Working Together:
How the rSmart CLE Benefits the Sakai Community

December 2006

This work is licensed under a creative commons attribution 2.5 license.
Contents

CHANGING THE NORM 1

THE RSMART SAKAI CLE 2

Release Calendar 2
Cycle of Contribution 2
Release Composition 4
Distribution Formats and Configuration Options 5

WORLD-CLASS SERVICE AND SUPPORT 6

FREQUENTLY ASKED QUESTIONS 7
Changing the Norm

Sakai and other open source communities are fundamentally changing the norm for developing, acquiring, and sustaining application software in education. These communities are made up of colleges, universities, software and service companies, foundations, and other members of the greater education community. Together, we are building a sustainable ecosystem that provides higher quality software and better support than that of proprietary models.

As in any healthy ecosystem, the roles of the various participants are complementary and interdependent. Commercial firms play one important role: They provide implementation and support services that make open source scholarly systems attractive to institutions of all types and sizes, not just to those that are staffed for systems development and support. By enabling widespread adoption of Sakai and other open source software, these firms help increase diversity in the community. This diversity, in turn, increases the innovation potential and health of the community.

In this new ecosystem, the role of commercial vendors differs from their role in proprietary models. The following anecdote illustrates this point.

In the past couple of years I visited numerous campuses to meet with academic leaders and discuss the open source portfolio and Sakai projects. During one visit in the Southeast, a provost described his experience working with one of the leading proprietary course management software vendors. His university had catastrophic system failures during peak periods of tremendous importance. Months of unsuccessful support calls with the vendor resulted in the vendor’s senior management visiting to discuss the issues, sympathize, and leave without solving the problems. The problems persisted with serious consequences for the institution’s staff.

Unfortunately, this vendor’s response is common in the proprietary software business. And, while it may not work well for customers, it serves the vendor well, in part, because revenue is based primarily on selling software, rather than providing support.

When open source software users contact rSmart for support, they get a different response. At rSmart, our primary business is support, not software sales. As a result, our customers work with talented engineers who are leaders in the open source community and are dedicated to supporting the software with high standards of service.

In order to provide this outstanding support, we provide our customers with a commercial distribution of Sakai software. This short paper describes that distribution—the rSmart Sakai Collaboration and Learning Environment (CLE)—and explains why it is important to our clients and how it relates to the Sakai community and the community distribution. The paper also answers key questions, such as “In what ways does the CLE differ from Sakai?” and “Can rSmart customers easily migrate to the community release of Sakai if they no longer need rSmart’s support?”
The rSmart Sakai CLE

The rSmart CLE differs from the Sakai community distribution in small but important ways. Each small difference meets two critical requirements. First, it allows rSmart to offer production-ready tools on our customers’ existing platforms with a minimum of disruption for the customers. Second, it keeps the CLE technically close to Sakai so the entire community can benefit from changes made to either distribution.

In order to meet the first requirement, we carefully manage release timing and select the most stable tools and enhancements for release. We then test each tool on the platforms our customers require. During implementation, we rely on reusable tools and repeatable processes that we have developed specifically for Sakai.

To meet the second requirement, we contribute design and development resources directly to the community effort. We also contribute product enhancements to the Sakai code and base each new release of the CLE on the current release of Sakai. As a result, the CLE remains so tightly tied to Sakai that our customers can migrate to the community version if they choose to do so. These factors, combined with our commitment to outstanding support, enable rSmart to provide clients with the best solution for scholarly collaboration available.

In the sections of this paper that follow, I examine each of these aspects of rSmart’s separate, controlled distribution in more detail and further explain its close relationship to the community releases.

Release Calendar

rSmart’s release calendar differs from the schedule for the community Sakai releases. We distribute one major release per year, while the Sakai community produces two or more. These two approaches to release calendars serve different, complementary purposes. One is focused on predictability and supportability, the other focused on innovation.

Our clients tell us that it is not practical to go through the upgrade cycle more than once per year and that the ideal time for a release is in the spring. Therefore, to best serve our clients, we produce one annual release in the spring and support it with periodic service packs that include fixes and enhancements that can be applied to production systems with minimal effort. This approach reduces the disruptive nature of innovation.

The Sakai community, on the other hand, schedules multiple releases per year in order to foster widespread community involvement, diversity, and rapid innovation. Early adopters download the software and experiment with new features and capabilities. They provide feedback and ideas to the development teams, and the work is improved based on diverse user input. Lather. Rinse. Repeat. By scheduling releases more often, the Sakai community drives the pace of innovation faster and produces better software.

These two approaches provide the best of both worlds for institutions that use Sakai. Working cooperatively, rSmart and the other Sakai contributors provide the community with both the stability required for mission critical software and the fast pace of innovation that sets Sakai apart from proprietary alternatives.

Cycle of Contribution

Sakai software improves over time through two complementary activities: the planned and coordinated development, testing, and release activities guided by Foundation staff and the more organic evolutionary activities that occur at the edges of the community.

rSmart contributes to both of these activities. During the community’s planned and coordinated development and release periods, we represent our clients’ collective interests by advocating for and contributing to the changes our clients tell us are most important. rSmart staff also help shape the
direction of upcoming releases by contributing leadership, design, architecture, and development talent, QA resources, and financial support to the project. We have been contributing to the Sakai initiative from the beginning, and many of us have earned a place among the leaders in the community through our sustained, high quality contributions.

In addition, we contribute to Sakai’s organic evolution through direct work with our clients. These contributions take two forms.

♦ **Contributions to performance and stability**: Our release practices employ rigorous and repeatable functional and performance testing that complements Sakai’s QA practices. As we find and resolve issues, we contribute them to the community code base. We also resolve issues directly for clients experiencing problems. When the resolution results in code improvements, we offer them to the community code base.

♦ **New Capabilities**: Through work performed directly for clients and partners, rSmart develops new tools, new platform support, and enhancements to existing functionality. Sometimes this kind of work is truly unique to a particular client’s needs, but more often it is generally useful to others. This kind of work serves our clients, the community, and our company best when it is incorporated into the community source repository so both the benefit and the ongoing cost can be shared.

### Motivation to Contribute

The community source model for Sakai draws its great potential from the community of contributors on which it is based. In this model, contributors add incrementally and often modestly while benefiting from a whole that greatly exceeds the sum of individual contributions—In other words, we each get back more than we put in.

As the software is improved over time by a diverse, global community of contributors, a self-perpetuating cycle of contribution emerges. A phenomenon sometimes referred to as “enlightened self-interest” compels each of us who improves the software for our own purposes to contribute those improvements so we can in turn benefit from the work of others.

Figure 1 illustrates enlightened self-interest at work. With a focus on rSmart’s contributions, this chart shows how each release of the rSmart Sakai CLE is based on the community source code, and then, in-turn, becomes a part of future community code as we combine our contributions with the contributions of others. As the community grows over time, the total contribution grows larger.
Working Together: How the rSmart CLE Benefits the Sakai Community

Release Composition

rSmart maintains close alignment between the CLE and the Sakai community releases in another important way: We build each CLE release on the latest community code. This is a key difference between rSmart’s approach and that used in Unicon’s Academus Portal and Sungard’s Luminis products. Academus and Luminis are proprietary forks of the open source uPortal code. This approach limits the uPortal community’s benefit from improvements made by the company because their improvements remain solely in the company’s possession. Likewise, the company’s benefit from improvements made by the community is limited because its code has grown independently from the uPortal code, and the two cannot easily be merged. rSmart’s approach, on the other hand, preserves a closely aligned, iterative relationship between community source code and CLE distribution, resulting in what we believe is a win-win situation for our customers and the community.

Adapting the Community Release

Leading members of the Sakai community such as Indiana University and the University of Michigan are staffed with experienced engineers and IT staff. These IT professionals implement local decisions that turn a standard Sakai download into IU’s OnCourse and UM’s CTools.

Working on behalf of our customers, rSmart similarly adapts the community release, enhances it, and packages it for a polished out-of-the-box experience suitable for most institutions. Our CLE distribution includes skins that may be used as is or further customized, complete online help, professionally maintained documentation, and tools to assist our clients with the implementation and operation of the software. Each release also includes a selection of tools that we deem suitable for production use along with carefully configured roles, realms, user types, and default workspaces. As Figure 1 indicates, we do all of this while staying closely synchronized with the community release.

Figure 1: Cycle of Contribution

<table>
<thead>
<tr>
<th>Sakai</th>
<th>v2.2</th>
<th>v2.3</th>
<th>v2.4</th>
<th>v2.5</th>
</tr>
</thead>
<tbody>
<tr>
<td>rSmart Sakai CLE</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Community Releases</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

The rSmart Group
Distribution Formats and Configuration Options

The rSmart Sakai CLE is available either installed on-premise in our clients’ local environment or on-demand in a tier-one data center provided by partners such as IBM and Optimized Learning, Inc. (OLI).

In addition, the CLE is offered in three different configurations suitable for individual, personal use, small pilots, or complete enterprise adoption. Each configuration uses the same version of our CLE.

**Personal:** My Sakai ([www.mysakai.com](http://www.mysakai.com)) is a hosted implementation of the rSmart Sakai CLE for individual faculty members. It is fully supported by rSmart’s staff.

**Pilot:** rSmart’s pilot edition is pre-configured for ease of implementation, simpler support, and lower cost than the third configuration, Enterprise.

**Enterprise:** Our standard configuration of the rSmart Sakai CLE is suitable for production implementations at institutions of all sizes. It is supported by experienced and committed rSmart staff, so it is suitable for institutions with even the most limited staff resources.
World-Class Service and Support

rSmart provides our clients with a product that combines the innovative work of the Sakai educational community with enhancements focused on enterprise ‘abilities’ like supportability, maintainability, scalability, and usability. The resulting product gives our clients the best of what open source communities and commercial software companies have to offer—outstanding, innovative software and the predictability and confidence that come with a professional, dedicated support organization.

rSmart delivers on this promise through two types of support: subscription services (including our professionally composed release, documentation, and service packs) and professional services (including installation, integration, development, training, and more). We deliver subscription support services through a personalized support portal we call the rSmart Network (RSN). Our clients report issues, ask questions and get answers, and access electronic resources through personalized accounts in RSN. At the other end, our dedicated support staff use a closed-loop issue resolution system to respond within guaranteed time periods and resolve issues. Issue resolution often requires rSmart to coordinate with others in the Sakai community.

Our professional services team is composed of talented individuals with experience in implementing and supporting Sakai. We have also developed partnerships that combine our talent with the complementary talents of organizations such as IBM, Stoas, and Single Mind Consulting. Our partnership with OLI is a good example. We work cooperatively to provide the top-rated tier-four network operations center and network monitoring and security services that OLI is known for along with rSmart’s specialization in CLE application service and support. Together we bring our clients a simplified and cost-effective combination of what each company does best. Similarly, IBM and rSmart work together to build, test, and support a complete software stack that is supported end-to-end on scalable IBM servers.

In addition to helping us scale our ability to deliver a wide range of services, our partners serve another critical function, which is to help drive adoption by serving as channels to a variety of markets and segments. Companies like Stoas drive adoption of Sakai in the Netherlands by supporting the rSmart CLE in partnership with rSmart. Together we give clients local support as well as the deep application knowledge and expertise. Similarly rSmart and Educational Think Tank do this throughout the Caribbean. We also work with hardware and infrastructure providers like SigmaNet, Cisco, IBM, and HarvestRoad.

Subscription Services

- The rSmart Network
- Professionally composed release and service packs
- Help desk support
- Closed-loop issue resolution
- Service Level agreement
- Professionally maintained KB
- Tools, utilities, documentation, etc.

Professional Consulting Services

- Installation
- Integration
- Training
- Configuration & Customization
- Custom Development
Frequently Asked Questions

Is the rSmart Sakai CLE open source?

Yes. The rSmart Sakai CLE is now released under an OSI certified open source license and beginning with our CLE 2.4 release will be downloadable from our website. Previously rSmart bundled the CLE application software and our support services, tools, etc. under one subscription agreement that restricted redistribution. This approach was modeled after Red Hat’s business and the structure of their agreements. Even though the source code to the CLE has always been licensed under an open source license, we’ve separated it from our subscription agreement to make our intentions more clear to our clients and the community. Releasing our CLE as fully open source code and distinguishing it from the services and support we provide make it clear that there is no hidden lock-in. After all, we are open for education.

What if my institution uses the rSmart Sakai CLE and then decides not to renew our subscription? Do we have to uninstall and start over with the community release?

No. Our distribution is released under an open source license that does not restrict your use of the software. Further, because we stay closely aligned with the community software and contribute our fixes and features to it, your institution could reasonably upgrade to a future community release even though, at any point in time, the CLE might have additional fixes or features.

Does the rSmart Sakai CLE have enhancements and add-ons that are only available through an rSmart subscription?

Yes. rSmart frequently adds new tools, enhancements, and fixes to our CLE that are not yet available in the community release. This is mostly about timing and release priorities. While these unique pieces may not be distributed in the community release, that doesn’t mean the community doesn’t have access to them. The full source code of our distribution is available with our release and most of the source code is maintained in public Sakai source repositories.

What does rSmart actually contribute to Sakai?

Our contributions include fixes, enhancements, and new tools.

**Fixes:** When we resolve issues for our clients, we often do the work directly in the community source tree. We can do this because the engineers at rSmart have been contributing to Sakai since the beginning of the project and have earned commit rights. In some situations, however, it’s more convenient to resolve a particular issue in rSmart’s own source repository. So, we reserve time in each Sakai release cycle to merge this work back into the community source. Frequently, we also make it available publicly for others to merge into their own local code.

**Enhancements:** When we do development work for a client that improves the Sakai software, we decide whether the enhancement is generally useful or is specific to that client’s needs. If it is generally useful, our objective is to integrate the work with the community source code as soon as practical. If the code needs to be modified to make it more generally useful, the additional development can prolong the time it takes to integrate the code. Even so, a good rule of thumb is that this type of work is contributed within one or two release cycles. If someone requests the code and it’s feasible for us to provide it, we also make it available publicly for others to merge into their own local code.

**New Tools:** Occasionally rSmart develops new tools, either specifically for a client project or in response to the needs of multiple clients. Our criteria for deciding when and how to integrate these with the community release is similar to that used for contributing enhancements but depends to some extent upon the time and effort involved. If the tool is generally useful, then our objective is to contribute the work as soon as practical—generally within one or two release cycles.

It’s important to note that not everything we do is feasible to contribute. We are a strong community contributor with a good history, but decisions on what goes into the community releases are community decisions. We have one voice, but no single voice has absolute authority. This is a good thing for us all.
Where can I find the source code for the rSmart Sakai CLE?

With our upcoming version 2.4 release, the rSmart Sakai CLE is available for download on our website. One of the options for download includes the source.

How is rSmart different than proprietary software companies like Blackboard?

Simply put, we’re open. We generate revenue by adding value to an abundant commodity—open source applications. Proprietary software vendors generate revenue through scarcity. They invest in R&D and develop a “secret sauce” which nobody else has access to. Because their product is a scarce resource (only available from them), they can leverage that initial investment as long as the product is useful and nobody else has independently developed something competitive. We believe that this model is outdated. It has the following shortcomings:

**Prone to high prices.** Proprietary software vendors spend excessively on sales and marketing to convince potential clients that they need what the vendor has. Open source software companies spend more on R&D and outstanding support. Because clients have access to the software, there is no gatekeeper to pay. Potential clients play a more active role in evaluating software and so require less of the company in the early sales process. Additionally, the community is a powerful viral marketing tool that further reduces the need to spend $0.60 - $0.80 of every dollar earned to convince you that you need what we have.

**Risky.** Proprietary software is owned and controlled by a single vendor. In other words, there is a single source for the software and support and a single point of failure. If the company is purchased, discontinues a product line, or takes the product in a direction that doesn’t suit colleges and universities, clients have little or no choice. Open source software is not controlled by one vendor. There is no single point of failure. Open source software can endure the failure of a single organization because it is sustained by an ecosystem of colleges and universities, companies, foundations, and other organizations and individuals who care deeply about education.

**Wasteful.** Proprietary software stifles innovation because it hides prior knowledge. Too much of our collective energy goes into re-inventing the wheel. The open source model, by contrast is based on the same fundamental culture as academia. To advance knowledge, it must be shared so that others can build on it. In the same way, we advance software faster using open source methods. A case in point: Instead of starting from scratch (re-inventing the wheel) to add innovative search capabilities to Sakai, developers were able to build on open source search software called Lucene. Examples like this are plentiful, and everything our community creates (wiki’s, blogs, forums) is another starting point for something else new and innovative that didn’t have to re-create the wheel.

All of these drawbacks have become unnecessary for most software because it is now practical to develop software and build successful and sustainable businesses based on the open approach. The tools for globally distributed collaborative development are enabling software developers and users to collaborate more effectively than was previously possible. Business models have also adapted to monetize the added value for their part in the use, development, distribution, and/or support of open source.