

## **NSDL Priority Report**

### *Technical Development Updates from Core Integration*

Core Integration provides periodic updates on technical developments and improvements in library production systems in *Priority Report* for principle investigators and technical staff at NSF NSDL-funded projects. Of importance for the NSDL technical community is the ability to understand what, if any, impact ongoing technical work will have on interaction with NSDL production systems. Those dependencies are noted below.

Please let Karen Henry, [khenry@ucar.edu](mailto:khenry@ucar.edu), know if there is additional information that would make the *NSDL Priority Report* more useful for you or your staff.

### **Resource Recommendation System (Available now)**

**Description and Benefits:** Allows approved resource recommenders to enter a URL, determine whether that URL is already represented within NSDL, provide additional information (metadata) about the resource if it does not already exist and submit the resource for inclusion in the NSDL Metadata Repository.

**Impacts:** No software or process changes will be required for NSDL providers, services, partners or users.

**More Information:** Please contact John Saylor, [jms1@cornell.edu](mailto:jms1@cornell.edu), for more information or to find out how you can become a recommender of resources to the NSDL.

### **Content Management System via FEDORA (February 2005)**

**Description and Benefits:** Core Integration is implementing a new content management architecture that will provide flexible content management for library builders. It will support document upload and management for NSDL community related-work and items stored in this system will be harvested like other collections and searchable on NSDL.org. This new infrastructure is based on a model called FEDORA, or the Flexible and Extensible Digital Object and Repository Architecture.

**Impacts:** No software or process changes will be required for NSDL providers, services, partners or users. For those library builders (partners, community workgroups, projects, service providers, etc.) who load documents to the Community Pages, you'll notice a new web interface for managing documents.

**More Information:** Please see <http://cms.comm.nsd.org>

### **Improved Search Capabilities (February-March 2005)**

**Description and Benefits:** Provides capabilities to support a much higher volume of indexed data, reduces maintenance, and allows easy expansion of capabilities. Now supports full range of Lucene search capabilities, and supports ability to create new specialized search services. At the developer level, provides a new easy-to-use REST interface for search.

**Impacts:** No software or process changes will be required for NSDL users. Minimal software and process changes will be required for NSDL providers, services, and partners to use the new REST-based search interface.

**More Information:** Please see <http://search.comm.nsd.org>

## **Coordinated Identity Management and Personalization Services (April 2005)**

**Description and Benefits:** NSDL Core Integration has been working with a small number of projects to develop standards for exchanging information for authenticated user information (i.e. user attribute and profile data). The resulting identity management and authentication services can be used to enable identity-based collaborations or restrict access to content.

An immediate benefit will be that a single id/password can be used to logon to multiple, independent collections and services within NSDL. Longer-term benefits will be in the new process for technical collaboration in other shared, personal services such as reading lists, presence-based systems (e.g., chat), mailing lists, blogs, portfolios, etc.

Following the Shibboleth profile work in 2004 with the AskNSDL group and discussions with the Pathways projects, the standardized authentication work will allow more consistent user data to be collected at registration processes in the projects. Using the central registration site provides consistent processes and interoperation across the projects which will be federated by this initiative.

**Impacts:** No software or process changes will be required for NSDL providers or users, however, there may be small additions that users will make to the user data collected through the NSDL registration process at the central site. Participating projects must implement Shibboleth and complete internal and integration development tasks.

Longer-term impacts will be in the area of project policy and processes which will ensure accuracy and timeliness of user data exchange. For example, as new services may increasingly rely on the trust of a user's role (e.g., teacher can write to grades database), the guarantee of the role data exchange across projects must be made more formal and better substantiated.

**More Information:** Core Integration is available to work with additional projects for Shibboleth and identity management implementation. Please contact David Millman, [dsm@columbia.edu](mailto:dsm@columbia.edu), for more information.

## **Ask the Community (May-June 2005)**

**Description and Benefits:** Provides a venue for the NSDL community to ask one another questions about library building activities. This service will be available from the Community Tab on [nsdl.org](http://nsdl.org). We expect questions will range from technical, "how to" questions, or finding out who might be doing similar or synergistic work, to practical questions about what others have done for evaluation or sustainability. Resources, FAQs and an archive of the Q&A will also be available.

**Impacts:** No software or process changes will be required for NSDL providers, services, partners or users. NSDL project PIs will be signed up automatically as "experts" to the Ask the Community service, which enables everyone in the community to see and answer any posted question. PIs can respond to as many questions as they

want to answer, and everyone benefits from seeing the ongoing Q&A. We will also ask PIs to encourage their project staff to sign up as experts and post questions.

**More Information:** Please contact Susan Jesuroga, [jesuroga@ucar.edu](mailto:jesuroga@ucar.edu), for more information.

## **NSDL Repository via FEDORA (July-August 2005)**

**Description and Benefits:** A repository architecture that will provide flexible content management, extend the types of information that can be managed and which will optimize NSDL user experience with the growing collection of multimedia content. This new infrastructure is based on a model called FEDORA, or the Flexible and Extensible Digital Object and Repository Architecture, which will ultimately give users richer options for resource discovery, access, repurposing and reuse.

**Future Applications:** The new NSDL Repository lays the foundation for using content in new and interesting ways. It will allow NSDL CI and partners to develop user-focused services that create a context for available resources related to users' work or interests. Examples of the possible services: Provide robust search functionality to locate URLs of relevant resources, links to other objects "like" the one they have chosen, NSDL-created content such as aggregated learning objects and exhibits, data about educational standards, as well as information about users and organizations.

**Impacts:** No software or process changes will be required for NSDL providers, services, partners or users. This implementation will continue to support current NSDL Metadata Repository functions such as OAI ingest and exposure of Dublin Core metadata.

**More Information:** For more information about FEDORA, visit <http://www.fedora.info> and <http://www.dlib.org/dlib/april03/staples/04staples.html>

## **Vocabulary Development and Crosswalks (Available now and more, August-September 2005)**

**Description and Benefits:** Building upon a 2004 vocabulary workshop, Core Integration will make common vocabularies available allowing users more reliable access to NSDL materials. NSDL projects and collections will benefit from a strategy of managing community developed vocabulary schemes such as basic Education Level vocabulary for the expression of grade levels (now available), and an Education Resource Type vocabulary. In the future, automated crosswalking will be done from other terms to the preferred terms. Projects can begin to add the new Education Level Vocabulary terms to their metadata now and are urged to comment on the proposed Education Resource Type terms. Future services can improve relevance and precision of search using the standardized vocabularies to filter search results based upon audience and education level.

**Impacts:** No software or process changes will be required for NSDL providers, services, partners or users.

**More Information:** Please contact Diane Hillmann, [hillmann@cs.cornell.edu](mailto:hillmann@cs.cornell.edu), for more information. Additional information can be found at <http://metamanagement.comm.nsdlib.org/cgi-bin/wiki.pl?VocabDevel>