Enterprise Scaled Agile

Becoming a Lean Enterprise

Kelli Houston
Agile Transformation Lead
IBM, GTS, Technical Innovation and Automation (TI&A) Team
kelli@us.ibm.com

IBM
Look familiar?

WE'RE GOING TO TRY SOMETHING CALLED AGILE PROGRAMMING.

THAT MEANS NO MORE PLANNING AND NO MORE DOCUMENTATION. JUST START WRITING CODE AND COMPLAINING.

I'M GLAD IT HAS A NAME.

THAT WAS YOUR TRAINING.
Agenda

• Why change?
• How does agile @ scale help?
• How do you get started?
• What is the Scaled Agile Framework® (SAFe®)?
• How does IBM support agile @ scale?
• How does IBM scale agile?
• Next Steps
Why do we need to change?
The market is changing…

Innovation is the key to differentiation
  • Technical Innovation to reduce development cost and increase differentiation
  • Business Innovation to enable new sources of revenues

Need to quickly respond to market and customer feedback along the full lifecycle

As a result:
  • Lean/Agile/Design Thinking becoming key innovation enablers
  • Digital Twins/Threads becoming a key component of customers digital transformations
Challenges are more complex ...

- Increasing system complexity
- Rapid reduction in cycle times
- Risk meeting customer/market needs
- Products in a continuous release cycle
- Solutions cross organizational boundaries
- System-wide collaboration demands
- Increased product variation

A “system” is more than just a single “feature”
To address these challenges, you need to transform across the organization.

**Alignment**
- Strategy
- Vision
- Cadence
- Vocabulary
- Methodology

**Quality**
- Build quality in!
- Align artifacts
- Validate early
- Leverage MBSE and design thinking
- Consider enabler efforts

**Transparency**
- Single source of truth
- Visibility and collaboration
- Progress, status, health
- Measured improvement

**Execution**
- Plan and adjust, continuously
- Assess planned and actual value
- Work in smaller batch sizes
- Be lean and agile!
Focus on Getting from Idea to Wow!

Line-of-business
“I have an idea”

Development
“Create a feature”

Operations
“Manage a feature”

Customer
“Awesome feature”

But how do we ensure that “awesome feature”?

It’s simple really… bring more who, why and WOW! to the what
How does agile @ scale help us?
Balance Efficiency & Effectiveness to deliver the right things right!

- **Effectiveness**
  - Continuous feedback
  - Alignment with business strategy
  - Faster time to value with higher quality

- **Efficiency**
  - Continuous improvement
  - Elimination of bottlenecks and waste
  - Reduced rework and faster cycle times

Are you driving in the right direction? Are you moving as fast as possible?
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

Source: SAFe Principles
Key concepts of agile @ scale

**Kanban**
- Apply leaning thinking across the portfolio – at ALL levels! – to eliminate waste and respect work-in-process (WIP) limits

**Economic thinking**
- Avoid the “loudest voice, biggest stick” syndrome
- Rank and prioritize based on “biggest bang for the buck” – greatest value at lowest cost

**Value-based delivery**
- Capture the notion of value, track it, assess it, report on it – improve it!
How do you get started?
Transform the environment

**People:** Establish an organization-wide culture with the right set of skills to embrace lean and agile values – everywhere, across all teams, every day

**Process:** Apply lean and agile principles in the planning, development, deployment and delivery of value and then monitoring feedback to improve – continuously

**Tools:** Provide a framework that enables the implementation of lean and agile practices – easily – while also providing traceability and visibility of work across multi-disciplinary teams
People: The cultural transformation …

… I had access to up-to-date information on what we are doing for our key customers – as soon as I ask!

… I could prove to stakeholders – Support, Sales, Services – that we are responsive to their requirements.

… I could demonstrate how our organization is making smart investment decisions.

… I had visibility into where my priorities were on the delivery roadmap.

… I didn’t have to stop what I’m doing to create spreadsheets with status information.

… I didn’t have to bug anyone to get information on the latest capabilities being delivered.

… I could participate in the planning process and have my voice heard!

… We were more efficient so that I didn’t have to spend evenings and weekends to plan the next release.

… I didn’t have to answer the same questions over and over and over …

I wish…
Process: Consider an industry-standard methodology
The Scaled Agile Framework® (SAFe®)

- Publicly available framework
- A system of integrated proven practices
- Know-how for implementing Lean-Agile software and system development at enterprise scale
- A few fundamental immutable principles
- Many practices that can be tailored
- Initially released in 2011
- Large market adoption and growing

Do as much or as little “SAFe” as you want to boost your value and achieve success
Tools: IBM’s Collaborative Lifecycle Management (CLM) solution

**Synchronizes** teams by…

- **Planning** based on a single, cross-domain source of truth
- **Automating** full traceability
- **Managing** with dashboards and reports
- **Demonstrating** compliance
- **Orchestrating** multi-speed IT
- **Supporting** multiple platform / processes / languages
- **Enabling** simple collaboration

“With IBM’s solution, we already realize that the different roles within the development lifecycle are cooperating much closer”

Christof Hammel, Product Manager, Automotive ALM at Bosch Automotive referencing IBM Rational solution for CLM
What is the Scaled Agile Framework® (SAFe®)?
The Levels

SAFe® 4.0 for Lean Software and Systems Engineering

Provided by Scaled Agile, Inc.
SAFe® for Lean Enterprises (SAFe 4.5)

Four Configurations

Full SAFe
Like 4-Level SAFe 4.0

Portfolio SAFe
Like 3-Level SAFe 4.0

Large Solution SAFe
No Portfolio

Essential SAFe
Program & Teams Only

http://scaledagileframework.com
The People
The Backlogs
Value Delivery

SAFe® 4.0 for Lean Software and Systems Engineering

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SAFe Delivers Business results

- 10 – 50% happier, more motivated employees
- 20 – 50% increase in productivity
- 30 – 75% faster time-to-market
- 25 – 75% defect reduction

See scaledagileframework.com/case-studies
How does IBM support agile @ scale?
• Get up and running quickly with out-of-the-box infrastructure to implement all levels of SAFe
• Simplify change to culture and process with quick and easy access to SAFe guidance
• Improve agility and predictability with role-based dashboards for visibility to continuously adjust business goals
• Easily customize to fit your specific needs and organization

For more information: jazz.net/safe
Support for all levels, multiple processes

Templates enable you to set up a SAFe tooling infrastructure that supports best practices out of the box!

Flexible configuration options allow you to choose what works for you!
### Key value propositions

<table>
<thead>
<tr>
<th>Category</th>
<th>Value Proposition</th>
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</thead>
<tbody>
<tr>
<td>Organizational Alignment</td>
<td>Cross-domain collaboration and end-to-end visibility</td>
</tr>
<tr>
<td>Invest Within Capacity to Deliver Quickly</td>
<td>Adopt lean principles at all levels, rank smarter to deliver the right things right</td>
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<tr>
<td>Focus on Client Value</td>
<td>Elaborate solutions by applying design thinking methods to get feedback early and often</td>
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<tr>
<td>Measure, Learn and Improve</td>
<td>Demonstrate measured improvement and plan more effectively</td>
</tr>
<tr>
<td>Get Up &amp; Running Quickly</td>
<td>Complete SAFe alignment out of the box</td>
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</table>
How does IBM scale agile?
Our motivation to change…

Increase *efficiency* and *effectiveness* of our continuous delivery process

**Pressures**
- Wasted time on low-value activities
- Feature delivery cycle time too slow
- No insight into ability to deliver value

**Improvements**
- Adoption of lean and agile principles organization-wide
- Portfolio-level planning on business release boundary
- Data persistence through tooling for visibility, traceability, reporting

*But first, we had to address the hardest part → Change the way we work!*
People, Process and Tools!

Scaled Agile Framework® (SAFe®)?
Why SAFe?

It’s important to our customers

- Not vendor-specific, independently developed
- Based on sound lean and agile principles applied across all layers of an enterprise organization
- Well-defined
- Addresses issues current enterprises face today

It’s important to us

- Consistent terminology that is well-defined (so we don’t have to do that!)
- Standard framework known across the industry (so we don’t have to prove the value!)
- Experts that can help

Lead by example

- By leading a SAFe-based transformation internally, we have personal understanding of the challenges and benefits specifically when applying our own tools to address the issues
Our Evolutionary Approach to Agile Transformation

1. Drive the culture shift – Find our WOW! factor
   - Understand challenges
   - Identify compelling reason to act
   - Find the WOW

2. Scope the Transformation
   - Map ALM organizations to SAFe levels
   - Clarify focus areas

3. Align to a Common Cadence
   - Make sure all teams are executing on a common cadence to drive alignment and coordination

4. Implement Kanban
   - Clarify workflow, limit work in progress and focus efforts on achieving value
   - Clarify solution, including acceptance/success criteria
   - Explicitly tie business goals and objectives to specific work being executed by the teams

5. Leverage Economic Ranking
   - Use WSJF for ranking
   - Apply priority to further refine the ranked list to reflect “must do” items

6. Establish Supporting Infrastructure
   - Clarify artifacts
   - Establish single source of the truth
   - Drive common understanding of process/ceremonies
Addressing the culture shift – Find our WOW! factor

“What if… ?”

I could clearly map my team’s work to high priority business themes?

I could get visibility into which work items are proposed for the next few iterations?

I could show customers our roadmap and vision based on real-time information?

I could see how we are investing and where I can re-balance?

We had a great example of business planning and IT execution aligned with SAgile to share with clients?

What if we could do this with our own tools??

I didn’t have to spend my days creating spreadsheets and PPTs?

I could see which items are at risk across all of the teams?

We could streamline the arduous internal processes?

I could get status without having to ask for it?

Business Executive

Team Lead

Product/Release Manager
## Scope the Transformation

<table>
<thead>
<tr>
<th>IBM Organization (1)</th>
<th>IBM Organization (2)</th>
<th>SAFe Level</th>
</tr>
</thead>
<tbody>
<tr>
<td>CLM Organization</td>
<td>ALM Organization / ALM Portfolio</td>
<td>Portfolio</td>
</tr>
<tr>
<td>N/A</td>
<td>ALM (IBM Continuous Engineering Solution)</td>
<td>Value Stream</td>
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<tr>
<td></td>
<td></td>
<td>Initial transformation focus</td>
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<tr>
<td>Product and Foundation Teams</td>
<td>Product and Foundation Teams</td>
<td>Program</td>
</tr>
<tr>
<td>Product Feature/Component Teams</td>
<td>Product Feature/Component Teams</td>
<td>Team</td>
</tr>
</tbody>
</table>

**Initial transformation focus**
Our “taxonomy”

Portfolio Strategy and Initiatives
“What” will differentiate us – aligned with business strategy
“Why” will it do that
Definition of solution/project that realizes the value delivery and ROI proposition
Economic thinking!!!

Analysis (Solutioning)
Detailed definition of Solution Intent and Context
Formal requirements “live” here (if necessary): System, User, Non-Functional Requirements
Use Cases: Scenarios, Roles, Wireframes

Refinement of “what” and “how”
Demonstrable value at each iteration

Technology Delivery
“How” will we deliver capabilities
Technology decisions live here

Program Increment = Release
Breakdown into lower levels of granularity – Portfolio > Value Stream > Program > Team
Refinement and re-prioritization is a collaborative effort between Offering Management and Engineering

Offering Management

Engineering

Strategic Theme
Portfolio Epic
Scope: Cross-Value Stream, Multi-year

Solution Epic
Scope: Cross-Program, > 1 Program Increment

Capability
Scope: Cross-Program, Program Increment

“Features” (any work item type)
Scope: Cross-Team, Program Increment

Story (Use Case)
Scope: Sprint

Task (Technology)
Scope: < Sprint
Align to a Common Cadence

• Established a common timeline for releases/program increments (every 6 months) and sprints/iterations (every month)
  • Quarterly releases were used initially, but customers could not consume releases that quickly
• Releases include a collection of capabilities
• In progress assets are shared with stakeholders at the end of every sprint
• Achieving a common cadence is always challenging, but worth it!
Portfolio Kanban

“New Ideas”

Solution Epics are created in the Value Stream Kanban Funnel

Portfolio Epic Kanban

Capabilities are created in the Capability Kanban Funnel

Solution Epic Kanban

Plan Items are created in the Program backlog

Capability Kanban
Establish Supporting Infrastructure (Full SAFe Configuration)

Our SAFe Portfolio environment uses CLM* with SAFe 4.5 to orchestrate the planning and delivery of the CLM and CE tooling.

ALM Portfolio

ALM Solution (CE/CLM)

* We self-host on the latest CLM environment – always!
“Working” dashboard for all Stakeholders

Executive View
Alignment
Planning
Status
Design
Process Enforcement

Executive Summary: What does this mean?
Shows the Capabilities Proposed on the roadmap along with tracked Program Work Items (if they exist) with associated development commitment and DCP Boca values.
What’s been hard, but worth it!

<table>
<thead>
<tr>
<th>Challenges</th>
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</thead>
<tbody>
<tr>
<td><strong>Identifying the right “kidney”:</strong></td>
</tr>
<tr>
<td>- Finding the right resources, Teams, Programs, Strategic Themes for optimal execution</td>
</tr>
<tr>
<td><strong>Adopting lean principles at the portfolio and portfolio levels:</strong></td>
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<tr>
<td>- Implementing a portfolio and program Kanban system</td>
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<tr>
<td>- Eliminating business and engineering silos</td>
</tr>
<tr>
<td><strong>Writing good Epics and Features:</strong></td>
</tr>
<tr>
<td>- User grammar or not?</td>
</tr>
<tr>
<td>- Coarse-grained or fine-grained?</td>
</tr>
<tr>
<td><strong>Reaching “Steady State”:</strong></td>
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<tr>
<td>- <em>Really</em> getting rid of spreadsheets</td>
</tr>
<tr>
<td>- “If it is not in the backlog; it’s not real”</td>
</tr>
<tr>
<td>- Identifying the right metrics</td>
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## Transformation Retrospective

### What Works
- Portfolio planning process pretty well “baked”; in planning meetings, we receive positive feedback … This $%^& works!
- “Working” dashboard for all Stakeholders; single source of the truth
- Some articulation of solution intent and context, acceptance/success criteria, lifecycle scenarios, capabilities
- Traceability between Portfolio Epics, Solution Epics, Capabilities (RTC)
- Traceability to Portfolio level artifacts (e.g., Strategic Themes, Solution artifacts, etc.) (RDNG)
- Using WSJF to come up with initial ranked list of Epics and Capabilities
- Applying priority to further refine the Capability ranked list to include those “must do” items
- Some solution test related to Solutioning artifacts

### What Needs to Improve
- More widespread articulation of solution value, intent and context, acceptance/success criteria, lifecycle scenarios
- Kanban view not used for workflow; no enforcement of WIP limits
- Need adequate solution architects to address solutioning needs
What’s next?
What’s next?

Focus on Quality
- Acceptance Criteria
- Solution Testing
- Self-Hosting

Design
- Scenarios/Usage Models
- Solution Consistency

Better “Process”
- Work Item Status
- Proposed & Planned For
- WSJF

Stakeholder Engagement
- Tagging
- Reporting
Where can I learn more?


IBM Support for SAFe®:
- References/Case Studies:
  - [Blog] Words of wisdom from a few of the scaled agile "experts" at Interconnect 2017
  - NICEActimize DevOps.com interview: IBM InterConnect 2017 w/Igal Levi, NICE Actimize
  - Pôle emploi: Scheduling and prioritizing development backlog with the Scaled Agile Framework
  - Softplan: Gaining robust visibility with IBM Rational software and the Scaled Agile Framework methodology
  - US Department of State: Customer Reference: Video, IBM.com
  - IBM Support for SAFe Landing Page
  - Getting Started with SAFe
  - SAFe 4.5 Assets
  - Contact Us: safeinfo@bg.vnet.com
Thank you!

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