


SAKORA PROJECT

Information integration between the Learning Management System and the Student Information System



On today's campus, enterprise applications have become mission critical to the business of a college or university. Two essential applications are the Learning Management System (LMS), which enhances teaching and learning, and the Student Information System (SIS), the lifeblood for tracking courses, enrollment, and outcomes at an institution.

Oracle® and Unicon are partners in the development of an integration solution between these two key applications. This allows for course, enrollment, and outcomes information to be exchanged between the Learning Management System (LMS) and the Student Information System (SIS).

Beginning with Oracle Student Administration Integration Pack (SAIP), the SAIP delivers enrollment data from Oracle PeopleSoft Enterprise Campus Solutions via open standards that can be consumed by a Learning Management System.

Unicon is leading the Sakora project, the integration component providing the functionality for Sakai™ to consume this data via the same open standards. While this integration component initially focuses on the SAIP, the ultimate goal of the project is to allow institutions to have seamless integration between multiple types of Student Information Systems and Sakai.

LMS - SIS Integration

Some of the critical and challenging aspects of deploying an LMS like Sakai is getting it to properly integrate with various enterprise systems. One of the most important enterprise integration's is between the LMS and the SIS. Information about courses, students, faculty, enrollment, and outcomes should be exchanged automatically between the systems to improve productivity and reduce errors.

While most LMS and SIS platforms provide an API for this kind of integration, the APIs are generally proprietary interfaces that are just a starting point for a significant integration effort, which involves a fair amount of custom development. Some of the best interfaces use the IMS Enterprise Services v1 specification in an attempt to bring standards to bear on this integration. However, Enterprise Services v1 is not expressive enough to encompass the entire integration and so proprietary extensions are inevitable - which erodes most of the value of using a standard.

In recognition of the limited scope of the Enterprise Services v1 specification, IMS has been drafting Learning Information Services v2, which is much more comprehensive and will be used for the Sakora project.

Sakai Course Management Service

Sakai provides a flexible Course Management Service that allows for integration of enterprise SIS data. This service provides an internal API that the rest of Sakai uses for accessing Course Management data. This API can be implemented by an institution to support their specific integration needs.

While this is a great service for enterprise integration, it still requires additional custom development. There is a reference implementation of the Course Management API available that uses a local database, but using this implementation still means that the data must be populated and maintained with custom code.

The Sakora project from Unicon provides a standard IMS Learning Information Services v2 LMS implementation for Sakai that maintains all the data in the local reference implementation of the Course Management Service. When combined with an SIS that also supports the IMS Learning Information Services v2 standard, institutions will finally be able to achieve LMS - SIS integration without large custom development projects.

The Sakora Service

The Sakora service in Sakai provides three different modes for maintaining the Course Management data:

Full Snapshot (Batch) - Initiated from Sakai, the full snapshot mode brings over an entire snapshot of a given set of data, based on an academic session or other collection of courses. It is used to initialize a set of courses in the LMS once they have been established in the SIS.

Incremental Snapshot (Batch) - Once the courses have been initialized, they need to be maintained to pick up changes that occur before or during the term. In incremental snapshot mode, Sakai applies all pending changes to the existing data. This incremental update can be run at whatever frequency the institution establishes.

Event-Based (Streaming) - To provide the least propagation delay possible, the event-based mode allows the SIS to directly make web services calls into Sakai to update course data in near real time.

These are all standard modes specified in the IMS Learning Information Services standard and will be fully supported by any compliant SIS.

In addition to the above mechanisms for maintaining courses, groups, people, and enrollment in Sakai, the roadmap for Sakora includes additional capabilities like web services that allow the SIS to retrieve outcomes (i.e. grades) for any given course or section. These services are also fully specified in the IMS Learning Information Services standard.

PeopleSoft Enterprise Campus Solutions Integration

Unicon is working in close partnership with Oracle to provide the first complete reference implementation of the IMS Learning Information Services specification. While Unicon is building the Sakora project to provide the Enterprise Services for Sakai, Oracle is building the Student Administration Integration Pack (SAIP) to provide all the Enterprise Services for the PeopleSoft Campus Solutions.

Both the Unicon Sakora project and the Oracle SAIP project are currently using a draft version of the IMS Learning Information Services specification.

The specification should be finalized by June 2009. At that point, both projects will be updated to the final specification to ensure proper interoperability with other implementations of the standard. Unicon and Oracle are doing comprehensive integration testing together during the development of these two projects. This will allow both efforts to deliver proven interoperability to the market and to users of Sakai and PeopleSoft Campus Solutions.



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