

Open Knowledge Initiative

Sun Success Story.



Open Knowledge Initiative complements Sun's vision of educational computing

In an ambitious bid to transform the role of computers in higher education, a comprehensive educational technology initiative backed by some of the world's leading universities is developing a common and open architecture that allows the easy sharing of services and resources across the entire higher educational spectrum.

The underlying concepts embraced by the Open Knowledge Initiative (OKI) make it a natural fit with Sun's strategic vision of open source collaborative computing and a powerful beneficiary of the Sun™ servers and Java™-based APIs that are at the heart of its program.

Like many great ideas, it turns out that achieving the simple goal of a standardized yet customizable knowledge management architecture is a devilishly complex task. The aim is to develop meaningful, coherent, modular, and easy-to-use Internet-based environments that are scalable, stable and open. These will allow students, faculty and administrators to assemble, deliver and access vital and innovative educational resources regardless of time, place or platform. Universities and faculties will for the first time be able to easily share resources, and to enhance the development of customized applications by building them on common foundations.

"A lot of people are building interesting tools and doing interesting things on collaboration, managing content and team-based learning projects, but they can't be shared because infrastructure services, such as authentication and authorization, are hard wired into the applications," says Jeff Merriman, the project leader at MIT Academic Computing Enterprise, which is coordinating the teams of collaborators from Stanford, Cambridge University, John Hopkins and others. "To take an application built at Northwestern and get it to work at MIT—it's not worth the time to change the code. It's been a showstopper."

OKI aims to remedy this by developing a common language and standard system that can be applied to all educational institutions. "Then the developers can concentrate on building the interesting stuff rather than reinventing the wheel every time," explains Merriman.

Institutions

Collaborative project involving:
Massachusetts Institute of Technology
Stanford University
Many others

Industry/Market

Higher Education

Hardware/Software

- Two Sun™ Enterprise™ 250 servers
- Two Sun Ultra™ 5 workstations
- Java™ technology
- Solaris™ Operating Environment
- Independently developed APIs, courseware modules and open source software

Key Goals

- Create a flexible open source infrastructure that allows educators and universities to share knowledge management resources
- Offer developers a well documented API and open source building blocks for projects
- Promote collaboration and sharing of courseware innovations
- Allow the education sector to incorporate compatible tools developed by commercial vendors into the standardized modules

Home grown systems are also costly to maintain and divert resources from other educational endeavors. By adopting OKI, universities will improve both the quality and quantity of courseware and learning management systems, free resources for other activities and leverage the power of collaborative open-source software and networked computers to create customized systems for students, faculty and administrators.

The aim is not merely to tie computers ever closer to the educational experience. OKI is also refining the very concept of what it means to learn electronically—asking the most basic questions about how people learn on the web and the type of content that is needed.

One such model is the CourseWork module developed as part of a Stanford Learning Lab project to support a human biology class. Built with Sun's Java Servlet technology, it is a prime example of the modules that form the backbone of the system and provide functions like threaded discussions, chat, grade books, course outlines, file sharing and digital content display. Because all these modules use the same Java-based application program interface (API), they can all communicate with each other and share common user logins, digital assets and other key data.

Though a key tenet of OKI is to create a system that is platform agnostic, OKI has found that using Sun servers, Solaris™ and Java is the best way to achieve these goals because of their flexibility, reliability and commitment to open source development. That decision is a clear reflection of the values OKI shares with the Sun Open Net Environment (Sun ONE)—Sun's standards-based software vision, architecture, platform and expertise for building and deploying services on demand. Sun ONE provides a highly scalable and robust foundation for traditional software applications as well as current web-based applications, while laying the foundation for the next-generation distributed computing models such as web services.

Michael Gettes, the senior technologist at Georgetown University, praises Sun for its continued support for this collaborative computing model and says that by standardizing mechanisms for data input and export OKI could indeed revolutionize educational computing. "I'm a big fan of what they are trying to do," he says. "It's complex. But they have the right people and technology. It's definitely solvable."

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Jeff Merriman,
Project Leader,
MIT Academic Computing Enterprise

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