CASE STUDY

Council of Chief State School Officers (CCSSO) Increases Project Efficiency Through Open Source Content Management and Collaboration Innovation

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CCSSO: Benefiting from an open source portal solution today, and project team collaboration and community moving forward

Rivet Logic's deployment of Alfresco Enterprise Content Management and Liferay Portal solutions enables CCSSO members to reduce the time they spend searching for mission-critical information and increase productivity through collaborative tools and capabilities.

As a national association that includes every state, the Department of Defense Education Activity (DoDEA) and five U.S. extra-state jurisdictions, including Puerto Rico and Guam, the Council of Chief State School Officers (CCSSO) understands the importance of efficient workflow, centralized content management and easy collaboration across geographic locations. CCSSO provides leadership, advocacy, and technical assistance on major educational issues, and frequently seeks member consensus and presents views to civic and professional organizations, federal agencies, Congress, and the public.

CCSSO's recent High School Redesign project illustrates a critical need among the organization's members to more effectively and efficiently access timely information on an array of topics. Education leaders across the country are calling for the transformation of the traditional comprehensive high school into a 21st century learning institution that supports college and workforce success for all students. To help states build the capacity to implement research-based practices and policies, CCSSO launched the State Strategies to Redesign High Schools Project in early 2004 with funding from the U.S. Department of Education. The project supports state education agencies with the planning and implementation of their high school redesign efforts by providing technical assistance in areas that states defined as high priorities.

CCSSO realized that in order to effectively carry out the High School Redesign effort across all states, it would need to address a variety of requirements through a central location, including identifying and disseminating best practices, facilitating ongoing communication with participating states, creating a state network to encourage state sharing and collaboration of redesign policies and programs, and working with technical assistance providers and key national organizations to support state-level efforts in high school redesign. In a nutshell, "CCSSO needed a central place that would enable state work teams across the country to access up-to-date, project-related information easily and efficiently," said Michelle Bishop, project manager at CCSSO.

CASE HIGHLIGHTS

- **Organization** - The Council of Chief State School Officers (CCSSO), a nationwide non-profit organization of public officials who head department of elementary and secondary education activities in the United States, the Department of Defense Education and the five U.S. extra-state jurisdictions.

- **Challenge** - Enable faster and more efficient access to a broad range of current state-sponsored documentation and project information, and optimize project participation by facilitating online communication and collaboration functionality for internal CCSSO personnel and external stakeholders.

- **Solution** - The CCSSO turned to Alfresco and Liferay, the leading open source alternatives for enterprise content and portal capability. CCSSO tapped Rivet Logic, an Alfresco Certified Gold Partner and Liferay Preferred Partner, to configure and deploy both the external Web-facing public portal and an internal community solution for educators and their associated stakeholders.

- **Results** - CCSSO has centralized project and administrative information from locations across the country and is planning team collaboration for the future. The Web-facing portal solution has streamlined internal work among state education offices, and eliminated the need for tedious legwork to track down best practices information.
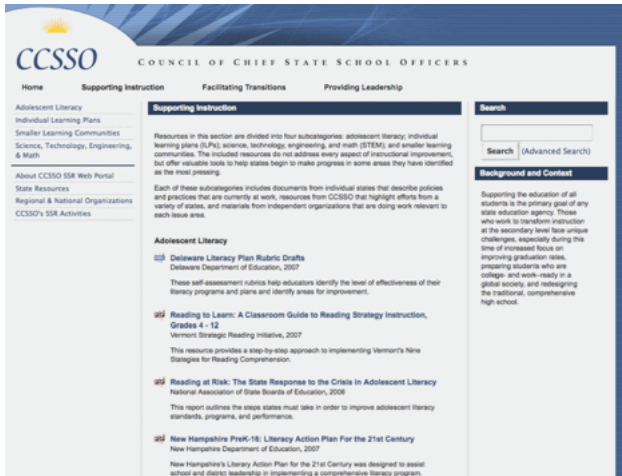
Figure 1. The SSR portal user interface features a robust content management and delivery solution.

As a result, in April 2007, CCSSO embarked on the development of the CCSSO Secondary School Redesign Web Portal (CCSSO SSR Portal). Prior to the deployment of the CCSSO SSR Portal, there was no easy way for one state to find out what other states were doing on a particular issue. Often, obtaining information meant visiting one or several of the 50 state education Web sites—one site at a time—and searching for documents on a range of systems of varying degrees of sophistication. The process was tedious, and information retrieval was often complicated and inefficient.

Fast and easy access to up-to-date information on legislation, best practices and a wide array of internal

projects and state initiatives are key components to the High School Redesign project's success. Time spent searching for material means time away from realizing the CCSSO mission of providing leadership, advocacy, and technical assistance on major educational issues throughout the country. CCSSO required a flexible, scalable and secure platform for organizing content for a broad Web-facing audience. Additionally, the new system needed to allow state education offices to easily create content and participate in an auditable document lifecycle, whereby access is granted only to those who need it. Finally, the CCSSO required a solution that fit within its budget, timeframe and scope.

Developing a scalable and flexible open source ECM solution for CCSSO

In June 2007, CCSSO tapped Rivet Logic to lead the implementation of an Alfresco Enterprise Content Management (ECM) platform and portal solution to support robust content management and delivery capability for the CCSSO SSR Portal, shown in Figure 1.

Key requirements for the technical solutions included:

- A Web site for sharing searchable content
- Strong content modeling capability to manage metadata
- An admin interface to upload and manipulate content (Alfresco Web-client)
- A site with enough flexibility to add custom pages on demand (e.g. State Map Flash application)

BENEFITS

Alfresco content management solution:

- Easy integration with off-the-shelf applications through platform flexibility

- Improved ROI through lower development costs, which enabled CCSSO to redirect IT dollars to strategic initiatives

- Optimal end-user adoption with seamless and consolidated content repositories and easy-to-use interfaces

- Reduced costs through zero licensing fees and no forced upgrades or vendor "lock-in"

Liferay collaboration and community solution:

- Improved productivity from document and project collaboration

- Streamlined workflow and project efficiency with email and status alerts, calendar updates, and other tools that improve operational efficiency

- Secured data through authentication and permission levels that can accommodate varying user roles

- Portlets that provide stand-alone functionality (e.g. a "What's New" portlet)
- Versioning capability by applying space level rules

When comparing similar programs, the CCSSO found that the Alfresco and Liferay combination offered significant advantages, notably effective search and retrieval capability for external visitors to the Web portal. "Intuitive navigation, metadata search, and rapid and relevant search results were all important features for the public-facing side," said Mike Vertal, president and CEO of Rivet Logic. As the integrator, Rivet Logic also played a key role as overall solution provider, ensuring a smooth deployment and seamless integration of the Alfresco and Liferay platforms. "Rivet Logic was very effective as the intermediary between us and the platform vendors, Alfresco and Liferay," said Bishop.

In a nutshell, ECM systems such as Alfresco provide the system of record (storage and retrieval), structure, versioning, audit control, and facilitation of content

lifecycle and workflow, while portals provide aggregation and delivery of content, functionality and security.

At the foundation of the SSR solution is an Alfresco back-end ECM platform that enables CCSSO to manage large amounts of content. The Alfresco ECM platform features sophisticated workflows, rich metadata modeling, full-text and metadata search capability, and support for rich content (e.g. media, documents, audio and video). Rivet Logic developed the metadata model for all material, which enabled CCSSO to easily capture all relevant information associated with a wide array of documents and multimedia files. Authorized CCSSO users control the editorial process of uploading content, tagging and assigning metadata, and reviewing and approving via workflow—all through Alfresco's standard Web client interface. Once complete, new content is immediately available to end-users through browsing and searching via the Liferay Portal interface.
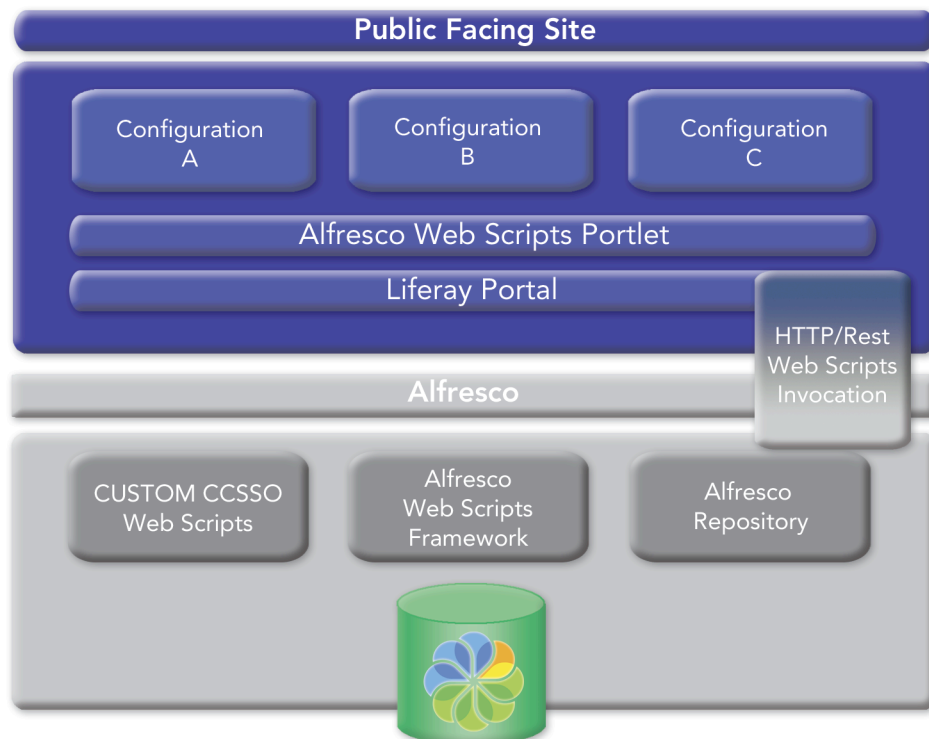

Figure 2. SSR portal architecture, featuring Alfresco's Web Scripts interface.

Organizations should consider integrating Liferay and Alfresco when their content management needs exceed the out-of-the-box capabilities of Liferay. For example, if you require:

- Advanced content model structure
- Auditing and versioning capability
- Scalability of content volume and/or management transactions
- Reusable enterprise content either for multiple consumers or as a single system of record

Alfresco's Web Scripts interface was used for the Alfresco/Liferay integration, as illustrated in Figure 2.

Alfresco Web Scripts provided:

- A simple view into the repository
- An easy way to list dynamic content while displaying the appropriate metadata
- The possibility of low impact runtime modification (quick and easy to develop)

By using a cost-effective, zero license fee portal platform, CCSSO was also able to demonstrate to the organization a commitment to technological advancement that is not found in commercial, off-the-shelf products. Hence, the open source approach enabled CCSSO to redirect funds otherwise consumed by license fees back into application development. The Alfresco combination of an ECM back end with a portal front end also established a foundation from which to extend service offerings to meet additional organizational and project-specific demands.

Facilitating knowledge sharing and collaboration through a feature-rich portal solution

In addition to the Secondary School Redesign Web Portal, CCSSO used the Liferay Portal as a secure online collaborative work environment to enable project members to share information, work collaboratively on documents, manage calendars and schedules, and communicate effectively. While the purpose of the Web-facing portal was to pull together all project-related information in a seamless, organized manner, the goal of the community portal was to address another pressing need—effective collaboration.

The community portal provides project team members, including CCSSO personnel from disparate locations and volunteer stakeholders, with easy access to each other, and to timely news shared documents and project schedules through a central, collaborative online environment. CCSSO also engaged Rivet Logic to implement the Liferay Portal solution for the community space. Said Bishop, "Rivet Logic was instrumental in upfront definitions and helped us understand the platform capabilities and what would be possible within our timeframe and budget."

The Liferay solution delivers numerous advantages to the CCSSO community. For CCSSO, Liferay provides a secure, intuitive user experience that enables the organization to consolidate all data and applications via a single point of access. For the end-user, Liferay provides team members with an "extranet" environment from which to work on documents that are version controlled and access controlled via check-in/check-out capability. Liferay also enables users to maintain project schedules and receive timely information via RSS feeds. As a result of its development, integration and support services, Rivet Logic enabled CCSSO to streamline project management operations, provide self-service capability to all project partners, and enhance the user experience. Notably, the Liferay solution also provides ample opportunity for customization moving forward. Depending on need, CCSSO will be able to extend the capabilities of the portal to include portlets, email alerts and search capability.

Alfresco and Liferay—Delivering benefits across the CCSSO organization

The Alfresco ECM solution for the High School Redesign project, combined with a Liferay Portal solution for collaboration and community capability delivers a flexible and agile toolbox, and provides a foundation from which to expand into additional capabilities as needed. Initially, the platform provides an array of benefits for the greater CCSSO community, including the following:

- Platform flexibility ensures easy integration with off-the-shelf applications

- Lower development costs improve ROI by redirecting IT dollars to CCSSO projects and strategic initiatives
- Optimal organizational end-user adoption with seamless and consolidated content repositories and easy-to-use interfaces
- Reduced costs through zero licensing fees and no forced upgrades or vendor "lock-in"

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>
> —Michelle Bishop, project manager for CCSSO

Meanwhile, the Liferay collaboration and community solution for CCSSO functions as a shared workspace for the creation, exchange, and management of all cross-organizational information. Users and administrators of the community portal are reaping numerous benefits, including the following:

- Improved productivity from document and project collaboration
- Streamlined workflow and project efficiency with email and status alerts, calendar updates, other tools that improve operational efficiency

- Ensured security of all data through authentication and permission levels that can accommodate varying user roles

Rivet Logic benefited from the experience of crafting the content management and portal solution for CCSSO through numerous lessons learned, such as the following:

- A best-of-breed solution that included Alfresco for content management and Liferay for the portal front end was appropriate.
- Web Scripts provided a good fit for SSR in that there was not a large amount of complex business logic
- Web Scripts are great for exposing Alfresco repository functionality and even creating new API(s)

For more information about Alfresco and Liferay and how they can benefit your business, call Rivet Logic at 703.955.3480 or visit rivetlogic.com

ABOUT RIVET LOGIC

Rivet Logic is an award-winning consulting and systems integration firm that helps organizations better engage with customers, improve collaboration and streamline business operations. Through a full suite of solutions for content management, collaboration and community, Rivet Logic enables organizations to fully leverage the power of industry-leading open source software. With deep expertise in the

Alfresco Enterprise Content Management platform, Liferay Portal, and JBoss Enterprise Middleware, Rivet Logic crafts content-rich solutions that power next-generation Web properties, Enterprise 2.0 applications and collaborative communities. With offices in Reston, Virginia and Cambridge, Massachusetts, Rivet Logic serves clients across a wide range of industries. Rivet Logic—Artisans of Open Source.