Bringing FOSS to Enterprise Computing Systems – The Kuali Project

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Using the Kuali Application Suite to Engage Students in Enterprise Computing

A Pilot Program
• Creating interest in enterprise and mainframe computing is a significant hurdle

Why?
• Students may find the concept of mainframes intimidating
  – Hidden, mysterious and difficult to access
    • How many undergraduate IT students have seen a mainframe?
    • How many undergraduate IT students have seen a 1U server?

• Prospective students will have roughly a decade of hands-on experience working with distributed systems
• New and different terminology
  – CEC, CICS, VTAM, VIPA, SMS, JCL, JES, LPAR, ESCON, FICON, DASD, SE, HMC, SNA

• Distributed systems have their own jargon, but the basics are already known
Many IT undergraduate students enter your programs under the impression that they KNOW and can DO things!

The prospect of having to re-learn the fundamentals is not appealing.
How do we close the gap?

How do we build interest?
• What is Kuali?
• Why Kuali?
• Our mainframe environment
• Where we are
• Where we plan to go
• What we hope to learn and teach
What is Kuali?

• “Open Source Administrative Software for Education”

• “The goal of Kuali is to bring the proven functionality of legacy applications to the ease and universality of online services.”

• Kuali is a workflow management system for expenditure requests, grant award tracking, etc.
What is Kuali?

- Free and Open Source
- Presentation layer is JSP
- MySQL/Oracle
- Tomcat Engine
Why Kuali?

• Free and Open Source
  – We need access to the source code in order to achieve our goals

• Our institution has a potential use for this software suite
  – An on campus development team would be invaluable during training, implementation and support
Why Kuali?

• Vendor Support
  – Novell SLES on Z Development Support
  – rSmart (The Kuali Development Group)
  – IBM
Why Kuali?

- Kuali is designed to be implemented in the (relatively) familiar distributed environment
  - It uses technologies familiar to most undergraduate students like JAVA / JSP, MySQL / Oracle and Tomcat
- We hope that the Kuali project will serve as a bridge between the known (distributed) and the unknown (mainframe)
Implementation and Progress
Our Mainframe Environment

• Z890 w/ z/VM

• 2 Guests running Novell SLES
  – SUSE Linux Enterprise Server
Where We Are

• Kuali installed and running on the x86 platform under Novell OpenSUSE Linux
  – Installation ‘cook book’

• Operational Mainframe
  • Two SLES guests for students to test deployment, code, etc (i.e. break)

• Outstanding support in terms of both personnel and software applications through the IBM Academic Initiative
Where We Plan To Go

• Step 1: Install Kuali on SLES on the Mainframe. Install the application in its various configuration states (developer vs. production).

This is an opportunity to attract students who are interested in Linux to the mainframe research group.
Where We Plan To Go

• Step 2: Install and configure WebSphere Application Server on the mainframe and attempt to run Kuali.

This is an opportunity to attract students interested in web development, web administration and server administration.
Where We Plan To Go

• Step 3: Install and configure DB2 on the mainframe. Create data access classes within Kuali to allow it to utilize DB2.

This is an opportunity to engage students interested in database systems, software architecture, object oriented / JAVA programming and open systems in general.
Gladly We Learn and Teach

• The Value of Collaboration
  – We need many students with diverse backgrounds.
  – We need these students to work together to solve these problems.
  – We must be in close contact with vendors and other institutions if we wish to reach our goals.
Gladly We Learn and Teach

• The Value of Self Study
  – The goal is to become developers of technology; not just users
  – We must always be learning
  – Sometimes knowledgeable persons are unavailable or non-existent
Gladly We Learn and Teach

• Mainframes are cool!
  – Enthusiasm is contagious

  • ECSA – Enterprise Computing Student’s Assn.
  • Data Center / Mainframe Trips
  • Industry Speakers / Guests
Thank you!

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