HARVARD UNIVERSITY
Information Technology

IAM Operations Transition

CIO Council Review

January 23, 2016	Monday	Smith Center 561	2:30 pm - 3:30 pm

Agenda

- Closing Out The Plan
  - Overview of Program Deliverables and Accomplishments
  - Program Impact
- Future State Services
- Transition Strategy
  - Approach and Assumptions
  - Comparison to Peer Institutions
  - Resource Options and Recommendations
- Transition Plan
- Next Steps

Intended Objectives

The purpose of this overview is to identify how the completion of the IAM program impacts IAM operations.

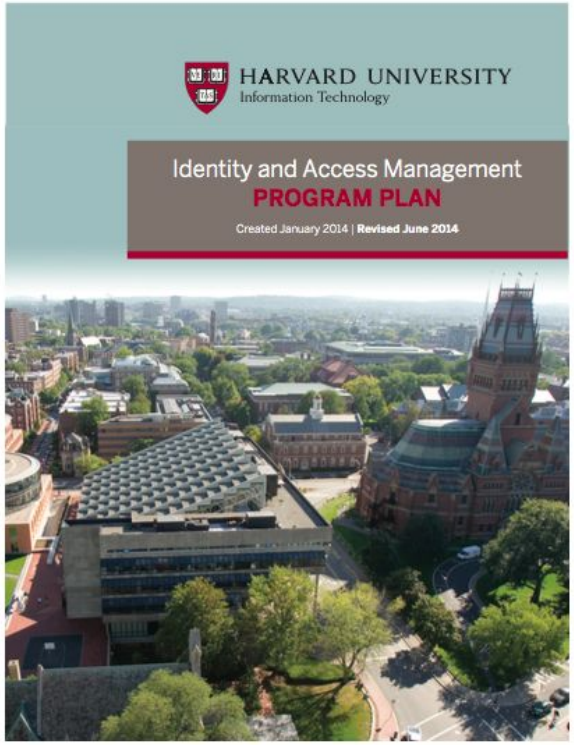
The intended objectives are to:

- achieve a common understanding of what the program has completed and the value it provides
- discuss how IAM's current program state maps to its future operational state
- discuss the future needs for ongoing IAM support

Identity and Access Management Program...

has completed what we set out to do.

- Simplify the User Experience
- Enable Research and Collaboration
- Protect University Resources
- Facilitate Technology Innovation



FY'13	FY'14	FY'15	FY'16	FY'17	FY'18+
UIAM Project Launched	IAM Strategy Published	FAS / Central Provisioning Updated	HarvardKey Released	Two Step Mandate	Continued expansion & support

ITCRB Funded Project

Achieved Goals and Impact

IAM Strategic Objectives	Impact
Simplify the User Experience	**Less passwords to remember...** ● One login for life has replaced an average of over 6 logins per user across Harvard
Enable Research and Collaboration	**Improved access to university resources...** ● All schools across Harvard are integrated with common user identities that enable University email, HarvardPhone, and over 2,000 other applications
Protect University Resources	**Better security...** ● University-wide adoption of standardized and improved passwords with associated two factor authentication dramatically increases security
Facilitate Technology Innovation	**Improved participation in higher education community...** ● Improved sponsored guest accounts and external federation allow external researchers and university staff to collaborate quickly

Before IAM - The bad old days

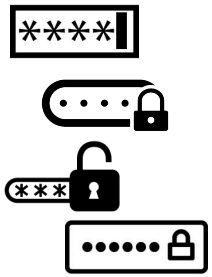
“Onboarding” happened after you were already here

- You didn’t know your ID number or how to get an account
- Then you had to get your PIN in order to get your desktop login
- But first, we needed to give you your email, so you could get the PIN

You had too many accounts, and never knew which one to use

- PIN, Desktop, Email, MeetingMaker, Sharepoint, Google

You logged into accounts with different usernames & passwords



- The passwords had different rules and expired on different timeframes
- You had to call the SupportDesk in tears because you couldn’t make a password with the PIN system that worked.
- And while you were guessing what your password was, you locked yourself out.

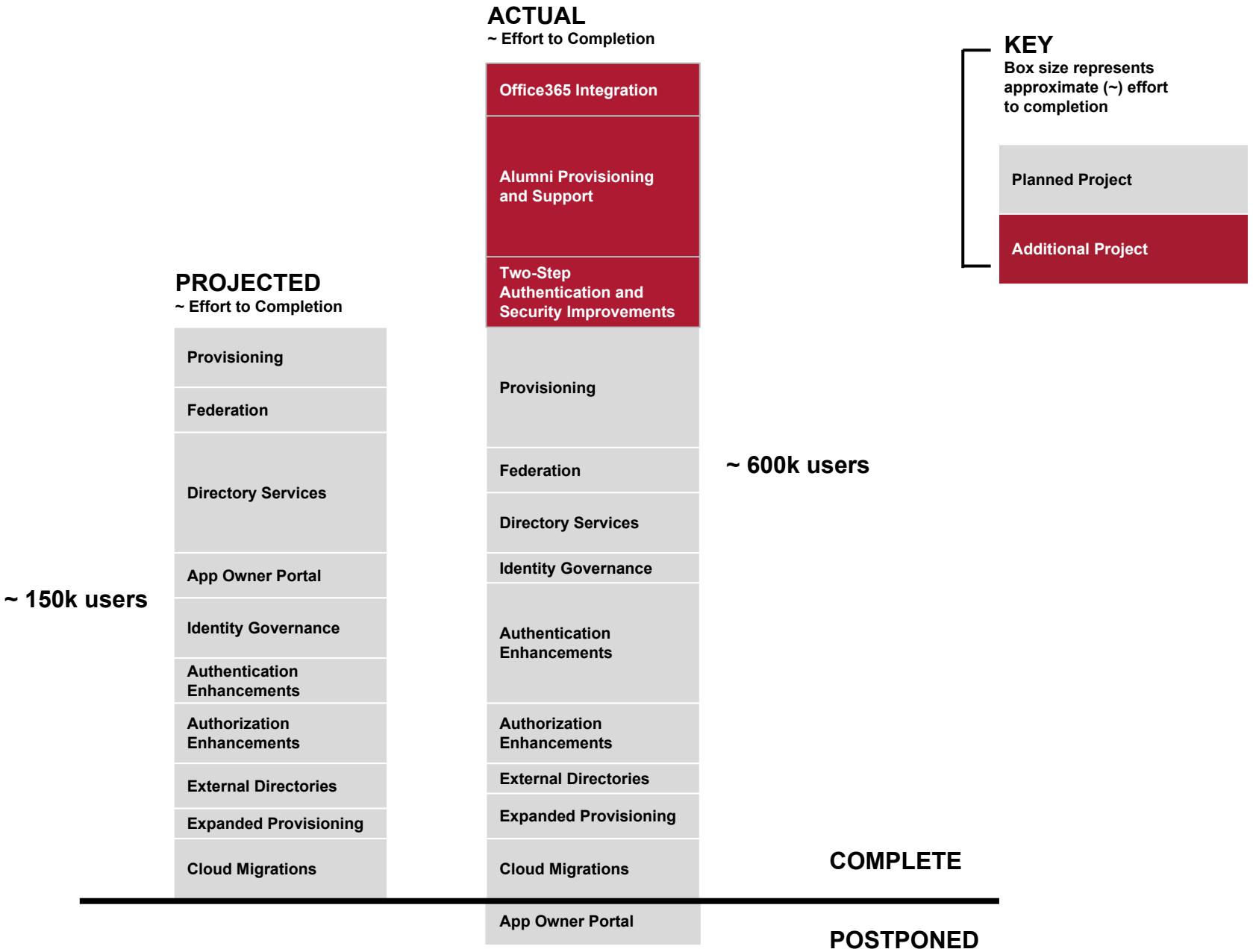
And as you walked off the stage with your hard-earned diploma, Harvard asked you to register for a new account.

“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. This is how we did:

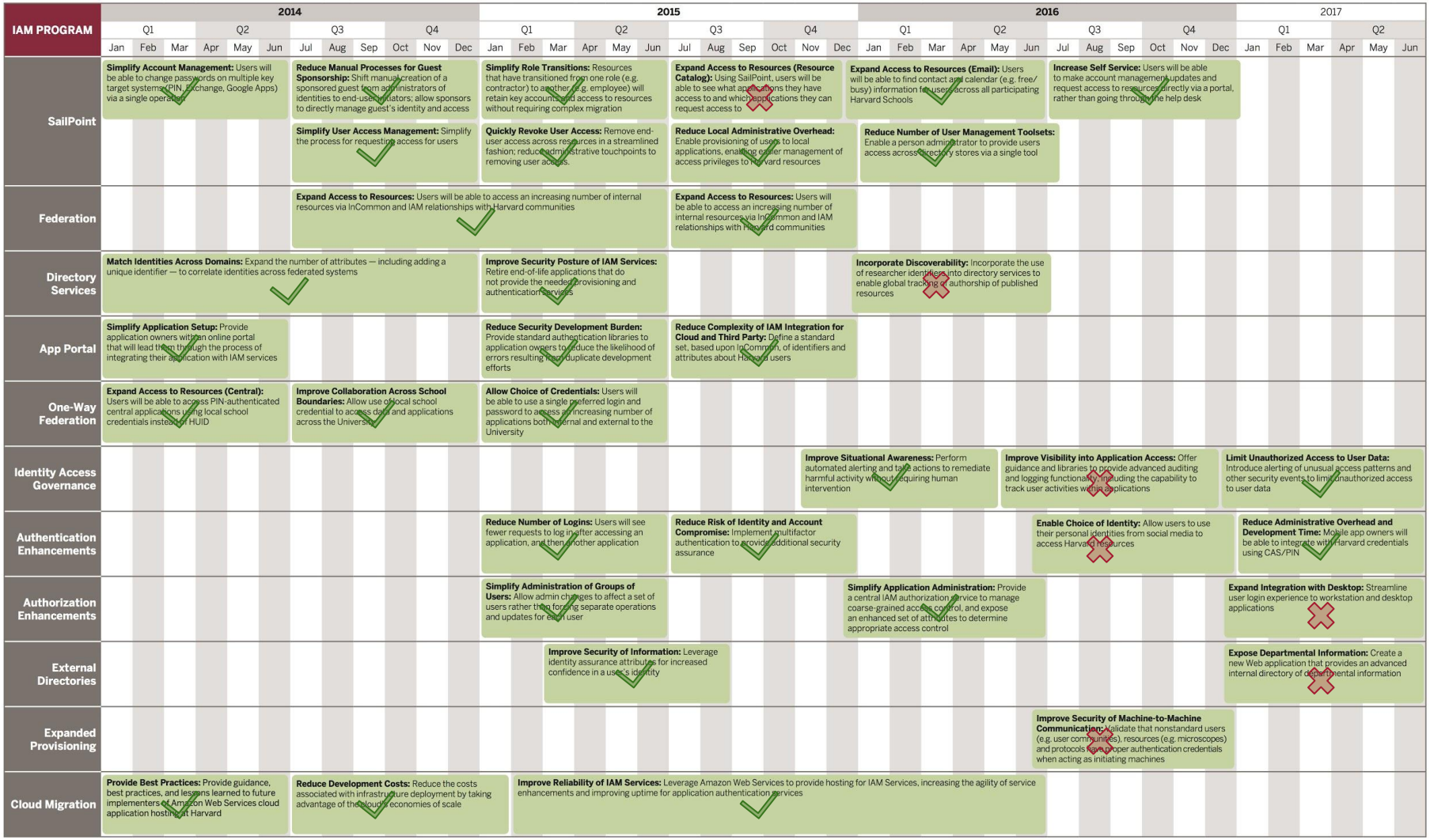
Stakeholder	Imagine If…	Outcome	Solution Implemented
Faculty and Staff	• Faculty and staff could access information and perform research across schools and with other institutions without having to use several sets of credentials. • Faculty and staff could manage their own accounts and sponsor others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

Evolving Program Focus



Business Value Achieved

Please refer to the handout



IAM by the Numbers

160,000+ HarvardKeys claimed

Over 2700 applications protected by HarvardKey

28k tickets processed by IAM in 2016

Reduction by 75% of compromised accounts due to Two-Step

31k Office365 mailboxes enabled by HarvardKey

80,000 unique users login per month

IAM Services / Organization

Future State Services and Offerings

Current Service	# offerings
End User Computing	
Collaboration Services	3 offerings
Email and Calendars	6 offerings
Field Support Services	
Network Services	
Phone Services	
IT Provider Services	
Cloud Services	
HUIT Support Tools and Systems	
Identity and Access Services	4 offerings
Network Services	
Phone Services	
Server Administration	
Web Hosting	
IT Security	
Information Security Education and Consulting	
Information Security Operations and Engineering	

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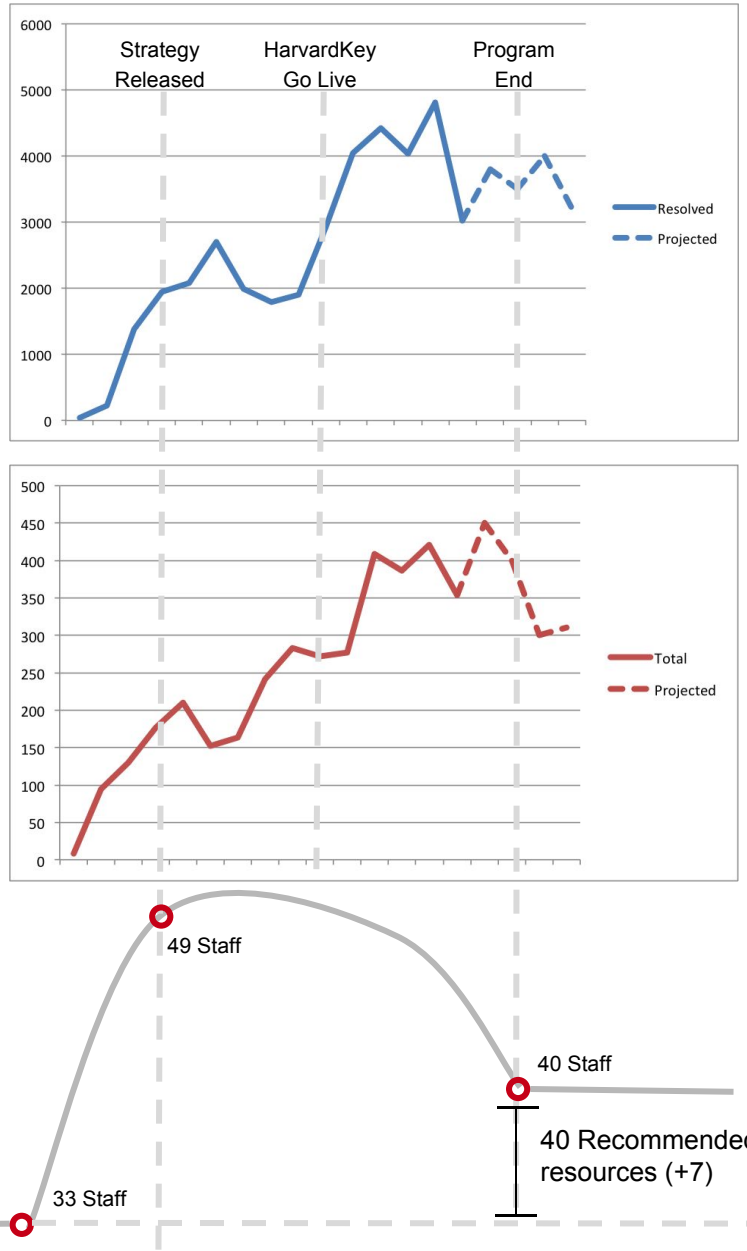
13 Services Offerings → **6 Services Offerings**

FUTURE OFFERINGS	
Collaboration Services • Account and HarvardKey Services • Email and Calendar • Groups and Guests	**Identity and Access Integration Services** • Identity Data and Provisioning • Identity Repositories • Authorization Services

See Appendix A: Service Taxonomy for more details

Capacity Analysis



Operational

- IAM serves as a critical path function for thousands of applications and every user at the University
- Assumption: Consistent Operational demand in FY'18 due to widespread adoption and continual growth due to Alumni, new University affiliates, security enhancements, and group services

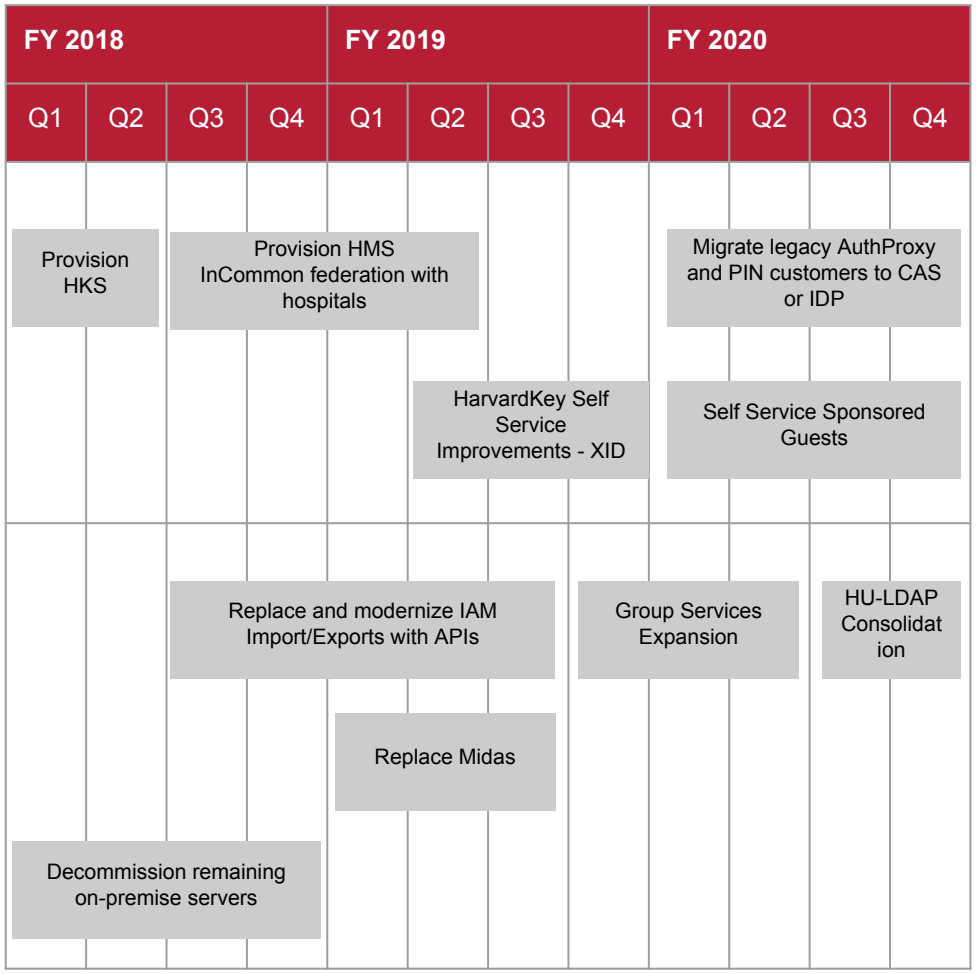
Development

- New feature development has greatly increased during the program
- IAM has a backlog of development work required to meet University demand

Staffing Recommendation

- Reduce 16 Project Staff by 65% and convert 7 existing project staff
- Split IAM into two teams aligned to service structure: User facing and Integration (backend)

Development Roadmap



See Appendix B: Service Roadmap for more details; and Appendix C for other ITCRB projects that may impact roadmap

FY'18 - 20 Development Priorities

Security

- Continued implementation of University Security policies and practices

Complete Cloud Migrations

- Migrate remaining on-prem servers to the cloud to meet University goals and significantly reduce $70k monthly server spend

Modernization

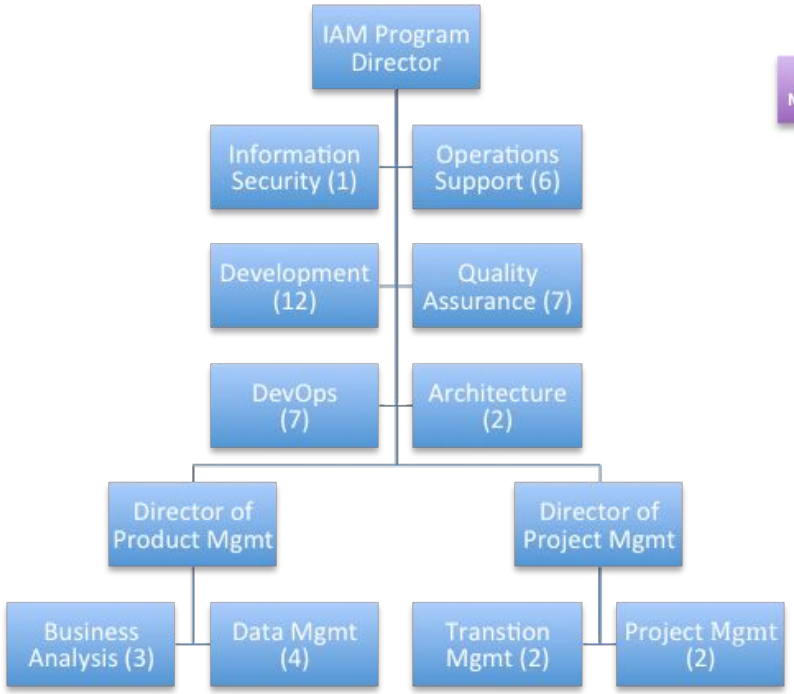
- Upgrade IAM tools and features to meet growing University needs (e.g. PeopleSoft upgrade, Unviersity data integration, APIs)

School Adoptions

- Continue IAM expansion to additional schools such as HKS, HLS, and HMS

Proposed Organizational Transition

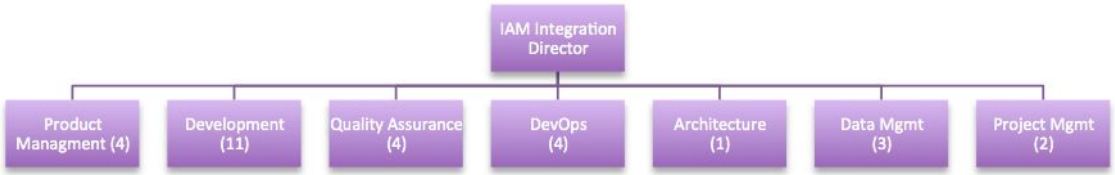
Current State



49 total staff

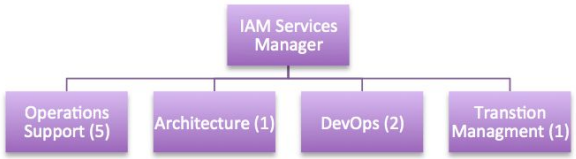
Operational State

Identity and Integration Services



30 total staff

Collaboration Services



10 staff

Expired Positions

9 total staff

40 total staff

See Appendix D for specific details

Transition Plan

1. **Simplify Service Definitions (through March 2017)**
   a. Communicate transition to customers and IAM partners
   b. Partner with ITSM to adjust service catalog for IAM services

2. **Align Organization (through June 2017)**
   a. Transition to the service based structure
      (Collaboration Services and Identity and Integration Services)
   b. Adjust budgets to align with organizational structures

3. **Growing T-Shaped Professionals (through FY'18)**
   a. Transition IAM teams from CTO Office to operating organizations
   b. Realign positions where necessary to address gaps
   c. Distribute specialized functionalities across team: DevOps/Support, Project Management, Product Management

Next Steps

- Integrate operational approach and financial plan
- Communicate approach to teams and customers
- Define separate Duo operational funding model with Security
- Realign organization and services to match vision
- Adjust budgets to align with new organizational structure
- Refine job descriptions where necessary to address gaps and future needs
- Execute organizational transition plan

Thank You / Questions

Appendix

Appendix A: Service Taxonomy

Services	Service Offerings	Offering Components
Collaboration Services	Account and HarvardKey Services	• HarvardKey self service • User identity and accounts • Service and resource accounts • Two step verification
	Email and Calendar	• Office365 email and calendar • Google apps for Harvard • Mailing lists • Active directory
	Groups and Guests	• Web conferencing • Document and file sharing • Group and list services • Sponsored affiliates and guests
Identity and Integration Services	Identity data and provisioning	• Account provisioning / deprovisioning • Identity data and registry • Identity data integration
	Identity Repositories	• Identity targets (LDAP) • Connections and white pages
	Authorization Services	• Application authorization • Federation • Backend group creation and maintenance

Appendix B: Service Roadmap

In Scope

- Group Services Expansion
- Registry Data Services
  - CDPL replaced with APIs
  - Replace Midas
  - Replace existing Import processes
  - Replace existing Export processes
  - Decommission remaining on-premise servers
- Directory Consolidation: HU-LDAP
- HarvardKey Self Service Improvements
- HMS Provisioning to AD
- InCommon federation with hospitals if requested
- Migrate AuthProxy and PIN customers to CAS or IDP
- Replace XID functions with Self Service Sponsored Guest request process

Note: There will be customer impact and costs when customers are asked to migrate from decommissioned and consolidated services

Out of Scope

- FAS AD Consolidation
- Modernize the Identity Registry to an Entity Registry for non-people based accounts (ITCRB)
- FAS LDAP Modernization
- Replace Alias Manager
- Decommission FIM
- Replace Public LDAP
- Replace Dionysus
- Provisioning users to additional targets
- OpenID Connect
- End user self-managed groups for personal use
- Application owner self service
- Resource/service account self service
- Metrics dashboard
- IAM Analytics
- Privileged Account Management

Appendix C: Outstanding ITCRB Requests

IAM has partnered with several other initiatives to support ITCRB requests for FY'18 and beyond that would impact the proposed Service Roadmap.

FY18 Request	Value to University	Impact on Roadmap
University Data Services: ***Entity Registry***	• Simplified integration with IAM data to enable service delivery • Faster time to delivery for projects • Improved security through expanded identity tracking	• Ability to expand scope of managed accounts to non-people resources • Retire outdated legacy applications
Broadcast Communications: ***Group/List Integration***	• Consistent data for communication • Increase reach of emergency communication • Alignment with policy and improved compliance	• Integrated communication tools with group service • Expand HarvardKey self-service to transition to opt-out model for emergency comm's
Security Initiatives: ***Active Directory***	• Close security gaps that put Harvard and individual users at risk	• Enhanced Active Directory (AD) security and new procedures