

Agile Design & DevOps –

A Successful and Cautionary Tale

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Introduction



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1. 13 years of experience leading organizations doing very large custom development Agile with DevOps projects (\$7 to \$30 million annual development budgets)
 1. Agile Architecture Approach was Required
 2. Rapid Incremental Delivery was Required
 3. Culture Changes and Organization Transformation was Required
2. 10 years of experience running a Architecture Focused Technology Company

1. BIG Business is demanding BIG Agile
2. Scaled Agile Framework (SAFe's) Approach to BIG Agile
3. BIG Agile Requires Agile Architecture
4. BIG Agile Requires DevOps & QA Automation
5. Culture Obstacles
6. Questions

Business is demanding
BIG Agile!

Approach: Agile for Reduced Risk

CHAOS RESOLUTION BY AGILE VERSUS WATERFALL

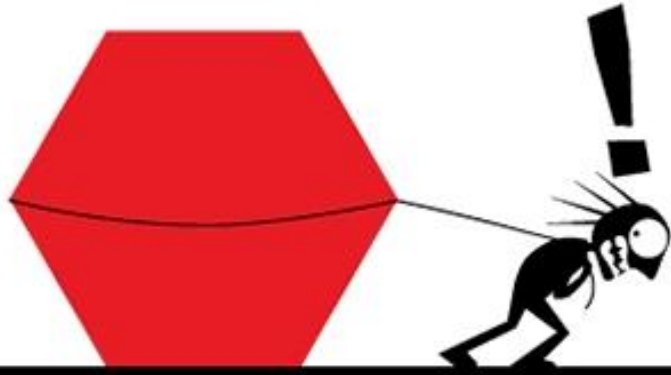
SIZE	METHOD	SUCCESSFUL	CHALLENGED	FAILED
All Size Projects	Agile	39%	52%	9%
	Waterfall	11%	60%	29%
Large Size Projects	Agile	18%	59%	23%
	Waterfall	3%	55%	42%
Medium Size Projects	Agile	27%	62%	11%
	Waterfall	7%	68%	25%
Small Size Projects	Agile	58%	38%	4%
	Waterfall	44%	45%	11%

The resolution of all software projects from FY2011-2015 within the new CHAOS database, segmented by the agile process and waterfall method. The total number of software projects is over 10,000

<https://www.infoq.com/articles/standish-chaos-2015>

Approach: Agile for Reduced Risk & Faster Value

THE WATERFALL PROCESS



*'This project has got so big,
I'm not sure I'll be able to deliver it!'*

THE AGILE PROCESS



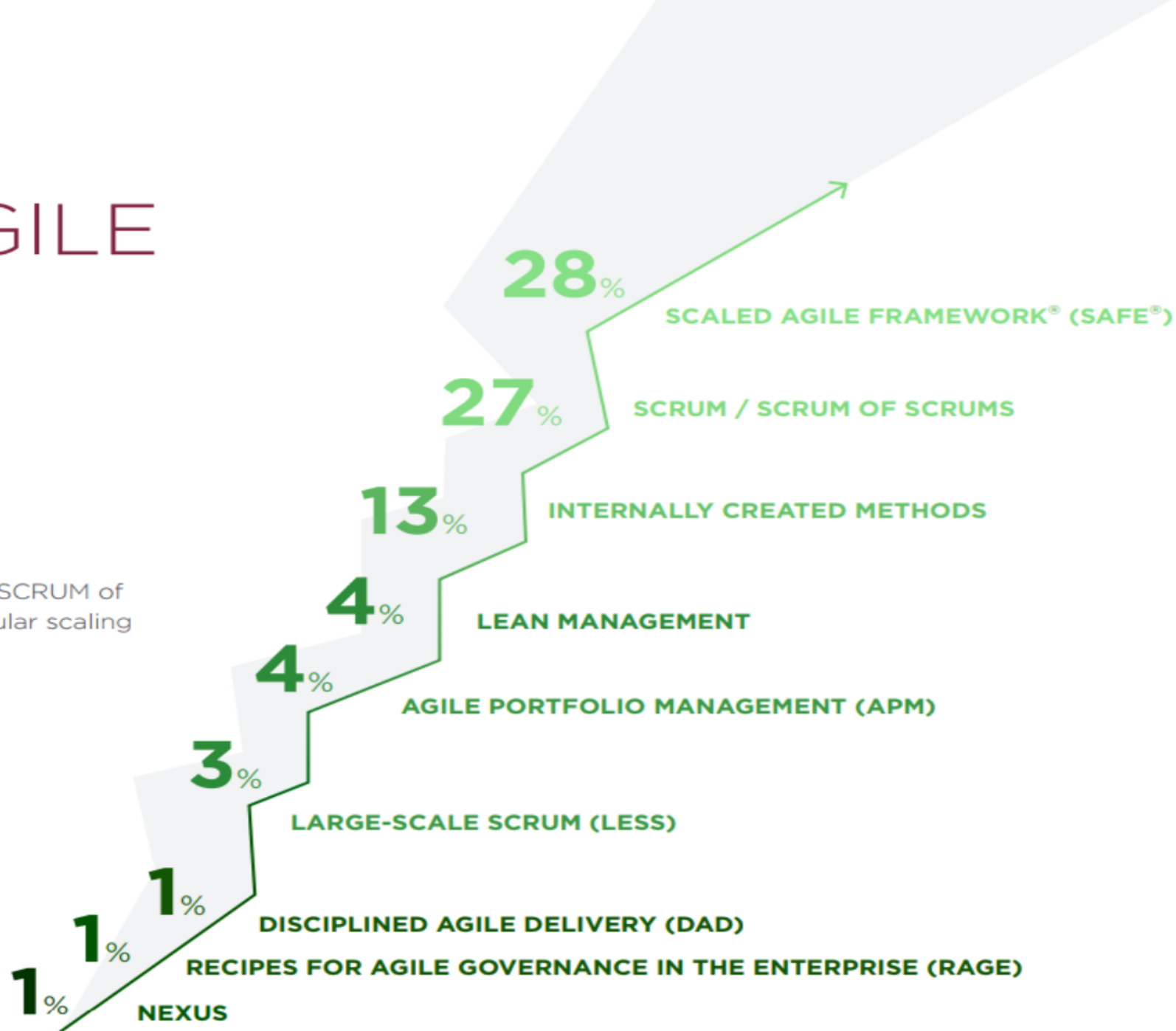
*'It's so much better delivering this
project in bite-sized sections'*

One BIG Agile Approach is Scaled Agile Framework

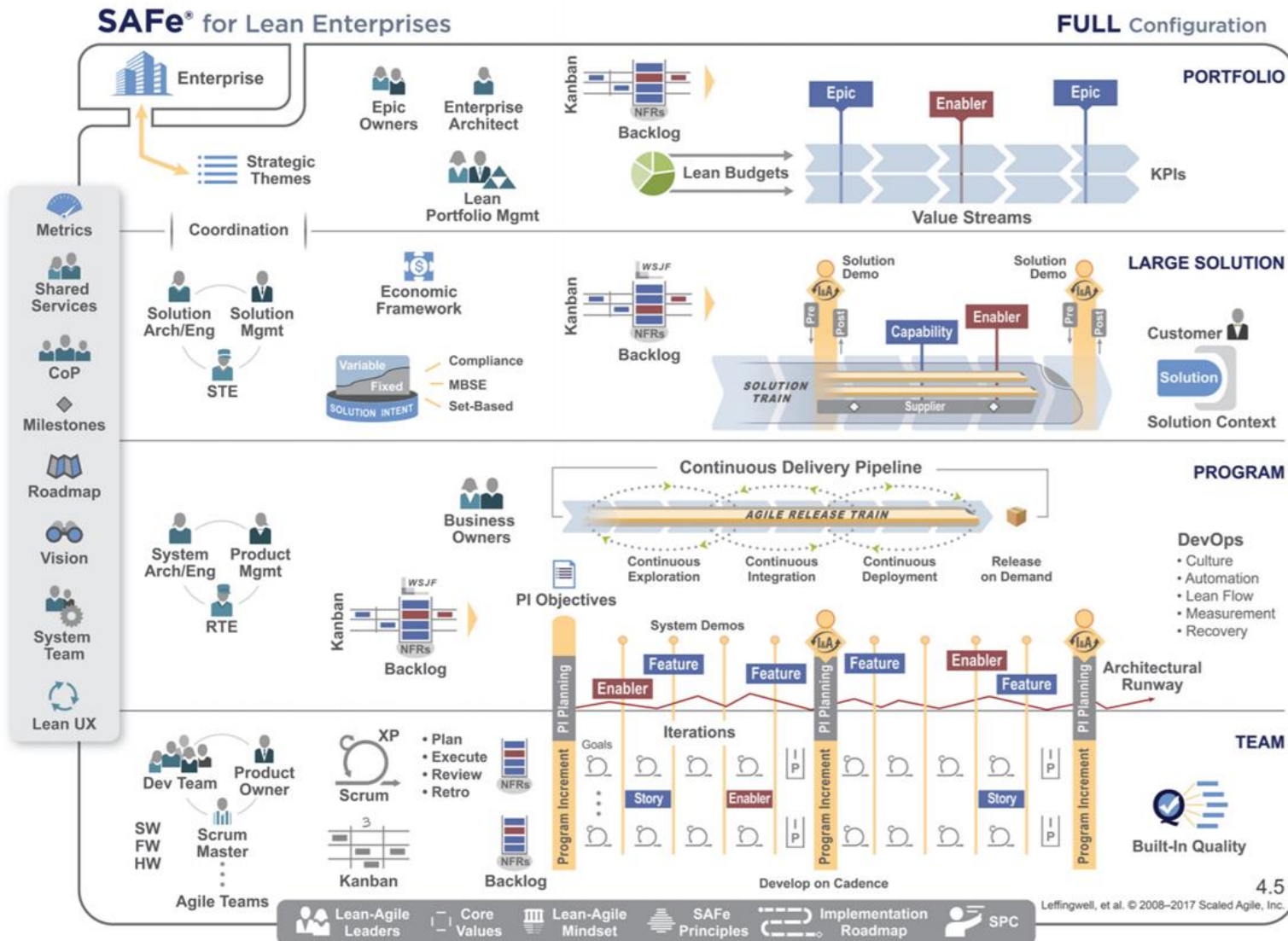
SCALING AGILE

Scaling Methods and Approaches

SAFe (28%) has overtaken SCRUM/SCRUM of SCRUMS (27%) to be the most popular scaling method cited by respondents.



Scaled Agile Framework (SAFe)



SAFe® for Lean Enterprises

130,000

SAFe-trained practitioners in 100+ countries



130



Scaled Agile Partners in 35 countries

SAFe is a framework of mindset, principles, and practices for scaling Lean-Agile development throughout the enterprise

Freely Available

SAFe's body of knowledge is freely available at scaledagileframework.com

Configurable

SAFe is able to accommodate enterprises of all sizes and industries

Fastest Growing Method

11th Annual State of Agile Survey by VersionOne

28% cite SAFe as preferred method for scaling Agile, making SAFe the most popular scaling method above Scrum and Scrum of Scrums

28%

70%

 US *Fortune* 100 Enterprises have SAFe-trained practitioners

1.7 million

Annual visitors to SAFe and Scaled Agile websites



Pledged 1%

Scaled Agile stock equity & employee time to Pledge 1% campaign

Annual Gathering



SAFe CASE STUDIES

30 - 75%

Faster Time to Market



25 - 75%

Increase in Productivity



20 - 50%

Improvements in Quality

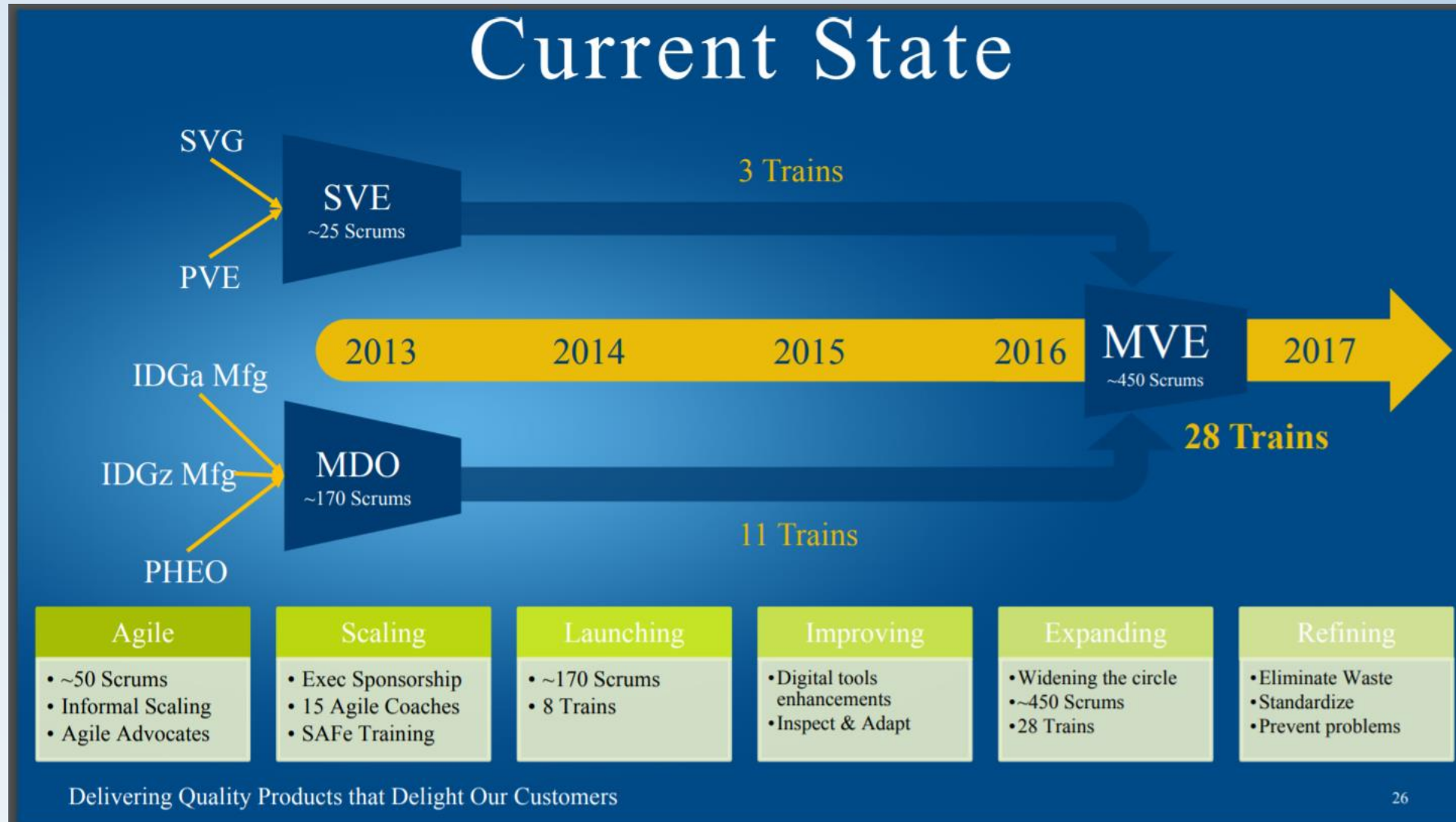


10 - 50%

Increased Employee Engagement



INTEL'S SAFe Implementation



CapitalOne SAFe Implementation

Why Scale

8th Largest Commercial Bank in the US

13 Agile Release Trains

7 Value Streams of Business

Over a 100 teams across 4 states

“The products we’re developing are bigger than one Agile team.”

Mike Eason, CIO, Commercial Banking

Capital One
Bank

Banking
Loans
Business
Investing

Need a hand?
Sign in here.

Pet's Coffee

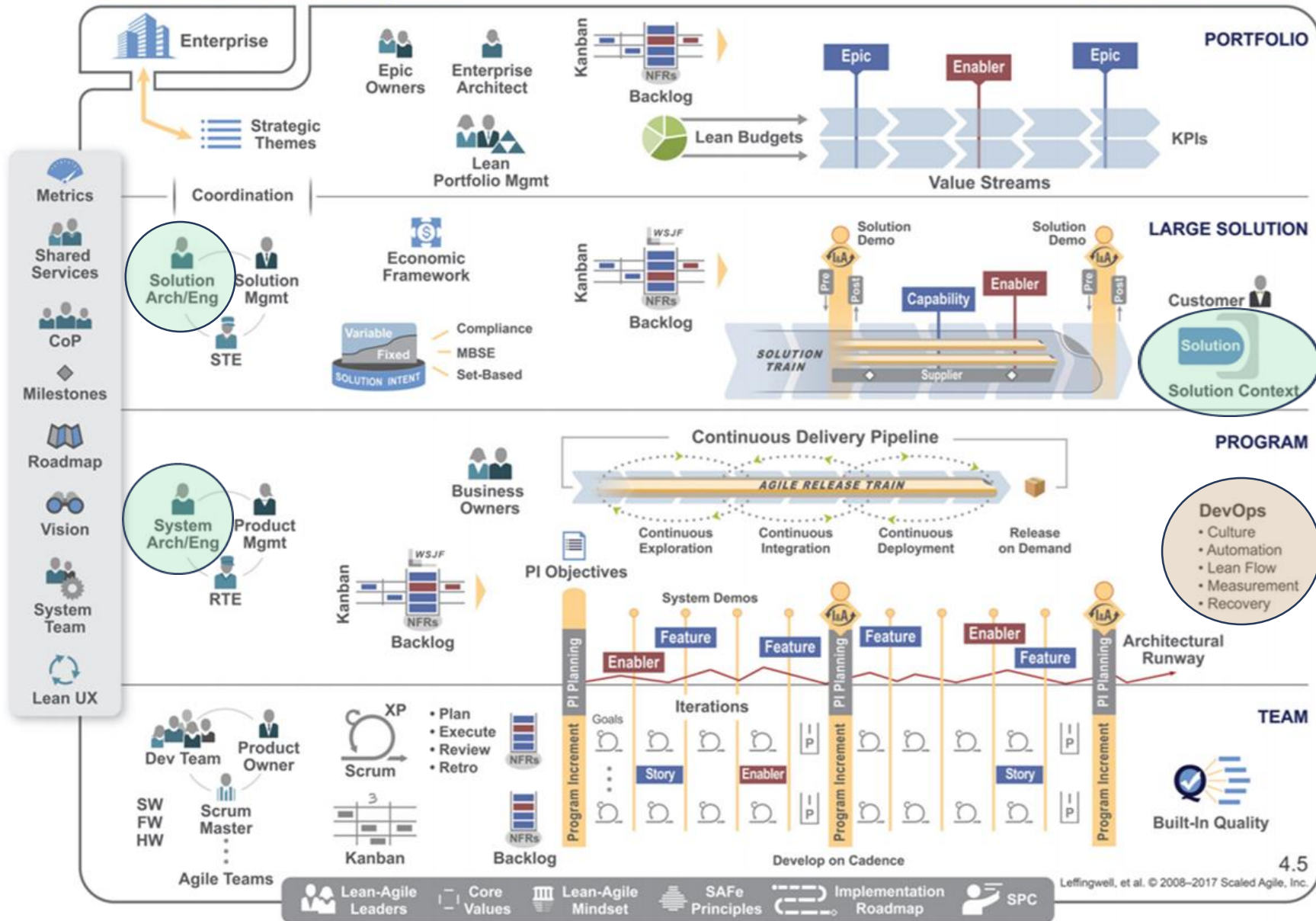
Restrooms

to a new
way of
banking

BIG Agile Requires Agile Architecture

SAFe® for Lean Enterprises

FULL Configuration

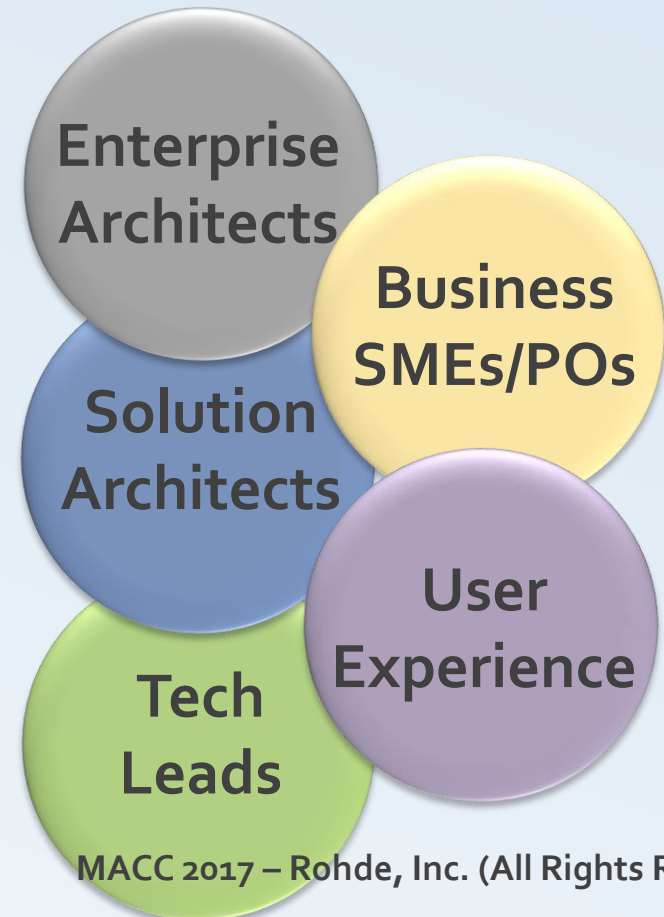


Key SAFe Concepts

- SAFe is a Framework that can be fully or partially adapted
- All Levels (Portfolio, Program & Team) are active in parallel
- Epics break into Features
- Features break into Stories
- Stories are scheduled into Sprints
- Program Increments are 10 weeks Long
- Release Planning is a 2 day, in person event in the .5 sprint and plans the next 5 sprints
- Average Release Train is 80 to 100 full time people (8-10 Scrum teams)

Implementation of the Architectural Roadmap

Program Increment – Minus 2
EPIC – High Level Design



Program Increment – Minus 1
Feature – Detailed Design & Groomed Features



Program Increment – Zero
PI Prioritized Architecture & Business Features



Architectural Implications of Continuous Delivery

Epics arrive to the Design Team
("Unit of Solution Design")



Epics are broken into
DELIVERABLE Feature
by the Design Team









**Two Day Program Increment
Planning Event** for the next 5 Sprints

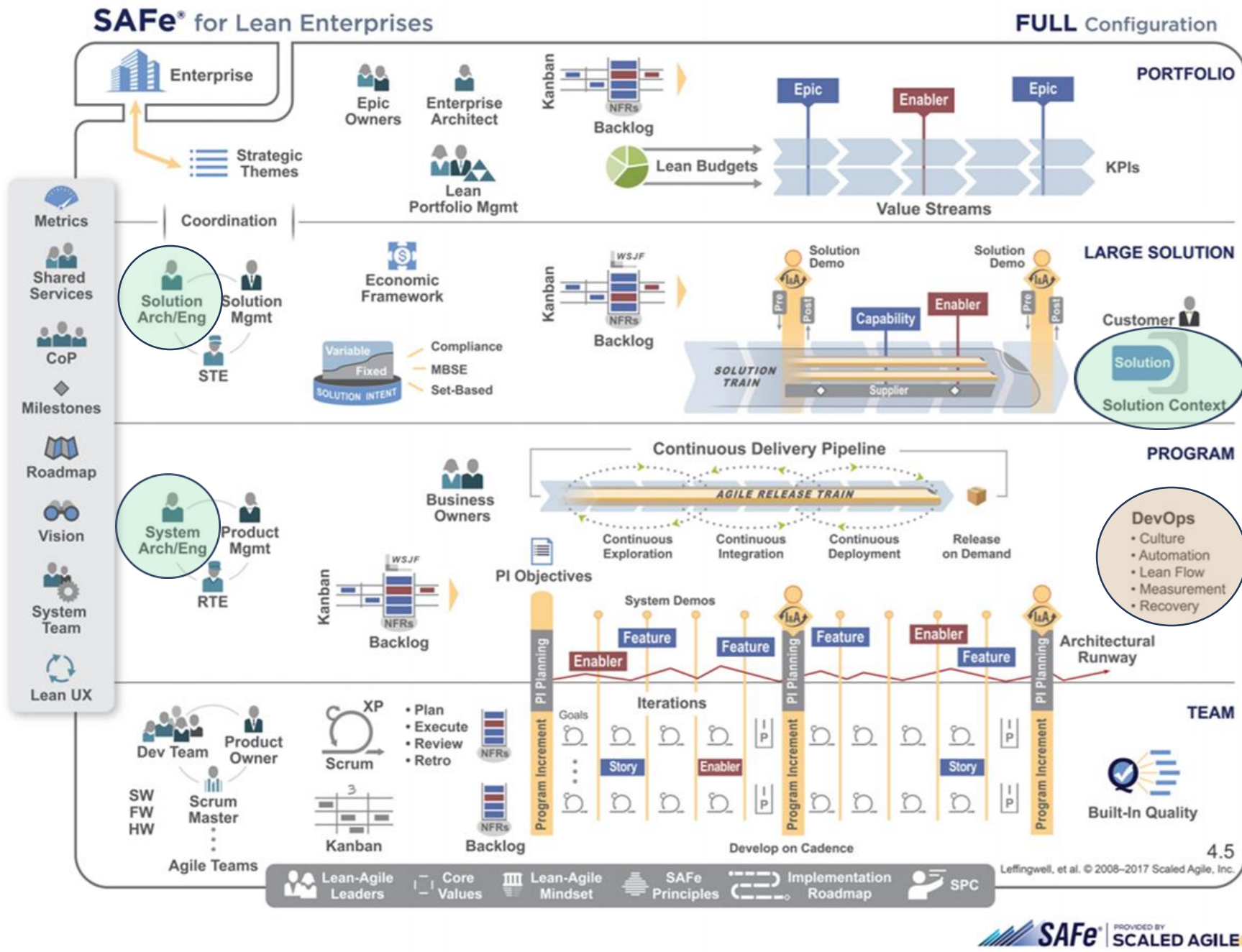


**Designed, Groomed, Sized and
Prioritized Features** are queued up
for Program Increment Planning

Implementation of the Architectural Roadmap

Program Increment 1 (15 Feature Points)	Epic – Microservices (Arch) (10 Feature Points)	Epic – Customer Management (15 Feature Points)	Epic – Shopping Cart (25 Feature Points)
Program Increment 2 (12 Feature Points)	 <p>1. Error Recovery Architecture 5 Feature Points</p>	 <p>2. Create Customer 10 Feature Points</p>	 <p>1. Shopping Cart Feature Zero 10 Feature Points</p>
Program Increment 3 (20 Feature Points)	 <p>2. Testing Strategy 5 Feature Points</p>	 <p>2. Update Address 2 Feature Points</p>	 <p>1. Manage Shopping Cart Items 10 Feature Points</p>

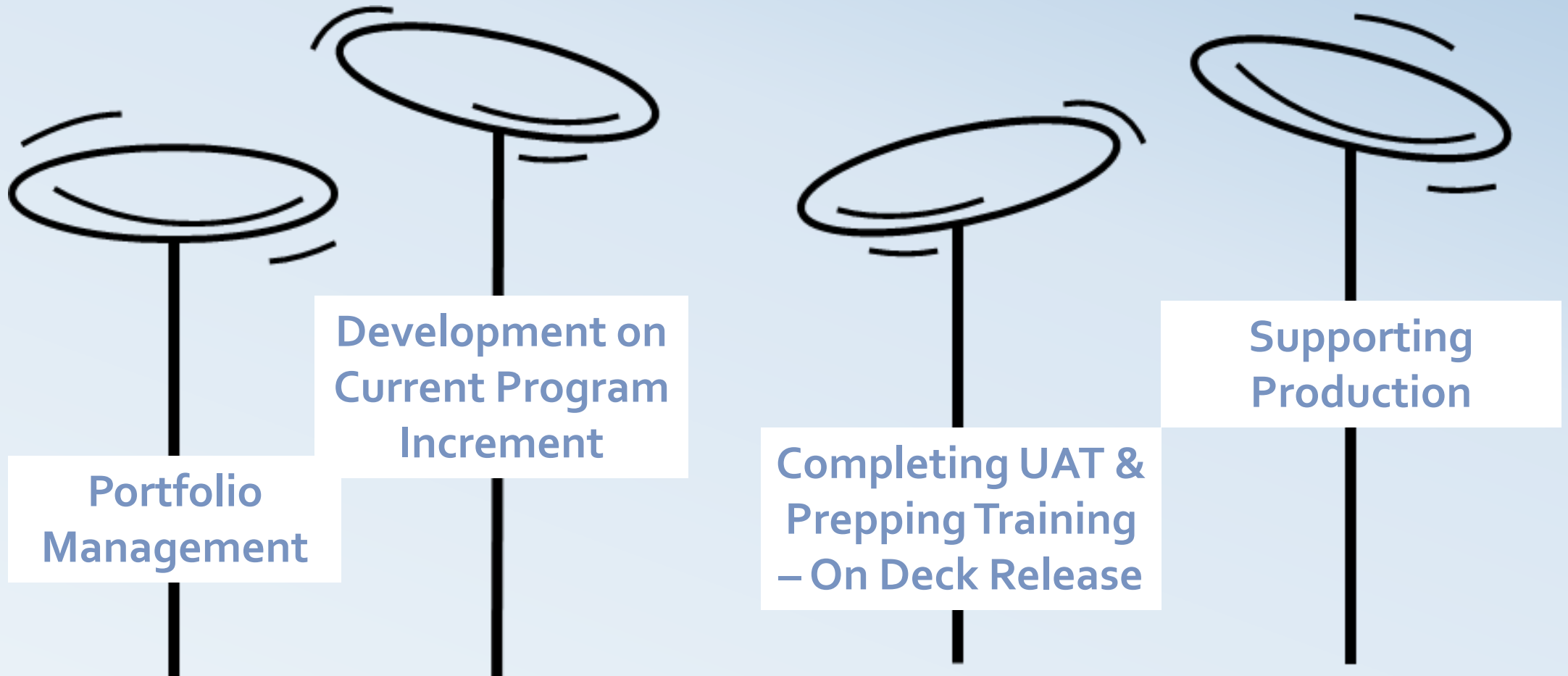
BIG Agile Requires DevOps



Key SAFe Concepts

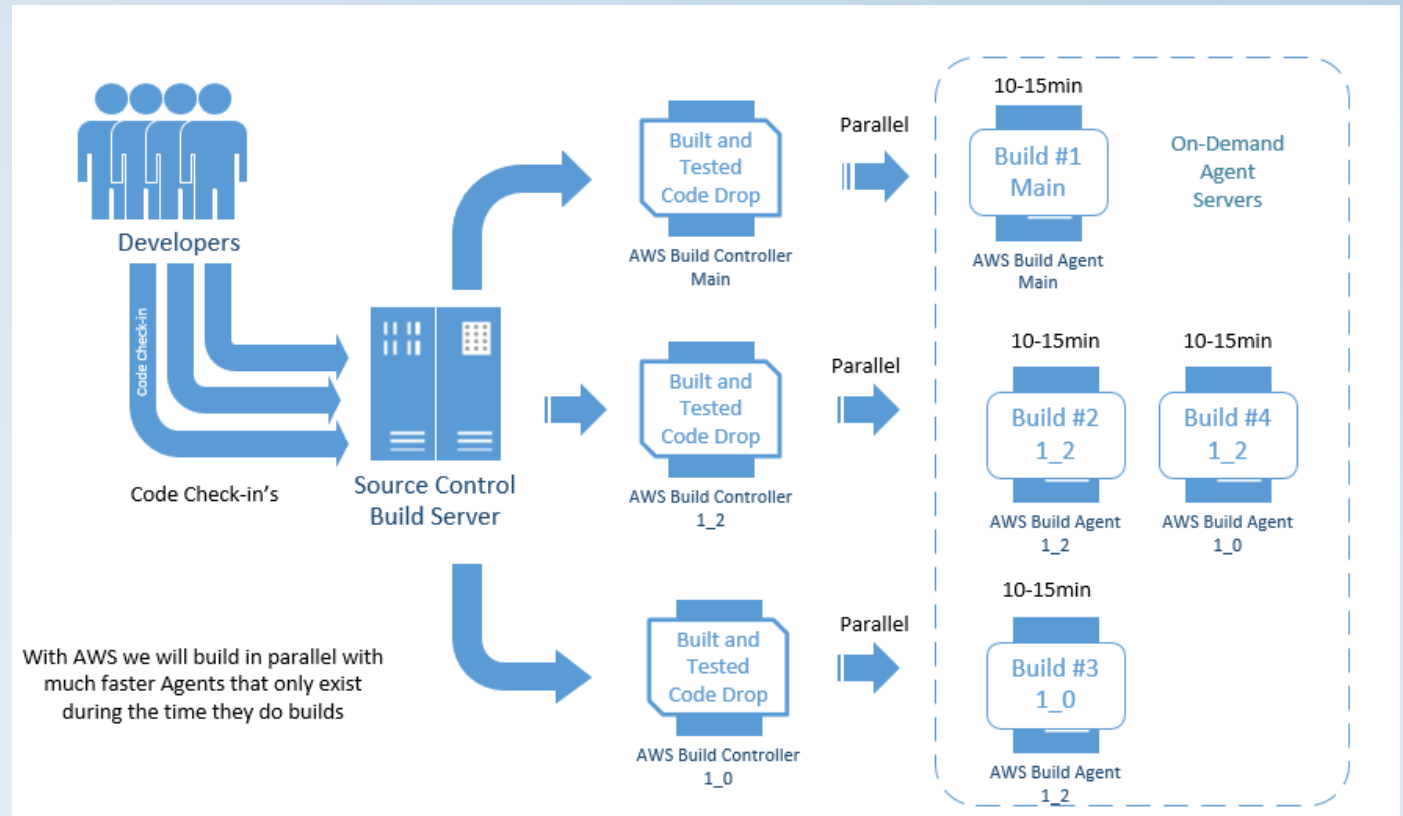
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Large Agile: The spinning plates



DevOps for Developer & Development Automation

- Speed of Scaled Agile demands automation
- Used AWS to automate the build and deployment process
- Moved development environments to AWS
 - Accommodate multiple code branches
 - Minimize Cost via “Pay as you go” Public Cloud model



Culture eats strategy for
breakfast every morning.
(Peter Drucker)

Agile Cultural Shifts

Heroic Efforts → Sustainable Teams

Plan everything → Plan just enough based on Metrics

Division of roles/events → True Collaboration

Reward Activity → Measure & Reward Delivery

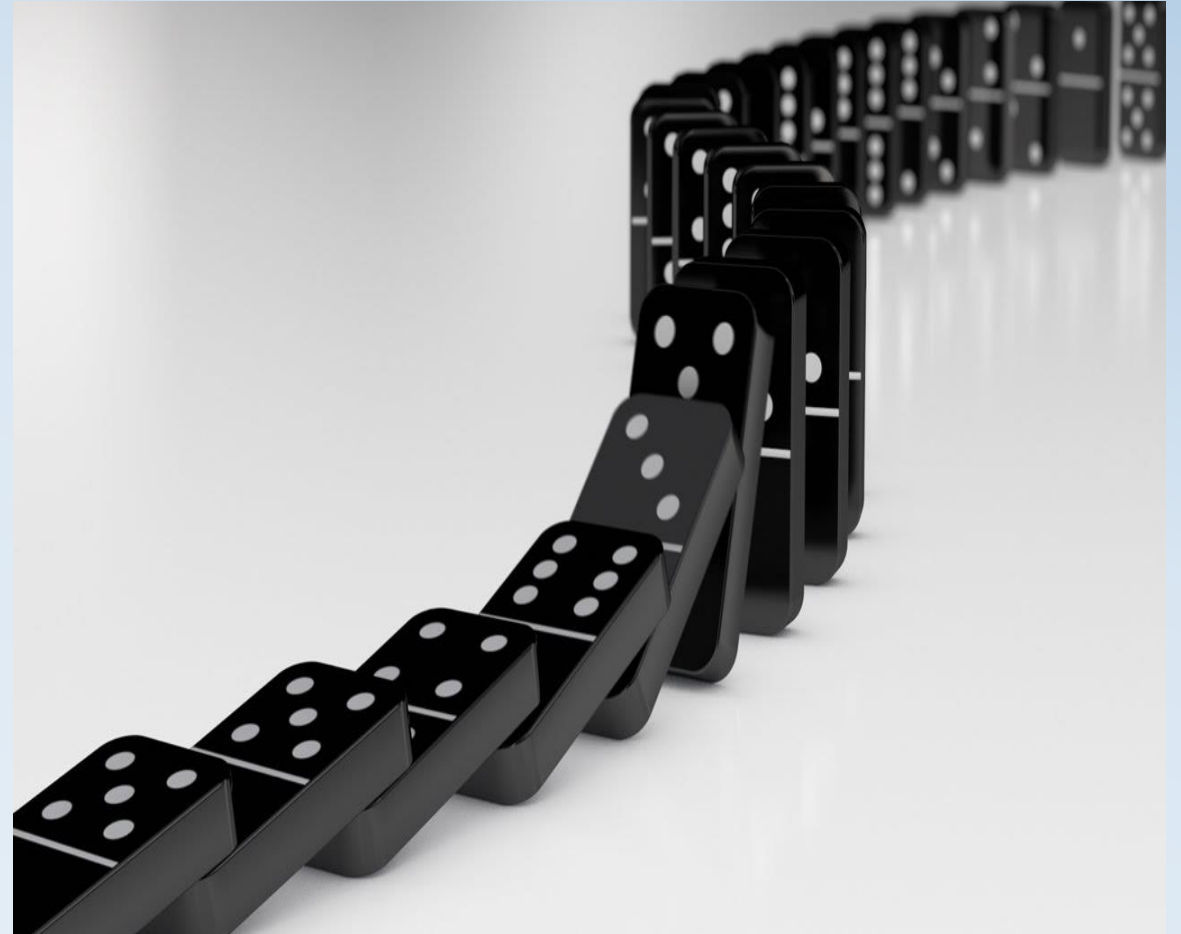
“I’ll Try My Best” → “Our Team Commits to Delivery”

Bound by Contract → Ability to accommodate change

In Conclusion

Takeaways

1. Business is quickly adapting BIG Agile
2. BIG Agile Requires Agile Architecture
3. SAFe is one approach to BIG Agile that incorporates Architecture & DevOps
4. BIG Agile Requires DevOps
5. CAUTION: Agile & DevOps Require BIG Culture Change



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