



Aurora Turnaround & Agile Adoption

March 9, 2017

Presented By:

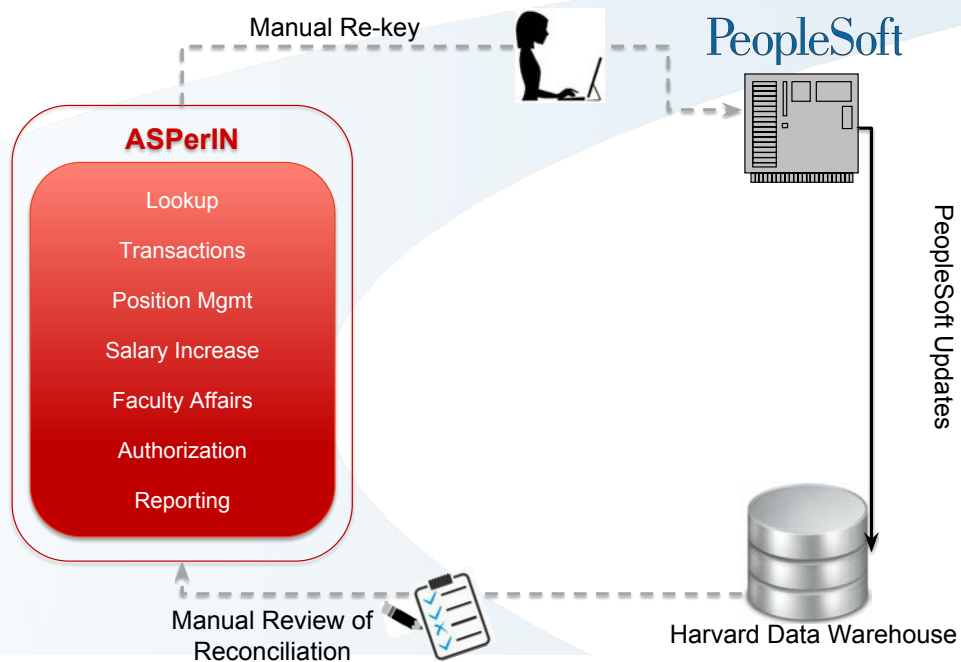
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Agenda

- Why Aurora?
- Aurora Project History
- Keys to Successful Turnaround
- Application of Scrum/Agile
- Success in Agile - Approach & Examples

Legacy System - ASPerIN



Why Aurora?

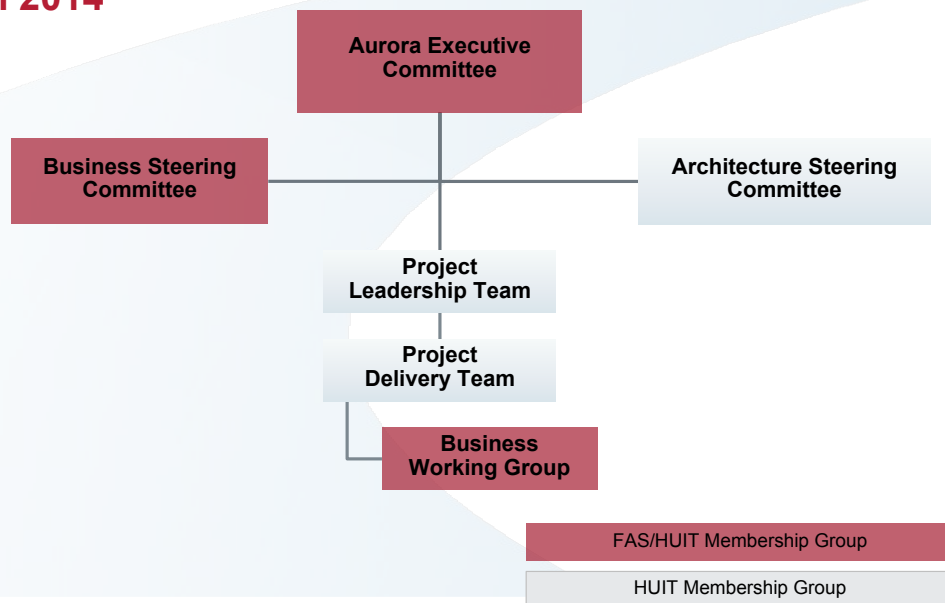
- Approval Workflow
- Position Management
- Storage of non-PeopleSoft data
- Appointments vs. Job Records
- Access to Historical FAS data

Two Steps Forward... One Step Back

- Contractors hired to augment Harvard staff
- Project plan and schedule created
- Recurring user group meetings scheduled
- System architecture and design underway
- Authorization module deployed to production
 - Contractors left the team when contracts expired
 - Team members required to play many project roles
 - Difficult to get consensus from diverse user group
- Small Edgewater technical team augments full-time staff
- Development processes stabilized
- Contract Scrum Master added to team
- Lookup module deployed to production
 - Requirements gathering stalled
 - T-shirt sizing estimate projected an 8 year timeline

Keys to Success - Governance & Vision

Fall 2014



Aurora Vision

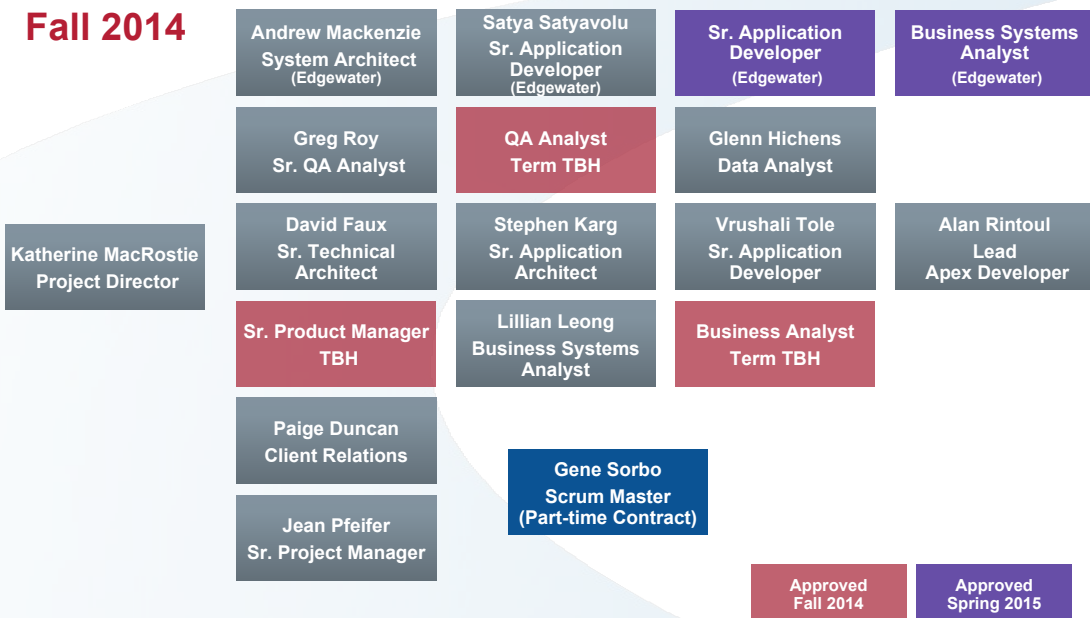
Replace the FAS Personnel Information Network, ASPerIN, with a new system that facilitates staff and academic appointment processes while ensuring:

- Existing staff and academic processes continue to be supported after the ASPerIN decommission.
- The new system is user-friendly and supports staff and academic processes in a streamlined way.
- Modern software development technologies and infrastructure are used to produce a sustainable system.

Objectives	Guiding Principles	Key Performance Indicators
<ol style="list-style-type: none"> 1. Upgrade the system to use streamlined processes, updated business rules, PeopleSoft-focused data model, and an easier and more logical user interface within the allocated budget. 2. Decommission the ASPerIN application and database, including migrating historical data and remediation of data dependencies on ASPerIN data across FAS applications. 3. Create a governance model to ensure adequate resource allocation and continued oversight aligned with the strategic priorities of FAS and HUIT leadership and business owners. 4. Migrate infrastructure to an off-premise cloud solution. (HUIT Strategic Goal) 5. Establish a change management program. Create training materials and online help tools. Roll out communication and ongoing training and support to enable a smooth transition of FAS and SEAS staff to Aurora. 	<ol style="list-style-type: none"> 1. The primary goal is to replace ASPerIN. Implementation of new functionality will occur in subsequent releases, assuming prioritization from governance committees. 2. Direct system integration will be maximized/optimized across Harvard systems, such as PeopleSoft, Campus Solutions, etc. Deliberate decisions will be made regarding functionality that is in PeopleSoft vs. Aurora. 3. System architecture will promote the use of modules to ensure flexibility in managing the lifecycle of different types of functionality, ex. Annual Salary Increase Process (ASIP) module. 4. Agile principles will be used to develop the application(s). Business users and HUIT will partner to complete requirements definition, prioritization, and testing. Functionality will be delivered in iterative releases. 5. HUIT will use modern technologies and best practices in software development, with a focus on building a sustainable system for FAS, SEAS, and HUIT. 6. The project will be managed to stay within the allocated budget. 	<ol style="list-style-type: none"> 1. Stable cloud-hosted system(s) in place that successfully manage staff and academic transactions for FAS and SEAS with streamlined processes, updated business rules, accurate PeopleSoft-focused data, etc. 2. Successful decommission of the ASPerIN application and database without affecting the ongoing performance of other FAS applications. 3. Governance committees in place and making decisions about resource allocation, application lifecycle planning, changes to the system, and new functionality. 4. Fewer customer support tickets and production bugs as compared to ASPerIN. 5. Increased user satisfaction, fewer data errors and decreased action throughput time. 6. Project is completed within the allocated budget.

Keys to Success - Project Staffing

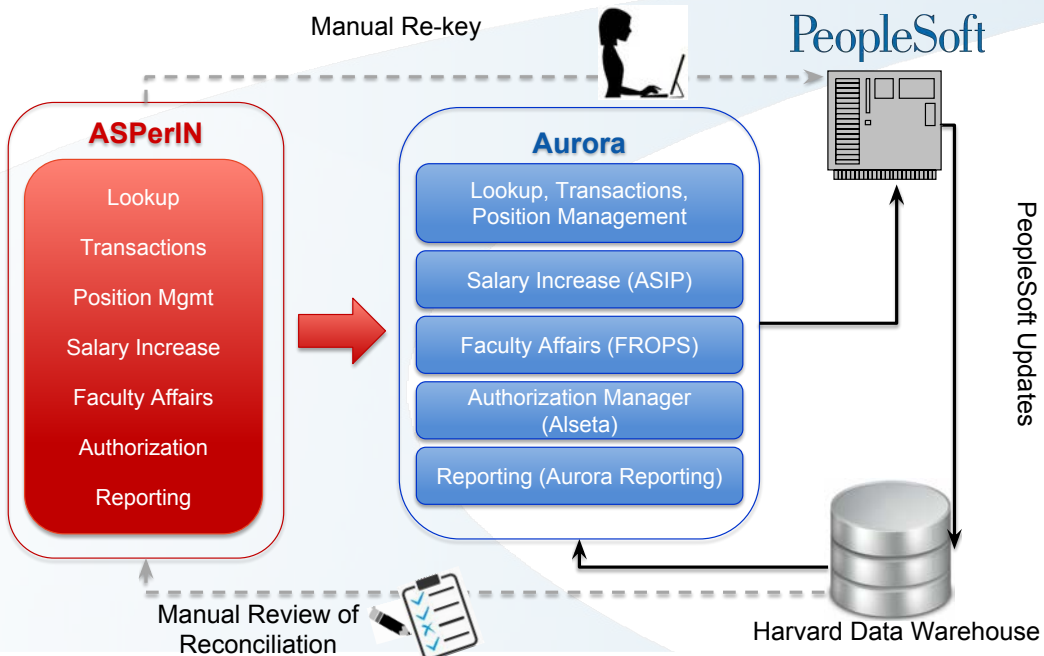
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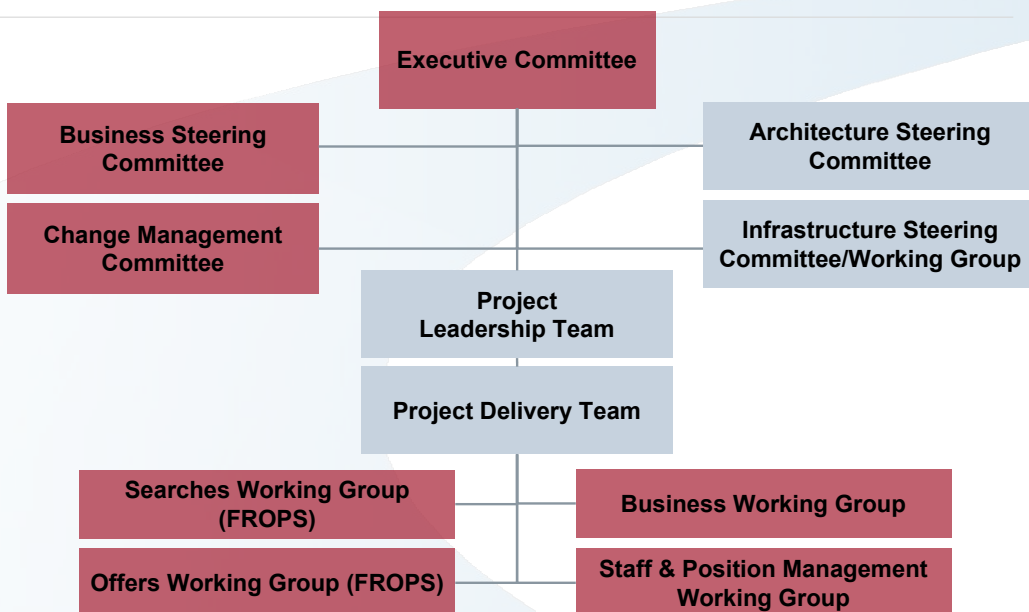
Keys to Success - Product Management

- Formalized strategy of breaking project into modules using different technological skills & tools
- Switched from developing a single transaction for all employee types to developing all transactions to support a single employee type
- Added working groups to the governance structure focused on specific employee types/functionality

ASPerIN Migration to Aurora



Aurora Governance and Project Delivery Groups - 2017



Keys to Success - PeopleSoft Partnership



Application of Scrum Framework

- Process & Controls:
 - 3 Week Sprints
 - Deploy “done” increments of work to production after each Sprint
 - Track and evaluate team velocity - rolling 3 Sprint average
 - Adhere to Sprint Ceremonies & Backlog Refinement
 - Transparency, Adaptation & Inspection
- Product Focus:
 - Minimally Viable Product
 - Deliver highest value
 - Engage stakeholders
 - Encourage growth through calculated risk
 - Innovate where possible
 - Never done advancing & improving

The Transactions Team

- The team is upper limit for scrum, but appropriate and functional
 - 5 DEV + 2.5 QA + 2 BAs (9.5 Dev team)
 - 1 Product Owner
 - 1 Scrum Master
- The team seeks consent, rather than consensus
- Agile team, not just Agile development
- Co-located team
- Dedicated team resources on project
- Clear Scrum role ownership - members' multiple roles require clarification

Application of Scrum/Agile Concepts

- Rigorous adherence to key Agile/Scrum tenants and ceremonies
- Not always Scrum purists, but always growing toward ideal
- Prioritize improvement in most valuable and achievable areas
- Use data to
 - Inform product decisions
 - Manage release planning, inform project health
- Leverage Scrum Values to guide team through challenges
 - Courage
 - Focus
 - Commitment
 - Respect
 - Openness

“Scrum values are the lifeblood of scrum” - Ken Schwaber, co-creator of Scrum and co-author of the official Scrum Guide.

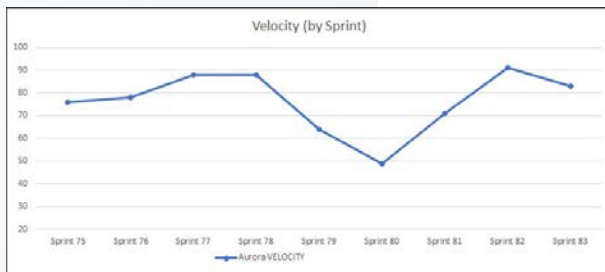
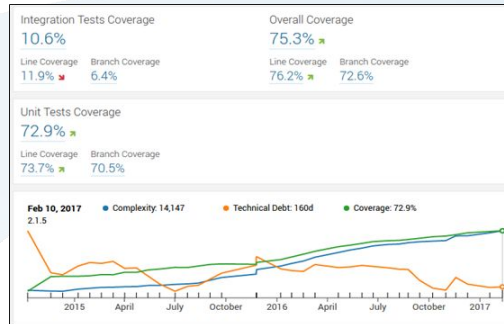
Coaching, Training & Team Building

- Professional development encouraged
- Aurora coach creates materials, provides ongoing training sessions for the team & stakeholders
- Aurora team member coaching (on-demand)



Sprint-over-Sprint Measurements

- At regular inspection points:
 - Track progress
 - Assess metrics & analyze trends
 - Determine & consent to time-boxed actions as a team
 - Execute based on data and additional inputs



Burnup & Agile Release Planning:

Must & Should Haves

Sprint #	Sprint 94	Sprint 95	Sprint 96	Sprint 97	Sprint 98	Sprint 99	Sprint 100	Sprint 101
Start Date	9/27/17	10/18/17	11/8/17	11/29/17	12/20/17	1/10/18	1/31/18	2/21/18
End Date	10/18/17	11/8/17	11/29/17	12/20/17	1/10/18	1/31/18	2/21/18	3/14/18

- 25% technical buffer has been applied to non-committed work.
- 2 additional stabilization sprints beyond feature completion are strongly recommended.
- This Burnup depicts the next major release will hit Feature Freeze near Sprint 94 and be ready for production after Sprint 96.



Effective Use of Spikes & Prototyping

Spikes & Prototyping provide the team with clarity in uncertain conditions:

- Best implementation approach is unclear
- Work too uncertain, and maybe too large, to accurately estimate

Time-boxed investments have allowed the team to remove uncertainty by carving off small, sprint-bound work:

- 1) Aurora Reporting Spike
What can be done using Apex?
- 2) Product Style Guide Spike
How much effort will minor look and feel changes take?
- 3) Snapshotting Actions spike
What will it 'cost' to snapshot all action information?

Inspect, Adapt & Improve - Past 12 Months

Challenge	Action Taken	Impact
Dev Team requested reconfiguration of stories and scope of requirements - triggering rework for BAs.	Added weekly Preliminary Grooming meeting (half hour)	Dev team input upstream minimized time reworking tickets and requirements immediately.
Sprint Planning was lengthy, some team members seemed unfamiliar with stories when committing work.	Added weekly Full Team Grooming (1 hour)	Improved backlog health and transparency - full Dev team has say in size estimates. Sprint Planning & Retro down from 4-5 hours to 2-2.5 hours.
Managing business requirements effectively for full team.	Moved full requirements to ONLY Confluence, synopsis with link to details from JIRA ticket. (Several iterations)	The team has easy and consistent access to the appropriate level of requirements in each tool.
Addressing ambiguity around expectations of team members during meetings; uneven meeting etiquette expectations.	Team collaborated to craft our Working Team Meeting Agreement. (Reviewed Quarterly)	More productive, punctual meetings. Improved communication between members and facilitators.