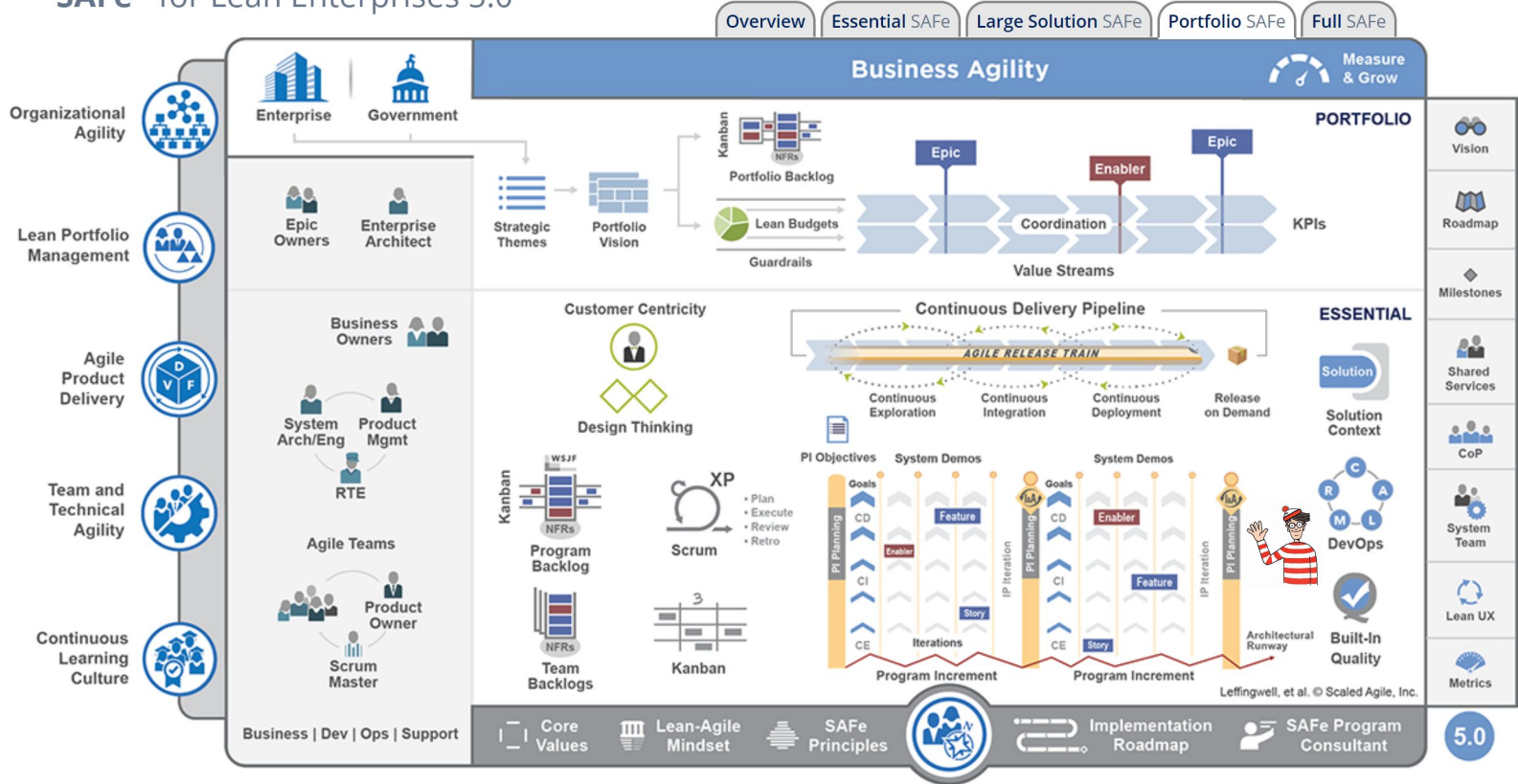*— Dean Leffingwell*
Creator of SAFe

"While DevOps needs particular champions, excellence can be achieved only if the entire organization is on board."
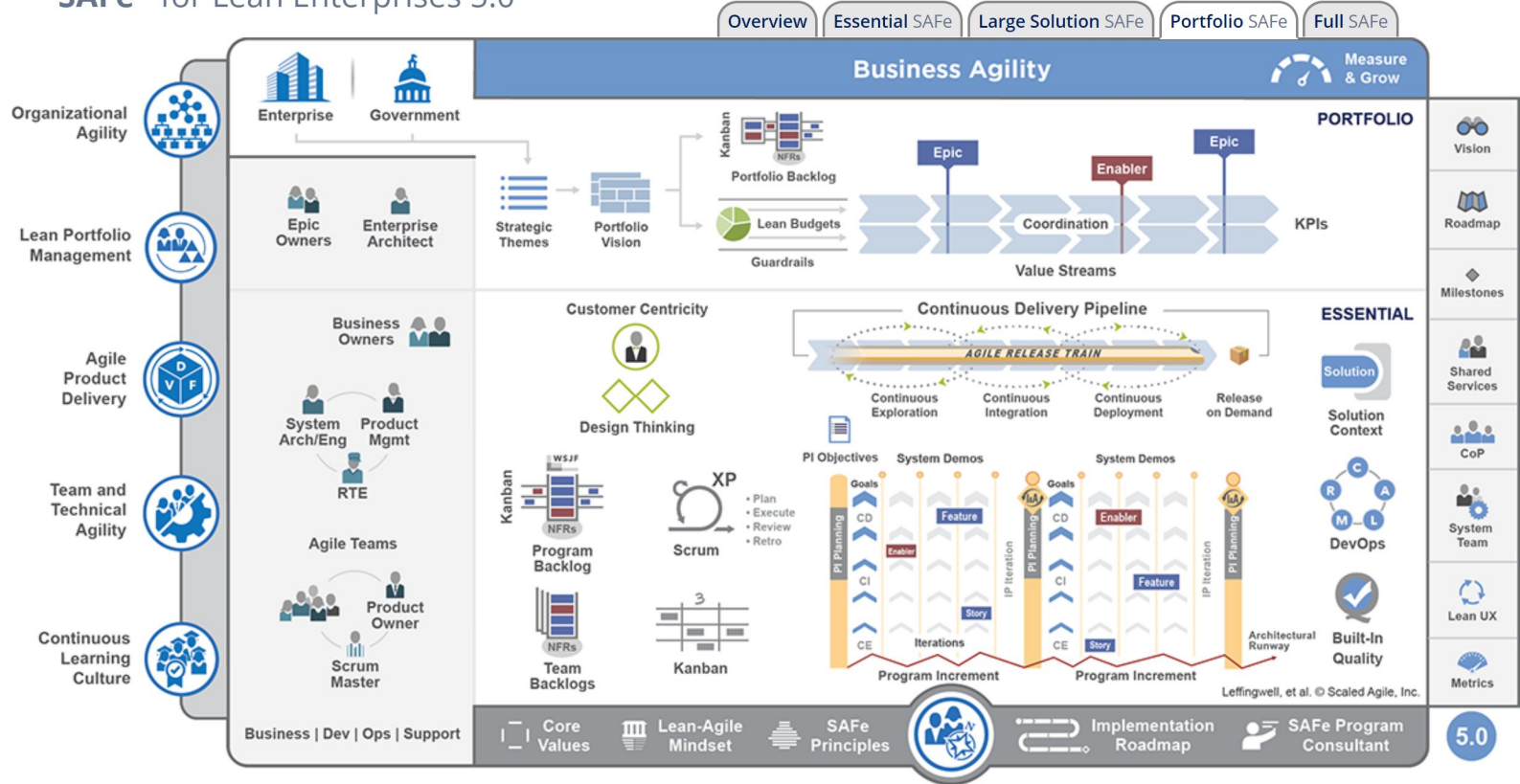
-State of DevOps Report, 2018

SAFe Big Picture (Where is DevOps?)
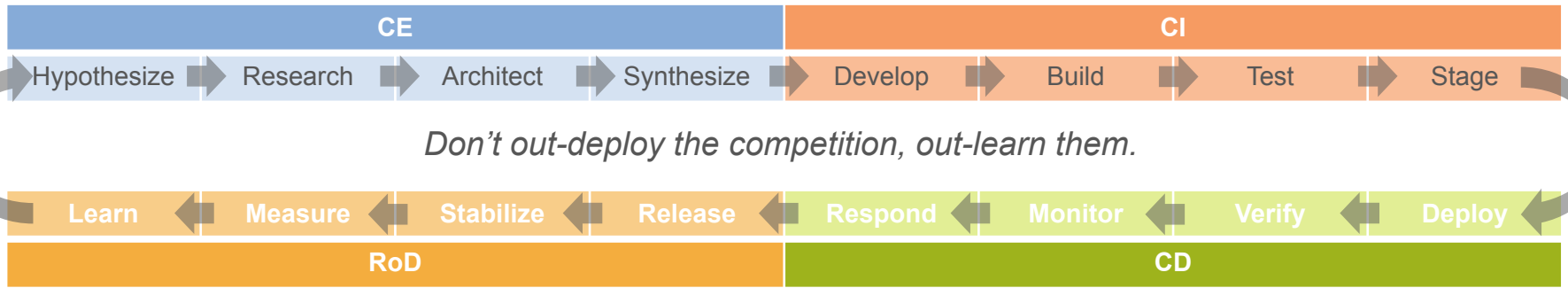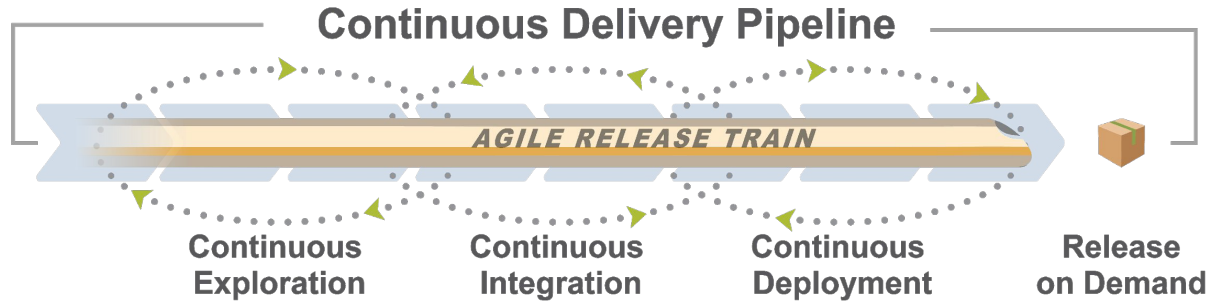

SAFe® for Lean Enterprises 5.0

SAFe Big Picture (Actually, DevOps is everywhere)

SAFe® for Lean Enterprises 5.0
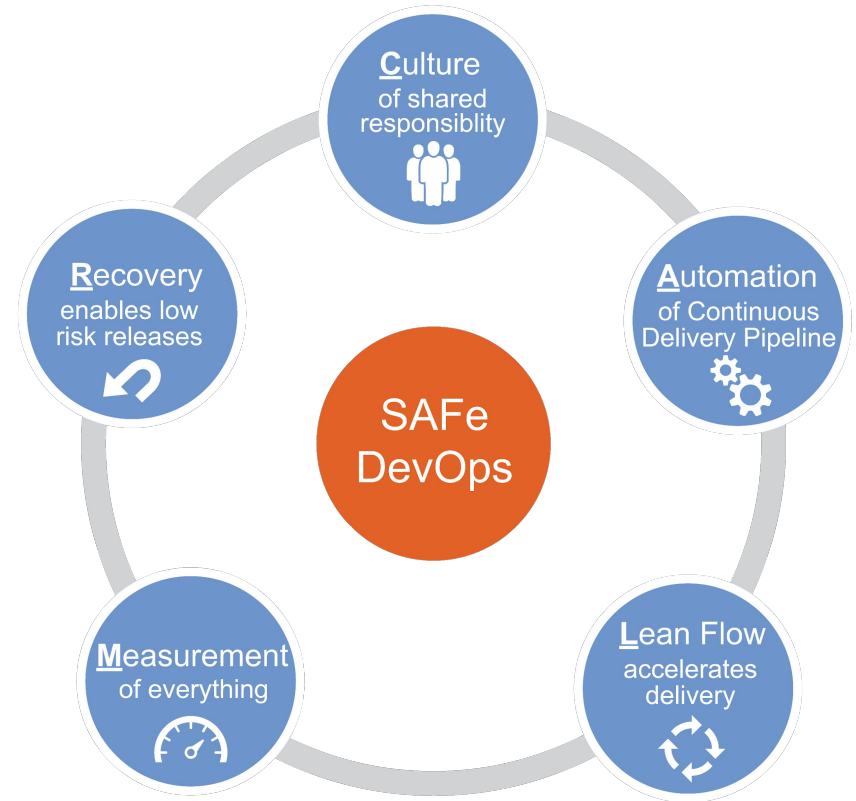
DevOps fuels the Continuous Delivery Pipeline

Continuous Delivery Pipeline

AGILE RELEASE TRAIN

Continuous Exploration Continuous Integration Continuous Deployment Release on Demand

CE				CI			
Hypothesize	Research	Architect	Synthesize	Develop	Build	Test	Stage

Don't out-deploy the competition, out-learn them.

Learn	Measure	Stabilize	Release	Respond	Monitor	Verify	Deploy
RoD				CD			

Scaling DevOps

## What the Big Kids Do

Big kids don't bet the farm on automation

► **C**ulture - Establish a culture of shared responsibility for development, deployment, and operations.

► **A**utomation - Automate the Continuous Delivery Pipeline.

► **L**ean flow - Keep batch sizes small, limit WIP, and provide extreme visibility.

► **M**easurement - Measure the flow through the pipeline. Implement full-stack telemetry.

► **R**ecovery - Architect and enable low-risk releases. Establish fast recovery, fast reversion, and fast fix-forward.

Culture
of shared
responsiblity

Automation
of Continuous
Delivery Pipeline

Lean Flow
accelerates
delivery

Measurement
of everything

Recovery
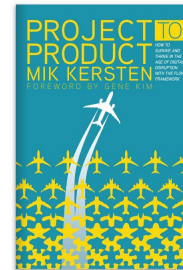enables low
risk releases

SAFe
DevOps

Big kids know their value streams

"In DevOps, we typically define our value stream as the process required to convert a business hypothesis into a technology-enabled service that delivers value to the customer."
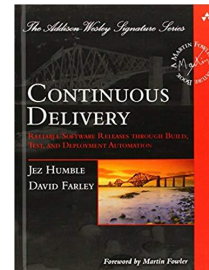
-The DevOps Handbook
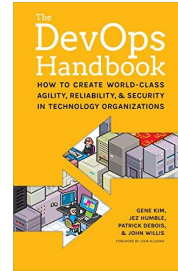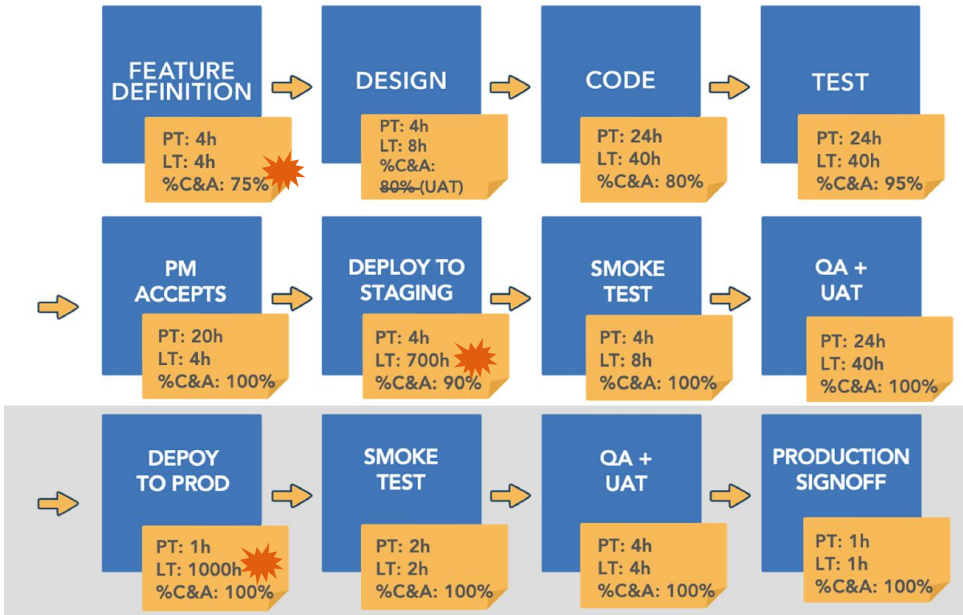
Mentions "value stream" **220** times
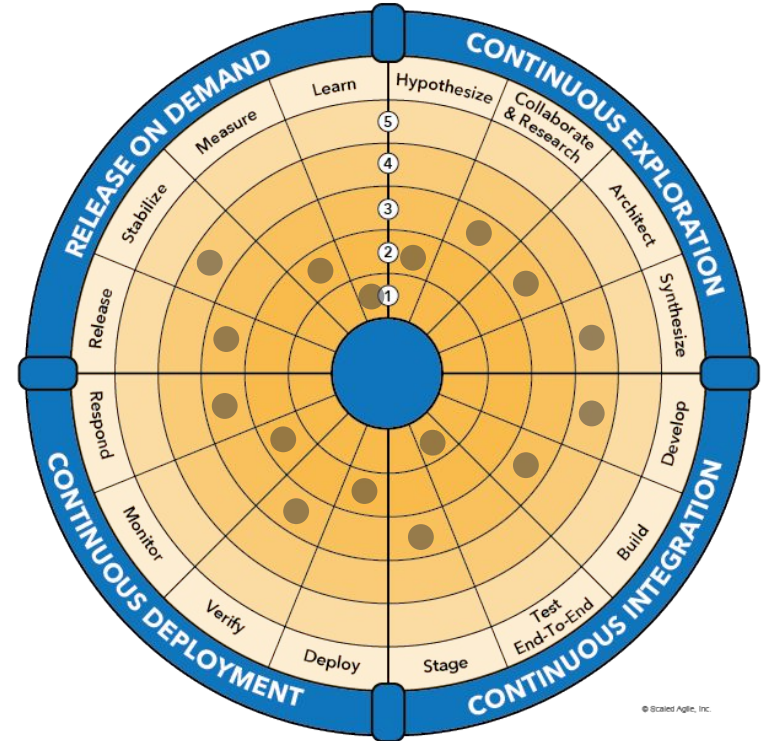
Mentions "value stream" **681** times

DevOps Step 1: **Model the value stream**

Big kids map and measure their value streams - often

FEATURE DEFINITION
PT: 4h
LT: 4h
%C&A: 75%

DESIGN
PT: 4h
LT: 8h
%C&A: 80% (UAT)

CODE
PT: 24h
LT: 40h
%C&A: 80%

TEST
PT: 24h
LT: 40h
%C&A: 95%

PM ACCEPTS
PT: 20h
LT: 4h
%C&A: 100%

DEPLOY TO STAGING
PT: 4h
LT: 700h
%C&A: 90%

SMOKE TEST
PT: 4h
LT: 8h
%C&A: 100%

QA + UAT
PT: 24h
LT: 40h
%C&A: 100%

DEPOY TO PROD
PT: 1h
LT: 1000h
%C&A: 100%

SMOKE TEST
PT: 2h
LT: 2h
%C&A: 100%

QA + UAT
PT: 4h
LT: 4h
%C&A: 100%

PRODUCTION SIGNOFF
PT: 1h
LT: 1h
%C&A: 100%

TOTAL PT = 98 hours
TOTAL LT = 1887 hours
ACTIVITY RATIO = 5%
ROLLED %C&A = 36%

Big kids think twice about forming DevOps Teams

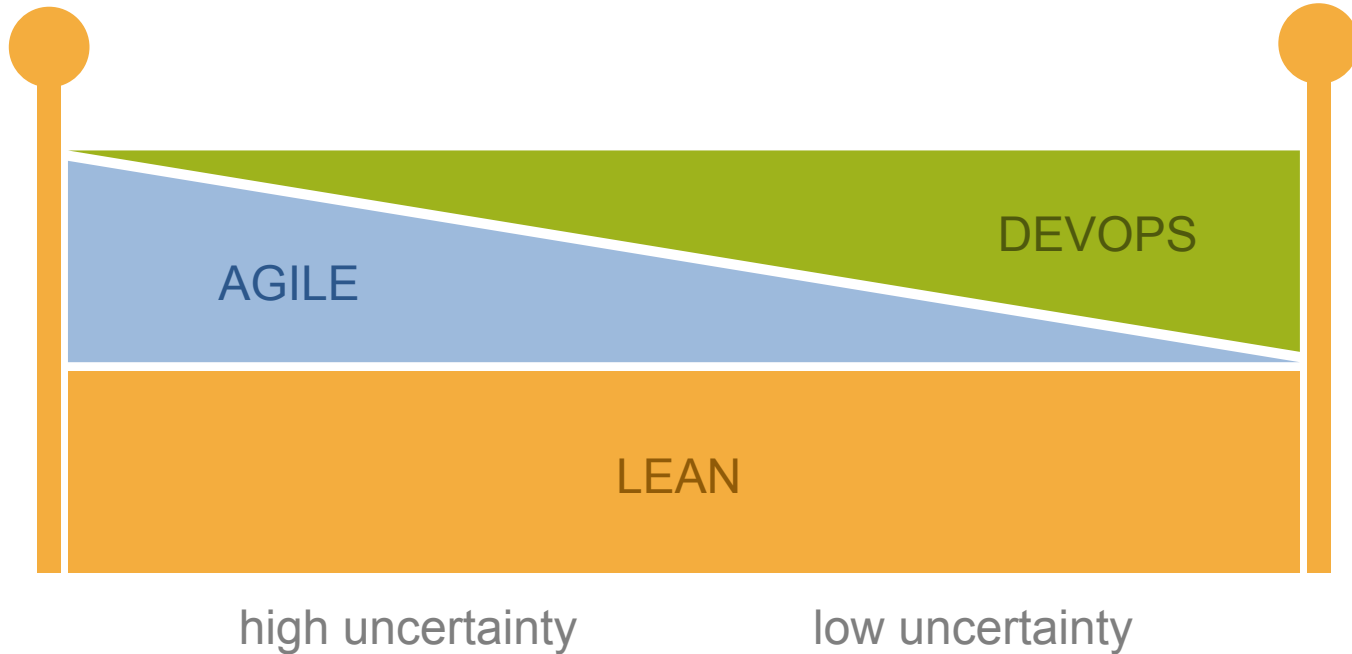"DevOps Teams"

4 Are a common anti-pattern

4 Can easily spawn silos & bottlenecks

4 Can inhibit spread of knowledge & skills

4 Don't typically have autonomy over enterprise value streams

4 Can easily be set up for failure

Everyone who touches or influences the product plays a role in DevOps.

# Big kids adopt Lean, Agile *and* DevOps practices

Big kids decouple deployment from release

Deployment: migrating new features into a production environment

Release: enabling end-user access to those features

Decoupling enables:

► Continuous delivery

► Less painful releases

► Precision go-to-market timing

Feature Toggles

Deploy

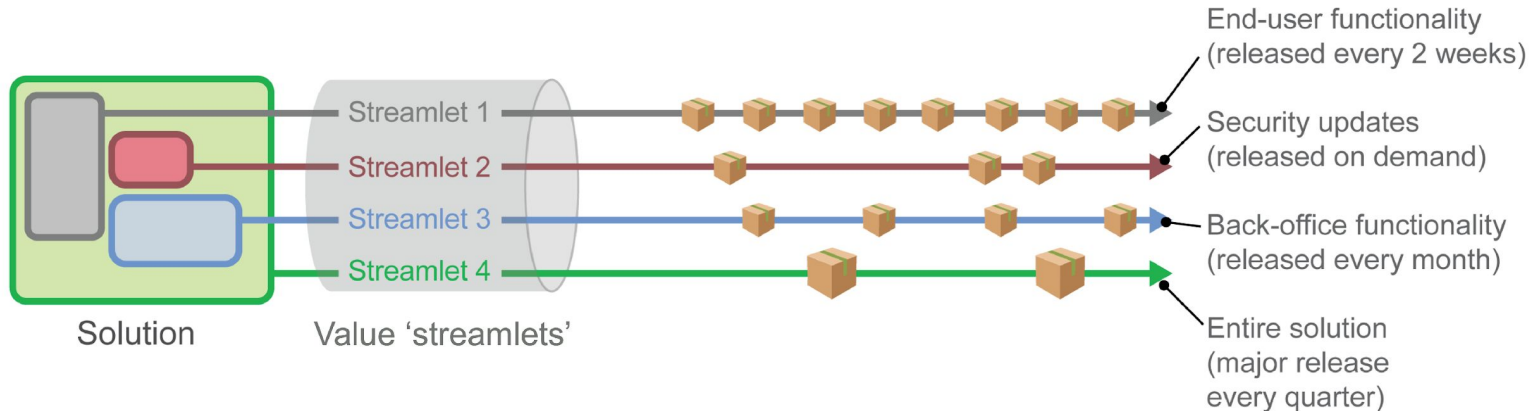**Release**

Blue/Green Infrastructure
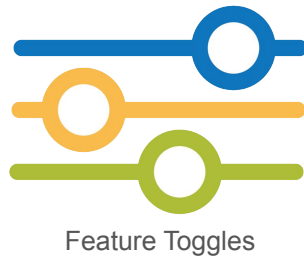
Big kids architect for *continu-ish* delivery

Continu-ish: As often as necessary to support *your* business

"Loosely coupled architectures and teams are the strongest predictor of continuous delivery."

-State of DevOps Report, 2017

Solution Value 'streamlets'

Streamlet 1
Streamlet 2
Streamlet 3
Streamlet 4

End-user functionality (released every 2 weeks)

Security updates (released on demand)

Back-office functionality (released every month)
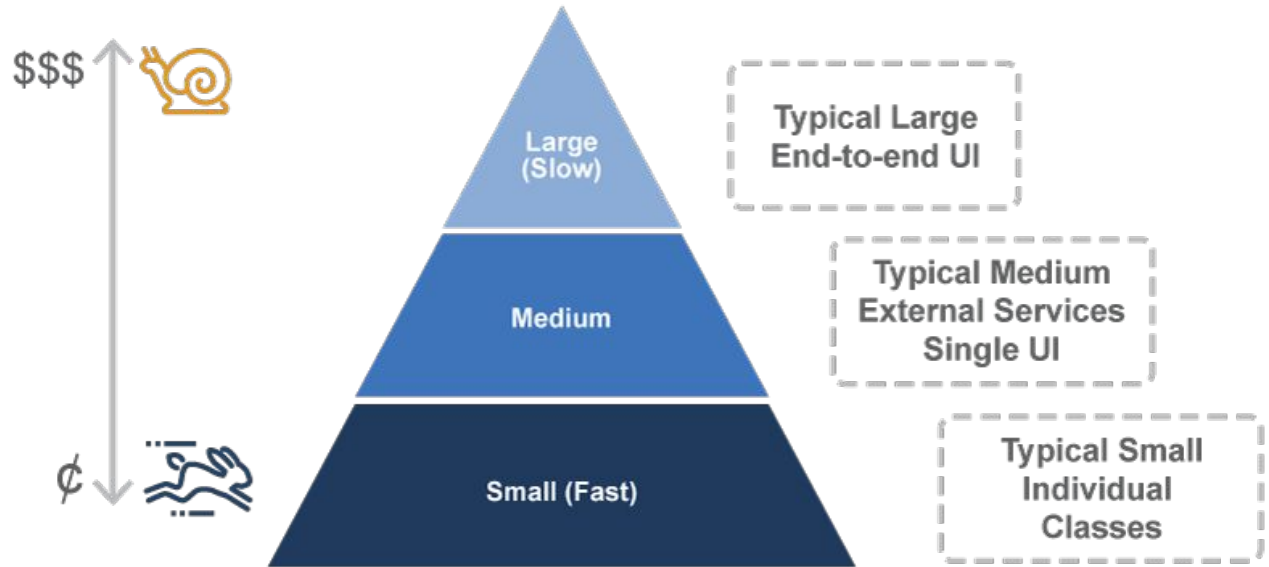
Entire solution (major release every quarter)

Big kids invest in continuous testing and security

4 Shift left

4 Automate

4 Leverage CI

Benefits:

4 Reduces costs, delay

4 Increases quality

4 Frees capacity

$$$

¢

Large (Slow)

Medium

Small (Fast)

Typical Large End-to-end UI

Typical Medium External Services Single UI

Typical Small Individual Classes

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Big kids take a customer-centric approach to DevOps

Customer
Centricity

> *"An IT team could be deploying a hundred times per day, but if their work is not connected to the needs of the business, the results will not materialize."*
>
> *-Mik Kersten, Project to Product*

Today's software titans have enormous market cap because they are ruthlessly customer-centric and use DevOps practices to out-learn the competition.

Customer-centricity brings purpose, focus and alignment that helps DevOps scale.

Thank you!

Meet me in the Network Lounge for Q&A

scaledagile.com/devops
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