

Primo

Ex Libris has developed a new product called Primo as its next-generation discovery and delivery platform. As a discovery tool, Primo provides a new interface that a library can use to provide access to all aspects of its collection, including both print and electronic content. Ex Libris uses the tag line “Find It, Get It” to convey the concept of what it intends to accomplish with Primo.

Primo serves as an alternative to the online catalog provided as part of an ILS, with an expanded scope and a modern interface. Primo can be configured to provide access to other digital collections that the library might maintain locally. Through an integrated federated-search feature, Primo also serves as a mechanism for searching the library’s collection of remote databases and e-journals. Primo aims to go beyond discovery and deliver content to the user, providing online viewing of the content when it’s available and otherwise offering library users the best approach for obtaining access to materials.

Ex Libris has been working with a several different libraries as development partners for Primo. The company has engaged two U.S. universities as development partners, Vanderbilt University and the University of Minnesota.¹ Ex Libris also worked with the University Library Center of North-Rhine Westphalia, a large consortium in Germany, as a development partner for the back-end publishing platform for Primo. The Royal Library in Denmark also has worked closely with Ex Libris on Primo. In addition to these development partners, a number of other institutions have elected early adoption of Primo as “Charter Members” once the software has been put into general release. These institutions include Boston College; the College Center for Library Automation, a consortium of 27 community colleges in Florida; the Cleveland Museum of Art; Iowa State University; the University of Iowa; and the University of East Anglia in the United Kingdom.

Primo’s design slants toward the needs of academic and research libraries, consistent with the demographics of Ex Libris’s customer base. The product focuses on the typical academic library environment that includes the local ILS, a large collection of electronic-resource subscriptions, and locally managed digital collections. To gain full advantage of Primo, the MetaLib federated-search utility and the SFX reference linking application should already be in place. Primo can interoperate with an institutional authentication service. Such an environment is much more common in university and research libraries than in public or school libraries.

Ex Libris announced the general release of version 1.0 of Primo on May 1, 2007.²

Architecture and Technology

The key concepts underlying Primo involve providing both discovery and delivery of library resources, including those managed locally by the library and the ones remotely hosted by external providers. The search features of Primo implement discovery; the GetIt components focus on delivery. The Primo interface and architecture provide discovery and delivery for both local and remote resources.

Primo operates independently of the library’s existing automation system, providing a new interface that spans many of the library’s automation systems and content products. Ex Libris intends Primo to work with the automation systems of its competitors in addition to its own ALEPH 500 and Voyager products. One of the initial development partners is a multicampus implementation of ALEPH 500, while the other runs SirsiDynix Unicorn.

Primo provides a new search environment, which Ex Libris calls the “Primo Publishing Platform,” into which

the library can load bibliographic and holdings records from its ILS, as well as records representing any additional collections. Primo builds its indexes based on these collections, forming a local index that provides rapid search performance with features such as relevancy ranking.

The Primo Publishing Platform can host many types of content. In addition to the traditional ILS data, this local index can include any of the library's digital collections. The library could load article-level resources into the local indexes if it has access to metadata records representing those collections. Advantages in loading collections into the local index include increased visibility of that collection since it will be part of the library's primary search environment. While libraries may choose to continue to offer separate interfaces to local collections for specialized researchers and advanced collection-specific features, loading them into Primo makes the content available to the library's user population in a much more convenient way.

As an example of expanding the local indexes beyond the traditional catalog, Vanderbilt University elected to load records from the Vanderbilt Television News Archive, a collection of over 850,000 loosely structured records that feature concise abstracts that describe each news story within the broadcasts from the national television networks in the United States.

To populate the local indexes, Ex Libris has developed a record transfer process it calls "pipes," which involves extracting records from the original source, processing them into a common format, and loading them into the publishing platform. Primo supports OAI-PMH (Open Archives Initiative Protocol for Metadata Harvesting) and other methods to transfer metadata into the publishing platform. These pipes perform the initial transfer of records and are run subsequently at frequent intervals to keep the Primo indexes up-to-date.

Complementing the faster local index, Primo also provides access to the electronic resources to which the library subscribes through the Remote section of the interface. Access to these remote resources is powered by MetaLib, the Ex Libris federated-search product. Primo works only with MetaLib, taking advantage of the XML services layer built into that product, and does not support the other federated-search products on the market.

SFX forms another integral component of Primo. Many of the GetIt features of Primo rely on SFX. Ex Libris currently supports only its own SFX linking product and not competing products. Support for other link resolvers may be enabled in the future since all the products in this genre rely on the OpenURL standard.

The configuration and customization of Primo involves the use of an administrative interface called the Primo BackOffice. The library's system administrators would use BackOffice to select options for indexing, relevancy ranking, display, and delivery. Ex Libris delivers

Primo with a default set of out-of-the-box options, but the library has considerable flexibility in tweaking many components according to its specific needs. The library uses the back office interface to define the characteristics of each collection as it is added to the publishing platform.

A key component of Primo's architecture involves its support for Web services, making it possible for the library to expose its services in other applications and portals, such as course management systems.

Enrichment

Primo extends search and display functions of each collection by affording the possibility of enriching records as they are loaded into the publishing platform. The library may choose to enhance the bibliographic records from its catalog with reviews, summaries, or other related information. Bibliographic records can also be enhanced with data from any associated authority records to help improve searching.

Some enrichment takes place only during presentation, such as the display of cover art images. Libraries can also opt to display textual enrichment such as reviews, summaries, and tables of contents, but this option does not make use of that information to enhance searching. Licensing terms in the library's subscription to enrichment providers may limit whether elements from that content can be loaded into the search platform or used only upon presentation.

Interface Features

The initial search box for Primo is simple, yet offers a few options to the user. Drop-downs allow the user to select the type of material, whether the query should be interpreted as general keywords or as an exact phrase, and whether the query terms should appear in a specific part of the record. Unless the user changes the selection, the most general options will be in effect. Another drop-down on the search page selects what collection to search. The library can choose the default options as part of the configuration process.

When a user enters a query, Primo presents the initial set of results, with a set of features presented alongside that assist the user in the search process.

The Primo interface includes a set of tools at the top of each page presented with all search results. This shaded horizontal bar includes a query box populated with the text of the current query, with a set of drop-down search options. The default configuration for Primo presents two tab selectors at the top of the search bar that toggle between Local and Remote modes, representing the two basic Primo search scopes. Especially when implemented

by a consortium, additional scopes may be defined. The Primo interface allows for using drop-downs instead of tabs for the user to select the desired scope.

Ex Libris designed Primo to accommodate use by consortium and other multibranch implementations. As such, Primo supports the creation of multiple “views” of the interface. Each of the libraries has the ability to separately customize many elements of the Primo interface, including search scopes, and the ability to present its own branding and style sheets.

Directly to the right of the search bar is a smaller panel devoted to personalization features. This panel includes a Sign In button that prompts for a username and password and a button to access the user’s e-shelf. This panel displays additional information once the user has signed in, such as a welcome message with the user’s name. In most resolution modes, the bar that includes the search panel and the sign-in panel is about 10 percent of the browser’s display (see figure 15).

A narrow column on the right side of the page helps narrow the results through faceted browsing. Labeled “Refine My Results,” this section of the display groups facets into a number of categories, including Creator, Topic, and Creation Date. Results from the Local tab also include facet groups for Collection and Classification.

Consistent with the standard conventions, each facet includes the number of items, shown in parentheses, that will be returned when the user selects that link. Each time that the user selects a facet, the text for that facet appears in the search box area, giving the user a breadcrumb trail of the search path. Each facet in this area includes a link labeled “remove” to deselect the facet and update the search results without that facet limitation.

In addition to helping a user narrow a set of results, Primo also presents users with relevant alternatives for

performing new searches. A section at the bottom of the page titled “Haven’t found what you’re looking for?” lists a number of strategies that the user might follow, with links to the appropriate part of the interface to carry out the suggestion.

Each result set returned by Primo includes a button to deliver the records as an RSS feed. An RSS button appears on the title bar for the current display list, providing the user with the URL that represents the feed associated with the current search.

The initial results present a brief view of the items returned by the query. The brief view includes a number of features associated with the item. An icon on the far left side indicates the type of item, such as book, video, or journal. The brief view also presents some basic descriptive information about the item, including its title, author, and publication data. A View Details link launches the full view of the record. Below the descriptive information appears a check box for adding the item to the personal e-shelf, a utility for storing and managing items of interest.

In order to simplify the presentation of multiple versions of the same work in the results list, Primo groups them under a single entry, following the principles of FRBR (Functional Requirements for Bibliographic Records). The top-level entry will include a link indicating that other versions are available. Clicking on this link will present the individual entries that were collapsed through the FRBR grouping. Primo also includes a de-duplication option, consolidating multiple occurrences of records that may be present in a consortial implementation (see figure 16).

When displaying either the brief or full view of an item, Primo will highlight all occurrences of the search term. This convention assists the user by making it readily apparent why a given item appears in the results list.

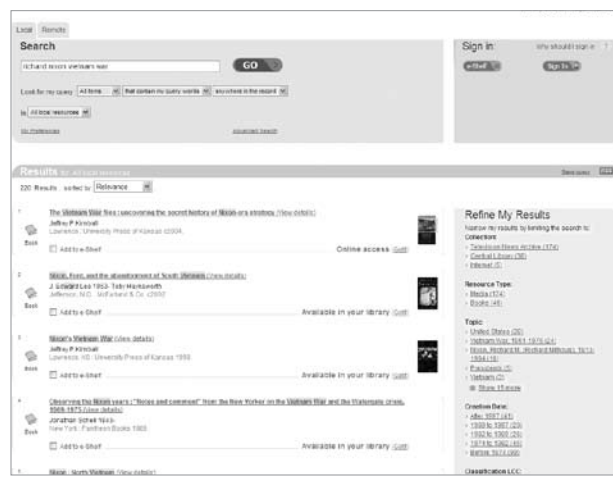


Figure 15: Primo’s initial results display.

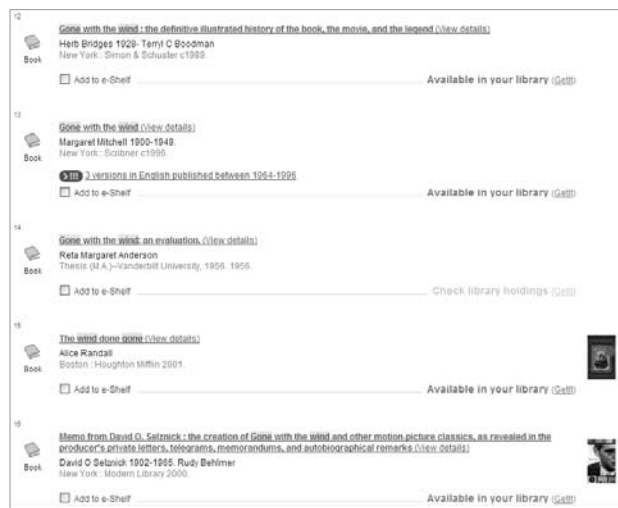


Figure 16: A results list from Primo. The second entry shows how Primo groups multiple versions together.

One of the key themes of Primo involves encompassing both the discovery of a library's information resources and the delivery of those resources to the user. Ex Libris calls the features related to the delivery of content "GetIt."

Each item in the brief view displays a GetIt link that presents preliminary information on how the user can gain access to the item. For physical items in the library's collection, the GetIt link will display as "Available in your library" if at least one copy of the item is available for checkout. If none of the copies are readily available, the GetIt link might indicate "Check library holdings." For electronic content, the GetIt link might display as "Online Access" if the item is available for viewing for the user. If the user isn't signed in and the online content is restricted, then the GetIt link might appear as "Online Access is Restricted." The GetIt link appears in green when the item is readily available and red when it isn't. The library can customize the wording and presentation of the GetIt links.

A critical piece of Primo involves the logic that displays GetIt options depending on the collection in which the item resides, its media type, and other circumstances. Primo makes use of SFX as part of the GetIt feature for electronic content and links into the local ILS for status and availability for physical items. Given Primo's emphasis on delivery as well as discovery, the GetIt feature forms a critical component of the product.

Clicking on the GetIt link from the brief record launches a secondary window offering the appropriate service or the information that the user needs in order to view or otherwise gain access to the item. For physical materials, the next level of delivery might involve displaying the detailed status information of holdings from the local ILS.

Relevancy Ranking

As expected with this new genre of next-generation library interfaces, Primo sorts results from a search in relevancy-rank order, with the items calculated most relevant to the query listed first. The user can also choose to sort by date.

Personalization Features

Primo includes a user sign-in that activates a number of features not available to anonymous users. For example, library users will not be able to access restricted resources through the Remote tab when accessing Primo from off campus until they sign in. Signed-in users can access their e-shelf as well as set preferences for various aspects of the user interface. One of the features of the e-shelf involves the ability to export records into third-party citation management tools such as Connotea.

Single Sign-In

In a typical search session, there may be multiple systems that require authentication of the user. Primo includes an integrated utility (Patron Directory Service, or PDS) developed by Ex Libris that makes it possible for users to sign in only one time within a session. Once signed in to Primo, the user gains access to the personalization features. The authentication credentials are also seamlessly passed on to other systems, such as the local ILS, the interlibrary loan request system, MetaLib for gaining access to remote restricted resources, and a proxy server for viewing information from remote restricted resources. This single sign-in feature addresses the problem of forcing users to have an account on the decoupled next-generation interface that is different from accounts that they already have on other applications provided by the library.

The single sign-in component of Primo can interoperate with an authentication service already in place in the institution. It's common for universities, for example, to offer a system that provides authentication services for a variety of applications on campus, such as e-mail, student accounts, courseware systems, and library services. Such an authentication service, implemented using protocols such as LDAP (Lightweight Directory Access Protocol), Kerberos, or Shibboleth, allows computer users on campus to use a single username and password for all their applications. This saves each of the applications from having to maintain its own database of usernames and passwords by handing off authentication requests to an external service.

Since Primo can be configured to use an external authentication service, its sign-in feature uses the same username and password as other campus applications.

Federated Search

Primo provides an interface to the library's collections of electronic content. One of the configuration options of Primo involves establishing a scope to address the library's remotely hosted electronic resources, presented to the user as a Remote tab or drop-down.

This component of Primo essentially functions as a front-end for MetaLib, the federated-search utility developed by Ex Libris. If a library wants to use Primo for both local resources and remote content, it needs to license, install, and configure MetaLib.

By default, a query executes against the local index. The user can select the Remote tab to view the results of the same query against remote resources. The specific resources searched through the Remote tab are selected by the library and relate to the configuration of the MetaLib federated-search utility. A default set of resources

will be addressed in the Remote tab for users who are not signed in. The library can define discipline-specific sets of resources in MetaLib, which can be activated for search in the Remote tab of Primo by setting user preferences.

Social Features

Primo supports end-user tagging. Signed-in users can assign their own tags to any item found through Primo. These user-generated tags can be used to enhance searching. Primo allows users to search using their own tags and those assigned by others.

Signed-in users can also write a review on items found in Primo. When writing a review, the user can assign a 1-10 rating to the item in addition to entering text. To submit the review, the user must check off a box granting the library permission to use the review. Another box can be optionally checked to allow the user's name to appear with the review (see figure 17).



Figure 17: Full-record display, including the form for submitting a review.

Notes

1. Important disclosure: The author works for Vanderbilt University, one of these two development partners. The author has taken much care to avoid bias, either positive or negative, regarding Primo in this report.
2. Ex Libris, "Ex Libris Launches the Primo Discovery and Delivery Solution," press release, May 1, 2007, available on the Library Technology Guides Web site, www.librarytechnology.org/ltg-displaytext.pl?RC=12530 (accessed June 1, 2007).