

Institute of Museum and Library Services National Leadership Grant

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**Realizing the Vision of  
Networked Access to Library Resources**

*An Applied Research and Demonstration Project to Establish and Operate  
a Z39.50 Interoperability Testbed*

**Phase 2 – A Radioactive MARC Record Approach to  
Interoperability Testing**



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**Interim Report to  
The Institute of Museum and Library Services**

**January 1 through June 30, 2005**

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July 1, 2005

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## Introduction

This document serves as an interim report on the Z39.50 Interoperability Testbed Project, Phase 2 (Z-Interop2), covering the period of January 1, 2005 through June 30, 2005. This document highlights activities and accomplishments to communicate to IMLS progress on our project since the interim report on January 1, 2005.

## Summary Accomplishments and Challenges

This section summarizes key accomplishments and future challenges. Subsequent sections discuss these in more detail.

### Accomplishments

- Created second set of radioactive MARC records according to
- Successfully interoperability testing using radioactive MARC records with one library participant
- Continued to enhance and test software to automatically send test searches, gather results, and produce reports.

### Future Challenges

- Refine radioactive MARC record creation according to revised specifications and requirements
- Identify additional libraries to participate in interoperability testing using the radioactive MARC records and project testing software.

One major setback in the project was the loss of our primary server for interoperability testing. Although we have had computer security procedures in place and ongoing management of the computing resources for the project, our server was compromised in May 2005. The server had to be taken off the network, and because of the seriousness of the compromise, the system had to be rebuilt. We are in the process of implementing a new testing environment to replace the original Z-Interop Testbed reference implementation of an online catalog and Z39.50 server contributed to the project by Sirsi Corporation.

## Project Personnel

The project team consists of:

- The PI
- A masters student working approximately 20 hours a week
- A Ph.D. student working approximately 10 hours a week.

In addition, the project subcontracted with a software firm:

- Index Data, a software firm specializing in Z39.50 that was listed in the request for extension to provide technical support for the project. Index Data is continuing its work through the end of the project.

Each of the project team and contractors has been assigned activities and tasks related to project goals and objectives.

## **Project Management**

The PI has overall project management responsibilities for scheduling work, keeping the project team members on task, disseminating information about the project, and overseeing the design and progress of the project. The PI communicates regularly with the project team via email and meetings.

## **Project Website and Information Dissemination**

The project website <<http://www.unt.edu/zinterop/>> serves as a primary vehicle for promoting and publicizing the project. The site was updated in January 2005 to provide information and documentation related to Phase 2 of the Z-Interop Project.

The PI presented a project briefing at the Coalition for Networked Information Spring Task Force Meeting in April 2005. The title of the presentation was: *A Radioactive Metadata Record Approach for Interoperability Testing Based on Analysis of Metadata Utilization*, and the abstract is available at:

<<http://www.cni.org/tfms/2005a.spring/abstracts/PB-moen-radioactive.html>>

The PI, along with the developers from Index Data and the two student research assistants, submitted a paper for peer review for the ASIST Annual Conference. The paper entitled: *An Extensible Approach to Interoperability Testing: The Use of Special Diagnostic Records in the Context of Z39.50 and Online Library Catalogs*, was accepted for presentation. A pre-print copy of the paper is available at:

<<http://www.unt.edu/wmoen/publications/AsistPaperPreprinMoenJune2005.pdf>>

Additional papers will be developed as we conclude this project to report on the methods and findings of the research.

## **Project Technology and Software**

The Z-Interop2 Project is leveraging many of the hardware and software resources acquired during the original Z-Interop Project. As noted in the Summary Accomplishments and Challenges section above, the project's primary server was compromised (i.e., hacked) in May. We are currently working to install two separate information retrieval programs to serve as our testing environment. These implementations should be completed by the end of July, and we will use these reference implementations for verifying our RadMARC records and the testing software. Unfortunately, this situation delayed certain project activities.

## **Discussion of Project Activities and Accomplishments**

The project team continued its development and testing of the first set of ten RadMARC records. In addition, a second set four of RadMARC records were created. The second set populates more of the available content designation in the MARC record than the first set.

The first library to participate in the interoperability testing using the RadMARC record approach is the University of North Texas Libraries. The library successfully loaded the first set of ten RadMARC records, and we conducted interoperability testing using our automatic testing software and scripts. Certain behaviors of the UNT library online catalog caused unexpected results, and the project team has been investigating work-arounds for such behaviors.

The automatic testing software was successfully moved from the Index Data development environment to one of our project Linux servers. A UNT project team member has been continuing development of the testing software to improve the reporting output. This work continues. In addition, complete documentation is being written for the automatic testing software. This will be available when we release the testing software under GPL licensing at the end of the project.

Finally, we reached agreement with OCLC to host the RadMARC records we develop. This will provide two important benefits:

- The records will reside in the OCLC WorldCat database for ongoing access
- Individual libraries will be able to download these records for their use in conducting interoperability testing.

The records will also be available from our project website.

## **Summary and Next Steps**

We have continued to progress this project, and as we move into the final two months of the project, we think all goals, objectives, and deliverables for the project will be accomplished. During August, we will be conducting final interoperability testing with 3-5 libraries using at least two sets of the RadMARC records.