

### HARVARD UNIVERSITY

## **Navigating the IAM Roadmap**

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### **Presentation Objectives**

- services as part of a major IAM program at Harvard University Describe how our planning approach enabled us to roll out new IAM
- Explain how adopting the use of the Scaled Agile for planning helped us
- Discuss roadmap challenges that we face, and foster discussion

## IAM Program at Harvard: Vision

HARVARD UNIVERSIT

Identity & Access Management

A HUIT Program

Provide users, application owners, and IT administrative staff with

## secure, easy access to applications; solutions that require fewer login

credentials; the ability to collaborate across and beyond Harvard; and improved security and

auditing.

### iam.harvard.edu



### What is Identity and Access Management?

Identity and access management (IAM) technologies and business processes enable the creation, maintenance, and use of digital identity — ensuring that the *right people* gain access to the *right materials and records* at the *right time*. The identity & Access Management program at Harvard serves the needs of the entire Harvard Community by implementing IAM best practices via technologies and methods that improve convenience and ease of access for students, faculty, staff, and affiliates while safeguarding University records and other key data.

#### I WANT TO ...



### HARVARDKEY

s HUIT rallies to test the HarvardKey 3.0 functionality September 9, 2016

With just a few days notice, over 50 HUT employees responded to a request to run through the functionality included in the Hanardikey 3.0 release in a testing session held on Friday. September 9th. These testers help to refine the actual user experience of activating two-step verification within the Hanardikey self-service application and also to 'road test' the new Duo AP to ensure large volumes of people could be accommodated setting up two-step verification all at once. Valuable feedback was collected by the Technology Office's UX team, who facilitated the session <u>Read more</u>



every member of the incoming class had their login credential and email accounts provisioned before they even arrived on campus! The Class of 2020 claimed their larvardKeys upon receiving their admissions notices in the spring and used that to access <u>my harvard</u>. Over the summer, HUT staff worked with the FAS Registrar's Office to confirm that every freshman had their @college.harvard.edu email account created. <u>Read more</u>

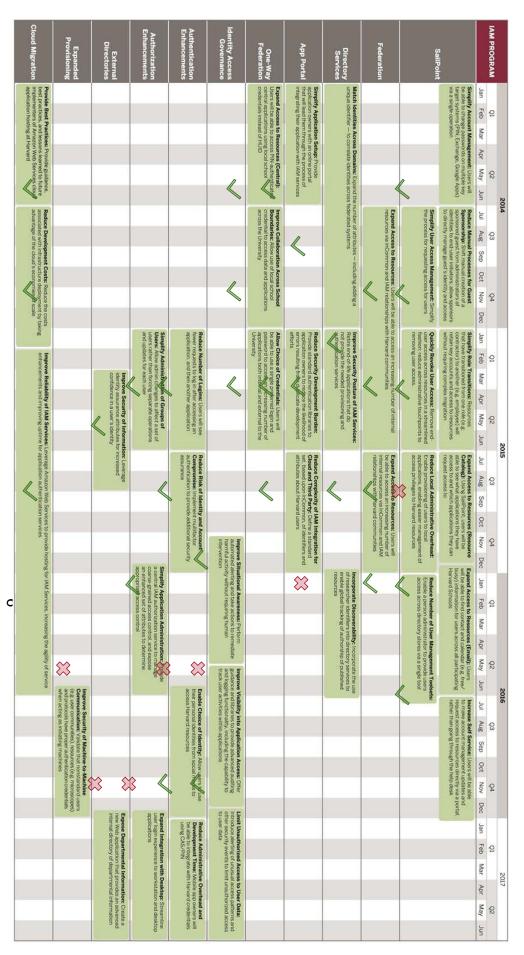
Vision $\rightarrow$ Objectives $\rightarrow$ Key Deliverables	liverables
<b>Simplify User Experience</b> Simplify and improve access to applications and information inside and outside of the University	<ul> <li>New user account management solution HarvardKey</li> <li>Self-Service for enrollment in services</li> </ul>
<b>Enable Research &amp; Collaboration</b> Make it easier for faculty, staff, and students to research and collaborate within the University and with other institutions	<ul> <li>Automated account provisioning and deprovisioning</li> <li>InCommon Federation (Incommon.org)</li> <li>Groups (in progress)</li> </ul>
<b>Protect University Resources</b> Improve the security stature of the University via a standard approach	<ul> <li>Stronger password management</li> <li>Two-step verification (DUO)</li> <li>Authentication Services for Applications (CAS, SAML2)</li> <li>Groups (in progress)</li> </ul>
<b>Facilitate Technology Innovation</b> Establish a strong foundation for IAM to enable user access regardless of new and/or disruptive technologies	<ul> <li>Sailpoint and other applications, deployed in the cloud on AWS</li> <li>Identity Registry with APIs to replace point-to-point file transfers (in progress)</li> </ul>

# Stakeholders Perspective: "Imagine If..."

At the onset of the IAM project, we imagined a list of key ideas that represented an ideal state for our stakeholder groups.

Stakeholder	Imagine If	Outcome	Solution Implemented
	<ul> <li>Faculty and staff could access information and perform research across schools and with other institutions without having to use several sets of credentials</li> </ul>		$\cdot$ Harvard has Federated with InCommon to allow for resource access across other Higher Ed institutions using Harvard credentials
Staff	<ul> <li>Faculty and staff could manage their own accounts and sponsor others through a centralized web applications.</li> </ul>	COMPLETE	<ul> <li>Sponsored Account process automated and distributed across the University to allow for self-service management of Harvard partners</li> </ul>
2	<ul> <li>Students could choose to use their home school credentials to login into applications across the University.</li> </ul>		$\cdot$ HarvardKey credentials aligned to University affiliations with ability to choose login name
Sludellis	<ul> <li>Students could keep using the same set of credentials after they graduate.</li> </ul>		$\boldsymbol{\cdot}$ One HarvardKey for life for all Harvard affiliates including Students / Alumni
Technical	<ul> <li>Automated provisioning could reduce the burden on IT staff and increases the security posture of the University.</li> </ul>		<ul> <li>Automatic provisioning of access based on users' University affiliations</li> </ul>
Staff	<ul> <li>Application teams could easily integrate Harvard users with internal and external applications.</li> </ul>	COMPLETE	<ul> <li>Over 2000 applications integrated with HarvardKey</li> </ul>
External Users	<ul> <li>External users could access Harvard applications using credentials native to their home institution.</li> </ul>	COMPLETE	<ul> <li>External access to Harvard resources based with either federated login or sponsored accounts</li> </ul>

# Services → Business Value Achieved



Communicating → Expressed as Benefits	xpressed as Benefits
IAM Strategic Objectives	Impact
Simplify the User Experience	<ul> <li>Less passwords to remember</li> <li>One login for life has replaced an average of over 6 logins per user across Harvard</li> </ul>
Enable Research and Collaboration	<ul> <li>Improved access to university resources</li> <li>All schools across Harvard are integrated with common user identities that enable University email, Library services, and over 2,700 other applications</li> </ul>
Protect University Resources	<ul> <li>Better security</li> <li>University-wide adoption of standardized and improved passwords with associated two factor authentication dramatically increases security</li> </ul>
Facilitate Technology Innovation	<ul> <li>Improved participation in higher education community</li> <li>Improved sponsored guest accounts and external federation allow external researchers and university staff to collaborate quickly</li> </ul>

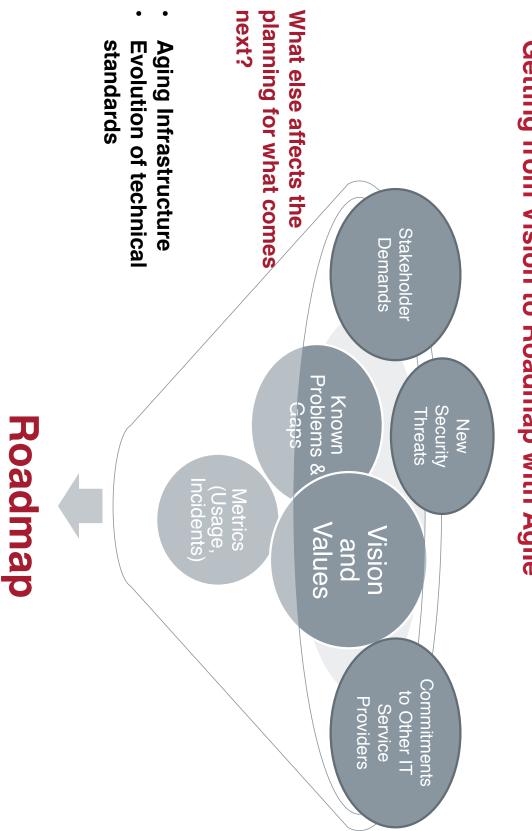
### **Planning Approach**

- Starting with a vision (listening tours)
- Validating that vision with leadership

Maintaining awareness of our organizational values

- Clearly identifying goals and objectives and tying them to the vision
- Mapping deliverables to the business objectives
- Planning the delivery in program increments (Pl)
- Measuring progress on an ongoing basis and reviewing with the team
- Communicating status against the objectives
- Revisiting relative priority of the objectives every PI

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# Getting from Vision to Roadmap with Agile

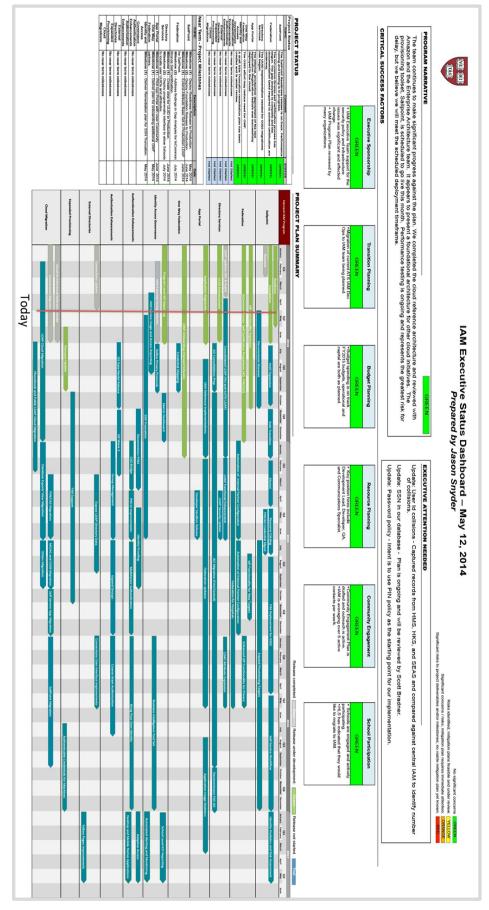
### IAM and Agile

### IAM Team liked being Agile

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

- Worked faster
- Delivered completed work more frequently
- Better able to manage changing priorities effectively

### Vision: Program Plan



### **Planning Problems**

## From sprint to sprint, there were concerns

Team had trouble understanding what was important, and why

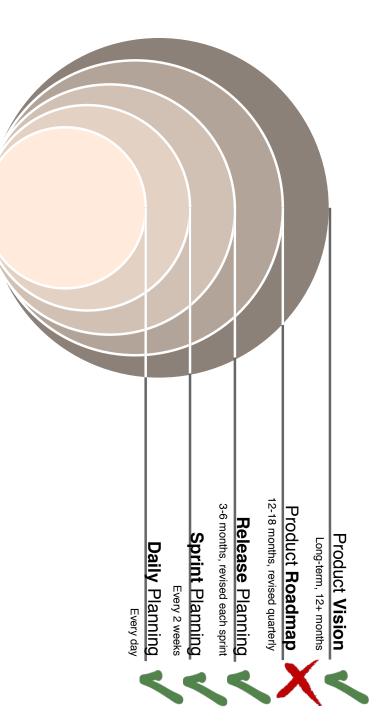
Constant complaint about changing priorities

Lack of ownership of problems due to feeling unempowered as a team

Too big a gap between the vision and the sprint objectives

 Reality of parallel streams of specialized work meant that the team did not work as a team in the true sense of agile

### The Missing Piece



## **Experiment: Try Scaled Agile**

# Provides a framework for extending process to better handle

- Larger-scope items in parallel work streams
- Over longer time increments
- Across multiple delivery teams

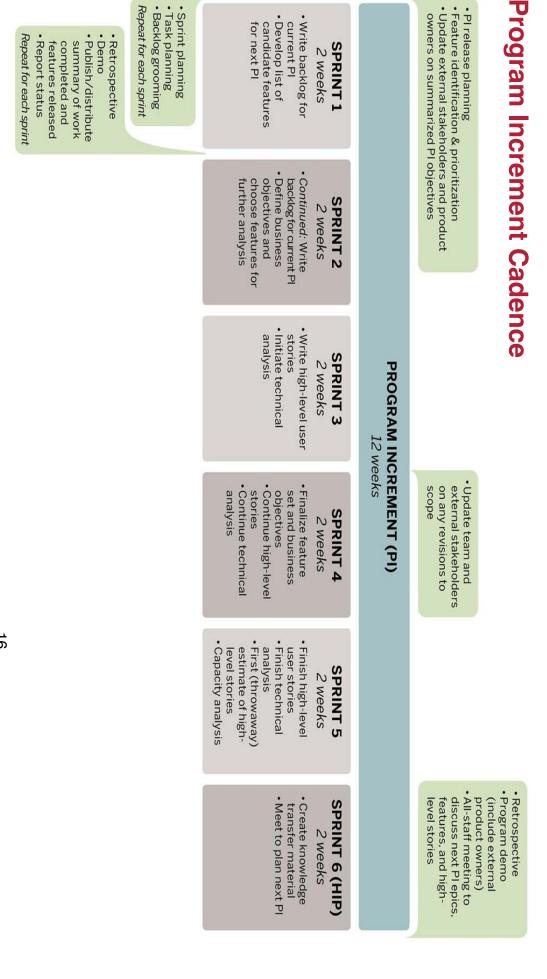
Providing a layer of scope in the middle, between "story" and "release"

## **Program Increment Planning**

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

- •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

# Four program increments per year – each with 6 sprints.



# Understanding of Roadmap By Team Is Key

# From Program Plan to Roadmap for Program Increments:

- Started with vision and values; aligned goals and business objectives
- Mapped deliverables to business objectives
- Measured status against these goals and business objectives
- Keep message consistent for governance and senior leadership

# Program Increment Planning (Each quarter $\sim$ 3 months and 6 sprints)

- Mapped features to business objectives (goals)
- Prioritize force rank them!
- Broke features into sprints
- Lay out the future program increments in advance
- Hold planning days to focus on PI scope and determining feasibility

## Progress Against FY17 Goals

Done No significant Concerns	KEY
Risk Identified Major Risk	

Goal	Program Goal	Status	Update
<b>Goal 1:</b> Increase adoption of Two Step Verification across the University	#3 Security	0	<ul> <li>Release schedule set for two-step functionality to be brought into Key</li> <li>Communication plan developed</li> </ul>
<b>Goal 2:</b> Implement centrally managed groups to enable distribution lists, access control and authorization to webbased applications	#2 Collaboration		<ul> <li>Work underway to promote initial functionality to production to validate architecture</li> </ul>
<b>Goal 3:</b> Provision identities into a school Active Directory (HKS)	#4 Foundational		<ul> <li>HKS has hired a resource to assist on project</li> <li>Planning with HUIT UC underway</li> </ul>
<b>Goal 4:</b> Enable users to opt-in and personalize email services via HarvardKey self-service	#1 Simplification		<ul> <li>Development effort targeted for next quarter to allow for O365 opt-in by FAS, DCE and SEAS affiliates</li> </ul>
<b>Goal 5:</b> Partner with HMS to define IAM elements for a retirement strategy of eCommons	#4 Foundational		<ul> <li>Conversations with HMS ongoing</li> </ul>
<b>Goal 6:</b> Establish the FY'18 funding model and transition to operational steady state	#4 Foundational		<ul> <li>Official planning effort kicked off to coordinate IAM and Finance team partnership</li> </ul>

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## **PI-8 Successes - Scrum Teams**

Features	PI-8 Features	PI-8 #	PI-8 %	PI-7 #	PI-7 %
Completed	FASMail Decommissioning, Community Customer Request, Build HKS AD, Support Broadcast Community Planning	4	29%	9	37.5%
Will Complete	Duo Enhancements, SSN Security, AD Security, Grouper Infrastructure, Grouper Ref Groups, ID Resolve, IAM Registry 2.0 Planning	7	50%	9	37.5%
Pulled Out		0	0%	4	4%
Will Carry Over	Provisioning/ De-provisioning Enhancements, Notifications Enhancements, AuthN/CAS/IdP	3	21%	5	21%
Total		14	100%	24	100%

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Business Objectives map to Epics in JIRA

Individual stories are tagged

Use of a highlevel PI Board to prioritize the high level objectives

Each team has their own board, but the use of the Epics spans the boards and captures crossteam work.

#### preparing for the transition to operations. We are in the home stretch of the Program, and we are also Finish IAM Program: **Customer Requests:** Group Service Migrate CAADs service to AD so they Database Refresh (Prod to Stage) Community adjustments to support can shut it down (Security) **Optimize performance of IIQ Turn off the PIN system Eliminate Waveset** 0365 continues to roll out New POI role types for UHS, Radcliffe provisioning Upgrade IIQ so it can handle group provisioning Security **Technical Debt & Cloud:** Ensure two-step verification adoption Migrate AZP to the cloud Address CISO priorities for AD **Complete SSN Remediation** Multiple design projects related to enable HU-LDAP migration Prepare H-LDAP with new attributes to Updates to database and environment for new affiliates to prepare for cloud migration

Critical that the team can understand the roadmap, and have some input.

PI-9 Themes: Balancing Multiple Priorities

We struggle to reduce the number of things we have to work on at the same time

Registry, XID, MIDAS for PI-10

## BO: Finish the Program by end of FY17

#### **PI-9**:

- Group Service
- Upgrade IIQ so it can handle group provisioning; optimize performance
- Upgrade IIQ so it can I
   0365 licensing via IIQ
   Eliminate Waveset (by Eliminate Waveset (by end of PI-10)
- Ś Turn off the PIN system

#### Details:

- 0365 scope includes Graduate Students from the CAPLUS schools, HKS and HLS
- Consulting support from IIQ to assist with IIQ related work, including the IIQ upgrade

# Challenges: The Roadmap Traffic Cop Has A Tough Job

- Hearing everyone, because upon examination, they are all stakeholders
- –From your lowest level user to executive level are stakeholders
- Balancing all the voices that are weighing in on what you should do Political realities
- Explaining the vision and values, and the link to objectives
- Identifying the interests of the stakeholders
- Motivating people to buy into the greater good of the whole
- How much to talk about the "why" to sell them on the reasons for doing the right thing
- Making a decision when it is \*all\* important (or so they say!)

### **Closing Thoughts**

# Preparing a roadmap is like preparing for a negotiation

- Identifying interests (which are different than objectives)
- Understanding the value of possible of objectives to the stakeholders
- Iterating and communicating not only to stakeholders, but to the team

### **Traffic: A fact of life**

- Things never actually really settle down
- All that honking and traffic is the norm
- Let the structure of the process help you keep your bearings

### Thank you!