Preparing for Banner powered by Ellucian XE

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Introduction

• This session is about moving forward with Banner powered by Ellucian XE.

• It explains Ellucian XE, how it adds value to your investment in Banner, and how you can take advantage of its power today.
# Agenda

1. Ellucian XE
2. Banner powered by Ellucian XE
3. Preparing for Banner powered by Ellucian XE
4. Summary and Questions
Ellucian XE
Evolutionary approach
Extensible ecosystem strategy
Global and mobile-first technology strategy
Published roadmaps and product plans
Investment in our products and our processes protects our customers’ investments
The XE Strategy and Design Principles

XE Design Principles

- Usability
- Features/Function
- Cloud Readiness/Scalability
- Configuration over Customization
- Extensibility
- APIs/Integration
- Single Global Product
Banner powered by Ellucian XE
Applications Leveraging XE Strategy

Banner Applications

• Catalog & Schedule
• Faculty Grade Entry
• Attendance Tracking
• Event Management
• Advising Student Profile
• Student Registration
• Employee Profile
• Academic history
• Communication Management

Integrated Applications

• Ellucian eTranscripts
• Ellucian Mobile
• Ellucian Elevate
• Ellucian Pilot (Student Success)
• Ellucian Portal for Banner
• Intelligent Learning Platform (ILP)
• APIs (Services)
• Student
ReSTful services and the Higher Education Data Model

- Expose “Resources” - important concepts and objects
- Each resource is uniquely “addressable”
- Provide “representations” of those resources
- Provide a consistent interface based upon standard HTTP methods
- Interaction with the API is stateless
RESTful API Plugin

Grails plug-in for building Restful APIs
Ellucian-developed, open source

DSL-based endpoint configuration

• Whitelisting of resources
• Specifying supported methods for a resource
• Versioning a resource using custom media types
• Declaratively specifying how resources are represented in either JSON or XML

Runtime Capabilities

• Standard HTTP Methods & Status Codes
• Report Validation Errors
• Use Common URI Conventions
• Support Paging and Querying
• Use a consistent representation ‘domain-style’
• Support Hypermedia APIs

http://restfulapi.github.io/intro-restful-api-slides/
http://grails.org/plugin/restful-api
The Ellucian XE Registry is the authoritative resource for discovering, testing, and interacting with Ellucian XE APIs.
Ellucian Integration Hub

- Cloud-based integration service for Ellucian, 3rd party and home-grown applications
- Provides hub-and-spoke, pub/sub data services
- Out-of-the-box integration
- Licensed with each Ellucian application
- Uses open standards and HeDM
- Supports ESBs and IPaaSs of your choice (no vendor lock-in)
Ellucian Integration Hub

1. New person added in ERP system (e.g., Banner, Colleague)

2. Message published to Hub for any interested subscribers

3. Advancement CRM and Elevate receive notification and process new person
Banner Forms Transformation Project

Conversion of all Banner administrative forms to new Java-based administrative pages
- Move away from Oracle Forms and ZK
- Standardize on Java-based runtime framework serving HTML to browsers
Target Roadmap Delivery

- **Employee Profile**
  - Human Resources Admin
- **Registration self-service**
- **1H2015**
  - Finance - Requisition
  - Finance Admin
  - Student Admin (A/R, Financial Aid, core Student)
  - Student self-service (modular delivery)

- **Q3**  
  - Q4  
  - Q1 2015  
  - Q2  
  - Q3  
  - Q4  
  - Q1 2016  
  - Q2  
  - Q3  
  - 2016
Legacy Banner

Identity Provider (CAS, etc.)

Banner Self-Service
- Human Resources
- General
- Finance
- Student (A/R Financial Aid, Student)

Banner Administration
- Human Resources
- General
- Finance
- Student (A/R Financial Aid, Student)

Banner Database
Banner powered by XE – Deployable Applications

Identity Provider (EIS, CAS, etc.)

Application Navigator

Lightweight Web Apps and APIs
- Faculty Grade Entry
- Attendance Tracking
- Advising Student Profile
- Employee Profile
- Student Registration
- Requisition
- Position Description
- Benefits
- Budget Availability
- Approvals

Transformed Page Modules
- Human Resources
- General
- Finance
- Student (A/R Financial Aid, Student)

Banner Database
Coexistence and Evolution

Identity Provider (EIS, CAS, etc.)

Application Navigator

BEIS SSO Manager

Banner 8

Self-Service

Admin

Banner powered by XE Technology

Administrative Web Applications

Lightweight Web Applications

Banner Database
Preparing for Banner powered by Ellucian XE
Three Steps to Preparation

Infrastructure
- DBEU
- Identity Management
- Hardware

Enablers
- Common Menu
- Ellucian Solution Manager (ESM)
- Extensibility

Skills
- Infrastructure
- Deployment
- Personalization
- Development
Three Steps to Preparation

**Infrastructure**
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- Identity Management
- Hardware

**Enablers**
- Common Menu
- Ellucian Solution Manager (ESM)
- Extensibility

**Skills**
- Infrastructure
- Deployment
- Personalization
- Development
Database Extension Utility (DBEU)

• Tool for applying large scale database changes to Banner
• First Use: Apply and enable new columns needed for Banner XE and Multi-Entity Processing Support
• Functionality will be expanded as new changes are required
Identity Provider (IdP)

- Modularization requires external authentication / identity provider
- CAS has been the higher education standard, but is limited
- Ellucian Identity Service (EIS) is a valuable alternative
Ellucian Identity Service

- Enterprise middleware identity and access management solution for higher education.
- Secures access to web applications on-premises and in the cloud.
- Provides SSO across disparate protocols.
- Powered by the WSO2 Identity Server.
- Includes enhancements like CAS protocol support and internationalized login screens.
- Available to clients under their existing maintenance agreement.
• Focus shifts to the application server.
• Customers need hardware sizing and recommended configurations
• Performance and load testing is integral to the Banner development cycle.
• Memory and CPU usage determined for each application.
Banner Sizing and Configuration Document

When and Where
• Initially posted Fall 2013 on the Ellucian Hub

What
• Contains memory and CPU core sizing info
• Contains configuration best practices
• Contains performance test environment information and results

Additions and Improvements
• Sizing information for transformed administrative pages
• Provide standard VM configuration
• Scale horizontally based on historical data
Three Steps to Preparation

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**Application Navigator**

- Provides a single interface for users to navigate between Banner administrative pages
- Multiple navigation mechanisms
  - Common menu
  - Search
  - Recently opened list
- Shared globals and coordinated time out support
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Ellucian Solution Manager

- Provision Banner environments
- Download Banner upgrades
- View documentation
- View installed product versions and available upgrade releases in Banner environments
- Install available Banner upgrade releases on both provisioned (OEL5) and existing Banner (Linux/Unix/Windows) environments.
Banner Extensibility

- Supplemental code or code artifacts that change the application
- Made separate from application source
- Not overwritten when the system is upgraded
- “Future-proofs” institutional personalization
- Implementation may vary based on application architecture
Extensibility Tools Roadmap

- Q1 2014: Customize Page Components Tool (Admin)
- Q2 2014: Domain Extension Tool
- Q1 2015: Customize Page Components (Web Apps)
- Q2 2015: CPC for Web Apps
  - AngularJS Support
  - CPC Tool
- TBD: Property File Editor
- TBD: Self-Service Page Builder
- TBD: Branding Tool
- TBD: Property File Editor
- TBD: Self-Service Page Builder

- Frames
- Foundations
- Developed/Delivered
- In Development

- Development Practices
- Source code availability via Git
- Forms Transformation Project

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Objective

- Cost-effective analysis of effort to move INB Form modifications and custom forms to XE Java technology stack.
- Electronic code submission and feedback
- Automated analysis

Definitions

- Modification: Ellucian Baseline Form with customer changes
- Custom Forms: Net new functionality not existing in Ellucian baseline
Custom/Modified LOE Assessment Process

Solution
- **Client-facing secure website** for submission of custom/modified forms.
- Automated analysis of custom/modified forms **at no cost to client**.
- Analysis output provided back to **client to determine next steps**.

Next Steps
- Ellucian cost-effective service to transform custom/modified forms
  - OR
- Client attends Ellucian training course to learn how to use the transformer tool
1. Institution uploads zip/tar of FMB Code Tree
2. Secure Ellucian website – behind Ellucian Hub login credentials
3. FMBs atomically processed at Ellucian
4. Audit report on Level of Effort transforms, or extend transformed pages
5. Notification Assessment report posted
Three Steps to Preparation

**Infrastructure**
- DBEU
- Identity Management
- Hardware

**Enablers**
- Common Menu
- Ellucian Solution Manager (ESM)
- Extensibility

**Skills**
- Infrastructure
- Deployment
- Personalization
- Development
Understand Required Skills - Baseline

Infrastructure

- Java Platform
- Application server
  - Configuration
  - Application deployment
  - Tuning
- Oracle Database
- Identity Management

Banner module deployment

- Configuration via property files
Understand Required Skills

Institutional Branding & Terminology
- CSS
- Property files

Banner Application Development
- Source Code Management with Git
- Model-View-Controller pattern
- Lightweight Web apps & APIs
  - Grails Web Framework / Groovy
  - Backbone, jQuery, AngularJS
  - Spring, Hibernate
- Administrative applications
  - Eclipse, Frames, Foundations
  - Java (server side)
Summary and Questions
Summary

Where are you?

Enablers
- Common Menu
- Ellucian Solution Manager (ESM)
- Extensibility

Skills
- Infrastructure
- Deployment
- Personalization
- Development

What will be your next step?
Questions?
Welcome to the XE Guide

Mobile. Simple. Flexible. That's the vision behind the Ellucian Extensible Ecosystem (or simply, “XE”). Institutions should be able to extend, configure, and add solutions as campus needs evolve—and do so without sacrificing existing investments.

This site is your interactive guide to tracking your institution's progress. Check the "Step Completed" box at the bottom of each page as you progress and it'll be here for you when you return.

This site is your one-stop-shop for deploying XE applications. Ellucian’s XE strategy makes it easier and more efficient for institutions to implement, manage, and extend our solutions. This innovative strategy supports improved functionality, better integration, more agile development, expanded points of access for users, and innovative delivery methods. But don’t take our word for it, here’s what other institutions have to say:

Give your users what they want