

# Chapter XVI

## Standards, the Structural Underpinnings of Electronic Resource Management Systems

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### ABSTRACT

*Electronic resource management (ERM) software is in the spotlight as a new management tool within libraries. Built to manage all steps in the lifecycle of an electronic product, ERM systems must interoperate with existing Integrated Library System (ILS), public service, and financial software already in use within the library. Although ERM software leverages and expands earlier standards work (MARC, Onix for Serials, openURL, metasearch, etc.), most contemporary ERM systems are built using the DLF-ERMI specification as the underlying guide for data element and functional requirements. Recent efforts, such as SUSHI and the License Expression Work Group, are defining new standards and protocols to address new ERM issues. Further, experience in the era of electronic resource management has pointed out the need for additional standards and protocols, which are discussed in this chapter.*

### INTRODUCTION

Standards—particularly those approved by national or international standards bodies—are the core of almost all recent development in the library automation industry. From the early days of library systems (arbitrarily assigning the starting date of library automation as we know it to the development of the MARC communications format by the Library of Congress in the mid-1960's), the

use of industry-developed and industry-accepted standards has made interoperability and the sharing of bibliographic data possible. As an outcome of the widely accepted MARC platform various derivatives and related standards and protocols evolved. For example, the Z39.50 search protocol, the Bath Profile, the U.S. National Profile, and several others have their roots in early work done with the MARC record.

Electronic resource management (ERM) is now moving into the spotlight as a crucial management tool in the world of library management. Delivery of information using electronic products has been part of library service for several decades, beginning in the mid-1970's with SDC Orbit databases, NASA RECON, Lockheed Dialog, and (a bit later) BRS, all of whom delivered abstracting and indexing data through idiosyncratic retrieval mechanisms. Most of these early systems were built by large R&D corporations not in the library arena that were searching for ways to handle a large and growing number of technical and research reports. (Bourne & Bellardo-Hahn, 2003)

The "modern" era of electronic resource management began around 1999 or 2000, with the confluence of several different trends. First, technology was such that large collections of full-text material—e-journal, e-book, or other types of electronic materials—could be stored and retrieved rapidly. High-density magnetic and optical storage hardware costs dropped markedly. Second, the cost of delivery plummeted. Broadband Internet service, delivered over high-speed access lines, and the ubiquitous availability of the Internet meant that any library, and, indeed, any person, could download large chunks of data in seconds. Third, user needs and user behavior changed. As end users (to distinguish them from library-based or institutional users) came to depend on the Internet for all of their information needs, they expected immediate information delivery. Finally—and no less important than the first three factors—economics in the information industry changed. The cost of library resources (paper and electronic subscriptions) skyrocketed and caused libraries to closely examine their needs. Recession and economic malaise kept acquisitions money tight and put many libraries into contraction, rather than collection, mode. Rather than searching for new services to provide, libraries had to make decisions about which services to cut.

[Why did e-resource pricing take such a huge jump? That is a topic for another chapter. The

author of this chapter suggests reviewing various publications from the Association for Research Libraries (ARL), North American Serials Interest Group (NASIG), the United Kingdom Serials Group (UKSG), and industry journals such as *Serials Librarian*, *Against the Grain*, and so forth, for background and ongoing evidence of the tremendous rise in the cost of serials over the last decade.]

We see the result of these four factors today. In many large university libraries electronic resources constitute 50% or more of the library's acquisitions budget. (Kyrillidou & Young, 2006) Some special libraries, particularly in the medical and pharmaceutical industries, spend 90% or more of their materials budget on electronic resources. The shift from paper-based resources to electronic resources has meant that old, paper-centric management tools have become inadequate. The ERM industry is reacting by developing and integrating new tools, developed specifically for the complex world of electronic resource management.

This chapter discusses standards and protocols that are the foundation of current ERM applications. It describes existing standards and how they are being adapted and changed in an ERM world. Finally, it introduces several new and developing standards and makes suggestions for new ERM-based protocols for the future.

## **THE EARLY DAYS OF ERM STANDARDS**

Electronic resource use began to rise in the late 1990's due to the confluence of factors described earlier. For fiscal, legal, management, and other reasons, libraries felt they had to track contracts, licenses, and similar data elements related to the electronic resources they were purchasing. Some libraries developed their own local ERM systems—MIT's VERA, Harvard University's Harvard ERM, and Boston College's ERMdb, for example. Many libraries used spreadsheets or

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