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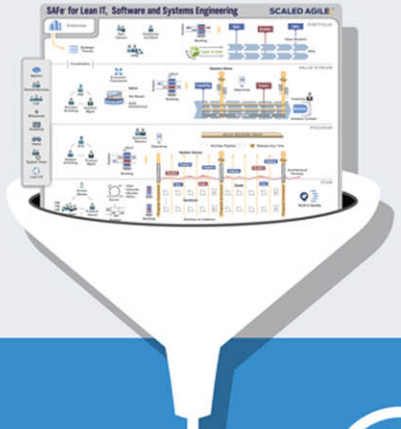

SAFe® DISTILLED

APPLYING THE SCALED AGILE FRAMEWORK® FOR LEAN SOFTWARE AND SYSTEMS ENGINEERING

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SAFe® 4.0 Distilled

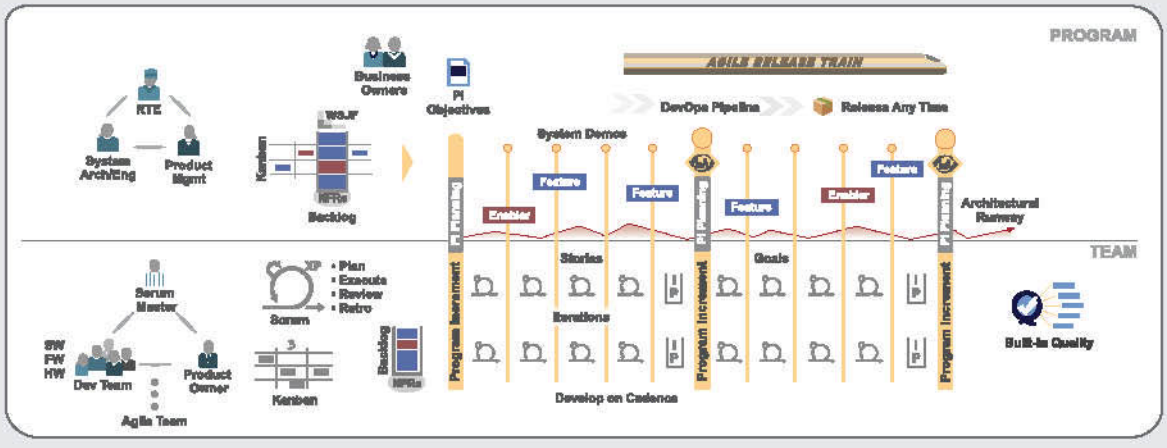
The key takeaways from this chapter are as follows:

- Principles are enduring. They stand the test of time and can be applied universally no matter the situation.
- A practice is a specific activity, action, or way of accomplishing something. A practice that works in one situation may not necessarily apply or work in another. That's why we need principles.
- SAFe is based on nine Lean-Agile principles:
    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.*
- Before you can effectively apply SAFe, you need a deep understanding of the principles to know how and why SAFe works.
- The principles themselves are a system, and the whole is greater than the sum of the parts.

Part III
Program and Team Level

Nothing beats an Agile team … except a team of Agile teams.

—The Authors



- Chapter 6 – The Agile Release Train
- Chapter 7 – Planning a Program Increment
- Chapter 8 – Executing a Program Increment
- Chapter 9 – Inspect and Adapt

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6

The Agile Release Train

The more alignment you have, the more autonomy you can grant.
The one enables the other.

—Stephen Bungay, Author and Strategy Consultant

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Overview

The Agile Release Train (ART) is a long-lived, self-organizing, team-of-Agile-teams and other stakeholders (approximately 50–125 people total) that defines new functionality and plans, commits, executes, and delivers solutions together. ARTs are cross-functional and have all the capabilities—software, hardware, firmware, and other—needed to define, implement, test, and deploy new system functionality. An ART operates continuously, with a goal of delivering continuous product development flow, as shown in Figure 6-1.

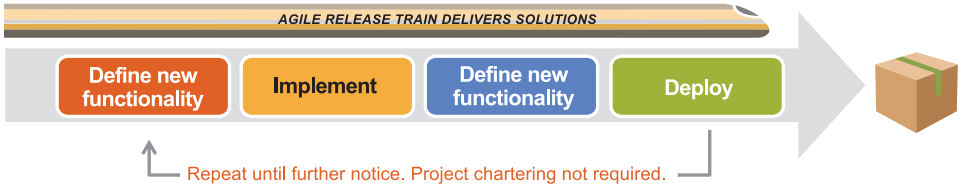

Figure 6-1. The long-lived Agile Release Train

The ART aligns teams to a common mission and helps manage the inherent risk and variability of solution development. Each operates on a set of common principles:

- The "train" departs the station on a known, reliable schedule, as determined by the chosen Program Increment (PI) cadence. If a feature misses a train, it can catch the next one.
- Each train delivers a new increment of value every two weeks. The system demo provides a mechanism for evaluating the working system, which is an integrated increment from all the teams.
- The PI timebox is fixed (typically eight to twelve weeks). All teams on the train are synchronized to the same iteration start/end dates and duration (two weeks by default). ARTs can release value any time.
- The train has a known velocity. Each train can reliably estimate how much cargo (new features) it can deliver within each PI.
- All "cargo"—including prototypes, models, software, hardware, and documentation—goes on the train.
- Agile teams power the train and build the solution. Teams embrace the Agile Manifesto and the values and principles of the Scaled Agile Framework (SAFe). They apply Scrum, Extreme Programming (XP), kanban, and built-in quality practices.
- Most people needed by the ART are dedicated full-time to the train, regardless of their functional reporting structure. Time and quality are fixed. Scope is varied as necessary to meet the PI timebox.
- The ART plans and commits to their work through periodic, face-to-face PI planning.
- Innovation and Planning (IP) iterations provide a guard band (buffer) for estimating, as well as dedicated time for PI planning, innovation, continuing education, and infrastructure work.

Additionally, in larger value streams, multiple ARTs collaborate to build larger solution capabilities. In such cases, some ART stakeholders participate in value stream events, including the solution demo and pre- and post-PI planning.

ART Organization

ARTs are typically virtual organizations that have all the people needed to define and deliver value. This breaks down the traditional functional silos that may exist prior to implementing SAFe, as shown in Figure 6-2.

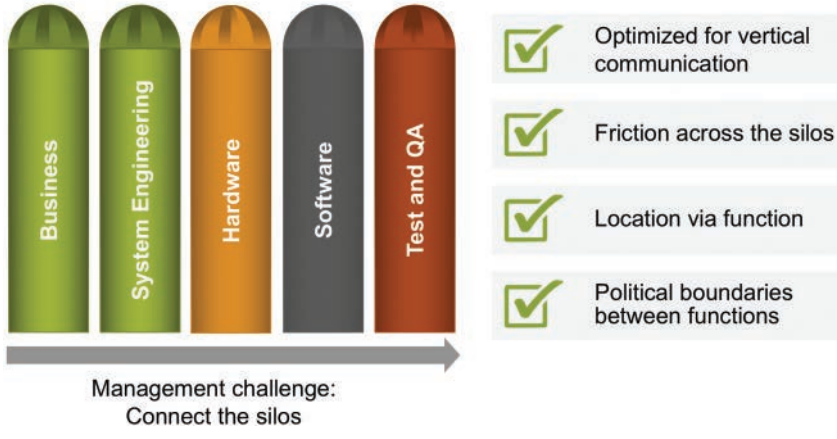

Figure 6-2. Traditional functional organization

In the prior functional organization, developers work with developers, testers work with other testers, and architects and systems engineers work with each other. While there are reasons why organizations have evolved that way, value doesn't flow easily, as it must cross all the silos. The daily involvement of managers and project managers is necessary to move the work across the silos. As a result, progress is slow, and handoffs and delays rule.

Instead, the ART takes a systems view and builds a cross-functional organization that is optimized to facilitate the flow of value from ideation to deployment, as Figure 6-3 illustrates.