Agile Velocity

WHITE PAPER

DEMYSTIFYING SAFE®

A Beginners Guide to Understanding the Scaled Agile Framework

Agile Velocity **CONTACT US:** 512-298-2835 | info@agilevelocity.com

1

WHAT IS SAFE®?

Imagine you are a CEO or CIO for your large organization. Some of your teams are using Agile methods at the team level and having some good successes, but you are still experiencing pain points such as:

- Multi-team programs struggling to deliver on time
- Limited visibility into the progress of your initiatives
- Poor overall quality
- Dependencies discovered too late causing schedule slips
- Requirements approach is slow and cumbersome
- Unhappy clients

You have more and more large initiatives involving multiple Agile teams, but these programs struggle due to lack of cadence and synchronization. Your business strategy and requirements approach are still mired in the traditional Waterfall approach which causes heartburn at the handoff point to the development teams.

It's time to consider a change.

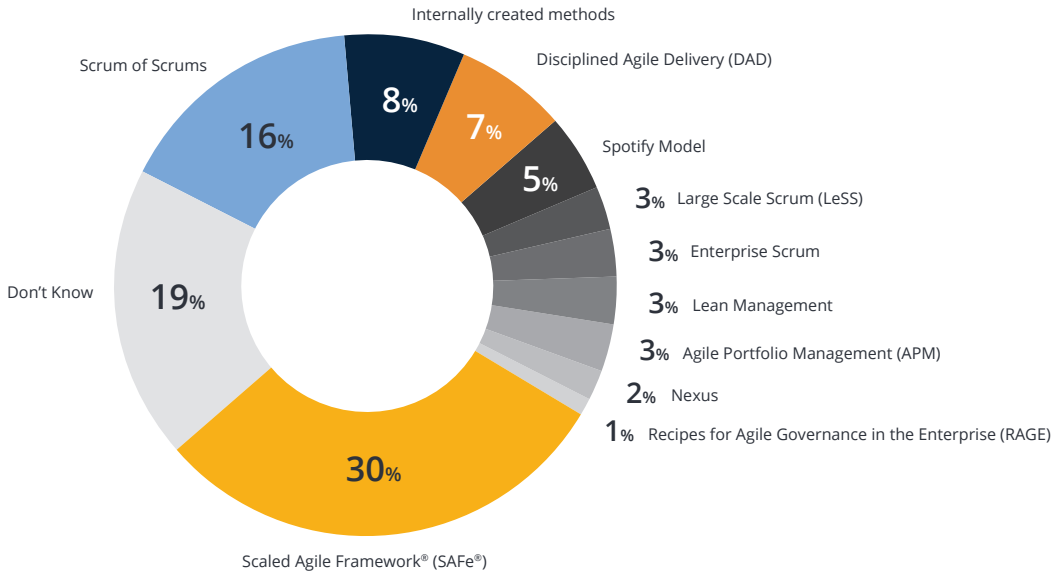
Like any good C-level you start researching for solutions. You study all the current Agile scaling approaches including Nexus, LeSS, DAD, SAFe®, and others. You might even work up a comparison table like the one shown in Appendix 1.

SAFe® stands for Scaled Agile Framework and it is a framework for scaling Agile throughout the enterprise. The genesis of SAFe® is from Dean Leffingwell's seminal book *Agile Software Requirements* authored in 2011.

SAFe® is becoming more and more popular because it addresses both IT execution and business agility. It describes how business strategy (the highest level of product development thinking) is translated into value-based initiatives that are subsequently decomposed and prioritized for execution at the Agile team level. SAFe® addresses all the business and IT roles, artifacts, ceremonies, and synchronized cadence required to make this translation of business strategy into work at the team level.

This white paper attempts to demystify SAFe® so you can make an informed decision about the scaled Agile framework and how it fits (or not) into your scaling strategy.

Enterprises all over the world are adopting SAFe® to gain business and development agility and its rise can be attributed to the fact that it is the only scaled Agile framework that comprehensively addresses the business aspects of product development. SAFe® is now considered the #1 scaled Agile framework as per VersionOne's "13th Annual State of Agile Report" shown in the diagram below.



TRANSLATING BUSINESS STRATEGY INTO EXECUTION

SAFe® addresses the enterprise by translating business strategy into the constructs, teams, artifacts, events, and synchronized cadence needed for successful delivery of value. At the highest level, SAFe® describes Strategic Themes, representing the initial ideation of business objectives. Strategic Themes provide the enterprise with the differentiators to move from current state to a more desirable future state.

Strategic Themes influence the vision, roadmap, budget, and work backlogs throughout the various SAFe® levels. Through successive layers of decomposition, the business strategy represented by the Strategic Themes is manifested as a cohesive collection of piecemeal work items all the way down to the team level. As emphasized above, this is a significant advantage SAFe® has over many of the other Agile scaling frameworks.

PRIORITIZATION USING ECONOMIC VALUE—WSJF

Many non-SAFe® enterprises prioritize based on business value alone — with little concern of the economics of value delivery. SAFe® is based on an economic framework using Lean budgeting, decentralized decisions, and economic job sequencing. Every SAFe® level includes a work backlog. Capabilities and feature backlogs are prioritized by Weighted Shortest Job First (WSJF) to produce the maximum economic benefit.

WSJF favors small work items that have large business value, which makes sense economically. Large size work items can be decomposed into smaller work items to deliver their pent-up business value incrementally. WSJF for each work item is calculated continuously as new learnings emerge and at Program Increment boundaries.

WSJF is implemented using two economic factors: Cost of Delay (CoD) and Duration. The WSJF formula is CoD / Duration. Another way to think of WSJF is business value / size. Every item in a work backlog (regardless of SAFe® level) is given a relative business value and a relative size estimate. By dividing the business value by the size, we can determine *the work items that deliver the most value in the shortest time possible.*

For example, work item A has business value of 40 and size of 5, which equals WSJF of 8 (40/5). Work item B has a business value of 100 and size of 20, which equals WSJF of 5 (100/20). Prioritization by using the highest WSJF number (8 vs. 5), work item A would be higher in priority. This lean economics approach ensures that the team delivers the most business value in the shortest amount of time.

BRINGING WORK TO PERSISTENT TEAMS

Many enterprises form project teams and move the people to the work. Often in this situation each person's availability is part-time due to having many other responsibilities and working multiple projects. The cost of this wasteful context-switching can be substantial, resulting in low levels of productivity as these teams naturally go through forming, storming, norming, and performing transition steps. This project-based approach is fraught with start-stop inefficiencies and economic waste.

SAFe® recommends that teams are reasonably persistent, with team personnel changing very little over time. An example of a SAFe® team might be a feature team that delivers navigation-related stories for a new mobile app. As new navigation features are discovered, they are decomposed into navigation stories and placed into the team backlog in priority order.

When we have persistent teams, we can *bring the work to the teams* and allow them to focus through ruthless prioritization. This enables serial development (see below) which has significant efficiencies and tremendous economic advantages over project-driven development.

FUNDING VALUE STREAMS, NOT PROJECTS

Project-driven enterprise organizations use the project as the main delivery vehicle to the end customer. Projects are funded based on up-front estimates of time, people, and costs required. This type of funding model can be challenging as multiple cost centers (organizations) are typically involved in a single project and funding across each cost center must be negotiated for people capacity and support costs. This can lead to project kickoff delays and over-utilized people. When a project schedule experiences a slip, it presents a difficult challenge for the enterprise as it could easily delay the start of the next project.

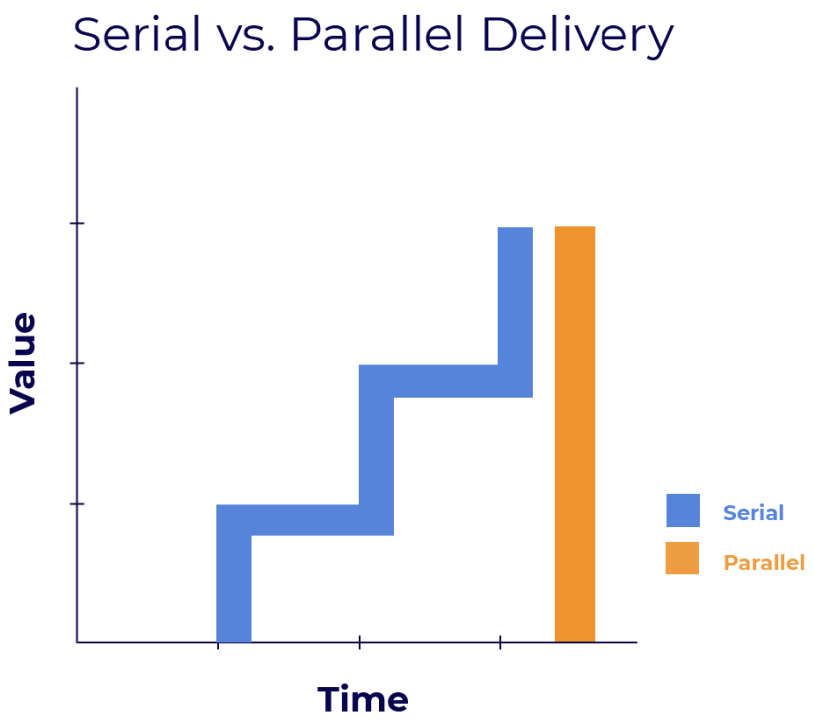
SAFe® recommends funding value streams instead of projects. A value stream is a sequence of steps from concept to cash. Value streams are implemented by an Agile Release Train consisting of teams focused on delivering value.

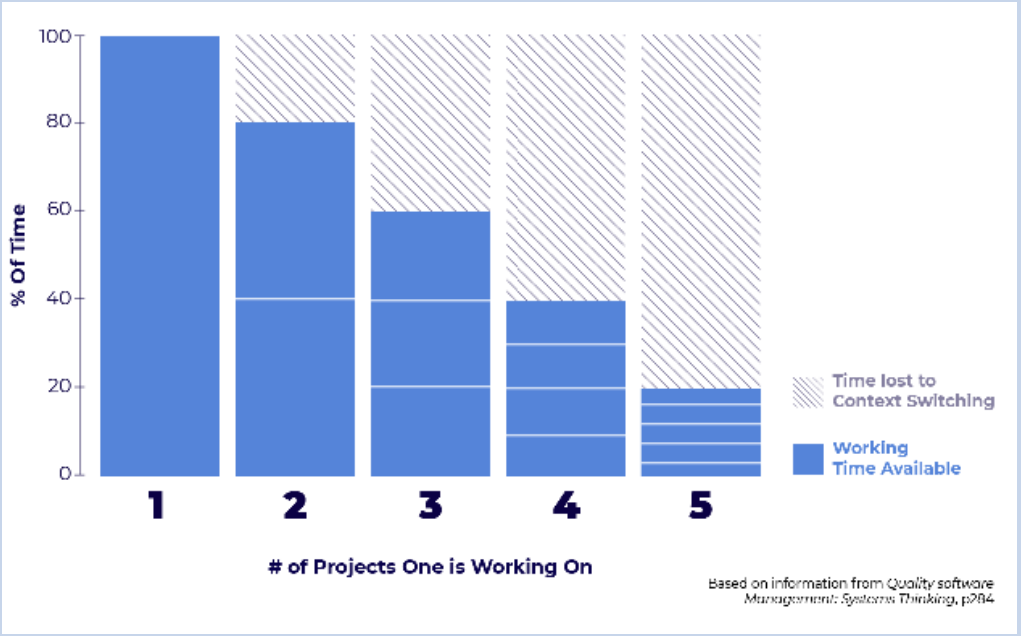
An example value stream from a defense contractor might be "Tactical Fighter Development". Another might be "Troop Transport". An example value stream from a major airline might be "Rewards Program". Another might be "Economy Plus Flights". In a SAFe® enterprise, each of these value streams would be funded based on decisions by the Lean Portfolio Management function. Additionally, adjustments to each budget can be made at Program Increment boundaries (approximately every 10 weeks) based on objective evidence from demonstrations of working software and market conditions.

FOCUSED SERIAL DEVELOPMENT

SAFe® recommends that Agile teams work high-priority features one at a time in order to deliver incremental value to the customer and maximize the economics.

As an example, assume our team goal is to deliver 3 features and we have the capability to deliver 1 feature per month. As shown in the diagram below, teams using a serial approach (one feature at a time until done) can deliver all 3 features in 3 months, but more importantly it is the *delivery of incremental value each and every month!* Teams working all 3 features in parallel experience context-switching costs and deliver to the customer only once – at a date later than 3 months as shown by the rightmost line in the picture. Thus, it makes economic sense to allow teams to work serially whenever possible.





Many non-SAFe® enterprises suffer from developers working 4 or 5 projects in parallel. In these situations, the context switching costs are significant, often more than 50%.

When developers work on multiple projects in parallel, it leads to an inefficient organization. SAFe® allows us to *bring the work to the teams* in priority order and allow them to work serially to optimize the delivery of value to our customers.

SAFE® OVERVIEW

For an overview of the SAFe® framework, download the official SAFe® white paper from: https://www.scaledagile.com/resources/SAFe-whitepaper/.

2

CORE VALUES

SAFe® has 4 core values and these core values guide the multi-team development approach resulting in high-quality, predictable delivery of value.

1. Alignment
2. Built-in Quality
3. Transparency
4. Program Execution

Alignment

Alignment means that all teams contributing to a program have the same cadence and synchronization. In other words, all teams start the iteration on the same day and end the iteration on the same day. Alignment also means that the strategic themes and portfolio backlog are aligned with the vision, roadmap, and backlogs at the program and team levels.

Built-in Quality

Built-in Quality means that each team views quality as an *enabler of speed* and ensures that every product increment reflects the quality standards. Well known techniques from Extreme Programming such as stories, test-driven development, emergent design, and continuous integration are used to ensure the code base is of high quality and potentially shippable every iteration.

Transparency

Transparency means total visibility into work backlogs, commitments, and progress. Teams demonstrate their fully integrated solutions every two weeks within a Program Increment. Feedback is obtained, adaptations are discussed, and new work items are included into the work backlogs.

Program Execution

Program Execution is the heart of SAFe®. Multiple teams collaborate and integrate on the same product. The Agile Release Train (ART) is the mechanism of continuous value delivery for the program teams. An emphasis on the Program level helps teams deliver more substantial amounts of value reliably and predictably.

3

SAFe® PRINCIPLES

SAFe® has 10 Lean-Agile principles taken from the Lean and Agile worlds. These principles are considered immutable.

1. Take an economic view
2. Apply systems thinking
3. Assume variability; preserve options
4. Build incrementally with fast, integrated learning cycles
5. Base milestones on objective evaluation of working systems
6. Visualize and limit wip, reduce batch sizes, and manage queue lengths
7. Apply cadence, synchronize with cross-domain planning
8. Unlock the intrinsic motivation of knowledge workers
9. Decentralize decision making
10. Organize around value

Adherence to these 10 SAFe® principles allows enterprises to develop and deliver the highest value in the shortest amount of time possible. Enterprises adopt SAFe® invariably change some of the underlying practices and constructs to fit their specific situation and culture. While SAFe® allows for this, it recommends that every practice change be cross-checked against the 10 principles. If the revised practice violates any of the 10 SAFe® principles, then it should be reconsidered.

4 FINAL THOUGHTS

SAFe® is here to stay. It satisfies the need for many organizations to scale Agile within their enterprise. While it does have its detractors, SAFe® should be considered carefully by those leading an Agile transformation.

SAFe® is not a silver bullet. Due to its highly configurable and customizable approach, a SAFe® implementation should always be led by a trusted partner with the appropriate level of scaled Agile experience.

SAFe® takes a holistic approach describing an all-encompassing solution for enterprise scaling, but provides configurability options and allows the organization to start with only the SAFe® practices needed for right now.

ABOUT AGILE VELOCITY

We're a full-service transformation partner offering whole organization coaching, leadership and team coaching, and Agile training. By leveraging our propriatary Path to Agility® transformation approach, we advise clients on the best way to avoid failure and reach desired business outcomes as quickly as possible.

OUR SERVICES

Agile Transformation

Using our Path to Agility® Transformation framework, we orgs build the capabilities needed to achieve desired business goals with confidence.

Agile Assessment

Identify gaps, establish a baseline for the transformation moving forward, and determine key next steps for achieving your goals.

Agility Tune-up

Target the most pressing challenges that are keeping your team from achieving desired outcomes.

Agile Training

We utilize hands-on training techniques, demonstrations, and simulations to create an engaging, outcome-focused learning experience.

ABOUT MIKE HALL

Mike Hall is a Senior Agile Coach/Trainer with 17 years of Agile transformation experience and holds 14 Agile certifications (ICP-ATF, SAFe® SPC4, SAFe® Scrum Master, SAFe Practitioner, SAFe DevOps Practitioner, SAFe Advanced Scrum Master, SAFe LPM, SAFe® PO/PM, SAFe® Scaled Agilist, CSP-SM, CSP-PO, CSM, CSPO, and PSM-I).

Mike's 30+ year experience is in software development and leading technology teams. He is also the holder of 10 patents issued by the US Patent Office, in areas such as pattern recognition, intelligence engines, and predictive systems.

Agile Velocity

CONTACT US: 512-298-2835 | info@agilevelocity

Resources

- www.scaledagile.com
- www.scaledagileframework.com
- https://www.scaledagile.com/resources/SAFe-whitepaper/
- *Agile Software Requirements - Lean Requirements Practices for Teams, Programs, and the Enterprise,* Dean Leffingwell, 2011
- *SAFe® Distilled - Applying the Scaled Agile Framework for Lean Software and Systems Engineering*, Richard Knaster and Dean Leffingwell, 2017
- *The Rollout - A Novel about Leadership and Building a Lean-Agile Enterprise with SAFe®*, Alex Yakyma, 2016

APPENDIX 1 - AGILE SCALING FRAMEWORKS COMPARISON

The following table is derived from research across all the major agile scaling frameworks. Favorable items are highlighted in green.

Attribute	SAFe	Scrum of Scrums	LeSS	Spotify	DaD	Nexus
Description	Full enterprise agility framework documented by Dean Leffingwell and Scaled Agile, Inc.	A multi-team event that may be enough for smaller organizations but is not a full scaling approach.	Larman / Vodde model as documented in "Scaling Lean & Agile Development".	The approach used at Spotify featuring Squads, Tribes, Chapters & Guilds.	Scott Ambler model documented in the book "Disciplined Agile Delivery".	Scum-based scaling with an "exoskeleton" from Ken Schwaber one of the Scrum inventors.
Business agility	Yes	No	No	No	Yes	No
Full enterprise	Yes	No	No	No	Yes	No
Portfolio	Yes	No	No	No	Yes	No
Program	Yes	No	Yes	Yes	Yes	Yes
Team	Yes	Yes	Yes	Yes	Yes	Yes
Business strategy	High	Low	Low	Low	High	Low
Technical practices	High	Low	High	Low	High	Low
DevOps	Medium	Low	High	Medium	High	Low
Very large initiative support	High	Low	High	Medium	High	High
Dependency management	High	Medium	Medium	Low	Medium	Low
Team-level frameworks	Scrum, Lean, Kanban, XP	Scrum	Scrum, Lean	Scrum-like	Scrum, Lean	Scrum
Flexibility	Medium	High	High	High	Medium	Medium
Training	High	Low	Medium	Low	Medium	High
Community of	High	Low	Medium	High	Low	Low
Support	High	Low	Medium	Low	Medium	Low
Certifications	High	Low	Low	Low	Medium	Medium
Cost to implement	High	Low	Low	Low	Medium	Low
Key differentiators	Value stream identification, translation of business strategy into work at team level	Natural evolution from team-based Scrum	Gives "suggestions" instead of rules	Entrepreneurial, low overhead	Heavy on architecture and DevOps	Natural scale-up from team-level Scrum
Popularity/Adoption	High	High	Medium	Low	Low	Low