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

Status Report to The Institute of Museum and Library Services

January 1 through June 30, 2003

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Introduction

This document provides a status report on the Z39.50 Interoperability Testbed Project (Z-Interop) covering the period of January 1, 2003 through June 30, 2003. This document highlights activities and accomplishments to communicate to IMLS progress on our project since the last status report on January 1, 2003.

Accomplishments and Challenges

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

Accomplishments

- Processed requests from one Z39.50 vendor/developer to participate in Z-Interop testbed
- Processed requests from one library to participate in Z-Interop testbed
- Utilized the Z-Interop testbed to assess vendor responses to a Request for Proposal for the Library of Texas Resource Discovery Service application.
- Developed interoperability test scenarios for phrase searches.
- Developed procedures to create a smaller test dataset of approximately 100,000 MARC 21 records.
- Conducted an analysis on the MARC 21 test dataset to examine the utilization of MARC content designation for purposes of determining indexing policies. This activity resulted in a paper for the Dublin Core 2003 Conference, which was accepted.
- Publicized the testbed through presentations.

Challenges

- Encouraging more participation in testbed.

Project Personnel

The Principal Investigator (PI) has committed time to the project throughout this period with a 20% effort in Spring 2003 and the first part of Summer 2003.

Two Ph.D. students comprise the core of the Z39.50 Interoperability Testbed Team (Z-Team). One has the responsibility to oversee the programming and automatic processing of data analysis. The other has the responsibility to oversee the interoperability testing, analysis, and report writing of results. Three Masters students (two from the School of Library and Information Sciences and one from Computer Science) assisted through most of this period with interoperability testing, programming tasks, and analysis of the test dataset of MARC 21 records. In June 2003, one of the Masters students moved from the Z-Interop Project to another of the Principal Investigator's projects related to Z39.50. He continues to be involved in some work for the Z-Interop Project.

Total staff working on the Z-Interop as of June 30, 2002:

- 2 graduate students (Ph.D. students) working 20 hours per week
- 3 graduate student (Masters student) working 10 hours per week

These students comprise the Z-Team.

Project Management

The PI has overall project management responsibilities for scheduling work, keeping Z-Team members on task, disseminating information about the project, and moving forward with further development of test scenarios. The PI communicates regularly with each of the Z-Team members via email.

Project Activities in Brief

During this period, the Z-Team carried out a number of activities in support of the Z-Interop testbed and pursued related research to interoperability.

The Z-Team continued to address the complexity of developing test queries for phrase searches (as defined in the Bath and U.S. National Z39.50 Profiles). The challenges posed by these types of searches extended the length of time to develop the test scenarios and test procedures.

In response to requests from potential interoperability testing partners, the Z-Team has worked during this period to develop a subset of the entire 400,000 MARC 21 test dataset for interoperability testing. The goal was to create a random sample of approximately 100,000 MARC 21 records as a second test dataset. Most of this work has been completed, and the Z-Team has been working to create the test scenarios and benchmarks for the smaller test dataset.

An issue that has been central to the interoperability testbed is indexing policies that define the MARC fields/subfields that should be indexed to support the searches defined in the U.S. National and Bath Profiles. This analysis has produced some unexpected findings that may have major impacts not only for the Z-Interop Project but also for the broader library community.

The Z-Interop testbed played a central role on another project of the Principal Investigator for the Texas State Library and Archives Commission (TSLAC). That project, called the ZLOT Project, is assisting the TSLAC in building the Library of Texas, a standards-based virtual library. Both the reference implementation of the Z39.50 client (contributed by Sea Change/Bookwhere) and the Z39.50 server (contributed by Sirsi Corporation) were used in conducting technical assessment of responses to the TSLAC's Request for Proposal for the Resource Discovery Service of the Library of Texas.

Interoperability Testing

During this reporting period, we were contacted by two organizations interested in using the interoperability testbed:

- TELUS solutions d'affaires for a Z39.50 implementation at Université du Québec
- Whittier Public Library, Whittier, California for testing a Z39.50 client implementation

We have been communicating with these organizations to work out an appropriate time for interoperability testing.

Project Website and Information Dissemination

The project website <http://www.unt.edu/zinterop/> continues to serve as our vehicle for promoting and publicizing the project. In addition, we use the website to publish project documents and for online collection of information from potential testbed participants.

Work and results from the Z-Interop Project has provided the PI with information that he typically includes in presentations related to Z39.50. These presentations serve to publicize and describe the Z39.50 Interoperability Testbed Project. In all cases, the support from IMLS for this project was clearly communicated. The following lists conferences and meetings at which the interoperability testbed was discussed as part of the presentation:

- Positioning Z39.50 in the Networked Library: Standards for Building Sustainable Services. Texas Library Association Conference, April 2003. Houston, TX.
- Barriers to Interoperability: Technical and Not So Technical. 5th Annual GILS Conference, April 2003. Lisle, IL.

Project Technology and Software

Sirsi Corporation, a contributor of software to the Z-Interop Project, upgraded the reference implementation Z39.50 server to the current 2003 version. A new Sun machine was purchased in Fall 2003 with non-IMLS funds for use in conjunction with the Z-Interop project, specifically for interoperability testing analysis and MARC records analysis. Because of scheduling problems with UNT's Computing Services, this new machine did not become available until May 2003.

Summary and Next Steps

During this period, the Z-Team focused on setting up an alternative test dataset that may make it possible for more libraries to participate in the testbed. The Z-Team also continued working on the complexities of test scenarios for interoperability testing of phrase-oriented searches defined in the U.S. National and Bath Profiles. The third major activity was an in-depth analysis of the test dataset of 400,000 MARC 21 records.

The Z-Interop Project has three more months in which to complete the work of establishing the interoperability project. By September 30, 2003, we expect to provide operational and robust interoperability testing for the Z39.50 community.