Be Agile. Scale Up. Stay Lean

Building the Lean|Agile Enterprise with the Scaled Agile Framework

By Dean Leffingwell
10 October, 2013
About Dean Leffingwell

**Author**
- Managing Software Requirements
- Scaling Software Agility
- Agile Software Requirements

**Coach**
- Creator: Scaled Agile Framework
- Agile Enterprise Coach
  - To some of the world’s largest enterprises
  - Agile Executive Mentor
    - BMC, John Deere
- Chief Methodologist
  - Rally Software
- Cofounder/Advisor
  - Ping Identity, Roving Planet, Silver Creek Systems, Rally Software

**Executive**
- Founder and CEO
  - ProQuo, Inc., Internet identity
- Senior VP
  - Rational Software
  - Responsible for Rational Unified Process (RUP) & Promulgation of UML
- Founder/CEO
  - Requisite, Inc.
  - Makers of RequisitePro
  - Founder/CEO
  - RELA, Inc.
  - Colorado MEDtech
The Scaled Agile Framework® (SAFe)

The Scaled Agile Framework is a proven, publicly-facing framework for applying Lean and Agile practices at enterprise scale.

- Synchronizes alignment, collaboration and delivery
- Well defined in books and now on the web
- Scales successfully to large numbers of practitioners and teams

**Core values:**
1. Code Quality
2. Program Execution
3. Alignment
4. Transparency

http://ScaledAgileFramework.com
Why
Our modern world runs on software. What doesn't now, likely will soon.

We’ve had Moore’s Law for hardware, and Moore’s Law+ for envisioning what software could do.

But our prior development practices – waterfall, RAD, iterative and incremental – haven’t kept pace.

Agile shows the greatest promise, but was developed for small team environments.

We need a new approach – one that harnesses the power of Agile and Lean – but applies to the needs of the largest software enterprises.
Roots of the Scaled Agile Framework

Iterative and Incremental Development

Lean Thinking

Agile Development

Product Development Flow

Field experience at enterprise scale
SAFe Delivers Business Results

- Significant increase in employee engagement
- 30-50% faster time to market
- 20-50% increase in productivity
- 50%+ defect reduction
Business Results

- Field Issue resolution time down 42%
- Warranty expense down 50%
- Time to production down 20%
- Time to market 20% faster
- Employee engagement up 9.8%

Source: Chad Holdorf, John Deere, Intelligent Systems Group. Dallas, Texas Presentation, Dec 2011

- More responsive to market needs
- More engaged, empowered Development teams
- Productivity up 20-50%
- Significantly improved Product Management-Dev teamwork
- Higher returns, reduced investments in unfinished work

Business Results

Productivity increased at least 20-25%

Time to market and quality increased dramatically

Nearly zero defects after each tire store system release

“No additional headcount and we're taking on more than ever”

March 12, 2012 News Release

“TradeStation Receives Highest Rating In Barron’s Annual Ranking of Online Brokerage Firms”

Best Trading Experience and Technology

Higher star-rating than 23 other leading brokers, including Schwab, Fidelity, E*TRADE…

Source: Chris Chapman, Director of Product Development, Discount Tire

Source: Keith Black, CTO and VP, Product Development, TradeStation Technologies
Lean Thinking Provides the Tools We Need

The Goal: Value

Respect for People

Product Development Flow

Kaizen

Foundation: Leadership
**THE GOAL**

- Sustainably shortest lead time
- Best quality and value to people and society
- Most customer delight, lowest cost, high morale, safety

**Minimize delays, handoffs and non-value added activities**

All we are doing is looking at the timeline, from where the customer gives us an order to where we collect the cash. And we are reducing the timeline by reducing the non-value added wastes.

– Taiichi Ohno

We need to figure out a way to deliver software so fast that our customers don’t have time to change their minds.

– Mary Poppendieck

Most software problems will exhibit themselves as a delay.

– Al Shalloway
Respect for People

The Goal: Value

Respect for People
Product Development Flow
Kaizen

Foundation: Leadership

PEOPLE

- Develop individuals and teams; they build products
- Empower teams to continuously improve
- Build partnerships based on trust and mutual respect

People do all the work

- Your customer is whoever consumes your work
  - Don’t trouble them
  - Don't overload them
  - Don't make them wait
  - Don't impose wishful thinking
- Don't force people to do wasteful work
- Equip your teams with problem-solving tools
- Form long-term relationships based on trust
Kaizen

**BECOME RELENTLESS IN:**

- Reflection
- Continuous improvement as an enterprise value

**We can do better**

- A constant sense of danger
- Small steady, improvements
- Consider data carefully, implement change rapidly
- Reflect at milestones to identify and improve shortcomings
- Use tools like retrospectives, root cause analysis, and value stream mapping
- Protect the knowledge base by developing stable personnel and careful succession systems
Product Development Flow

Principles

1. Take an economic view
2. Actively manage queues
3. Understand and exploit variability
4. Reduce batch sizes
5. Apply WIP constraints
6. Control flow under uncertainty: cadence and synchronization
7. Get feedback as fast as possible
8. Decentralize control

Reinertsen, Don. Principles of Product Development Flow

© 2008 - 2013 Scaled Agile, Inc. and Leffingwell, LLC. All rights reserved.
Be Agile.
Unlock the Power – The Agile Manifesto

The Agile Manifesto unlocks the power of the individual and the team

Individuals and interactions over processes and tools
Working software over comprehensive documentation
Customer collaboration over contract negotiation
Responding to change over following a plan

That is, while there is value in the items on the right, we value the items on the left more

http://www.agilemanifesto.org
Agile Accelerates Value Delivery

**WATERFALL**

- Requirements
- Design
- Implementation
- Verification

**AGILE**

- Documents
- Documents
- Unverified Code
- Software

**Documents**

**Unverified Code**

**Software**

© 2008 - 2013 Scaled Agile, Inc. and Leffingwell, LLC. All rights reserved.
Agile Teams

- Empowered, self-organizing, self-managing cross-functional teams
- Valuable, fully-tested software increments every two weeks
- Scrum project management practices and XP-inspired technical practices
- Teams operate under program vision, system, architecture and user experience guidance
- Value description via **User Stories**
You can’t scale crappy code

Code Quality Provides:

- Higher quality products and services, customer satisfaction
- Predictability and integrity of software development
- Development scalability
- Higher development velocity, system performance and business agility
- Ability to innovate
A system must be managed. It will not manage itself. Left to themselves, components become selfish, competitive, independent profit centers, and thus destroy the system. . . . The secret is cooperation between components toward the aim of the organization.

– W. Edwards Deming
Scale to the Program Level

- Self-organizing, self-managing team-of-agile-teams
- Continuous value delivery
- Aligned to a common mission via a single backlog

- Common sprint lengths and estimating
- Face-to-face planning cadence for collaboration, alignment, synchronization, and assessment
- Value description via *Features* and *Benefits*
Develop on Cadence. Deliver on Demand.

Development occurs on a fixed cadence. The business decides when value is released.
Program Execution

Agile Release Trains – self-organizing teams of agile teams – reliably and frequently deliver enterprise value

- Driven by Vision and Roadmap
- Lean, economic prioritization
- Frequent, quality deliveries
- Fast customer feedback
- Fixed, reliable cadence
- Regular Inspect and Adapt drives continuous improvement
Stay Lean.
A system is a network of interdependent components that work together to try to accomplish the aim of the system.

A system must have an aim. Without an aim, there is no system.

– W. Edwards Deming
Scale to the Portfolio

- Portfolio Vision gives the system an Aim
- Centralized strategy, decentralized execution
- Investment themes provide operating budgets for trains
- Kanban systems provide portfolio visibility and WIP limits
- Objective metrics support governance and kaizen
- Value description via **Business** and **Architectural Epics**
Alignment

Alignment from Portfolio to Program to Team

- Clear content authority
- Face-to-face planning
- Aligned Team, Program and Business Owner objectives
- Cross-team and cross-program coordination
- Architecture and UX guidance
- Match demand to throughput
Lean|Agile Program Portfolio Management

Lean|Agile PPM enables and fosters lean and agile practices for business results

1. Decentralized decision-making
2. Demand management; continuous value flow
3. Lightweight epic business cases
4. Program Management
5. Decentralized, rolling-wave planning
6. Agile estimating and planning
7. Self-managing Agile Release Trains
8. Objective, fact-based measures and milestones
Transparency builds confidence, alignment and trust

- All backlogs and progress visible to all stakeholders
- Objective reporting based on working, tested, evaluated code
- Everyone understands backlog, capacity, velocity, WIP
- Management leads and fosters open environment
Lead
Foundation: Leadership

- Take responsibility for Lean|Agile success
- Understand and teach Lean|Agile behaviors
- Are trained in practices and tools of continuous improvement
- Teach problem solving and corrective action
- See with their own eyes. “No useful improvement was ever invented at a desk.”
- Managers develop people. People develop solutions.

Management is trained in lean thinking
Bases decisions on this long term philosophy

Lean Thinking Manager-Teachers
Conclusion

- The foundation of Lean is leadership
- The foundation of SAFe is you