‘Scaling’ Agile
Implementing SAFe

April 7, 2015 Tuesday 3:00-4:00 p.m. 50 Church St., 3rd Floor
Agenda

- Experience with Adopting Agile at HUIT
  - IAM and Agile: A History
- Why Scaled Agile Framework (SAFe)?
- SAFe Basics
- Implementing SAFe: IAM and Cloud & DevOps
  - Program Increment Planning
  - Breaking Down Work: Business Objective to User Story Task
- Takeaways and Lessons Learned
IAM and Agile: A History

A look back in time…

Step 1: Attend HUIT-sponsored Agile training
- Learn the terminology and practice the basics

Step 2: Implement Agile for existing teams (adopted by IAM 11/12)
- Create cross-functional scrum teams
- Adopt scrum and iterative development cadence:
  - Two-week sprints
  - Daily standups
  - Requirements in sprint-sized user stories, maintained in a backlog
IAM and Agile: A History

We liked being Agile!

Our transition to Agile methodology got a positive reaction both inside and outside the program team:

• We worked faster

• We delivered completed work more frequently

• We were able to manage changing priorities effectively
IAM and Agile: A History

The Five Levels of Planning
Always accurate, but at varying levels of precision.

- **Product Vision**: Long-term, 12+ months
- **Product Roadmap**: 12-18 months, revised quarterly
- **Release Planning**: 3-6 months, revised each sprint
- **Sprint Planning**: Every 2 weeks
- **Daily Planning**: Every day
We liked being Agile … but ...

We struggled to effectively plan beyond one sprint at a time:

• Larger deliverables were difficult to decompose
• Delivery dates for major releases were hard to validate
• Cross-team delivery of new features was rare and frustrating

Something had to change.
IAM and Agile: A History

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* Indicates the level with the most frequent updates.
At Last — the Program Plan!

IAM Executive Status Dashboard – May 12, 2014
Prepared by Jason Snyder

PROGRAM NARRATIVE
The team continues to make a significant progress against the plan. We completed the cloud reference architecture and reviewed with Amazon and the Enterprise Architecture team. It appears to present a foundation architecture for other cloud initiatives. The provisioning toolset, BatchPro, is scheduled to go live this month. Performance testing is ongoing and represents the greatest risk for delay, but we believe we will meet the scheduled deployment timeline.

CRITICAL SUCCESS FACTORS

EXECUTIVE ATTENTION NEEDED
Update: User ID collisions - Captured records from HMS, HKIS, and SEAS and compared against central IAM to identify number of conflicts.
Update: SSH in our database - Plan is ongoing and will be reviewed by Scott Brander.
Update: Password policy - Intent is to use FIM policy as the starting point for our implementation.

PROJECT STATUS

PROJECT PLAN SUMMARY

Today
The Missing Piece

- **Product Vision**: Long-term, 12+ months
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What We Tried First: Release Planning
What We Tried First: Release Planning

Provisioning Overview
IAM Knowledge Base / ... / Project Charter: SailPoint/ Provisioning
Created by Ann Lurie, last modified on Sep 09, 2014

Provisioning
A SailPoint Release

Deployment Date(s)
Deployment #1 on 12/07/2014

<table>
<thead>
<tr>
<th>Release Scope</th>
<th>JIRA Information</th>
<th>Release Status</th>
</tr>
</thead>
</table>
| Implement the first production release of SailPoint that will write data to targets; University AD. | • JIRA epic (release) name: SPFOUND  
• JIRA version name(s):  
• Deployment #1: SPF1  
• JIRA components:  
  - Feature #1: Provision University AD through IiQ  
  - Feature #2: Create Privileged Users in IiQ  
  - Feature #3: University AD Password Reset in IiQ  
  - Feature #4: Front-HQ with Shib-IdP  
  - Feature #5: Report Configuration for Orphan Accounts  
  - Feature #6: VB Script Converted to PowerShell  
  - All JIRA user stores for SPFOUND | During Dev/Test Phase:  
  • Scope change (in story points) this sprint.  
  • X of Y points completed this sprint, and cumulative.  
  • Change to forecasted date(s) this sprint |

Provision University AD through the Sailpoint Connector

Fully implement privileged users in IiQ for IAM Team and Helpdesk Users using standard IiQ capabilities

Front IiQ with the Shib/IdP for authentication - Deferred (May 2014)

Users Impacted: FAS GSD HDS GSE SPH Central Admin (existing University AD users for network, email and other applications)
What We Tried First: Release Planning
Introducing Scaled Agile Framework (SAFe)
SAFe: Key Program-Level Concepts

A group of Agile teams (ART) brought together to deliver value
• Team of 5-12 Agile teams (50-125 people total) planning, committing, and executing together within a fixed period of time

ART teams work with a common backlog of features
• One common backlog of program priorities and objectives
• Common architectural and design principles

Agile Release Train Engineer coordinates work (hint: usually a PM)
• “Scrum of Scrums”
• Continuous inter-team coordination and status reporting

All “cargo” goes on the train
• Architecture, documentation, and supporting deliverables are the responsibility of the ART
Why Scaled Agile?

Scaled Agile gives us a framework for extending our process to ...

Larger-scope items in parallel work streams:

- Provides a middle layer of scope items between story (very small) and release (very large)
- Requirements are described as minimally as possible

Over longer time increments:

- A “program increment” cadence proceeds in parallel with sprint cadence, enabling a quarterly long-view planning process

Across multiple delivery teams:

- Program increments are defined for the team as a whole rather than individual scrum teams
And we are still adhering to Agile principles!

Sprint practices and ceremonies are **scaled**:

- Backlog of scope items (features) is maintained and prioritized
- Team commits to delivering a set number of scope items in a time-boxed increment
- Team works collaboratively to deliver scope items throughout the increment
- At the end of the increment, we take time to reflect and adjust its process, enabling future success
IAM’s Implementation of SAFe

The key SAFe practice used by IAM and Cloud & DevOps is centered around the program increment (PI):

- Six sprints in length, time-boxed
- Scope items are described as business objectives and features
- Commitments are made on a quarterly basis by the IAM team as a whole...
- ...at quarterly full-day off-site program increment planning meetings
IAM’s Implementation of SAFe

**SPRINT 1**
2 weeks

- Sprint planning
- Task planning
- Backlog grooming
  Repeat for each sprint

- Retrospective
- Demo
- Publish/distribute summary of work completed and features released
- Report status
  Repeat for each sprint
IAM’s Implementation of SAFe

**PROGRAM INCREMENT (PI)**
12 weeks

**SPRINT 1**
2 weeks
- Write backlog for current PI
- Develop list of candidate features for next PI
- Sprint planning
- Task planning
- Backlog grooming
  Repeat for each sprint

- Retrospective
- Demo
- Publish/distribute summary of work completed and features released
- Report status
  Repeat for each sprint

- Update team and external stakeholders on any revisions to scope
- Retrospective
- Program demo (include external product owners)
- All-staff meeting to discuss next PI epics, features, and high-level stories
IAM’s Implementation of SAFe

Increment planning meetings are quarterly team activities that replicate sprint-level activities on a larger scale.

• Retro the prior increment
• Introduce the proposed scope of the new increment
• Team validates scope:
  • Size high-level stories
  • Schedule high-level stories into sprint-by-sprint plans
• Identify dependencies and risks that need follow-up work
• Make a commitment
IAM’s Implementation of SAFe
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Product Vision
Long-term, 12+ months
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3-6 months, revised each sprint
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Every 2 weeks
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<table>
<thead>
<tr>
<th>Business Objective (TBD)</th>
<th>Feature</th>
<th>Feature Breakdown (High-Level Stories)</th>
<th>Team (Proposed)</th>
<th>Notes</th>
</tr>
</thead>
<tbody>
<tr>
<td>BD1: Alumni Provisioning and Account Management</td>
<td>Alumni1: Alumni integration with AuthN Application</td>
<td>1. Integrate PNCAS, ShibDIP and ADP with Alumni authentication (H-LDAP) (Prod ready) 2. Redesign PIN Login Page to support Alumni Authentication through H-LDAP (Prod ready)</td>
<td>PIN</td>
<td>1) Browser UI: Alumni login type will be there (no changes for user experience) 2) Internally map post.harvard login type to H-LDAP, creates a dependency on the CLOUD team 3) When we expand application to other populations, the user interface has to be changed to make it generic for all users.</td>
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<tr>
<td>BD1: Alumni Provisioning and Account Management</td>
<td>Alumni2: Support management of Alumni users in MSAD</td>
<td>1. Migrate from Weblogi to Tomcat 2. Modify MSAD to enable viewing of Alumni roles and Alumni-specific contact data to a subset of MSAD roles 3. Testing link</td>
<td>GO</td>
<td>DEV/GO</td>
</tr>
<tr>
<td>BD1: Alumni Provisioning and Account Management</td>
<td>Alumni3: Implement UX changes to Alumni Registration recommended by Usability</td>
<td>1. Redesign the Alumni Account Registration process according to Usability design (Prod ready)</td>
<td>PIN</td>
<td>External dependency on Usability delivery, most likely not ready to be worked on until April 1. This is a lot of individual “features” and most all comprise the MIF. Noteworthy is the fact that we have to take work incomplete in PI-2 and rework for the UX design that will come from Usability consultants.</td>
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<tr>
<td>BD2: FAS Provisioning and Account Management</td>
<td>FAS1: Move sponsored account creation out of WaveMail</td>
<td>1. Create a task to create a list of sponsors and go from there</td>
<td>GO</td>
<td></td>
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<tr>
<td>BD2: FAS Provisioning and Account Management</td>
<td>FAS2: Enable FAS users to claim, manage and authenticate with a HarvardsKey</td>
<td>1. Implement design and implementation of FAS for all populations (Prod ready) 2. Claiming: Implement of Login Name work to include unique Login Name for all identifiers, left side “user name” business role, right side domain generation through H-LDAP (Prod ready) 3. Password: Implement password logic (Prod ready) 4. Password Reset (known current PW): Confirm current PW for new PW commit to ILQ (Prod ready) 5. Activate Enrollments—Design and implement</td>
<td>PIN for 1-4</td>
<td>MIF for Alumni, FAS (Excepting MFA) Dependency on RD for new attributes for Login Name implementation. Dependency on Usability delivery. Dependency on CLOUD team for H-LDAP maintenance. Outstanding Question: Is the ability to activate a new entitlement to be available in PI3 as MIF? Answer: Yes; part of MIF for PI3 as far as the planning stage is concerned. Could be revisited if the PI is too full. Outstanding questions:</td>
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IAM’s Implementation of SAFe
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<table>
<thead>
<tr>
<th>Task</th>
<th>Description</th>
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<tbody>
<tr>
<td>FAS2</td>
<td>Enable FAS users to claim, manage, and authenticate with a Harvard key.</td>
</tr>
<tr>
<td>FAS3</td>
<td>Database-level changes to support FAS, including adjustments to existing feeds.</td>
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<tr>
<td>FAS4</td>
<td>Reconfigure cube and rework community logic.</td>
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<tr>
<td>FAS5</td>
<td>Establish Sailpoint IQ view into RHDS for account.</td>
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<tr>
<td>FAS6</td>
<td>Allow a password for users when creating a password.</td>
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<tr>
<td>FAS7</td>
<td>Deploy Claim app to QA env. and ensure RHDS, CAS, and LDAP work together.</td>
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<tr>
<td>FAS8</td>
<td>Change the name of the application in DEV.</td>
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<tr>
<td>FAS9</td>
<td>Database work to support FAS sponsored affiliation POI rules.</td>
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<tr>
<td>FAS10</td>
<td>Deploy to stage.</td>
</tr>
<tr>
<td>FAS11</td>
<td>Database changes to support FAS sponsored affiliation POI rules.</td>
</tr>
<tr>
<td>FAS12</td>
<td>Implement UNIVME attribute level provisioning rules.</td>
</tr>
<tr>
<td>FAS13</td>
<td>Clean up IQ code base.</td>
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# IAM’s Implementation of SAFe

## Sprint 1 Status (3/25/15):

<table>
<thead>
<tr>
<th>Feature</th>
<th>Status Summary</th>
<th>Baseline Estimate</th>
<th>Points Completed</th>
<th>Points Written/Sized</th>
</tr>
</thead>
<tbody>
<tr>
<td>Alumni1: Alumni integration with AuthN Application (PIN)</td>
<td>Only one story has been identified.</td>
<td>18</td>
<td>0</td>
<td>1 Story/ 0 Sized</td>
</tr>
</tbody>
</table>
| Alumni2: Support management of Alumni users in MIDAS (GO) | Feature on schedule:  
- MIDAS has been migrated from Weblogic to Tomcat.  
- Work has begun on the ability to view Alumni data in MIDAS | 63 | 13 | 10 Stories/ 5 Sized: 52 Story Points |
| Alumni3: Implement UX changes to Alumni Registration recommended by Isobar (PIN) | Isobar has delivered the build kit and the PIN team will plan the user stories this sprint: to be worked on starting in Sprint 3. | 40 | 0 | 1 Story/ 1 Sized: 3 |
| FAS1: Move sponsored account creation out of WaveSet (GO) | Work has been started for this feature, even though it was scheduled for sprint 3 in the program increment planning. | 45 | 0 | 7 Stories/ 1 Sized: 8 |
| FAS2: Enable FAS users to claim, manage and authenticate with a HarvardKey (PIN) | This feature will be a larger effort than anticipated due to that the team’s resources had to complete the following items before ‘actual’ feature work could be started:  
- Knowledge sharing necessary to get all developers up to speed  
- Code clean-up work needed for the KeyApplication  
- Create branch for cloud deployment adding Apache redirects | 246 | 52 | 29 Stories/ 21 Sized: 133.5 Story Points |
Another Example: Cloud & DevOps

What if you don’t have a program plan?
Can you still get value out of scaled Agile practices?
In progress!
CloudOps and DevOps will have long-term vision statements and roadmaps.

For now, the closest thing to a vision:

Move 75% of apps to external cloud providers in 3 years
Program Increment Planning

We conducted a cross-functional team planning session to identify the Agile release teams that deliver value for the program.

- In PI-1, the team measures value by minimal viable product (MVP) needed to start cloud migrations
- Includes Network, Security, Infrastructure, Cloud & DevOps teams

**Agenda for 2/25: (Day #1)**

9:00-9:30 – Review Goals and Outcomes for Planning Session
9:30-10:00 – Review Agile Overview and Consistent Team Practices for Managing Work
10:00-12:00 – Define Version 1.0 for CloudOps, DevOps, Network, and Architecture, Define the Lifecycle of 1 Application
12:00-12:30 – Define and Plan Pre-Implementation Work
12:30-1:00 – Review Wave 1 Application Scope and Determine Start Date

*Homework* – Create Initial Draft of Pre-implementation Schedule. Create Draft Wave 1 Schedule (25 Apps)

**Agenda for 2/26: (Day #2)**

9:00-10:00 – Identify CloudOps, DevOps, Network, and Architecture Dependencies, Map Milestones on Schedule
10:00-11:00 – Define the Business Objectives for Program Increment #1
11:00-12:00 – Discuss Continuous Improvement, Product Roadmaps for CloudOps and DevOps

*Future Planning* –
- Repeat Exercise for remaining Wave 1 Applications
- Create Program Admin Plan (Communications, Training, QA)
Cloud & DevOps Implementation of SAFe

Product Roadmap
12-18 months, revised quarterly
Cloud & DevOps Implementation of SAFe

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3-6 months, revised each sprint
Cloud & DevOps Implementation of SAFe

Sprint Planning
Every 2 weeks
Cloud & DevOps Implementation of SAFe

Daily Planning

Every day
Takeaways and Lessons Learned

SAFe enables teams to plan and deliver **larger-scope items** in **multiple work streams** over **longer timeframes** using **multiple scrum teams**.

- Establish a cadence using time-boxed, repeated activities that span multiple sprints
- Higher levels of planning require less detail and fidelity
- Create traceability methods that demonstrate how each task relates back to the high-level goals of a program increment
- Be faithful to Agile principles:
  - Adaptability and openness to change
  - Finished work is most important outcome
  - Never skip the retrospective!
Thank you!