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GLOBAL EA COMMUNITY SUMMIT 2021

For EA Users By EA Users

Creating Pragmatic SAFe Solution Intent with Sparx

A real-world case study on how to leverage Sparx in the various SAFe agile architecture roles, thereby balancing intentional architecture with emergent design

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Agenda

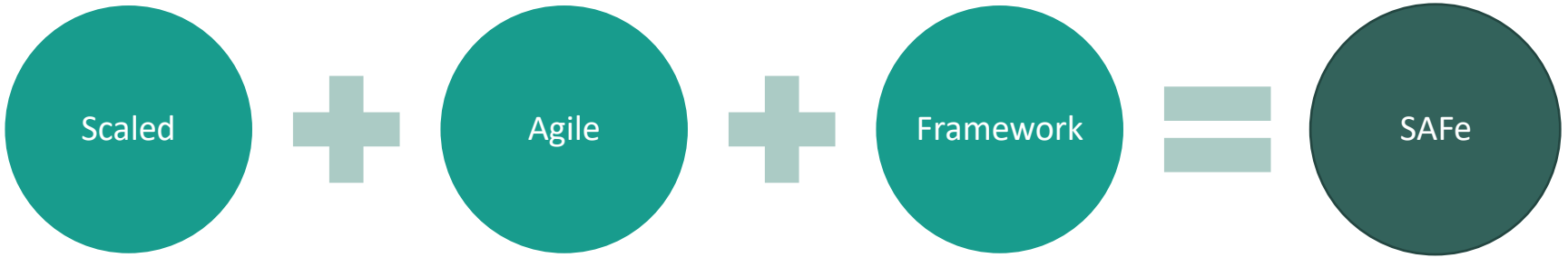
1. SAFe
   - Agile Architecture
   - Modeling and Tool Support
   - SAFe Agile Architecture Toolkit for Sparx
2. Intentional Architecture
   - The SAFe shortcut towards Enterprise Architecture
   - Adding the other Enterprise Architecture dimensions
3. Balancing Intentional Architecture with Emergent Design
   - Architectural Guardrails
   - Architectural Decisions
   - Development Value Streams vs. Shared Services
4. Next steps

SAFe

Creating Pragmatic SAFe Solution Intent with Sparx

Scaled Agile Framework (SAFe)

"SAFe® for Lean Enterprises is a knowledge base of proven, integrated principles, practices, and competencies for achieving business agility using Lean, Agile, and DevOps"



- Enterprise scope
- Configurations (Essential, Portfolio, Large Solution, Full)

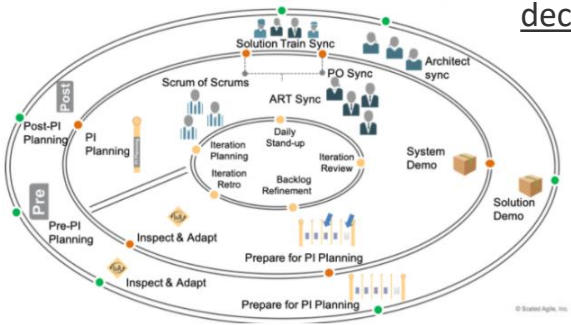
- Lean
- Agile
- DevOps

- v5.1 (February 2021)
- Commercial
- Training
- Certification
- Publications
- Conferences

- Scaled Agile, Inc.
- 400+ Partners
- Contributors
- Community Platform

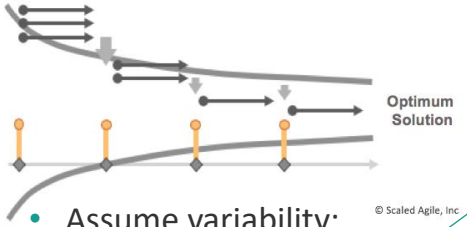
Source: https://www.scaledagileframework.com/
https://www.scaledagileframework.com/safe-for-lean-enterprises/

SAFe & Agile Architecture

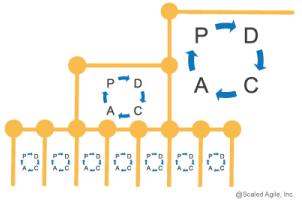


- Architecture Sync

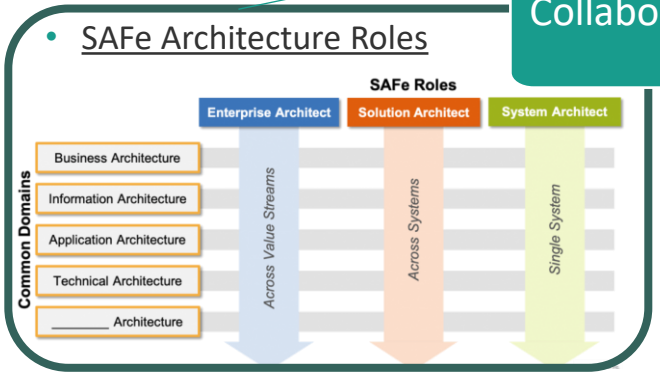
- Decentralize decision-making



- Assume variability; preserve options



- Build incrementally with fast, integrated learning cycles



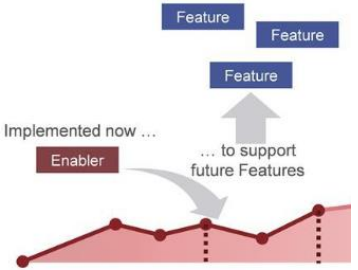
- SAFe Architecture Roles

Values

Collaborations

Practices

Safe Agile Architecture



- Architectural Runway

- Balance Intentional Architecture and Emergent Design

Source: https://www.scaledagileframework.com/agile-architecture/

Modeling and Tool Support

- Solution Intent

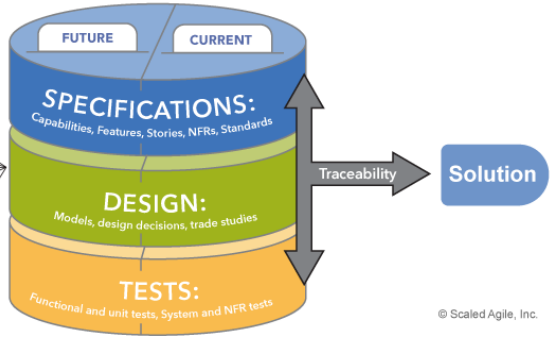
Make solution and its intent dynamic

Keep options open with fixed and variable Solution Intent

Collaboratively develop the Solution Intent

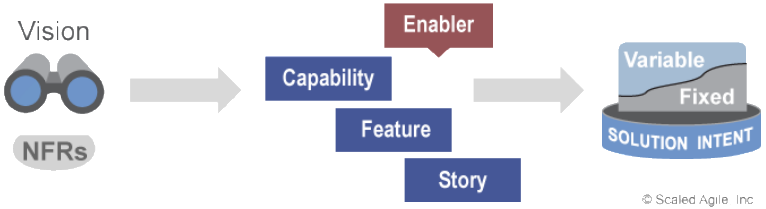
Connect Solution Intents across the supply chain

Create minimal, but sufficient documentation



"Favoring models over documents"

"When in doubt, model it out"



- Developing Solution Intent

"Solution Intent evolves through collaboration"

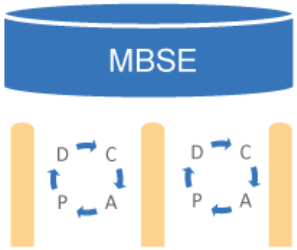
"Keep Options Open with Fixed and Variable Solution Intent"

Explore alternatives and learn faster

Support compliance and impact analysis

Generate documentation

Build model quality in

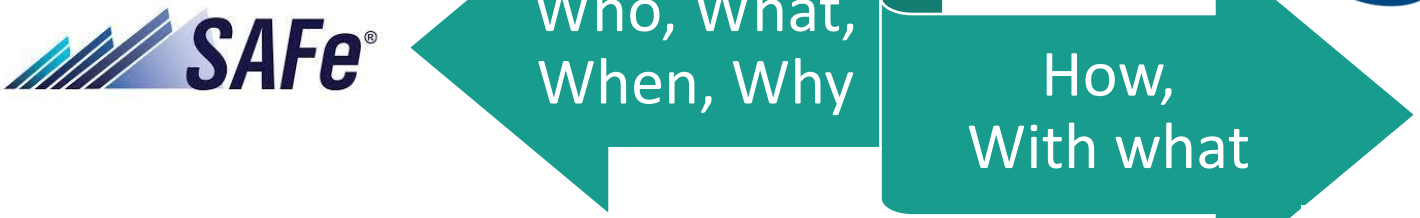


- Model-Based Systems Engineering

© Scaled Agile, Inc.

Source: https://www.scaledagileframework.com/solution-intent/
https://www.scaledagileframework.com/model-based-systems-engineering/

Modeling and Tool Support (2)



- Modeling

SAFe Agile Architecture Toolkit for Sparx MDG

WebEA

P

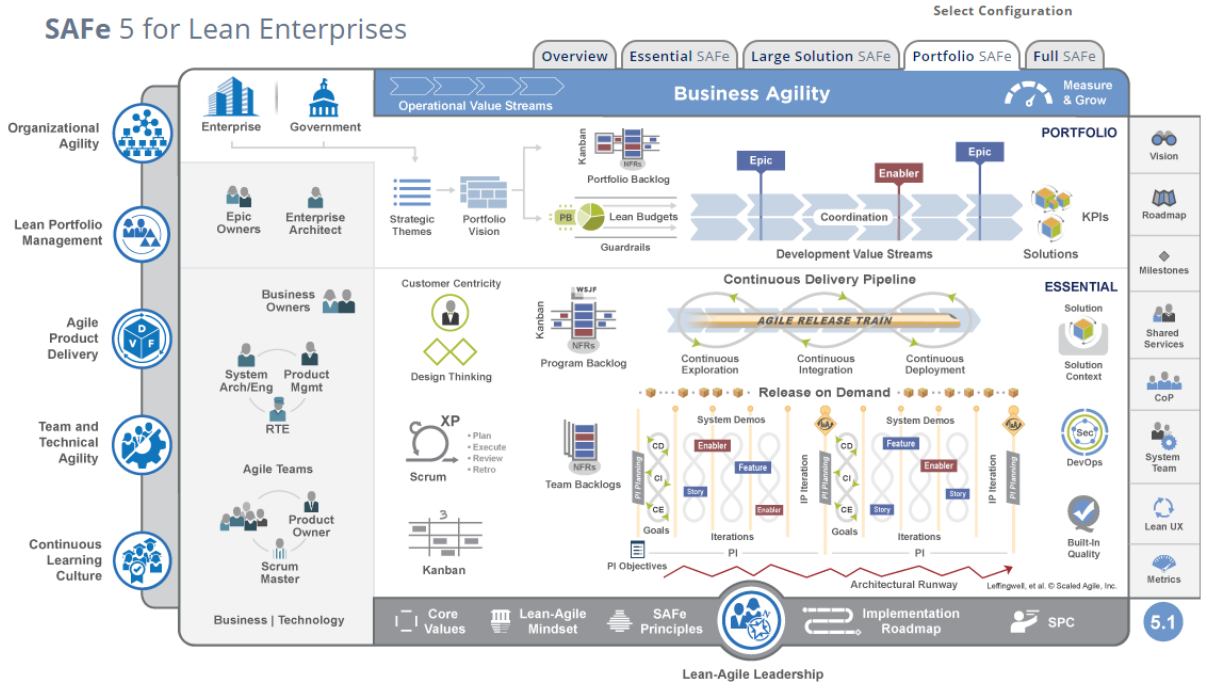
SCALED AGILE PARTNER PLATFORM

Atlassian JIRA

Atlassian Confluence

- Collaboration

Overview



SAFe Portfolio
- Development Value Stream
- Epic
- Epic Enabler
- Operational Value Stream
- Operational Value Stream - End
- Operational Value Stream - Trigger
- Portfolio Vision
- Strategic Theme

SAFe Large Solution
- Capability
- Capability Enabler
- Solution
- Solution Context
- Solution Roadmap
- Solution Train
- Solution Vision

SAFe Essential
- Agile Release Train (ART)
- Feature
- Feature Enabler
- Impediment
- Maintenance
- Milestone / Event
- NFR
- PI
- PI Objective
- PI Roadmap
- Program Vision
- Release / Increment
- Risk
- Significant Depenency
- Stretch Objective
- Supplier
- Team / Shared Service
- User Story
- User Story Enabler

SAFe Relationships
- Dependency
- Owns
- Red Wire

SAFe Portfolio Canvas
- Budget
- Channel
- Cost Structure
- Customer Relationship
- Customer Segment
- Key Activity
- Key Partner
- Key Resource
- KPI / Revenue
- Revenue Stream

SAFe Portfolio

SAFe Large Solution

SAFe Relationships

Common

Common Relationships

Artifacts

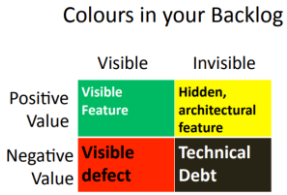
Source: https://www.scaledagileframework.com

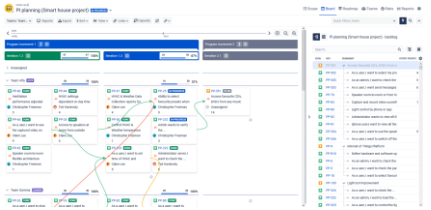
Bumping into some real-world challenges

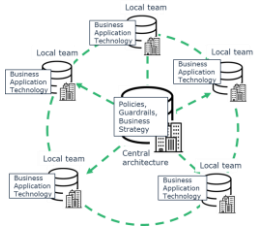
1. Identifying and justifying the priority of enablers in order to realize strategy execution requires the “full stack” of Enterprise Architecture, not only the “shortcut” SAFe takes towards it.

2. The dependency management that the architectural runway requires is a continuous challenge (it takes effort inside each value stream, even more between value streams and/or shared services)

3. Delegating solution & system architects to value streams and shared services also triggers the downsides of that decentralization (isolation, defragmentation and inconsistently capturing emergent design)







Source:
https://ea.rna.nl/2021/08/14/from-dark-scrum-to-broken-safe-some-real-problems-of-agile-at-scale
https://www.architectureandgovernance.com/app-tech/safe-and-enterprise-architecture-explained-in-5-points
https://pkruchten.files.wordpress.com/2012/07/kruchten-110707-what-colours-is-your-backlog-2up.pdf

Intentional Architecture

Creating Pragmatic SAFe Solution Intent with Sparx

Enterprise Architecture (business dimension)

Strategy

EA

Execution

Business Model

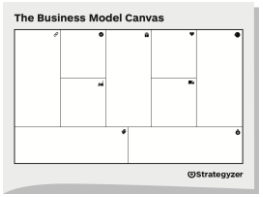
"How you plan your business"

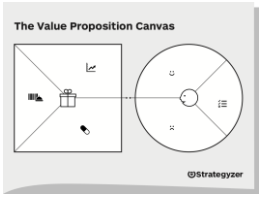
Operating Model

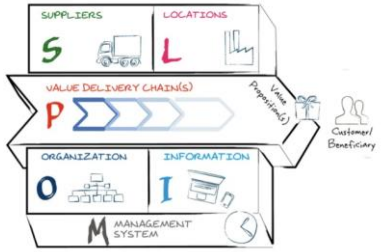
"How you run your business"

Delivery Model

"How you realize IT solutions"







SAFe®

Source: https://www.strategyzer.com/canvas
https://operatingmodelcanvas.com

The SAFe shortcut towards Enterprise Architecture

Strategy

EA

Execution

Business Model

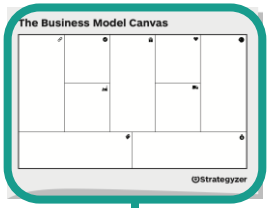
"How you plan your business"

Operating Model

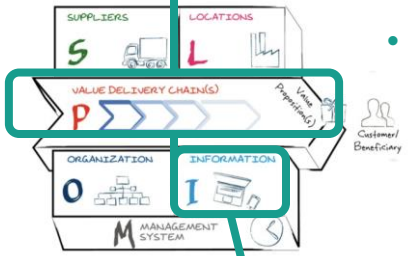
"How you run your business"

Delivery Model

"How you realize IT solutions"



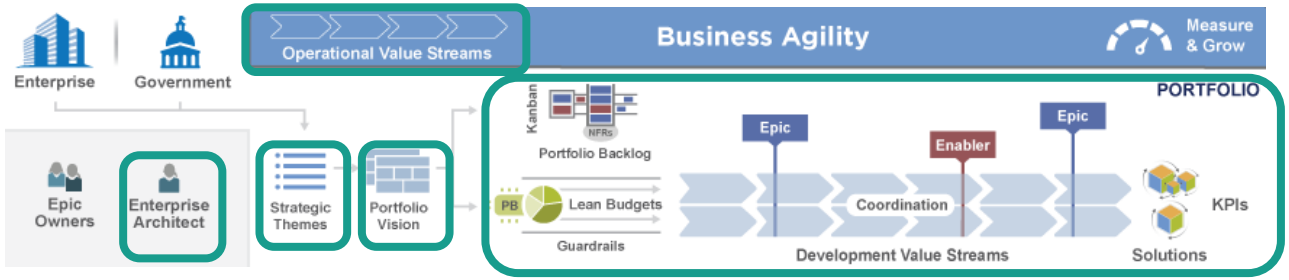
- Strategic Themes
- Portfolio Vision
- Portfolio Canvas

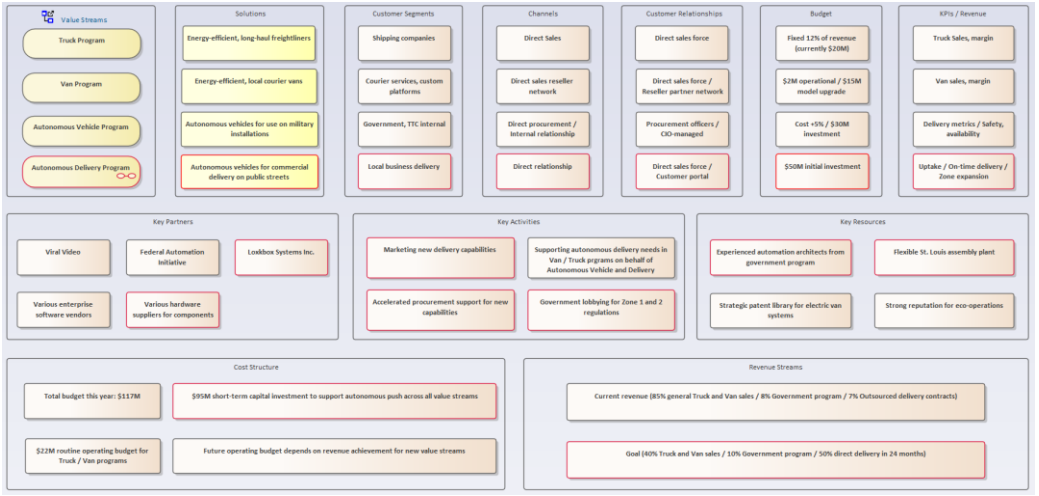


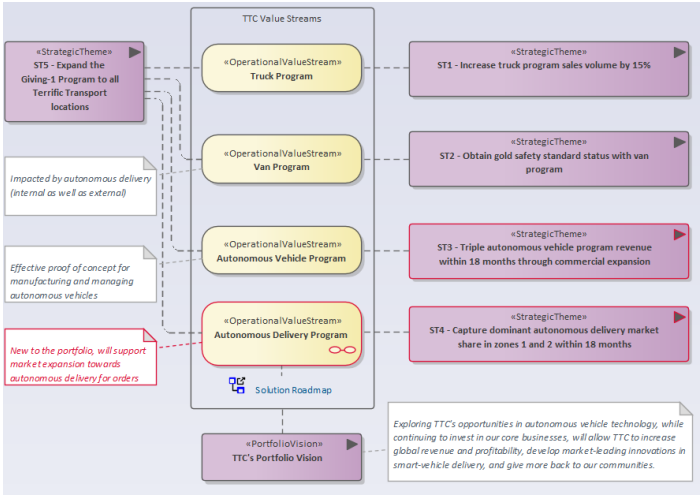
- Value Streams
  - Operational
  - Development

SAFe®

The SAFe shortcut towards Enterprise Architecture in Sparx

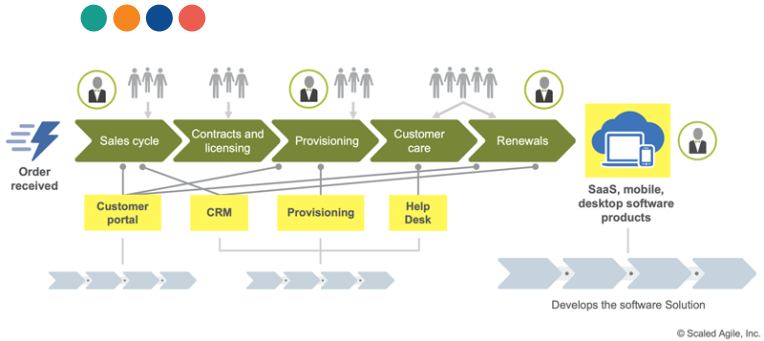


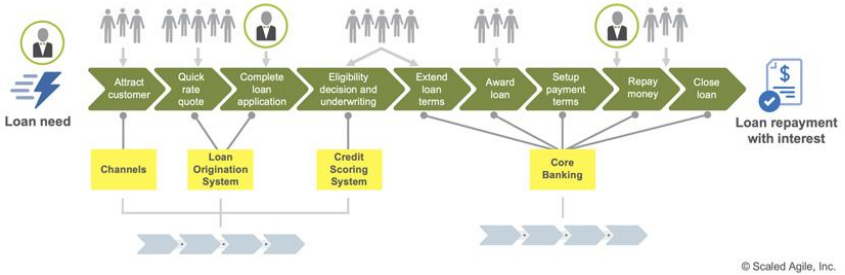


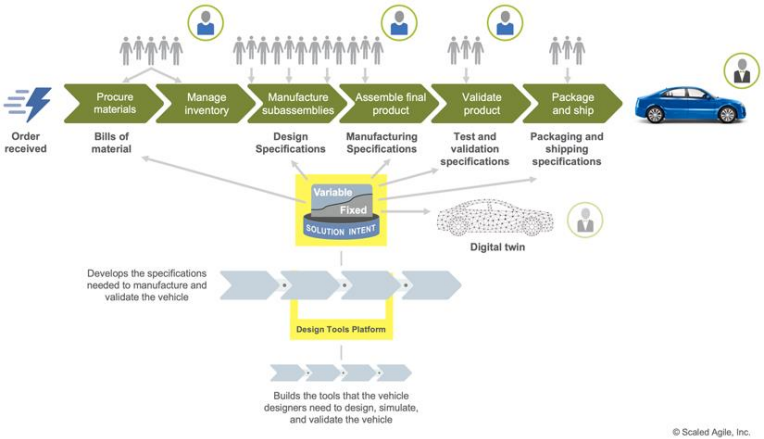


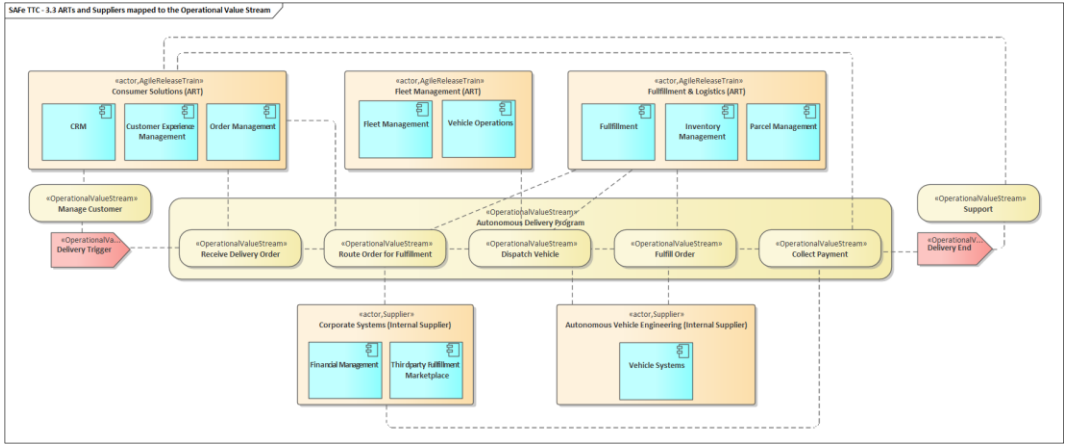
Source: https://www.scaledagileframework.com

The SAFe shortcut towards Enterprise Architecture in Sparx (2)



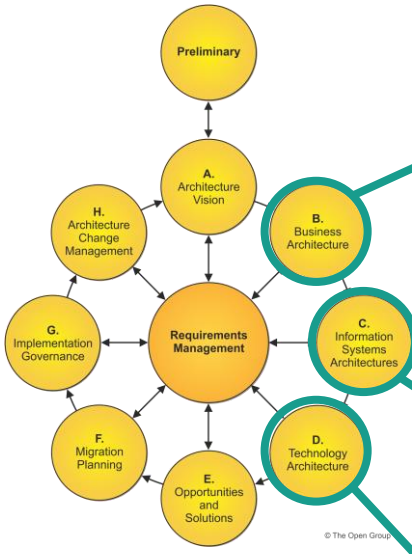




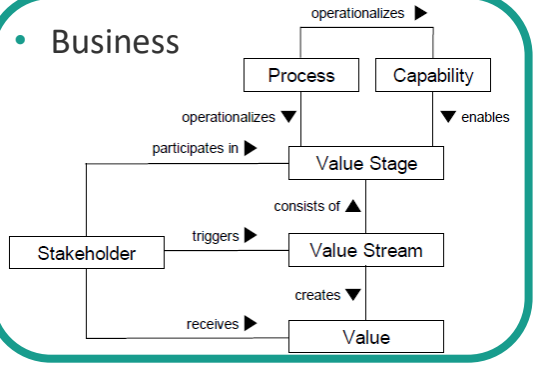


Source: https://www.scaledagileframework.com/development-value-streams

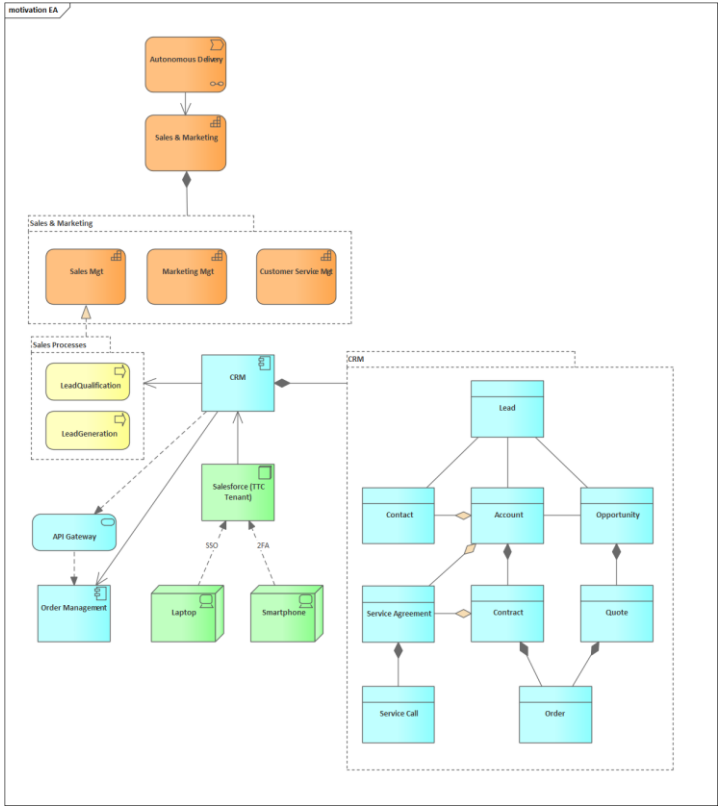
Adding the other Enterprise Architecture dimensions



- Business



- Applications
- Data
- Technology
- Infrastructure
- Security
- Integration

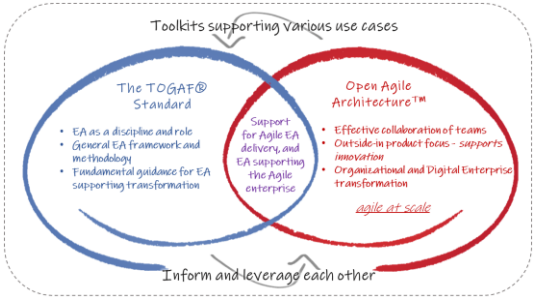


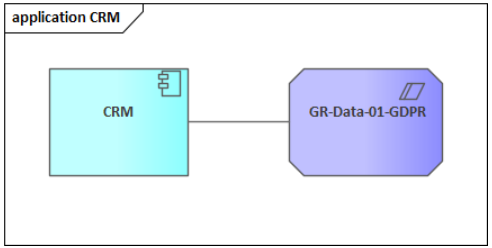
Source: https://www.opengroup.org/certifications/togaf-business-architecture-level1

Balancing Intentional Architecture with Emergent Design

Creating Pragmatic SAFe Solution Intent with Sparx

Architectural Guardrails





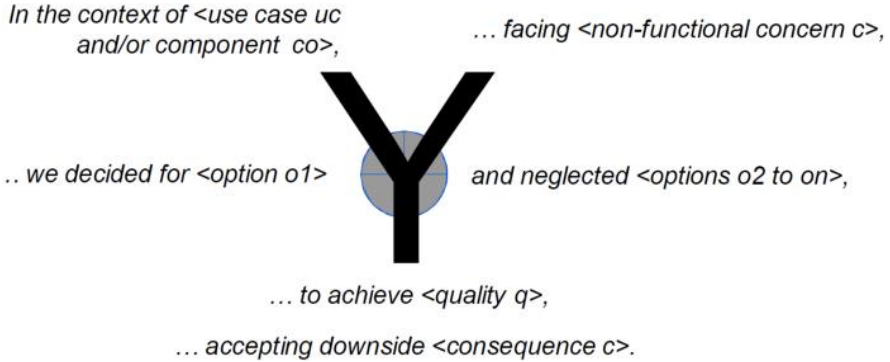
Another **mechanism that organizations use to bake-in evolvability into their system architectures** is the concept of architectural guardrails. As with their real-world roadside equivalents, software guardrails are designed to keep people from straying onto dangerous territory.

In real terms, guardrails represent a lightweight governance structure. They document how an organization typically "does" things – and how, by implication, development teams are expected to "do" similar things. For example, a guardrail may document not just the specific availability requirements for a new service, but also how the organization goes about meeting such requirements. Typically, guardrails are used in combination with an external oversight team – be this an architecture board, guild, or program office. Typically, the message from such oversight teams is simple: **if you stick to the guardrails, you don't need to justify your architectural choices** – we will just approve them. **However, in those situations where you could not abide by a guardrail, then we need to discuss it**. If your reasoning is sound, then we may well agree with you and modify our guardrails, but we reserve the right to tell you to change your approach if there was no good reason not to abide by the guardrails.

The key to their power is that they are not mandates. They do not impose absolute bans on teams taking different approaches; rather they encourage creativity and collaboration, and encourage the evolution of the governance structure itself.

Source: https://pubs.opengroup.org/architecture/o-aaf/snapshot/Agile_Architecture_Framework.html#_guardrails

Architectural Decisions



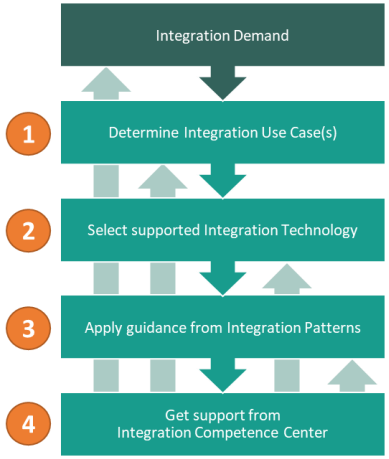
Collaborate with WebEA

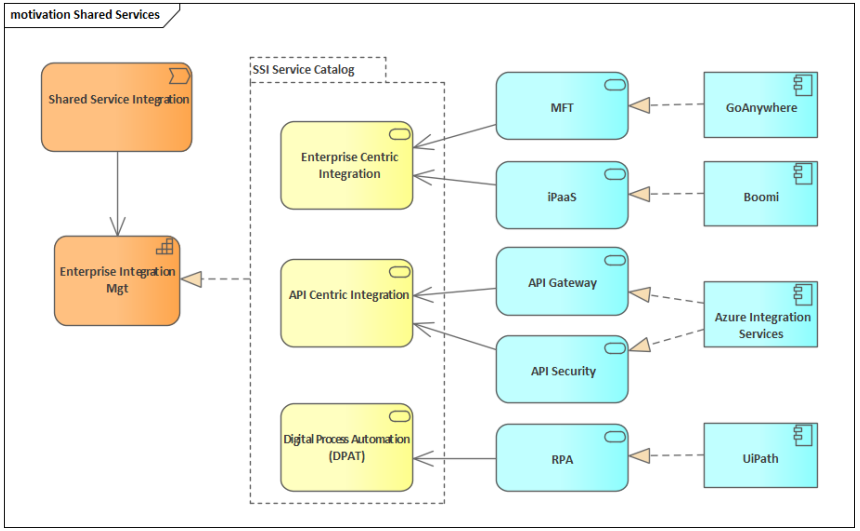
Atlassian Confluence

- Y-Statement: A light template for architectural decision capturing
- Architectural Decision Record (ADR)

Source: https://medium.com/olzzio/y-statements-10eb07b5a177
https://www.cognitect.com/blog/2011/11/15/documenting-architecture-decisions

Development Value Streams vs. Shared Services

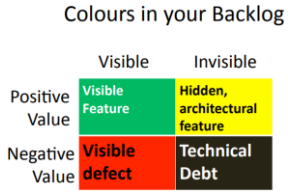




Source: https://www.scaledagileframework.com/shared-services

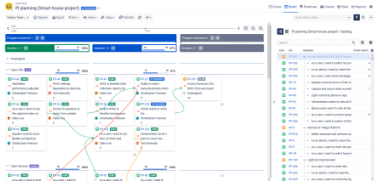
How Sparx can help addressing these real-world challenges

1. Identifying and justifying the priority of enablers in order to realize strategy execution requires the “full stack” of Enterprise Architecture, not only the “shortcut” SAFe takes towards it.



- “full stack” EA in Sparx, based on catalog approach (lists, matrices)
- Linkage to collaboration tools via WebEA

2. The dependency management that the architectural runway requires is a continuous challenge (it takes effort inside each value stream, even more between value streams and/or shared services)



- Traceability in Sparx
- Linkage to collaboration tools via WebEA

3. Delegating solution & system architects to value streams and shared services also triggers the downsides of that decentralization (isolation, defragmentation and inconsistently capturing emergent design)

- Centralized Sparx repository
- WebEA

Collaborate with WebEA

Next Steps

Creating Pragmatic SAFe Solution Intent with Sparx

Next Steps

Toolkit 1.0

Prolaborate

Collaborate	Inform	Integrate
with WebEA	with Prolaborate	with OSLC RESTful API