Sakai

Dr. Charles Severance

What is Sakai?

- A project—an initial grant for two years

- A community—an emerging group of people and resources supporting the code and each other, realizing large scale Open Source efficiencies in HigherEd

- An extensible framework for building collaborative— provides basic capabilities to support a wide range of tools and services—teaching and research

- A product with:

  - A released bundle of the framework and

  - A set of tools—written and supported by various groups and individuals—which have been tested and released as a unit

The Sakai Project
Funding and Initial Institutional Partners

http://www.sakaiproject.org/

The Sakai Project

The University of Michigan, Indiana University, MIT, Stanford, the uPortal Consortium, and the Open Knowledge Initiative (OKI) are joining forces to integrate and synchronize their considerable educational software into a *pre-integrated collection of open source tools*.

Sakai Project receives $2.4 million grant from Mellon

Sakai Funding

- Each of the 4 Core Universities Commits
  - 5+ developers/architects, etc. under Sakai Board project direction for 2 years
  - Public commitment to implement Sakai
  - Open/Open licensing—"Community Source"
- So, overall project levels
  - $4.4M in institutional staff (27 FTE)
  - $2.4M Mellon, $300K Hewlett
  - Additional investment through partners

Today's News

4 Colleges Collaborate on Open-Source Courseware

By ANDREA L. FOSTER

In what may be a big threat to commercial providers of course-management systems, four universities have announced a $6.8-million collaborative venture to create open-source courseware tools and related software for higher-education institutions.

The universities developing the system, called the Sakai Project, are the Indiana University system, the Massachusetts Institute of Technology, Stanford University, and the University of Michigan at Ann Arbor, which will lead the effort.
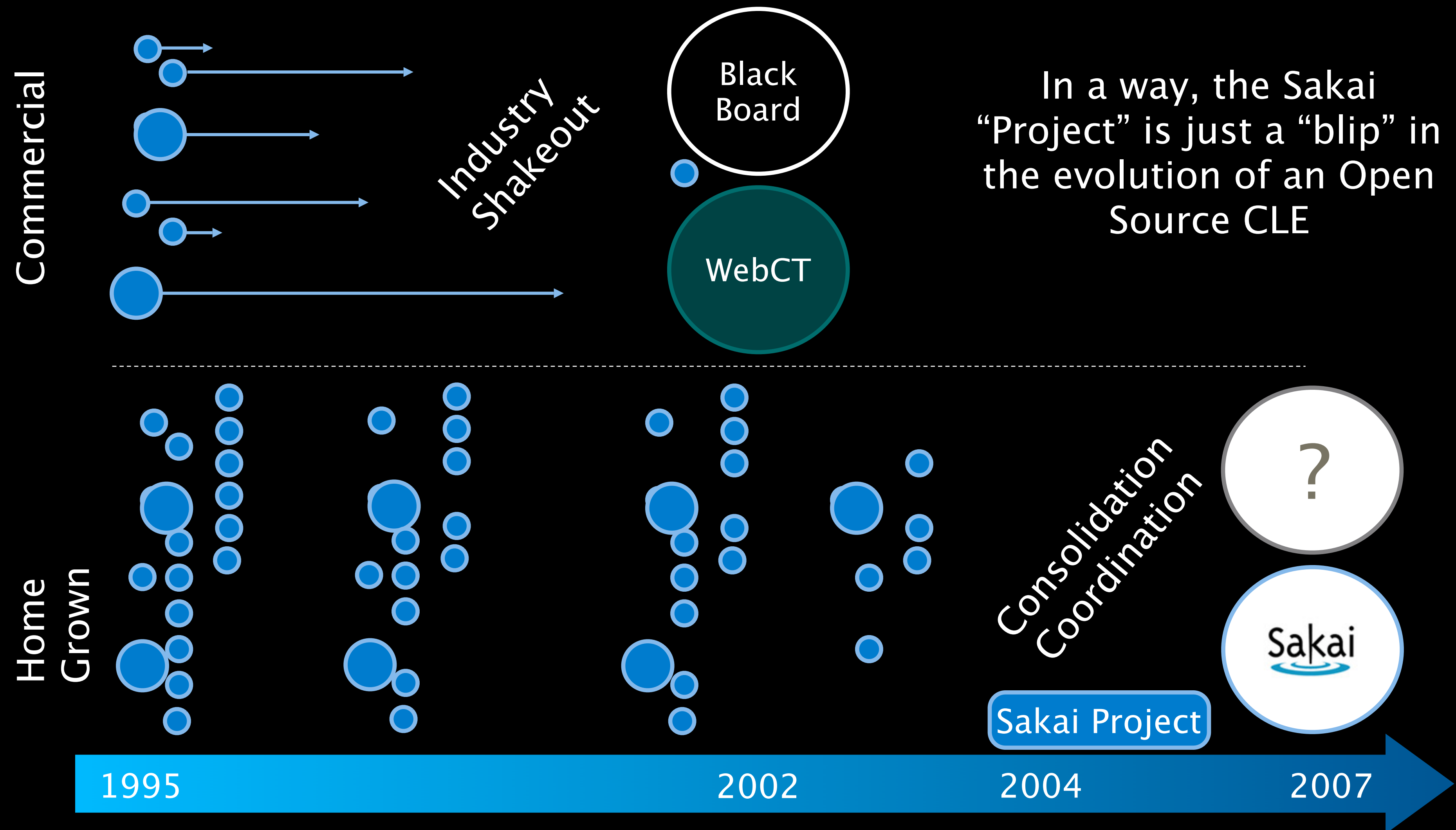
HEADLINES

Consolidation

Commercial

Industry Shakeout

Black Board

WebCT

In a way, the Sakai "Project" is just a "blip" in the evolution of an Open Source CLE

Home Grown

Consolidation Coordination

?

Sakai

Sakai Project

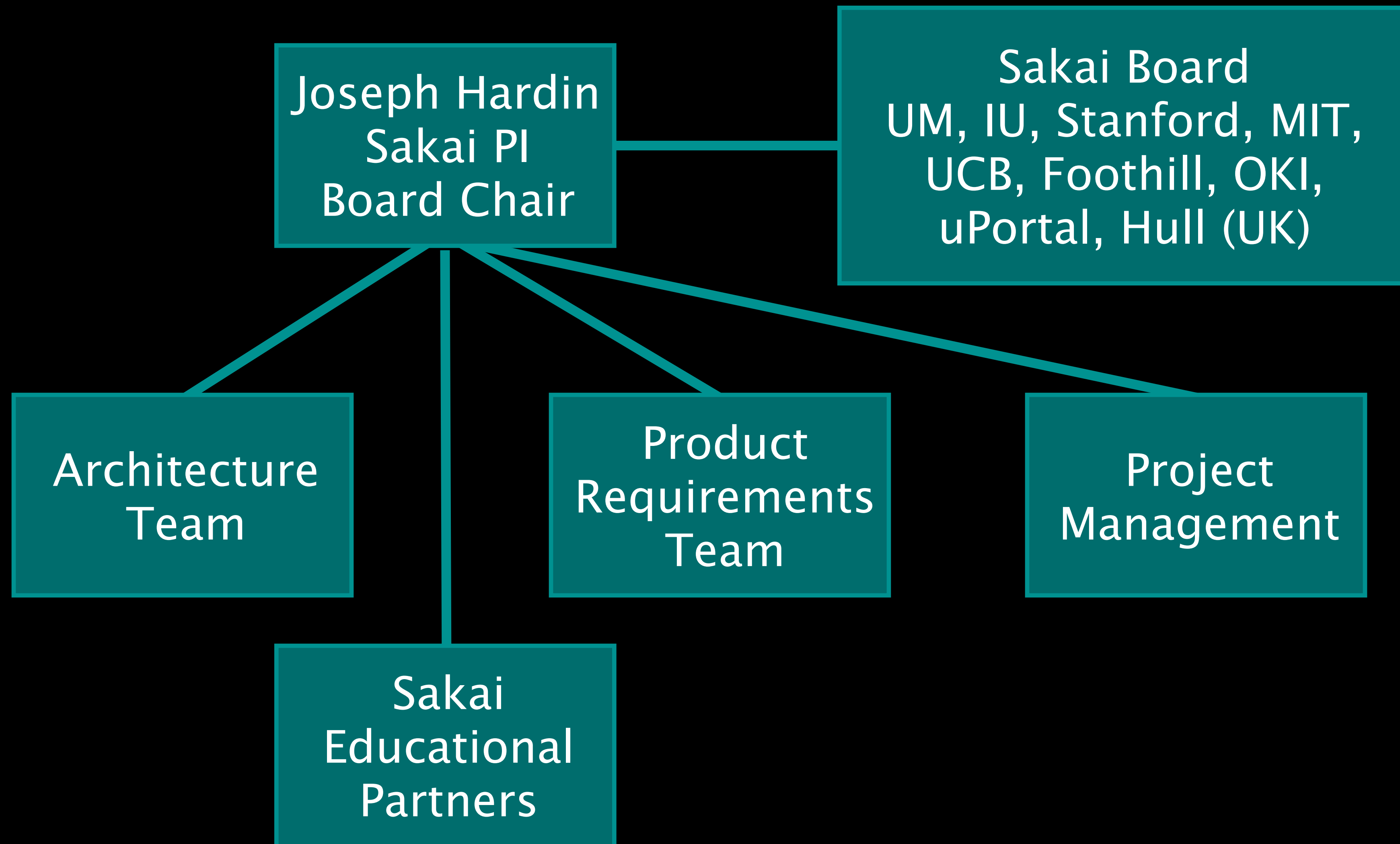1995   2002   2004   2007

The Sakai Community

Close coordination for two years to quickly build the critical mass for open source enterprise Collaborative Learning Environment

http://www.sakaiproject.org/

Sakai Project Organization

Joseph Hardin
Sakai PI
Board Chair

Sakai Board
UM, IU, Stanford, MIT, UCB, Foothill, OKI, uPortal, Hull (UK)

Architecture Team

Product Requirements Team

Project Management

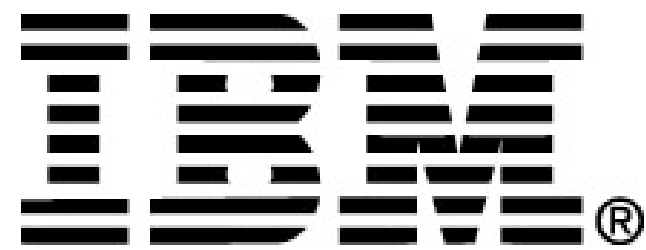**Sakai Educational Partners**

Sakai Educational Partners—Feb 1, 2005

Arizona State University
Boston University School of Management
Brown University
Carleton College
Carnegie Foundation for Advancement of Teaching
Carnegie Mellon University
Coastline Community College
Columbia University
Community College of Southern Nevada
Cornell University
Dartmouth College
Florida Community College/Jacksonville
Foothill-De Anza Community College
Franklin University
Georgetown University
Harvard University
Johns Hopkins University
Lubeck University of Applied Sciences
Maricopa County Community College
Monash University
Nagoya University
New York University
Northeastern University
North-West University (SA)
Northwestern University
Ohio State University
Portland State University
Princeton University
Roskilde University (Denmark)
Rutgers University
Simon Fraser University
State University of New York

Stockholm University
SURF/University of Amsterdam
Tufts University
Universidad Politecnica de Valencia (Spain)
Universitat de Lleida (Spain)
University of Arizona
University of California Berkeley
University of California, Davis
University of California, Los Angeles
University of California, Merced
University of California, Santa Barbara
University of Cambridge, CARET
University of Cape Town, SA
University of Colorado at Boulder
University of Delaware
University of Hawaii
University of Hull
University of Illinois at Urbana-Champaign
University of Melbourne, Australia
University of Minnesota
University of Missouri
University of Nebraska
University of Oklahoma
University of Texas at Austin
University of Toronto, Knowledge Media Design Institute
University of Virginia
University of Washington
University of Wisconsin, Madison
Virginia Polytechnic Institute/University
Whitman College
Yale University

Sakai Commercial Affiliates

The Sakai Educational Community License is BSD–like and allows complete flexibility in terms of the creation of and licensing of derivative works.

This allows different commercial companies to interact in different ways without any limitations imposed by license.

Sakai Meetings

- Provide a forum for the core and the SEPP to interact and for the SEPP members to interact with one another
  - June 2004—Denver Colorado (180) (Members only)
  - December 2004—New Orleans (200+) (Members only)
  - June 8–14—Baltimore (450) (Public)
    - Community Source Week
    - uPortal, Sakai, OSPI
  - December TBD—Austin, TX (Public)

Sakai's Future

- Initial grant ends December 2005
- Transition to Community Source
  - The SEPP is renamed "Sakai" (1-2 Million/year)
  - Governance is merit-based (like Apache)
  - Core elements of Sakai software are pretty stable
  - Small Community funded team (~10) to keep the core maintained and slowly evolving
  - Most new development will be done outside of the core
  - Significant continued in-kind resources Michigan, Indiana, Yale, Foothill, Stanford, and Berkeley
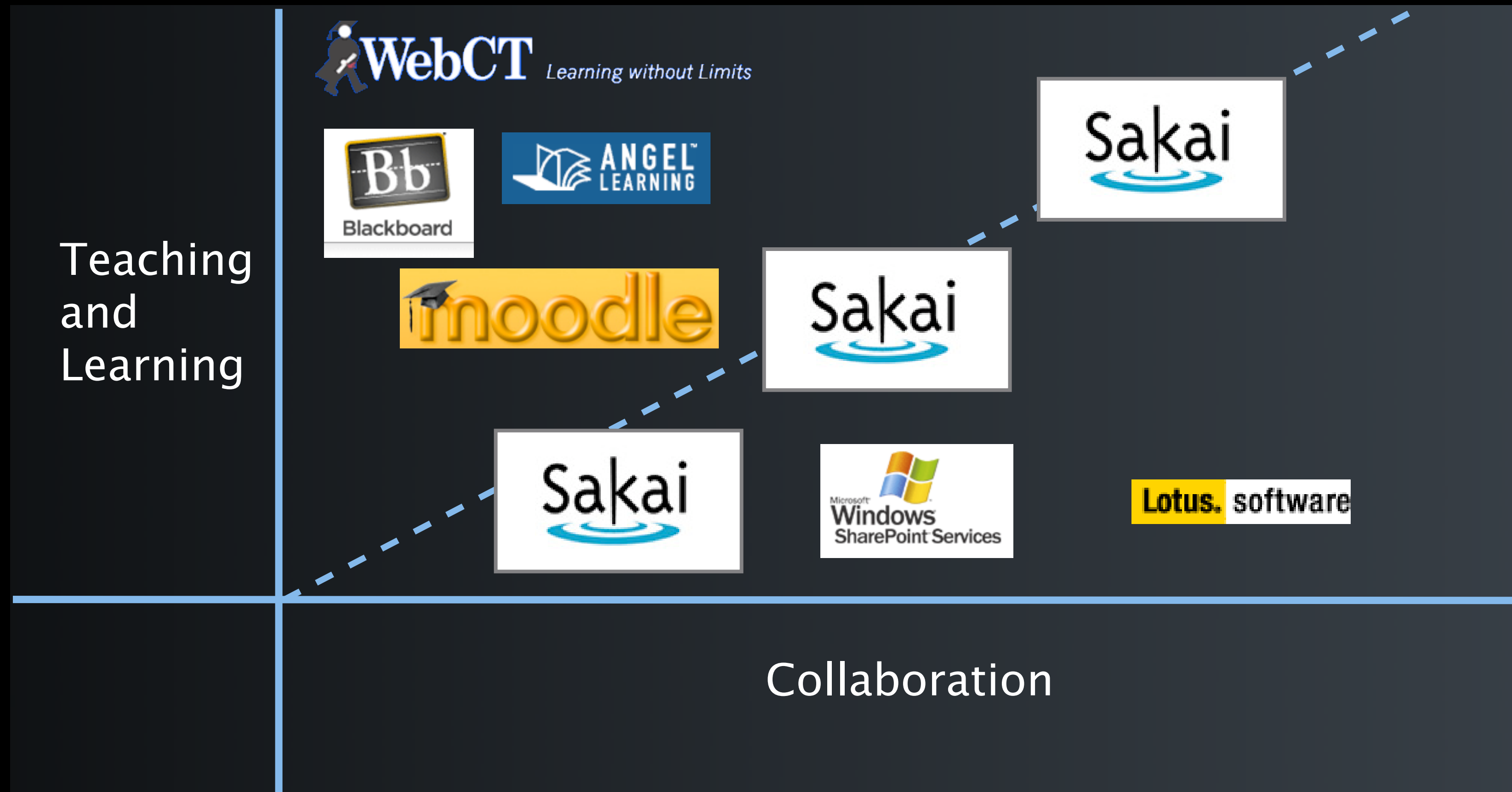
The Sakai Product

A Collaborative Learning Environment— Suitable for use in teaching and learning, research collaboration, and ad Hoc group communication

http://www.sakaiproject.org/

Placing the Sakai Product
A Collaboration and Learning Environment

Sakai Releases
Enterprise Quality Teaching and Learning and Collaboration

Sakai 1.0

Sakai 1.5

Sakai 2.0

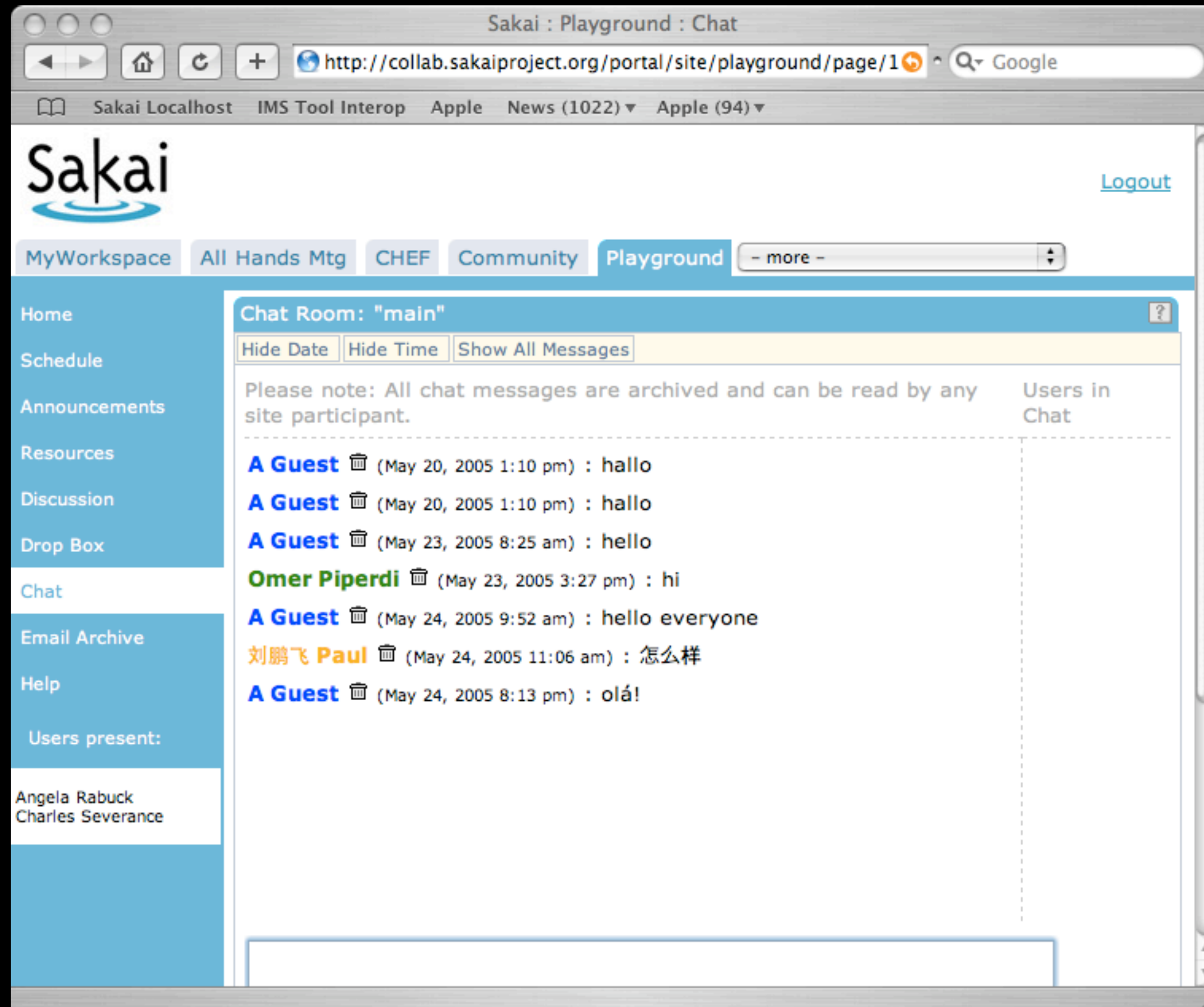**Sakai 2.1**
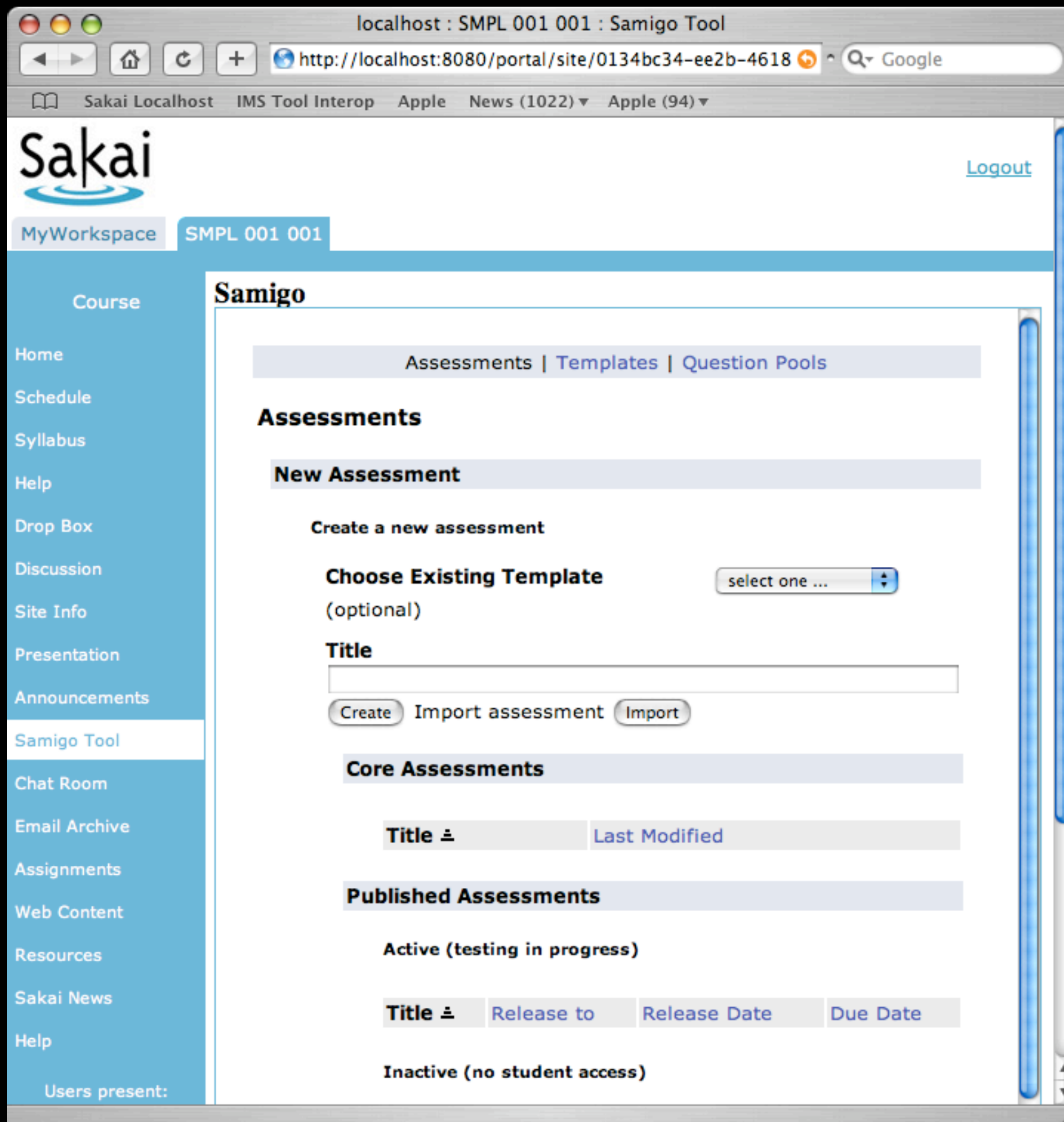
Jan 2004   Jan 2005   Jan 2006

■ Collaboration   ■ Teaching and Learnin   ■ Enterprise "suitability"
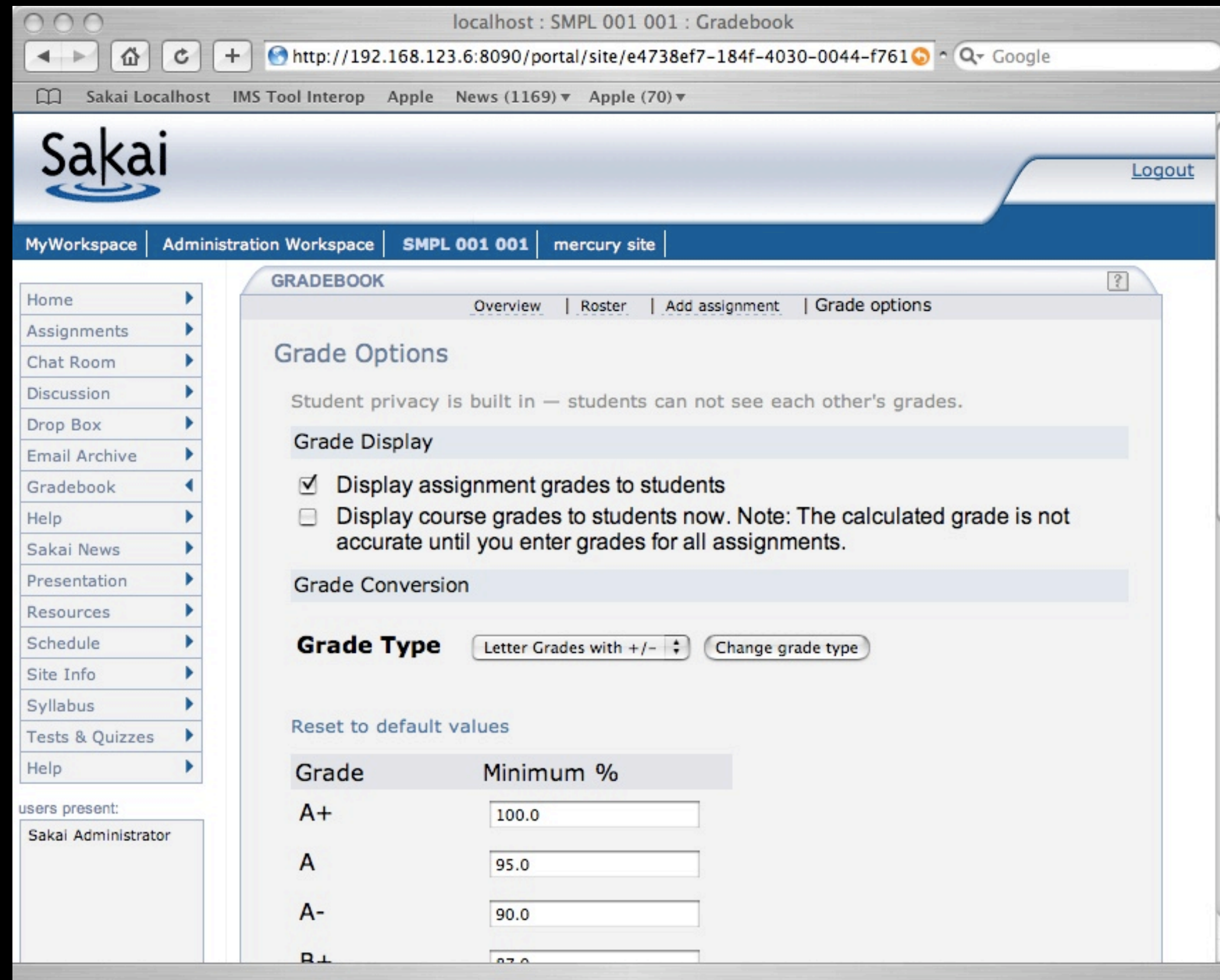
Sakai 1.0 Tools

- Announcements
- Assignments
- Chat Room
- Threaded Discussion
- Drop Box
- Email Archive
- Message Of The Day
- News/RSS
- Preferences
- Resources
- Schedule
- Web Content
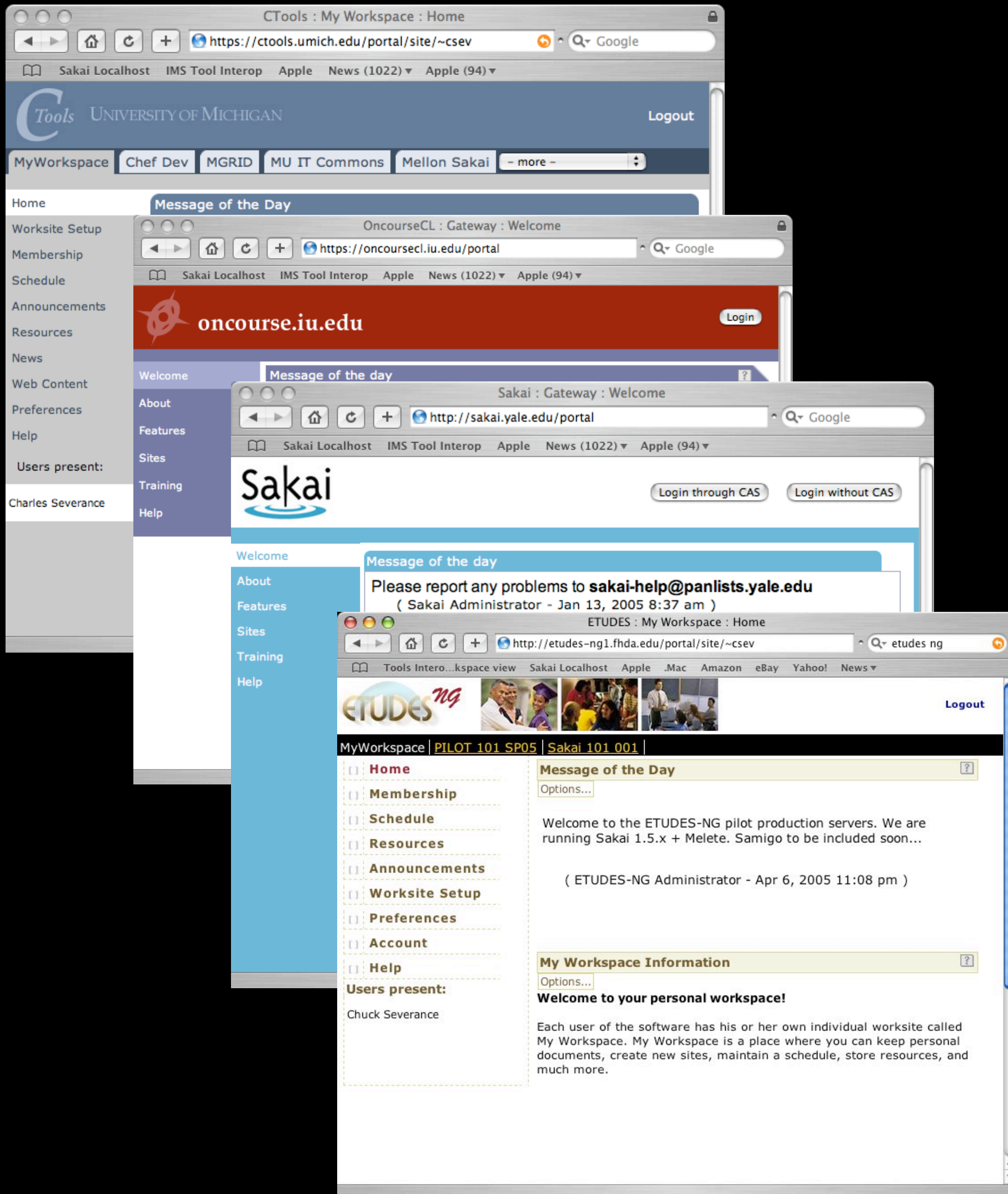- Worksite Setup
- WebDAV

Sakai 1.5 Tools

- Samigo—QTI compliant assessment engine (Stanford)

- Syllabus Tool (Indiana)

- Context Sensitive Help (Indiana)

- Presentation Tool (SEPP)

- Portfolio Tool—OSPI (R-Smart) (separate release)

Sakai 2.0 Tools

- Completely re-written Kernel (UM / MIT)

- Melete—Online classroom—lesson editor (Foothill)

- Profile Tool (Indiana)

- Grade Book (UC Berkeley/ MIT)

Sakai in Production

- **University of Michigan**
  - September 2004
- **Indiana University**
  - January 2005
- **Yale University**
  - January 2005
- **Etudes/Foothill**
  - April 2005

Sakai Adoption Plans

- Boston University School of Management
- Carleton
- Columbia University
- Johns Hopkins University
- Lueck University of Applied Sciences, Germany
- Massachusetts Institute of Technology
- Northwestern University
- Stanford University
- University of California, Berkeley

- University of California, Los Angeles
- University of California, Merced
- University of Cape Town, SA
- University Fernando Pessoa, Portugal
- University of Lleida, Spain
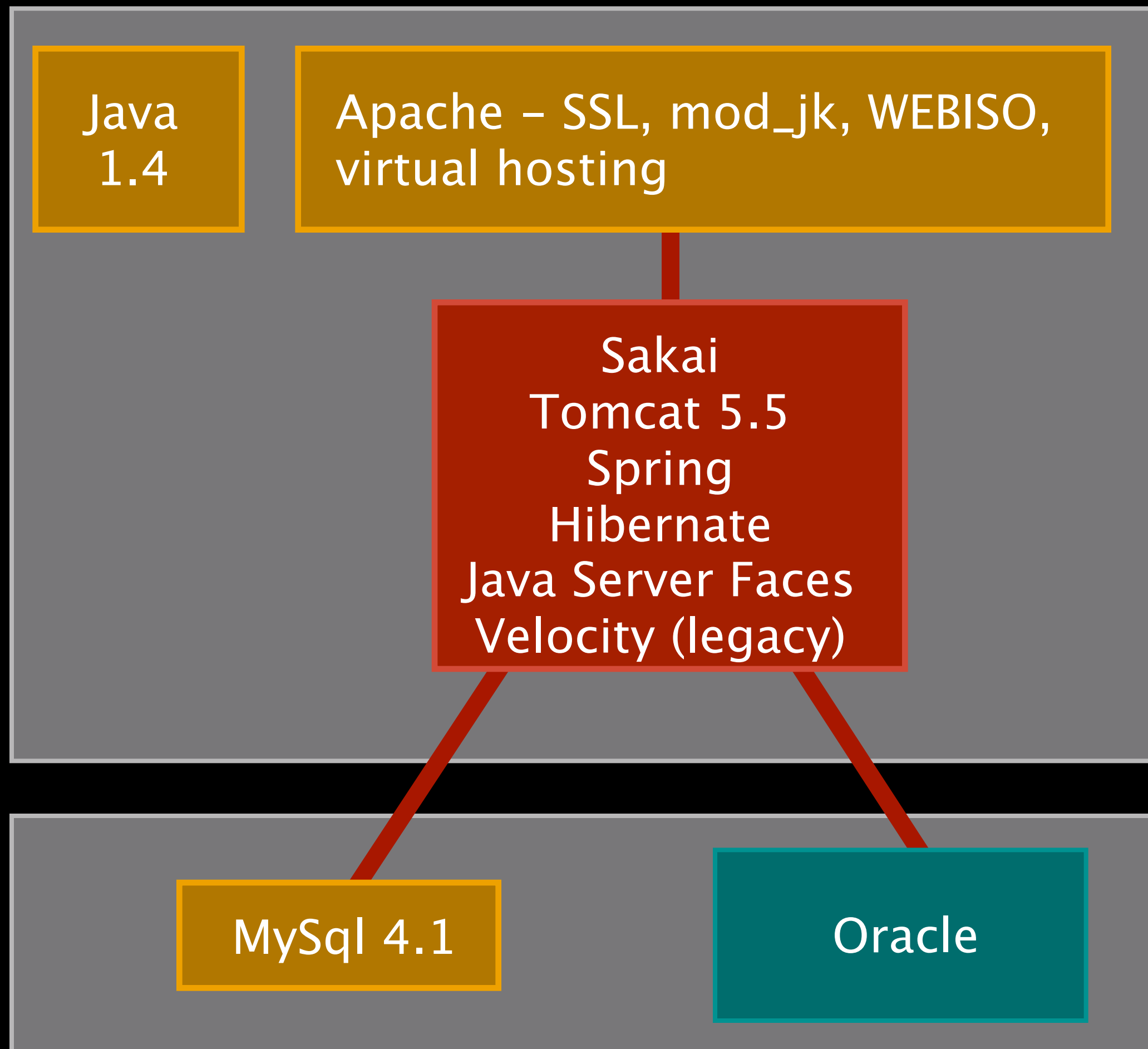- University of Missouri
- University of Virginia
- Whitman College

Type "Sakai Adoption Plans" into Google

The Sakai Framework

The need to satisfy the often conflicting goals of ease of use, ease of expansion, configuration flexibility, environmental portability and rock–solid production reliability suitable for enterprise deployment.

http://www.sakaiproject.org/

Sakai Foundational Technologies

Java
1.4

Apache – SSL, mod_jk, WEBISO,
virtual hosting

Sakai
Tomcat 5.5
Spring
Hibernate
Java Server Faces
Velocity (legacy)

MySql 4.1
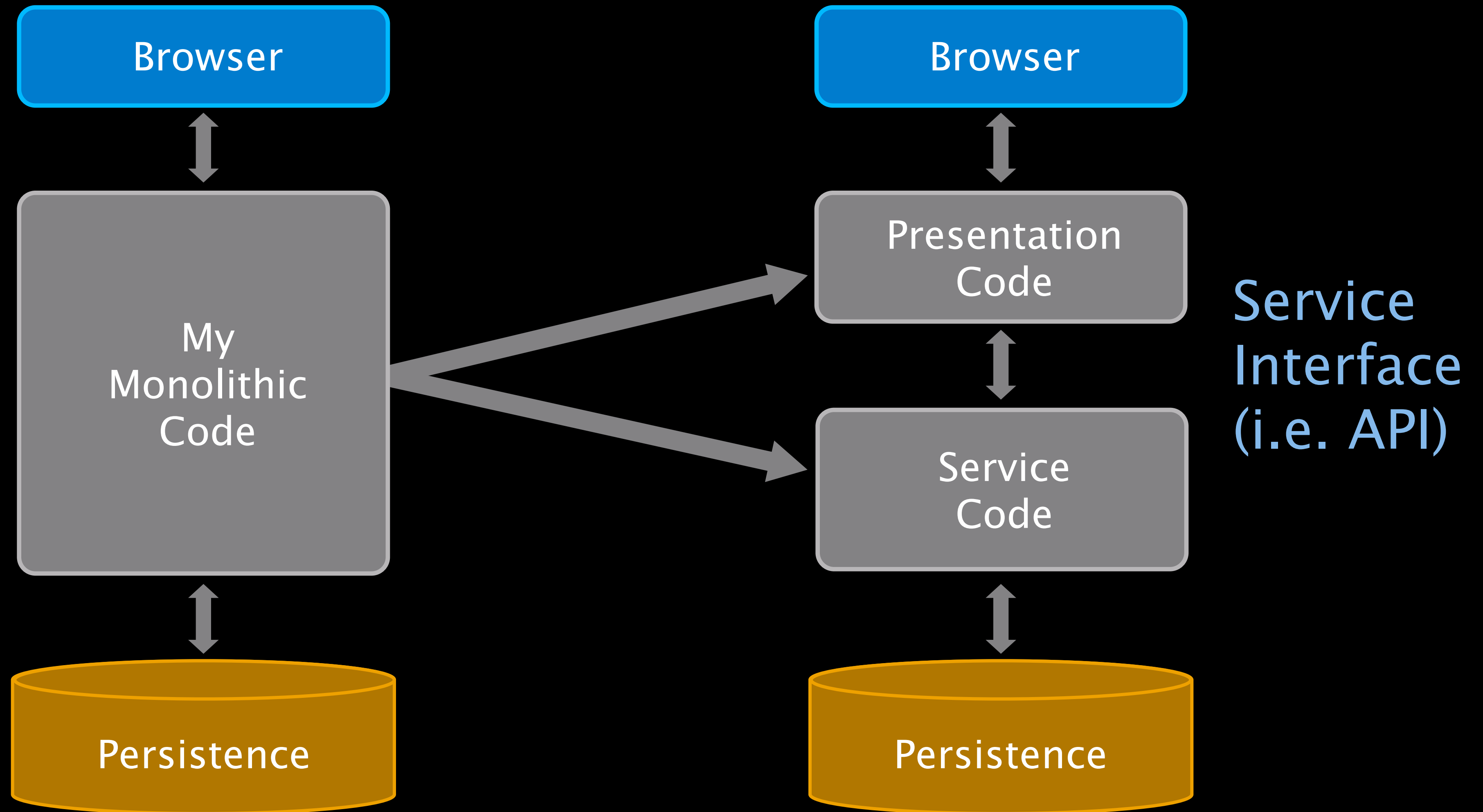
Oracle
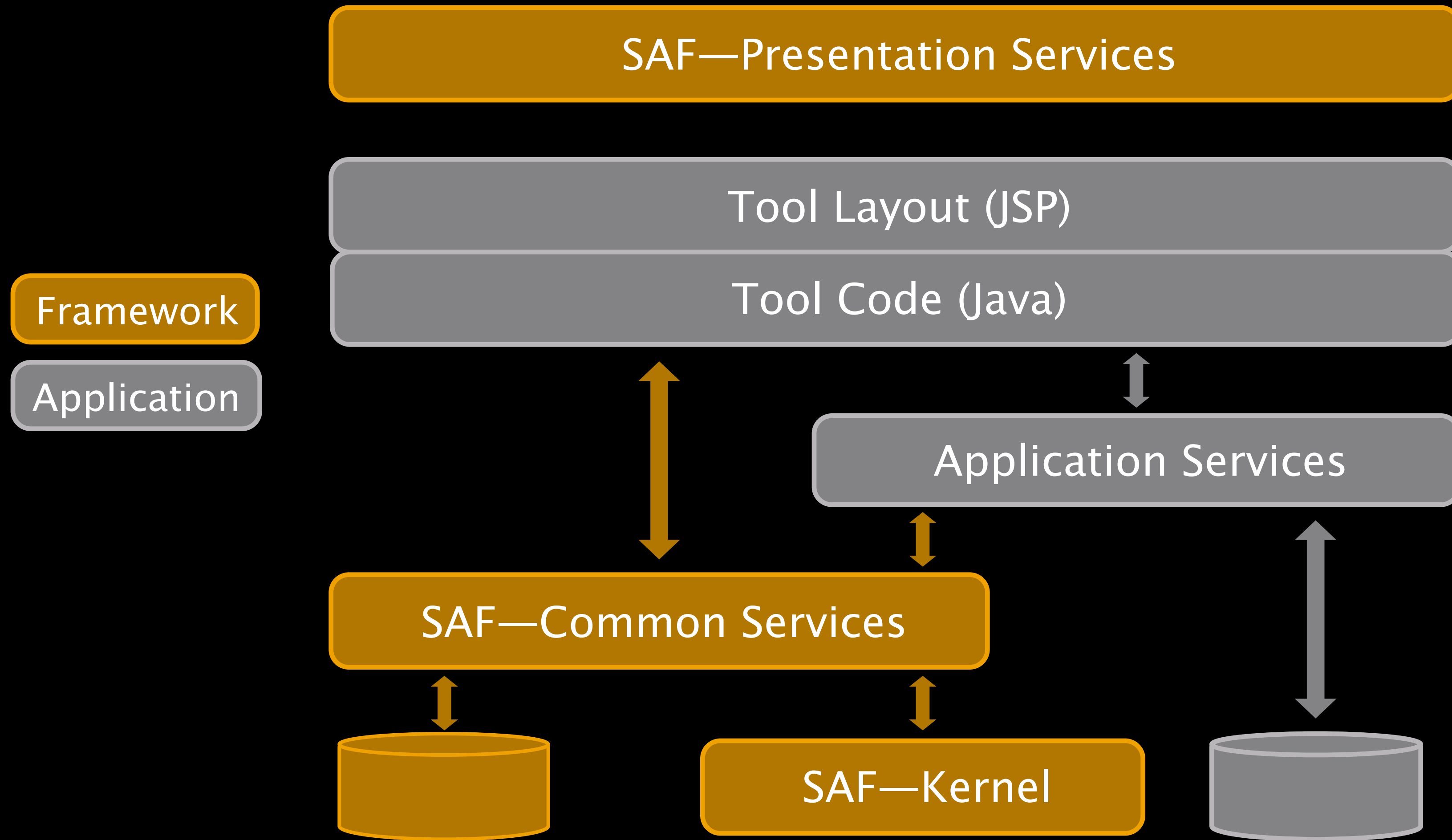
Sakai consists of
technologies
chosen to be
common in Java
Enterprise
Environments.

Service Oriented Architecture

Browser

Browser

My Monolithic Code

Presentation Code

Service Code

Service Interface (i.e. API)

Persistence

Persistence

Sakai Application Framework

SAF—Presentation Services

Tool Layout (JSP)

Tool Code (Java)

Framework

Application

Application Services

SAF—Common Services

SAF—Kernel

Sakai Presentation Services

```
<sakai:view_container title="#{msgs.sample_title}">
```

```
<sakai:tool_bar>    <sakai:tool_bar_item/>    </sakai:tool_bar>
```

Sample   + v d

Continue

Please enter some information

Information

Name:

date   JUN ▲▼   22 ▲▼   2004 ▲▼

Continue

```
<sakai:instruction_message
value="#{msgs.sample_one_instructions}" />
```

```
<sakai:group_box
title="#{msgs.sample_one_groupbox}">
```
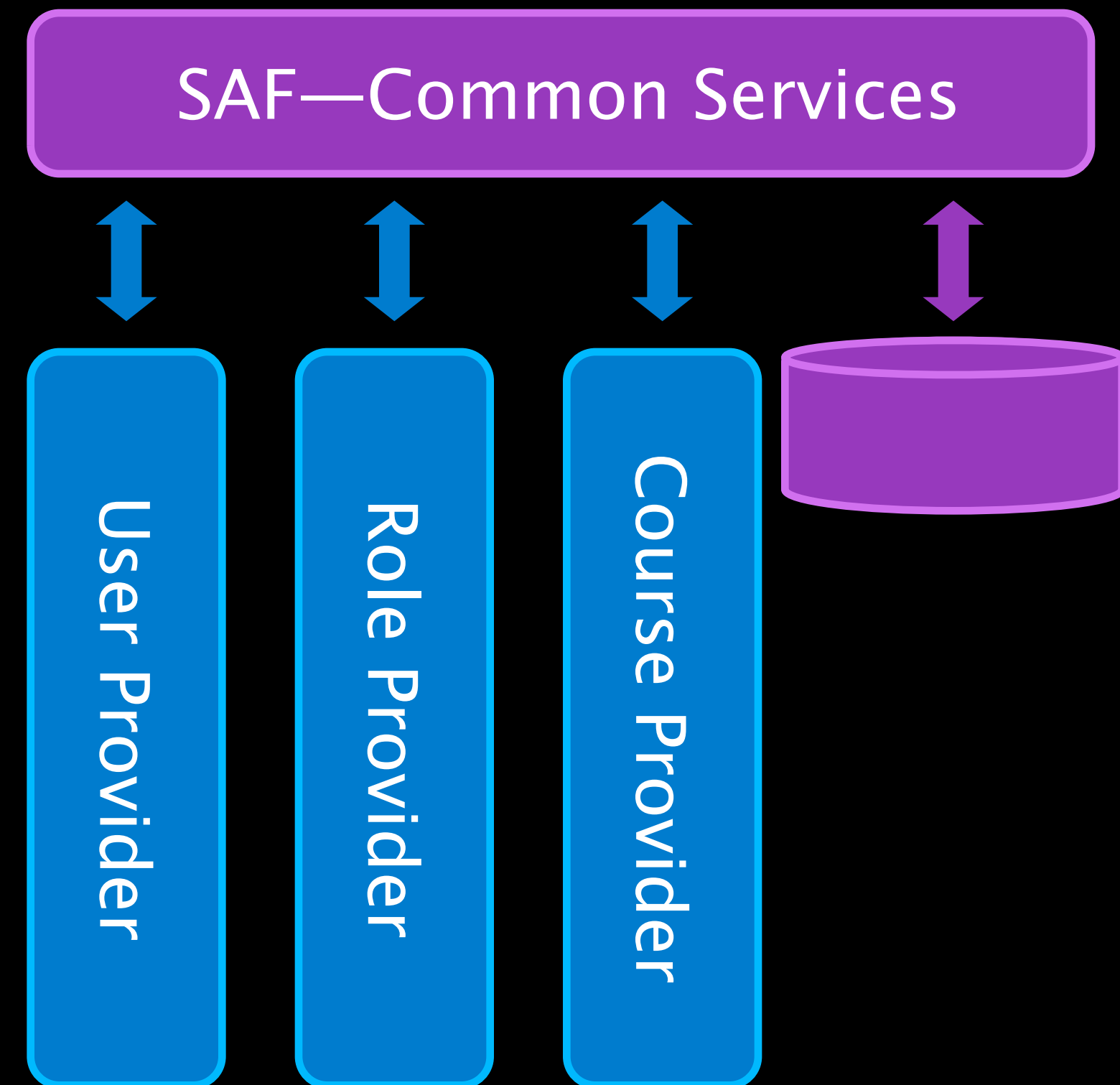
```
<h:inputText
value="#{MyTool.userName}" />
```

```
<sakai:date_input
value="#{MyTool.date}" />
```

```
<sakai:button_bar>
   <sakai:button_bar_item      action="#
{MyTool.processActionDoIt} value="#
{msgs.sample_one_cmd_go}" />
</sakai:button_bar>
```
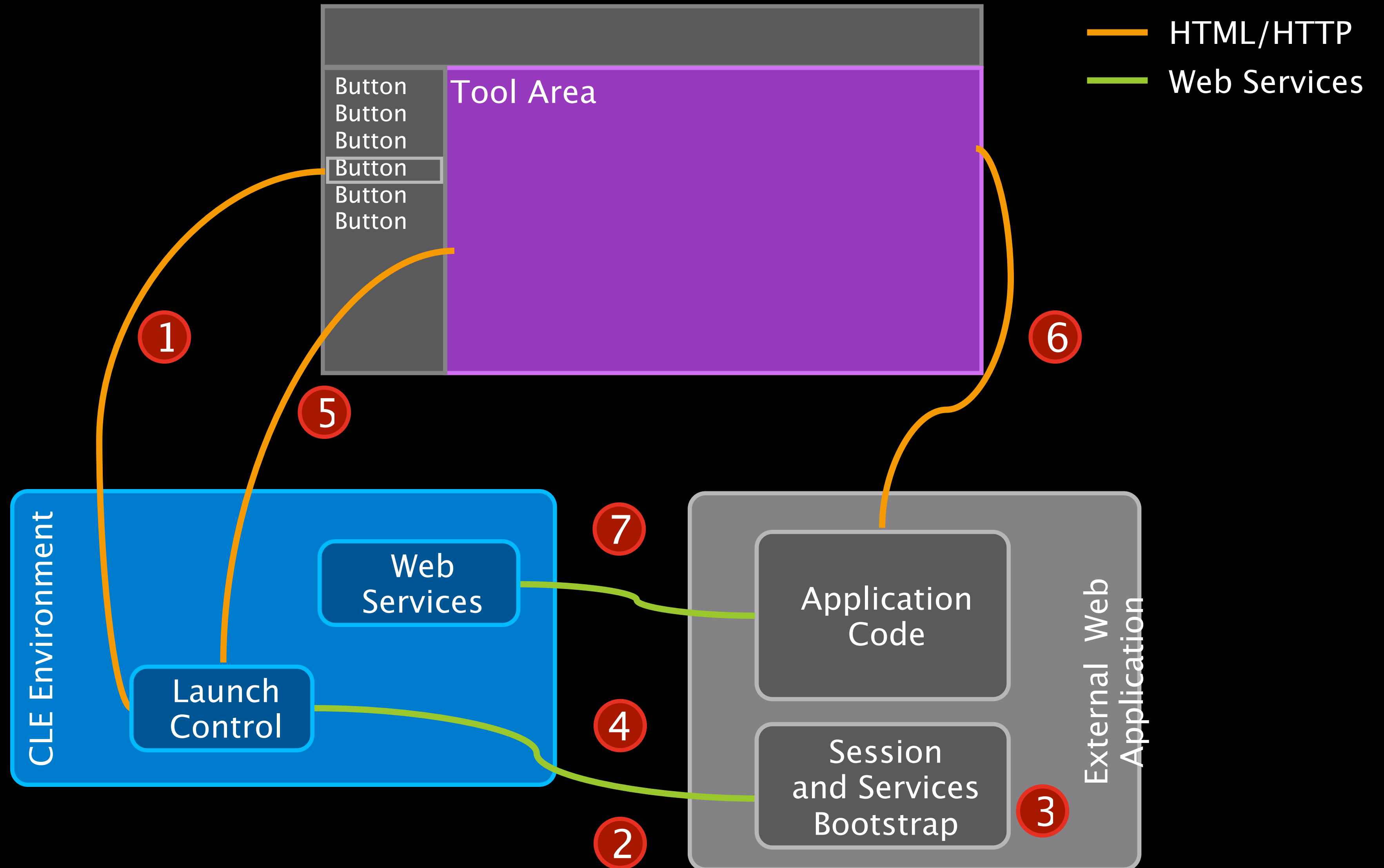
Sakai Service Providers

- Common Services are localized using Plug-Ins
  - UserDirectoryProvider
  - RealmProvider
  - CourseManagementProvider
- These will be expanded
  - OKI OSID Based Providers
- Plug-Ins do not replace the persistence, they are consulted in order to populate Sakai structures

SAF—Common Services

User Provider

Role Provider

Course Provider

IMS Tool Portability Group

- To work on 'interoperability' between and among CMS's/CLE's
- Focus is on making tools portable between systems (Sakai, WebCT, and Blackboard)
- Established to further the discussion with commercial and other CMS/CLE providers
- Will use web services and IFRAMES
- Demonstration at the June 2005 Alt-I-lab with several applications working identically in Sakai, WebCT, Moodle and Blackboard

Sakai, IMS, and Web Services

HTML/HTTP

Web Services

Tool Area

Button
Button
Button
Button
Button
Button

1

5

6

CLE Environment

Web Services

Launch Control

7

External Web Application

Application Code

Session and Services Bootstrap

4

2

3

Sakai: More Information and Next Steps

- Main site: www.sakaiproject.org
  - Bugs: bugs.sakaiproject.org

- Sakai-wide collaboration area
  - collab.sakaiproject.org
  - sakai-dev@sakaiproject.org
  - sakai-user@sakaiproject.org

- My talks
  - http://www.dr-chuck.com/talks.php