Agenda

- Introduction
- Project Background
- Approach
- Solutions
- Next Steps
Project Summary

• UT Austin’s Research Management System (RMS) will be retired as part of the roadmap to transition legacy applications off the mainframe. RMS contains records of PIs' proposed and funded projects, and includes the Proposal Review Form (PRF) that all researchers or research administrators must complete to initiate OSP submission of their grants to funders.

• The Office of the Vice President for Research is overseeing the replacement of RMS. The RMS Replacement project will provide enhanced electronic Research Administration (eRA) tools for managing the components of the academic and research enterprise at UT.

• In addition to RMS, the project scope includes research support applications for submitting proposals to federal sponsors (S2S) and for managing IRB, IACUC, and FCOI records.

• It is anticipated that a competitive procurement (RFP) will result in a vendor selection and multi-phased implementation starting in the Spring of 2019.
Introduction

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RMS Project Director
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• Started with the University in 2018
• Previously almost 20 years in the private sector developing commercial software for the federal government
• UT Austin alum BS ’96, BA ’97, MS ’08
PROJECT BACKGROUND
Project Background

- 1998 – RMS developed
  - Not originally designed to be a full research management system; expanded to facilitate the majority of the pre-award and award processes of the Office of Sponsored Projects (OSP)
  - Limited investment after first 10 years of development
- 2008 – RMS Replacement initially evaluated
  - Suspended to broaden scope to include faculty input
- 2013 – Requirements for RMS replacement gathered
  - Focus on pre-award; requirements were not developed for compliance
  - Draft RFP was developed, but not issued
  - Project postponed due to evaluation of Workday as a grants management solution
- 2016 – Project restarted
  - ASMP re-engagement with new VPR on issue of application end-of-life
  - VPR project team formed
  - Suspended after initial discussions due to personnel changes, reprioritization of other initiatives
- 2018 – Project Director identified and funding authorized
Business Case

- In-house developed RMS system is outdated and does not meet functional or usability needs
- Mainframe application reaching “end-of-life” and will cease to exist when the University officially retires the mainframe
- Not designed to harvest data and meet research administration and executive leadership reporting needs
- Limited search capabilities
- Cannot provide real-time tracking and status views (e.g. dashboards)
- Lack of integration with other systems, including compliance
- Workflow inefficiencies delay reviews/approvals
- Electronic files (no more paper)
Project Objectives

Enhance UT Austin’s ability to more effectively complete work in certain key research administration systems by implementing a product which reflects more current technology.

Improve our ability to collect, store, analyze, and share data, enabling us to report information about our research enterprise to improve collaboration, proposal preparation, and strategic decision making.

Reduce the compliance and administrative burden of our faculty, department, school, and central institutional staff.
Potential RMS Replacement Project Scope

Pre-Award
- Proposal Review
- Electronic Proposal Submission (S2S)
- Negotiation tracking
- Award Notification

Post-Award
- Effort Certification
- Award Management
- Financial Reporting
- Audit Support

Research Compliance
- Financial Conflict of Interest (FCOI)
- Institutional Biosafety Committee (IBC)
- Institutional Animal Care and Use Committee (IACUC)
- Animal Operations
- Compliance Training

Contracts and Incoming Agreements
- Contracts Database
- Sub-Award Administration
- Data/Material Transfer Agreements
- Partnerships (Unfunded)
- Technology Licensing/Patents
- Other Research Agreements (donor/gifts)

Project Focus Areas
- Grants.gov
- Other Federal Sponsors
- Non-Federal Sponsors (foundations, etc.)
- Industry Sponsors
- HRMS/Workday
- Financial Information (*DEFINE/Workday
- UT Data Warehouse
- Pivot/InfoReady
- VIP

Integration Points
Sponsored Project Lifecycle*

- Development (Gifts)
- VPR Office (Sponsored Projects)
- Program Development
- Award Management
- Award Negotiation
- Proposal Development
- Research Support and Compliance (RSC)
- Environmental Health and Safety (EHS)
- Technology Commercialization (OTC)
- Information Security Office (ISO)
- OSP SPAA
  - Monitor Awards and Subawards
- OSP or OIE
  - Negotiate Awards and Initiate Subawards
- OSP or OIE
  - Review, Advise, Submit

*2018 Fundamentals of Research Administration
Research Support Applications – Project Scope

- Compliance Scope: IRB, IACUC, FCOI
- IBC and Animal Ordering/LARS will remain on eProtocol
APPROACH
Project Approach

PHASE ONE – PLANNING
- Evaluate business practices for research administration
- Identify and engage stakeholders
- Identify available software solutions (preliminary discovery)
- Budget planning and modelling development
- Determine project scope
- Procurement

PHASE TWO – PHASED IMPLEMENTATION

Considerations
- On premise hosting vs Software as a Service (SaaS)
- Support for System to System (S2S) submissions
- Continuous delivery of updates/federal compliance
- Leveraging shared services and contracts
- Built in reporting tools vs. data warehouse (e.g. Tableau)
- User adoption/barriers to entry
- Customization vs configuration
- “Best in Breed” as Opposed to “One Size Fits All”
- Acquisition approach (Make vs. Buy, RFP, Exclusive Acquisition Justification, implementation costs)

PHASE THREE – SUPPORT
- Ongoing maintenance
- Ongoing training
- Roadmap updates and planning
| **Licensed vs. Subscription** | • A **licensed model** is advantageous because the institution is purchasing a perpetual license to the products that can be amortized over time; the annual maintenance and support fees are lower than the annual fees for the subscription model.  
• The **subscription model** is attractive because the cost to entry is lower.  
• For surveyed vendors, the total cost of ownership for licensed vs. subscription is ~equal after about 5 years. |
| **Customization vs. Configuration** | • **Customization systems**: Provide flexibility to tailor both front-end and back-end components of the tool.  
• **Configuration systems**: Provide as close to an ‘off the shelf’ experience as possible. Customization systems typically require significant support staff compared to configuration systems.  
• Most vendors are moving toward offering more turnkey, i.e. configuration-based, services. |
| **On Premise Hosting vs. Software as a Service (SaaS)** | • An **on premise installation** is where the institution maintains their own environments/servers, and can include working with a vendor to upgrade, patch, and support the environments.  
• On premise hosting can offer lower costs by leveraging institutional resources and staff, but may also require the institution to manage upgrades and maintenance.  
• **SaaS implementations** typically offer continuous delivery of updates for enhancement and federal compliance.  
• SaaS can also simplify data management and security planning by leveraging commercial cloud hosting solutions. |
| **“Best in Breed” vs. Single Vendor Solution** | • A **single vendor solution** typically provides a more unified user experience, though some vendors have different implementations across the various areas of research that do not leverage a common UI/UX.  
• A single vendor solution can offer a reduced cost based on scale of purchase or subscription.  
• A single vendor solution can lower ‘switching costs’ for training, upgrades and integration.  
• May give up functionality based on the **best in breed** or **optimum solution** for institution’s requirements. |
| **Built-in Reporting Tools vs. Data Warehouse** | • There is a trend to support a range of built-in reporting tools, including custom and ad hoc reports.  
• Some vendors offer integration with 3rd party reporting tools (e.g. SSRS, Juice Analytics) to provide more robust capabilities.  
• While all vendors support some type of data export (monthly, daily, or real time), there is typically an added fee. |
Implementation

• The RMS Replacement project will be implemented in phases, beginning with key areas identified during discussions with the selected vendor
  – Phased implementation, while extending the total project time, allows us to manage the risk of introducing new modules
  – Incremental implementation also allows for maturation of vendor modules that can be evaluated for future growth
• Focus on subset of users/community to validate approach and training (e.g. by department or college)
• Migration of active records and data will be included
• Anticipate having parallel systems until transition is complete; thereafter existing applications will continue to be accessible as read-only
• The length of time to implement a module varies by solution, but can be expected to last 6-9 months
The diagram outlines the project structure of the Office of the Vice President for Research. It is organized into several key components:

- **Executive Sponsorship**
  - Darrell Bazzell, CFO
  - Daniel Slesnick, Provost Office
  - Daniel Jaffe, VPR (Managing Executive Sponsor)

- **Executive Committee**
  - Functional Area Owners
  - VPR Leadership

- **Advisory Groups**
  - Associate Deans for Research
  - Faculty

- **Working Groups**
  - OSP/OIE
  - DRA
  - Research Compliance
  - PI/End User
  - UT Development Office

- **Project Director**
  - Marc Bruner

- **Technical Project Manager**

- **Vendor Project Manager**

- **Implementation Phase**
  - Business Analysts
  - Development
  - QA
  - Training
  - Security

- **Responsibilities**
  - OSP ERA Manager: Gina Bhakta
  - Workday/ASMP

This structure ensures effective communication and coordination among various stakeholders involved in the project.
PRELIMINARY DISCOVERY
Survey Results

- Surveyed 100 higher education institutions (HEIs) based on peer institution designation and top 100 rankings by total R&D expenditures as identified by 2016 Higher Education R&D (HERD) survey:
  - 14 peer institutions
  - 81 non-peer
  - 5 UT System

- Used institutional websites and firsthand knowledge/outreach to identify the pre- and post-award administrative systems and other major systems used by each

- Held follow-up interviews with 27 HEIs based on identification as a peer institution or relevant eRA use case:
  - 14 peer institutions
  - 10 non-peer
  - 3 UT System
# ERA Distribution – Peer Institutions

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<th>Institution</th>
<th>Home-Grown</th>
<th>Kuali/Coeus</th>
<th>Cayuse</th>
<th>Huron/Click</th>
<th>InfoEd</th>
<th>eProtocol</th>
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Kuali Research

- Open source development model originally based on Coeus software developed at MIT in 1998
- The 40+ higher education Kuali Foundation members devote resources to shared development and management
- In 2014 Kuali Foundation announced transition to Kuali, Inc.
  - Acquired portions of rSmart, a former Kuali Commercial Affiliate
  - Still open source, but Kuali, Inc. is the foundation’s commercial arm for development and implementation
  - Offers Software as a Service (SaaS) using a subscription model, or source can be freely downloaded and managed on-site
  - Releases monthly patches to Kuali Research baseline (v6.x)
- Modules
  - Proposal Development, Institutional Proposal, Award, COI, Protocols (IRB/IACUC)
- In use by
  - Coeus – Purdue University
  - Kuali Coeus (v5.2.1) – Indiana University, Michigan State, UC Berkeley, etc. (many, many others)
  - Kuali Research (v6.x) – UC San Diego, UC Irvine, Colorado State University, University of Maryland

Highlights: Open Source, Form Builder, User Dashboard (late 2018), Active User Community, Real-time Data Export/Access
Cayuse

- Cayuse Suite includes Cayuse 424 and Cayuse SP products
  - Cayuse SP based on RAMSeS software originally developed at University of North Carolina at Chapel Hill and licensed to Cayuse in 2009
- Acquired by Evisions in 2012 and sold in 2017 to private equity firm Quad Partners.
  - Recently acquired Process Pathways and IT Works to grow eRA offerings
- Solely supports SaaS model via a subscription
- Modules
  - Cayuse 424, Cayuse SP, IRB, IACUC, COI, Financials
- In use by
  - Cayuse 424: Used by a number of large research universities for federal grant submissions, including UT Austin since 2008
  - Cayuse SP: UC Davis (limited implementation by large research institutions)

Highlights: Report Visualization, Standard for S2S, Form Builder, Pivot Integration
Huron Research Suite

- Formerly Click Grants
  - In 2010 Huron Consulting acquired Click Commerce, Inc. and began making Click a single integrated suite to offer as a competitive eRA solution
- Offer on-site hosting or SaaS implementations
  - In last two years started transitioning to a more solutions-based product (configured vs. customized)
  - Now offer both Product and SaaS based implementations, depending on institutional needs
    - Only a few clients using SaaS model currently
- Modules
  - Agreements, Animal Operations, Clinical Trials, Conflict of Interest, Effort Tracking, Grants, IACUC, IRB, Safety (all product modules run on a common framework called Portal)
- In use by
  - University of Washington and UCLA (compliance only), University of Michigan, UT MD Anderson, UT Southwestern, Virginia Commonwealth University, many others

Highlights: Dashboard, Workflow Visualization, Reviewer Support, CTMS module, Active User Community, Implementation Management
InfoEd

- InfoEd owned by InfoEd Global, also developers of SPIN, a search engine for finding funding opportunities similar to Pivot
- Among the earliest eRA solutions (development going back to 1998)
  - Historically, if a university looked outside for eRA solutions, the options were limited to InfoEd and Coeus/Kuali Coeus, which led to wide-spread adoption in the early 2000s
- Modules
  - Pre-Award, Financials, Compliance (IRB, IACUC, Safety, COI), Lab Management, Effort
- In use by
  - UCLA, Princeton, Washington University in St. Louis (recent RFP), Brown University, Columbia, Northwestern, University of Nevada-Reno, McGill University, others

Highlights: Dashboard, Customizable eForms, Financials Visualization, Enterprise-wide eRA Solutions
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Integrated Modules

Direct submissions from the proposal instead of having separate records

Common user experience across modules

Ability to directly relate (link) proposals to protocols from within the application
Integrated Modules (Cont.)

Ability to directly relate (link) protocols to proposals from within the application.

Visualization of FID conflicts or status at time of PRF, submission, award, and with protocols.
User Dashboards

- Summarized actions by activity type
- Role/user-based Filtering
- Direct links to projects and records
- Integrated Deadline/Meeting Calendars
Workflow Visualization

Evaluation of the efficacy of different treatments for Glioblastomas

Principal investigator: Rebecca Simms (pi)
Submission type: New Protocol Application
Primary contact: Jim Markosi (iacuc)
IACUC coordinator: Consulted vet: PI proxies:

Highlighted visualization of status

Workflow diagram to increase process transparency/self-service
Reviewer Notes/Change Tracking

In-line reviewer notes to capture communications within system

Visual change-tracking at field level and within documents
Form Builder/Designer

- Pick list of form elements to create custom forms for specific institutional needs
- ‘Drag and drop’ view to build out and redesign forms
- Support for optional and smart-form elements
Reviewer Checklists

Ability to create reviewer checklists within the application

Apply/enable checklists by role

Protocol Templates

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6 of 6 templates
Built-in Reports

- Support for standard, ad hoc, and advanced reports
- Ability to create and schedule reports to run at specific times
- Built-in visualization tools
FID Review/Management

Built in management plan tools, including review and approval workflows

Support for FCOI committee reviews and scheduling
Built-in Help/Training

- On demand, video-based training for users
- Tool-tips/in-line help for form elements
- Help center with guides, procedures and regulatory information
Compliance Training Integration

Integration with CITI, AALAS, and institutional training

Integrated training status within modules
## Key Feature List by Solution

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<thead>
<tr>
<th>Feature</th>
<th>Huron</th>
<th>Kuali</th>
<th>Cayuse</th>
<th>InfoEd</th>
<th>UT Austin Current</th>
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<td>Integrated suite across research enterprise</td>
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<td>Consistent user interface across research areas</td>
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University of Texas-Austin 2018
NEXT STEPS
Upcoming Meetings/Events

- **PI/Faculty Town Hall #1**
  - Monday, September 17
  - POB 2.302 (Avaya Auditorium)
  - 1:00 - 2:00 pm

- **PI/Faculty Town Hall #2**
  - Thursday, September 27
  - POB 2.302 (Avaya Auditorium)
  - 9:00 - 10:00 am

- **RFP**
  - Oct/Nov

- **Award**
  - Dec/Jan

- **Start of Implementation**
  - Spring 2019