Major Discovery Product Profiles

Abstract

Chapter 2 of Library Technology Reports *(vol. 50, no. 1) "Library Resource Discovery Products: Context, Library Perspectives, and Vendor Positions" provides more in-depth information about each of the major library resource discovery products. Profiles given for each product or service provide contextual information regarding the organization responsible for the product, as well as data, when it's available, on the number of libraries that have implemented the product and major events in its development history. Each profile includes a narrative response where the responsible organization provides additional information regarding interesting features that may not be well covered in the specific questions to which they responded in the completed questionnaire.*

There are a variety of discovery products available from commercial companies and nonprofit organizations and developed through open-source projects. This chapter provides profiles for each of the major products, including basic general information for the product and its corporate or organizational background.

For each product we will also provide results from the library discovery survey, including a table showing the statistical ratings or rankings in each category and a listing of the general narrative comments offered. The narrative comments are provided verbatim, with only minor editing to correct typographic mistakes and redacted only to preserve the anonymity of the individual or organization responding. Readers should keep in mind that any comments may reflect specific local circumstances or implementation issues.

Web-Scale Discovery Products

EBSCO Discovery Service

ORGANIZATIONAL BACKGROUND

EBSCO Information Services operates as an independent subsidiary of EBSCO Industries, Inc., a massive, privately owned, diversified group of businesses listed among the largest 200 private companies in the United States. In addition to its library-oriented businesses, EBSCO Industries is involved in real estate, manufacturing, outdoor products, and other areas, along with a central set of corporate services that support all of its businesses. EBSCO has continually grown through acquisitions of companies with the potential to expand within each of its areas of interest and to increase its revenues. The combined EBSCO businesses earn total estimated annual revenues of around $2.5 billion.

EBSCO Information Services was recently consolidated, combining EBSCO's two library-oriented businesses into a single organizational structure. EBSCO Information Services is involved in three main activities: offering subscription services to libraries for print and electronic journals and periodicals, developing tools for libraries to manage their electronic resources based on the EBSCONET platform, and producing database and discovery products on its EBSCOhost platform.

MARKET PENETRATION

EBSCO Information Services reports that EBSCO Discovery Service has been implemented in almost 5,000 libraries.

The distinctive features of EBSCO Discovery Service were described by the vendor as follows:

> While other discovery services tend to act more as a "portal" to content, EBSCO Discovery Service provides a full-featured user experience that goes beyond a simple search box and a result list. An EDS search can begin with a search box or through the application of advanced search features. EDS provides a powerful result list that often includes PDF full text from within the result list, or "SmartLinks" from citation results to the full text. This ability to locate full text from right within the result list makes a more streamlined consistent experience for end users. Additionally, each item in EDS has a corresponding detailed record, which is not the case in other services. These detailed records provide the researcher with a deeper understanding of the content provided through author-supplied keywords and abstracts, thesaurus terms, subject terms, database or content source, links to search for other works by the author, links to search for other results with the same subject terms, Lexile level, MeSH headings, and any other key features available directly from the publisher. This content is not [available] through other discovery services. Features of EDS include:

- Fast, simple access to all of the library's collection (electronic and print)—journals, magazines, newspapers, books, library catalog, databases, institutional repositories, and more
- Highest-quality metadata of any discovery service
- Superior relevancy ranking
- Most comprehensive collection of full text for searching
- The only discovery service capable of leveraging controlled vocabularies for key subject indexes
- Highlighting of the resources making up the service (so users learn more about specific databases and other resources, and know where a record is coming from)
- Folder options for saving searches and results across sessions
- Widget options, including on the detailed record pages
- Various limiters and expanders
- Print, email, save, export and citation format options
- Social bookmarking services readily available
- Enrichment data for catalog records
- Flexibility, including interface customizations and seamless interaction with most third-party vendors such as document delivery services, ILS etc.
- An intuitive, multi-tiered searching interface with exceptional features and functionality
- On-demand and automated access to usage statistics and reporting
- The ability to search [Licensed] Secondary Databases
- Free 24/7 access to support and training for admin or end users

For a statistical summary of the responses offered by survey participants about their use of EBSCO Discovery Service, see table 2.1.

The narrative comments on EBSCO Discovery Service included the following:

- "Like the ability to search all databases at once. Do not like the relevance sometimes and the order of the results."
- "Informative and very efficient product."
- "We actually never fully implemented the Discovery Service through EBSCO as it was not compatible with the university's content management system. EBSCO did host it for a few months for us so we could get some experience with it. My comments have to do with the short amount of time that we used it. The results were not very good. Results were too many, too varied and too confusing. Also, at the time we used EDS, there were several databases that were not able to [be] loaded into EDS due to EBSCO not having agreements with them which made having a discovery service less than ideal. I also received feedback that the user interface was confusing."
- "EDS has been everything it was sold to be. Its functionality is solid, navigation very intuitive, and it is highly used because of its power and simplicity."
- "It is a challenge to make it work with non-EBSCO partners/products."
- "There is a lot of upkeep and a lot of maintenance needed for the EDS discovery product."
- "It is a little more difficult to get users to understand the best way to utilize the discovery product (corporate environment)."
- "It searches well, and results are reasonably relevant. However, it presents a pedagogical problem in that we teach students discipline- and need-specific databases, but they use this instead."
- "We do not include some of our specialized databases due to cost of adding non-EBSCO databases."
- "It is a great step forward for improving access to journal articles, but it lacks in searching for known items in the catalog."
- "Excellent source for beginning users (who just need an article on a topic) and advanced researchers (who need to discover arcane materials), not as good for intermediate users."
- "Our research & instruction librarians don't teach it as part of their instruction, relying instead on our Aleph OPAC. EDS might have more use if they included it in their instruction."
- "Library satisfaction depends largely upon library type. We are a multi-type consortium and feedback

EBSCO Discovery Service		Response Distribution										Statistics		
Category	Responses	0	1	2	3	4	5	6	7	8	9	Mode	Mean	Median
General satisfaction	65			1	1	2	3	11	24	17	6	7	6.95	7
Undergraduate effectiveness	59			1	2	1	4	3	14	22	12	8	7.32	8
Graduate student effectiveness	55	2		1	1	2	9	15	10	12	3	6	6.20	6
Faculty effectiveness	60			1	1	5	11	13	12	10	7	6	6.42	6
Effectiveness for general public	56	1	1	3	2	6	11	4	10	12	6	8	6.00	7
Comprehensiveness of scope	64			1	1	2	4	17	19	14	6	7	6.78	7
Effectiveness of end user interface	63		1			2	1	12	18	21	8	8	7.17	7
Effectiveness of relevancy ranking	62		1		2	6	1	12	19	17	4	7	6.66	7
Objective search performance	62	1		6	3	6	10	7	12	13	4	8	5.82	6

Category	Total	Yes	Percent
Considering new discovery product	66	3	4.55%

Table 2.1
Statistical summary of responses about EBSCO Discovery Service

indicates that academic libraries are very satisfied, but public, school and special libraries are generally middle of the road with biggest complaint being ease of use and confusion on which search tool to use. Frequent training sessions and webinars don't seem to help with that confusion."

- "Keeps getting better, excellent customer service experiences."
- "It provides faster and better results than our old federated system, has the EBSCOhost interface that our patrons love, and EBSCO's behemoth status means that they have indexing deals with most of our vendors. I give it an A–."
- "It's really good, but there is a huge concern that the materials indexed are very slanted towards EBSCO Products. ProQuest usage has gone down by over 25%."
- "Some staff love EDS, some hate it."
- "The satisfaction of the system depends [on] what faculty and subject you belong to. The metadata of the products purchased for the department of Technology is not sufficient. The departments that depend on a great deal of EBSCO databases are quite satisfied."
- "The back end pieces do not integrate very well with our current ERMS."
- "Seems to work pretty well overall. Can be overwhelming for the freshmen."
- "The service incorporates 80% or more of our A&I data and 90% or more of our full text journals and ebooks (excluding more specialized archival collections, such as EEBO). We've had problems with the MARC load and ILS integration that may be unique to our situation (our consortium hosts our Aleph instance and we use share bib records that were created via an automatic merge of MARC from all consortial participants.). There have been ongoing problems with the ILS integration, such as showing holdings for other libraries, misidentifying online, and other difficulties arising from the shared bib environment. User response has been mixed—surveys from courses report positive responses. A survey on our EDS page garnered mixed response, with a trend toward positive if the user was seeking articles and negative if they were seeking books. I tend to be a tough grader. Even though I am not giving any 9's in this survey, I am delighted to have a WSD [web-scale discovery] and think that EDS is the best available for us."

- "Still working with EBSCO to make this a better tool for public libraries. Most discovery tools are created for academic libraries."
- "Good student feedback."
- "Provides a good service overall, but there are issues with some of the links to non-EBSCO resources."
- "Generally happy with the product. Clunky integration for reservations and other patron driven features. Also limited in the ability to specify icons and material types for records imported from the Library catalogue."
- "The discovery service is more user friendly for students and encourages the use of lesser known library resources. However, the lack of precision in searches means that it is not as useful for graduate work."
- "User interface better than competitors'. Integrates most of our databases. Integrates with SFX."
- "The extra five EHIS 'connectors' to external content (not otherwise indexed in EDS due to lack of vendor agreements) do not work that well and are

never used by our campus community according to EBSCOhost statistics. Otherwise discoverable content is quite extensive."

- "Once we powered through the set-up pains, EDS proved to be a well-liked and powerful product. There are still quirks, but EBSCO seems to listen to the customers and makes adjustments accordingly."
- "I think discovery services are extremely useful for undergraduate students and potentially even for grad students and faculty who are looking for interdisciplinary resources. I like that discovery services allow researchers to get away from the specific database used to find resources so they can instead focus on the specific book, chapter, article, or video they need. Relevancy should trump database brand names, so I appreciate how discovery systems allow relevancy to shine."
- "EBSCO is very academic, doesn't have a lot of public library features, but has an excellent search engine. Enterprise is much easier for customers to use, has some nice public library features, but the latest version still has a lot of bugs."
- "EDS has worked well for us. Some issues remain in terms of known-item (especially short-title) searching and with their statistics reporting which is quite limited."
- "It's more complicated to use than Summon, and I suspect the rapid development path is affecting reliability, but its coverage is enormous, it's very customizable, the vendor responsiveness is great and there's a lot of full text built-in."
- "We have been very pleased overall. We feel we could be more satisfied should we have more staff resources to put toward further customizing and integrating the product into the library's web presence. We were a beta partner for EDS and we very much appreciated being able to be an active participant in the planning and development process at that time; and, EBSCO has been very actively engaged with the customer base to solicit feedback and implement improvements and enhancements."
- "People who use it regularly tend to like it, though they occasionally find issues related to holdings, full-text access, etc. Usually these are problems created by incorrect setup of other library systems rather than a problem with the discovery product itself. Others have made little use of it and, therefore, have either no opinion about it or a predetermined negative opinion. Overall the tool has functioned well. Feedback from users has been mostly positive. The vendor has been responsive to most of the issues that we have had. As a tech person, I understand the assigning of certain items as 'Enhancement Requests' that may or may not come to fruition, but for many staff it's frustrating

when their reported issues or suggestions receive this type of status. The concept of perpetual beta has definitely not been entirely embraced."
- "Works well from the front end, but back end processes and ease of maintaining it are not so good. Support from EBSCO could be better. As UK customers the US based support does not have a good enough understanding of the UK market, nor are they sufficiently trained to respond adequately."
- "There has been concern about the suitability of the product for a postgraduate/research only institution."
- "Wish Journal TITLES would come to top of the list when searching for them."
- "Discovers too much—students are confused at times—JSTOR does not float to the top as it should."

WorldCat Local

ORGANIZATIONAL BACKGROUND

OCLC, founded in 1967, operates as a nonprofit membership organization, offering products and services to libraries worldwide. A very large organization with over $200 million annual revenues, OCLC offers a very diverse range of products and services. OCLC provides cataloging and interlibrary loan services based on the massive WorldCat database of bibliographic and holdings data. Among the technology products offered by OCLC are a number of traditional ILS products, including AMLIB, Sunrise, OLIB, LBS Lokaal Bibliotheek Systeem, and Bibliotheca 2000; the CONTENTdm digital collections management system; and EZproxy for remote authentication and access to restricted resources.

In recent years, OCLC has focused on consolidating its services into two strategic platforms, the World-Share Platform for the management of resources and WorldCat for patron-facing services. WorldShare Management Services allows libraries to manage their resources through OCLC's global infrastructure rather than with a local ILS and related products.

PRODUCT HISTORY

WorldCat Local, OCLC's discovery service, can be used in conjunction with a library's local ILS or with World-Share Management Services. OCLC launched a pilot for WorldCat Local in April 2007. The basic concept of WorldCat Local involves providing a discovery service for library patrons that addresses the entire World-Cat database, giving priority to the items owned by the library. Libraries using WorldShare Management Services operate directly with the WorldCat database; those using a local ILS might need to synchronize their holdings on WorldCat through a process called reclamation. When it is used with a local ILS, patron

EBSCO Discovery Service		Response Distribution										Statistics		
Category	Responses	0	1	2	3	4	5	6	7	8	9	Mode	Mean	Median
General satisfaction	23			2	1			7	6	4	3	6	6.52	7
Undergraduate effectiveness	21						3	4	8	3	3	7	6.95	7
Graduate student effectiveness	22			1	2	1	4	4	4	3	3	5	6.14	6
Faculty effectiveness	23			2		1	5	3	5	2	5	5	6.39	7
Effectiveness for general public	20					1	4	6	4	2	3	6	6.55	6
Comprehensiveness of scope	23			1	1	1	1	4	5	4	6	9	6.91	7
Effectiveness of end user interface	23				1	1	8	6	3	4		6	6.91	7
Effectiveness of relevancy ranking	23		1		1	1	3	5	7	3	2	7	6.26	7
Objective search performance	23			2			1	2	3	6	9	9	7.43	8

Category	Total	Yes	Percent
Considering new discovery product	23	8	34.78%

Table 2.2
Statistical summary of responses about WorldCat Local

self-service features—such as seeing real-time availability, placing holds, and viewing items charged—take place through the usual interoperability techniques described for discovery interfaces. For libraries using WorldShare Management Services, WorldCat Local serves as the default patron interface, with built-in integration.

In addition to the WorldCat Local discovery service, OCLC, through partnerships and collaborations with more than 200 partners, offers syndication services that make library collections accessible to searchers through leading search engines and other websites, where most information searches begin. WorldCat offers libraries expanded visibility on the web through these partnerships.

OCLC's WorldCat Local is the web-based discovery service that delivers access through a single search box to more than two billion items—from the searcher's library and from thousands of collections in libraries around the world through WorldCat.

DISTINCTIVE FEATURES (VENDOR REPORTED)

The distinctive features of WorldCat Local were described by the vendor as follows:

With WorldCat Local, users can discover:

- More than 977 million articles with easy access to full text
- More than 37 million digital items from trusted sources like Google Books, OAIster and HathiTrust
- More than 15 million e-books from leading aggregators and publishers
- More than 30 million pieces of evaluative content
- More than 238 million books in libraries worldwide

Discovery through WorldCat Local is based on

metadata and library holdings information in WorldCat and the WorldCat knowledge base. The integration of metadata and holdings information in WorldCat and WorldCat Local means library staffs do not have to manage a separate data load into their discovery service.

WorldCat Local can be configured to support library fulfillment services and processes. Users are presented with the most appropriate fulfillment option for the resource format they want to obtain.

OCLC also offers syndication services through partnerships and collaborations with more than 200 partners that make library collections accessible to searchers through leading search engines and other websites, where most information searches begin. WorldCat offers libraries expanded visibility on the Web through these partnerships.

STATISTICAL SURVEY RESULTS

For a statistical summary of the responses offered by survey participants about their use of WorldCat Local, see table 2.2.

GENERAL SURVEY COMMENTS

The narrative comments on WorldCat Local included the following:

- "We have not been using the system for long so it's quite hard to give a proper verdict as yet. However, the look and feel of the system seem popular with users and it's certainly much easier for staff to explain how it works."
- "Love having all the materials at students' fingertips and giving them access to materials worldwide."
- "Nice integration of e-content, interlibrary loan option, and library holdings. Search options need

to be more flexible like database searching."

- "Adequate. Functionality is not customizable—what you see is what you get. Some issues with display and wording that are confusing to users and librarians."
- "This product has made all the difference in the world; it keeps getting better with each quarterly upgrade and with our implementing more of its capacity."
- "Links to items are not consistently available."
- "It works, but still needs a lot of improvements."
- "Its strength is in delivering records for any book imaginable, but naturally it is not strong for journals."
- "Setup is quirky and I never feel like the product is accessing the majority of what we have."
- "OCLC has been slow to develop the product. Functionality failures have been slow to fix. Support has been less than helpful. Functionality is still more limited than we would like. On the other hand the price is right."
- "Few external databases are available through the discovery service; those who are quite often can only be searched using Z39.50 (slow and with unpredictable results)."
- "(1) OCLC's WorldCat Local discovery tool, [. . .], provides access to local, consortial, and worldwide content in a single user interface. Patrons can directly place holds on titles owned locally or available through our statewide consortia, and they also have the ability to request items through a prepopulated request form in our ILLiad interlibrary loan request management system. (2) That said, the discovery environment still has plenty of areas for improvement. Search results contain a jumble of different types of materials. Material types are not always clear and are not displayed in a sensible way (with book reviews displaying ahead of the books they review), and limiting results by facets is not intuitive to users. Bento-box-style results pages, with material types displayed in separate lists, seem more clear and user-friendly. Known item searches work less well than in the catalog. Item pages and links to holdings load slowly. It can be difficult and unintuitive to locate editions and formats of works that are owned locally. (3) It is unclear who the target user group is for the discovery service. The limited scope of the search makes it mostly useless for advanced students and faculty, but the unsorted hodgepodge of search results is not ideal for novice, undergraduate students seeking general information. The tremendous scope and depth of search results from multiple catalogs and databases can overwhelm new users unaccustomed to narrowing their search term or filtering results."

Primo + Primo Central

ORGANIZATIONAL BACKGROUND

Primo was developed by Ex Libris Group, a company focused on developing technology primarily for research and academic libraries. Ex Libris, based in Israel, has developed a customer base of libraries in almost all geographic regions.

Ex Libris, founded in 1983, has been under the ownership of private equity investment firms since June 2006, when the company was acquired by Francisco Partners; Leeds Equity Partners acquired the company in August 2008; ownership recently changed again in October 2012, as the company was purchased by Golden Gate Capital.

The business interests of Ex Libris revolve around the provision of technology products and services for academic and research libraries. The company has developed a suite of data resources in support of its technology products. The SFX Global Knowledge-Base, for example, provides support for the company's SFX context-sensitive linking product. Another data-oriented product, bX, is based on an extensive set of data created through the aggregation of the usage logs of SFX. bX relies on this data, created through millions of sessions of library users connecting to content resources, to infer relationships among scholarly resources that might not be apparent though descriptive metadata alone. Ex Libris has developed an extensive set of contacts with publishers related to receiving holdings metadata to create and maintain the SFX Global KnowledgeBase.

Although the company has built an extensive network of publisher relationships in support of its linking KnowledgeBase and Primo Central, its core business activities relate to content and not to content provision.

PRODUCT HISTORY

Primo was launched as a discovery interface in 2006. In its initial form, Primo was designed to provide a more modern and sophisticated interface for library collections, based on a local index created from records imported from a library's ILS or other local or remote repositories for which the library can load copies of the metadata.

The early versions of Primo brought access to materials represented in a library's subscriptions to electronic resources through integration with MetaLib, a patron access tool the company developed based on metasearch technology.

Ex Libris announced Primo Central in June 2009, extending the original Primo technology with an index of article-level content.

MARKET PENETRATION

Ex Libris reports that over 1,900 libraries have implemented Primo.

The distinctive features of Primo were described by the vendor as follows:

> Users can:
>
> - Define a personal profile (academic degree and one or more disciplines) to activate personalized relevance ranking
> - Save search queries and use them again without having to reformulate the query
> - Change the number of results that appear in the brief result display
> - Change the interface language based on the interface language made available to the users by the library
> - Save ("push-to") items to a personal e-Shelf as well as third-party applications such as Connotea, del.icio.us, RefWorks, and EndNote Web. Export in RIS format is supported to enable the user to work with the client versions of various citation managers such as EndNote. The library can develop and add its own plug-ins to send records to other, similar services.
> - Print and e-mail results or have results sent to their cell phone (by SMS) so that items can be easily located on the library shelf
> - End users can send entire page of results to their e-shelf with a single click to save them the work of having to add records individually
> - Add custom tiles—areas in the user interface that are completely under the control of the customer and that are populated by the customer including adding tabs for results
> - Define what information is presented about every record in the brief display (SERP) and in the details tab of the record
> - Configure links from a record to other queries, to individual records or to other systems, based on a URL template and information in the record
> - Define certain fields in the details page of a record to show as links that would when clicked perform a search on the information in the field, e.g., search for subject headings in the record
> - Present contextualized Hot Articles—articles in the discipline being searched that were frequently and recently used
> - Presenting recommended articles (users interested in this item were also interested in these items)
> - Saving items across sessions in a custom directory tree that users create for themselves and allowing adding comments to directories and items

STATISTICAL SURVEY RESULTS

For a statistical summary of the responses offered by survey participants about their use of Primo, see table 2.3.

GENERAL SURVEY COMMENTS

The narrative comments on Primo included the following:

- "Still problems with relevance ranking and support."
- "Generally works OK if you search like you're using Google and use the facets to narrow your search. Less effective for advanced searchers who want to do Boolean searches, etc. The primary problem is those vendors who do not allow their content to be indexed—and I blame the vendors not Ex Libris. We do have issues with Ex Libris support being slow and insufficient to meet our needs."
- "It's fairly serviceable as a library catalog (though the URLs are unwieldy and overlong, making sharing and linking to specific records or searches cumbersome). Search results for research databases are delivered quickly, but the interface for accessing them is clunky and awkward. We still have a very new implementation, but it's plagued by 404's and links to the wrong articles (possibly an SFX issue?)."
- "Especially with Primo Central, Primo [is] an extremely valuable discovery tool for our users."
- "Number of results is often overwhelming to the average user. Facets are not always useful for refining results, as one facet may say 'Peer-reviewed,' and in reality the peer review status is simply coded by the supplier of the metadata, and the journal may really not be peer-reviewed. It's pretty sloppy and not always accurate. Versions are another problem. The discovery product returns results showing multiple versions when in reality the versions are all for the same journal article. I am thinking this is simply because multiple vendors supplied the metadata for the same article. De-duping does not seem to be effective."
- "Primo is a step forward from MetaLib, but it has definite shortcomings. Particularly problematic are relevance ranking within the Primo Central Index, the poor integration of EBSCO results, and the way in which it handles stop words."
- "Support and ability to work with other providers, such as EBSCO, to harvest resources is a problem, a two-way problem. Customer support could be better."
- "Students love it; our staff are not so enamored."
- "Our patrons love the interface. The big challenge is configuring data sources so that subscription databases can be searched and return results to the product."
- "PRIMO is one of the top Discovery Products available. The interoperability issue with non–Ex Libris systems is however a factor. Our Information Specialists also reported that this product is useful for undergraduate students as researchers use the more sophisticated vendor platforms for intensive research."
- "Serious problems with link failure and results relevancy. 'Total Care' is more like 'Total Control'

EBSCO Discovery Service		Response Distribution										Statistics		
Category	Responses	0	1	2	3	4	5	6	7	8	9	Mode	Mean	Median
General satisfaction	65			1	2	4	7	19	23	8	1	7	6.26	6
Undergraduate effectiveness	62		1		1	2	8	10	12	22	6	8	6.87	7
Graduate student effectiveness	61				3	3	9	16	20	9	1	7	6.28	6
Faculty effectiveness	62		1	1	4	3	16	13	16	7	1	5	5.84	6
Effectiveness for general public	65	1	1	1	6	6	8	10	13	15	4	8	6.03	6
Comprehensiveness of scope	66	1			2	1	7	11	27	9	8	7	6.73	7
Effectiveness of end user interface	66			1	1	2	9	17	15	20	1	8	6.58	7
Effectiveness of relevancy ranking	66		3	4	4	4	12	14	13	11	1	6	5.62	6
Objective search performance	61			2	2	3	5	6	13	17	13	8	7.00	7

Category	Total	Yes	Percent
Considering new discovery product	66	10	15.15%

Table 2.3
Statistical summary of responses about Primo

with strict limits on local customizations."
- "Suited to providing a single form of access to all Library resources; operates seamlessly, downtime has been minimal, response times have been good."
- "Because EBSCO does not provide their database information to Ex Libris, not all our resources are discoverable by our patrons."
- "Not as robust as Summon. Linking to journals, books and articles is not as precise."
- "Using Primo Total Care, which has limited our configuration options. We have to go through Support for most changes."
- "Primo improved in the last 2 years, but it is still weak in relevance, language morphology and its index does not cover all of our databases."
- "Reliable, fast, simple and user friendly interface."
- "A complex product that needs a great investment in staff time and competence to fully utilize its potential. The user interface needs a lot of adjustments. Most changes cannot be made within the system, but can be done with JavaScript and CSS."
- "For something in version 4 it feels like it is still in beta."
- "We *love* having a discovery system! We also like being able to customize many parts of Primo's interface to meet our institutional needs/eccentricities. We do get frustrated because we bought Total Care, which means we can't change as many things as we'd like to. Also, we only went live about two weeks ago, though, and we've seen many glitches since then that aren't anything we can fix—checkboxes appearing and disappearing, error messages, etc."
- "It is flexible to cover a variety of collections and we use it on both structured and unstructured content. It has become more flexible over time in being able to customize the interface."
- "Often difficult to find known items. Discovery tool model is conceptually different from old OPAC, and it is taking time for both staff and clients to adjust. We are still working towards optimal customization based on user feedback."
- "We found customizing the web interface to be very restrictive. We wrote a custom web interface that relies on the Primo APIs. This has been very successful. The harvest tools are very clunky so we also rewrote those for ourselves. Support has lacked in all areas of the product."
- "Generally good but bad integration with Innovative product."
- "Support is very much slow to get back about anything outside of system down."
- "We are dissatisfied with search function for Japanese."
- "System architecture feels old fashioned in these days of cloud-hosted multi-tenancy systems. Having local data sources indexed locally means records, e.g., e-books from SFX and articles from the IR, can't be de-duplicated with records in Primo Central. I'd like to see all data sources indexed in Primo Central, but retain the Primo Front End allowing local configuration and customization. I suspect closer integration of Primo Central with Alma will result in this."
- "The biggest issue with Primo in our organization (not academic) is the relevancy ranking configuration. Primo Central (Ex Libris mega index of articles) is a good tool but customer has no control over its relevancy. Most of the searches we run in Primo will end up with a Primo Central record as 1st result overall, even when we do have an

item that is more relevant than that in our Primo local collections. Ex Libris still didn't provide customers with tools to overcome this kind of issue, which end up damaging the search application as it becomes difficult to explain why the first result isn't the best result."

- "Main issues: no easy way to change the search bar and the area above it on the Primo home, small selection of viewable federated search results, no direct URLs to Primo Central or Databases, unable to disclose what is not included from our subscribed holdings, advanced search disappointing, search results feel weighted towards the sciences, persistent issues with EndNote/EndNote Web export etc."

- "Product is maturing well. Improvements in every service pack and upgrade. Vendor listens and responds to the user community. As with most vendors, documentation is often lacking."

- "Generally speaking, students and faculty members are satisfied with our discovery product. Librarians, less so. The greatest concern is probably the quality of the meta data, which often is quite poor, making relevance ranking unreliable and linking to full text problematic in some cases. For the most part, the end user is quite happy."

- "Much easier to find journal articles."

- "Primo is generally quite good, particularly for broad and open-ended searches. It has lots of nice features, some of which kick in without any need to start them, such as expanding searches automatically when there are few hits. Our evaluation indicates it has been and still is best of class. We are pleased that the product continues to be developed aggressively, making progress between each release. It is not as well suited for journals and other collective items as it is for books and single-item materials."

- "Very robust and equally complex for patron and staff alike."

- "Generally easy to make alterations and customizations, although documentation could be improved. This past year we experienced a number of issues with the link between the discovery product and the ILS. Although support was very responsive, it did take quite a while to resolve."

- "Recently a major decrease in support from Vendor, including with important problems (major function not working)."

- "We see some resistance from Library staff that prefer structured (fielded) searching in traditional OPACs and databases."

- "Configurability options getting radically better—a plus. Integration with ILS is a strong point. Still opaque on relevance ranking, PCI contents and blending. Full-text/metadata results blended ranking causes problems."

Summon

ORGANIZATIONAL BACKGROUND

The Summon discovery service was created by Serials Solutions, a division of ProQuest. Serials Solutions was founded in 2000 by Peter McCracken, Mike McCracken, Steve McCracken, and Chris Pierard, specializing in products to help libraries manage their e-journal holdings. The company developed a knowledge base of e-journal holdings, which provided the basis for technology products related to the access and management of electronic resources.

Current Serials Solutions products include 360 Core, its base package for e-resource management, 360 Link OpenURL link resolver, 360 Search federated search, 360 COUNTER for retrieving and managing usage statistics, and 360 Resource Manager for complete electronic resource management. The company is currently developing a new library services platform called Intota. A preliminary product, Intota Assessment, provides tools for data-driven collection management.

As noted, Serials Solutions operates within ProQuest, an extremely large corporation with many different business activities. ProQuest ranks as one of the largest suppliers of databases and other content products to libraries. Content-oriented businesses within ProQuest include Bowker, Chadwyck-Healey, Dialog, EBL Ebook Library, ebrary, HeritageQuest, ProQuest, ProQuest Microfilm, ProQuest Dissertation Publishing, and SIRS. Technology-oriented businesses include RefWorks-COS and Serials Solutions. The company is owned by Cambridge Information Group. In recent months, the brands of the subsidiary businesses have been de-emphasized and the visibility of the ProQuest brand heightened.

PRODUCT HISTORY

Summon was originally announced in January 2009. Serials Solutions characterizes Summon as the first discovery product based on an architecture that includes the creation of a comprehensive article-level index that also incorporates the library's local holdings managed in its ILS.

In March 2013, Serials Solutions announced Summon 2.0, which included many new discovery features and an updated technology platform.

MARKET PENETRATION

Serials Solutions reports that 704 libraries worldwide have implemented Summon.

DISTINCTIVE FEATURES (VENDOR REPORTED)

The distinctive features of Summon were described by the vendor as follows:

> The Summon service includes a variety of features designed to provide users' guidance and present additional information to users within the context

of their queries to help them navigate the research process. Beyond a single search box and the basic presentation of search results, the Summon service offers features that bring librarians into the discovery experiences and provide opportunities for them to connect with users in new and engaging ways as well as data-driven features that leverage real-time global user data. These features include:

- Summon Topic Explorer—Highlights relevant reference resources and provides recommendations to related topics, relevant research guides and appropriate subject librarians and scholars.
- Summon Scholar Profiles—Displays information about authors or researchers relevant to a user's query.
- Automated Query Expansion—Includes additional keywords and spelling variations for common topical queries.
- Best Bets—Promotes specific library resources such as research guides, course reserves, library hours, help tools and more through library-controlled recommendations.
- Database Recommender—Directs users to specialized databases through a combination of library-controlled and community-sourced tags and relevance based recommendations.
- Embedded Chat & Reference Widgets—Seamless integration with chat and reference widgets in the discovery experience.
- Content Spotlighting—Visually distinguishing valuable content by type, content spotlighting dynamically groups newspaper and image content into distinct visual elements within search results to ease navigation and evaluation of these results and promote unique content in the library's collections.
- Facet category—Discipline—Supported Authoritative, item-level discipline mapping in the Summon index allows users to zoom in on discipline-specific content or combine disciplines for inter-disciplinary searching.

STATISTICAL SURVEY RESULTS

For a statistical summary of the responses offered by survey participants about their use of Summon, see table 2.4.

GENERAL SURVEY COMMENTS

The narrative comments on Summon included the following:

- "Polarizing service. Undergraduates rave about it. We detected unsolicited praise on Twitter etc. Librarians & faculty staff less convinced. In particular, faculty staff in humanities and science were likely the most upset, because by their nature their work is heavily book biased & known item searching of classic texts, which used to be a challenge is even harder now with Summon bringing in lots of secondary literature due to book reviews

& journals commenting on the main text."
- "Generally we are satisfied with the concept of a discovery product and with this product in particular."
- "It has provided an effective solution to the problem of helping undergraduates find a few scholarly articles on a topic. It has been less useful to graduate students and others engaged in serious research."
- "Does the job."
- "Direct linking has improved access and usability. Option to exclude citation records has also improved usability and interestingly increased our full-text downloads. Good improvement in coverage of OA content."
- "Good product overall. Linking problems mainly caused by withholding of metadata by competitors e.g., EBSCO. Somewhat disappointed by Summon 2.0 though, not in any hurry to switch over. Lack of real improvement over existing Summon."
- "Very happy—product not perfect but have a real sense vendor is committed to improving it."
- "We find it difficult to integrate with our ILS. For example, clear holdings availability and ability for patrons to view their own account using the same interface."
- "Clunky interface. Ongoing problems implementing new titles."
- "Good overall. Problems are lack of coverage of key resources and problems with links to EBSCO products."
- "This is a far bigger culture shift for librarians and faculty than it is for students, even simple things such as the lack of numbered results. It is for this reason we are currently exploring VuFind. Summon 2.0 and some of the features that either don't work effectively and/or require constant tweaking—e.g., Best Bets and DB Recommender—make this a product you have to stay on top of. Hopefully this will improve over time."
- "The relevance ranking, level of duplication, interface, and index coverage could use improvement."
- "Our main difficulty with Summon has been in ingesting and displaying our catalog records. We have an old, non-MARC catalog and ILS. Real-time availability is not an option for us, among other features. Serials Solutions has worked to maximize what we can do, given our situation."
- "Not used much, good for broad searches but not enough precision to be really useful. [law library]."
- "Summon works quite well for how we use it (as an Articles-only search). The main issue we see time and again is full-text links that don't work or don't resolve correctly. If there were fewer of these, our satisfaction rating would be higher. Note that this is all based on Summon v1; we have

EBSCO Discovery Service		Response Distribution										Statistics		
Category	Responses	0	1	2	3	4	5	6	7	8	9	Mode	Mean	Median
General satisfaction	71	1		1	1	3	4	11	32	16	2	7	6.66	7
Undergraduate effectiveness	67	1		1		2	3	4	22	28	6	8	7.18	8
Graduate student effectiveness	65	1	1	1	1	7	8	13	18	13	2	7	6.15	7
Faculty effectiveness	66	1	1	2	2	7	10	14	17	10	2	7	5.91	6
Effectiveness for general public	59	3	1	3		4	8	5	16	16	3	7	6.10	7
Comprehensiveness of scope	68	1		1	1	1	4	11	21	22	6	8	6.94	7
Effectiveness of end user interface	68	1		1	1		3	9	23	25	5	8	7.06	7
Effectiveness of relevancy ranking	69	1				4	9	15	22	14	4	7	6.57	7
Objective search performance	69	2		3	1	2	8	6	15	21	11	8	6.74	7

Category	Total	Yes	Percent
Considering new discovery product	72	15	20.83%

Table 2.4
Statistical summary of responses about Summon

not yet evaluated v2.0."
- "Summon was the best choice for our library, and was chosen after an extensive review of products on the market."
- "Issues linking through to full text. Provenance of search results (database) unknown until native interface is reached."
- "The cost is very high compared to other options. Implementation seemed to be more complicated than expected. We are part of a consortial catalog which caused delays in set up."
- "We have found Summon is a great discovery tool although we are working with Summon Support to resolve some detailed issues relating to MARC records from Serials Solutions MARC e-book records service and from our library management system. We have serious concerns about the quality of MARC ebook records supplied by Serials Solutions which cause problems with Summon search results because of poor metadata."
- "Don't think we can go back to doing without it at this point."
- "End users are generally satisfied. Undergraduates have higher satisfaction than graduate and academic staff (according to our recent survey). There is still relative dissatisfaction amongst librarians. Generally those librarians prefer index and field searching to natural language searching. The proprietary algorithm means they can't quite trust/explain the results. There are a bunch of things we could improve, e.g reporting, but none of the competitor products offer the things we are looking for either."
- "In Summon, users don't have to think about which databases to search, as they still do in other tools like EDS and WCL. Serials Solutions' focus seems to be on the user experience, relevancy, and content, rather than building federated connectors—we like this."
- "Discovery products are effective and enhance user's searching. We are requesting our vendor for implementation of more contents and further improvement of functions."
- "Article linking is one of the biggest issues."
- "Overall, the Library is very happy with Summon. An agile release cycle and good service management allows us to be more adaptive rather than strictly reactive to the needs of our patrons."
- "We have had generally positive feedback from our customers about Summon."
- "Public Services staff are ambivalent about discovery products and do not teach searching skills for them. Systems staff are frustrated by the lack of customization options for these platforms. Users like it and use it to search about 70% of the time. We suspect it is most useful for undergraduate students."
- "We've had the most problems with Summon working with our OpenURL resolver, SFX."
- "Students seem fairly satisfied, librarians are not."
- "It does the job as advertised for our mostly 4-year undergrads. It also has made our journals and digital collection much easier to find."
- "Works better for some disciplines than others."
- "Summon is always developing and changing and there are subsequent growing pains. But all in all it's a great deal more useful than what we had before, which was more of a federated search product."
- "We have now elected to use Summon as our main library (re)search engine—i.e., not exposing our users at all to the library catalogue anymore. We

have realized that understanding, managing and reporting the errors in the metadata is almost a full time job in itself! We were prepared for the fact that Summon would expose inconsistencies in our data which is fine—as we thought this would give us the impetus we needed to tidy some of the anomalies up. However we were not prepared for the amount of inconsistencies that would occur as a result of errors/nonstandard approaches that providers have taken with their own data. As one of our cataloguers said the other day—it's one big global metadata experiment and at the minute it's a bit of a mess. Naive I know!"

- "eBook linking is problematic. We seem to have issues with linking quite a bit due to faulty information being provided to Summon by the vendor."
- "Customer Service issues. Lack of communication. Lack of updates on issues. Regular issues with EBSCO linking with no resolution or way to suppress/correct links, leaving our students with broken links. Cases left unresolved with no status updates 6 months or more. Great results for known item searches. Relevancy seemed correct. Lib Guides integration and Database Recommender at top of results were nice features."

General Discovery Interfaces

Encore

ORGANIZATIONAL BACKGROUND

Innovative Interfaces, Inc., ranks as one of the major companies developing software and other technology products for libraries. The company was founded by Jerry Kline and Steve Silberstein in 1978 and has steadily grown since that time in terms of library customers and products offered. Innovative operated under the private ownership of its cofounder through May 2012, when it was acquired by private equity firms Huntsman Gay Global Capital (now HGGC) and JMI Equity.

Innovative offers the Sierra library services platform and continues to support the Millennium integrated library system. The company also offers a variety of other products and services including the SkyRiver cataloging service, Content Pro digital collections management platform, Content Pro IRX for institutional repositories, Decision Center to provide data-driven collection development support, INN-Reach for resource sharing, and many other related products.

PRODUCT HISTORY

Encore was originally launched as a discovery interface in May 2006. In January 2010, the company announced new capabilities to integrate articles, later branded as Encore Synergy.

In August 2012, Innovative announced a partnership with EBSCO Information Services to integrate the EDS into Encore, allowing libraries using Encore as their discovery interface to gain the capabilities of web-scale discovery.

The latest version of the product, Encore ES, launched in June 2013, includes not only the extended scope of discovery through EDS, but also e-book integration through a partnership with 3M Library Services.

MARKET PENETRATION

Innovative Interfaces reported 365 libraries using Encore.

DISTINCTIVE FEATURES (VENDOR REPORTED)

The distinctive features of Encore were described by the vendor as follows:

- RightResult—our search algorithms pull exact title matches to the top of the list and allow users to find single titles more easily.
- Personalized Browse—integrates with Sierra or Millennium patron account and tracks user's activity through the discovery session so users don't have to remember what they've done.

STATISTICAL SURVEY RESULTS

For a statistical summary of the responses offered by survey participants about their use of Encore, see table 2.5.

GENERAL SURVEY COMMENTS

The narrative comments on Encore included the following:

- "Access to book and e-book records is good, but it fails to produce results from all databases."
- "Clunky, ugly."
- "Limited use by public and staff."
- "Encore sticks the top three article results in the middle of the book results and it was confusing to many long-time users. Most of the library staff still use the 'Classic catalog' interface versus the discovery interface because you can do a direct title search for a known item. The site is cleaner and displays the full record nicely."
- "Synergy article results frequently do not match native database search results."
- "This product is terrible for academic library users."
- "My Account features such as create list, etc. are good. Inability to easily start a search for just one library in a consortium then easily expand to search the rest of the libraries is a problem."
- "An upgrade last year added an advanced search that allowed users to easily to do a title, subject, or author search. This was a great improvement."
- "The integration of more econtent solutions is

EBSCO Discovery Service		Response Distribution										Statistics		
Category	Responses	0	1	2	3	4	5	6	7	8	9	Mode	Mean	Median
General satisfaction	41	2		1	2	2	4	16	8	5	1	6	5.78	6
Undergraduate effectiveness	33	1	1		2	2	3	10	7	5	2	6	5.97	6
Graduate student effectiveness	32	1	2		3	6	5	9	3	2	1	6	5.00	5
Faculty effectiveness	31	1	2	1	4	4	7	6	4	1	1	5	4.77	5
Effectiveness for general public	38		1	3	1	2	5	5	9	8	4	7	6.21	7
Comprehensiveness of scope	40	1	2		3	3	4	1	9	8	9	7	6.42	7
Effectiveness of end user interface	40	2			3	1	1	9	13	10	1	7	6.30	7
Effectiveness of relevancy ranking	40	2		1	2	3	8	7	7	8	2	5	5.83	6
Objective search performance	38	2		1	1	4	2	4	4	7	13	9	6.74	8

Category	Total	Yes	Percent
Considering new discovery product	45	11	24.44%

Table 2.5
Statistical summary of responses about Encore

expected to vastly improve our satisfaction with this product."

- "Nice to have articles returned with catalog results. Limited by the fact that only results from one primary database are returned. We find that most do not go to the articles portion for results from other databases. (Encore Synergy)"
- "The product does not offer on-par searching capability with the out-of-the box catalog III offers. You cannot search by some fields at all (such as call number or subject), and other searching turns up more relevant results in the classic catalog than it does in Encore. The facets and interface are nice, but functionality trumps all and this product loses."
- "One must be careful to use the faceting or results can be swamped."
- "The product is easy to use and maintain. The Librarians aren't happy with it, but I am not sure they would like any discovery system."
- "Overall it is an adequate catalog, although the search results are often unexpected—exact title searches not bringing up an exact match on page one, e.g., The Synergy element (integrating ejournal results into the search) has not proven to be very popular. We need to go to look at results in the classic catalog for clearer information more often than we should have to."
- "'It's just awful, isn't it?'—a staff focus group comment when reviewing our discovery approach that says it all in my view. Encore has failed us for anything beyond very simple known item discovery and we are replacing it. It is still better than the classic WebPAC product."
- "This is the tool we push to our first year programs. Generally it works fine for that level of research. However, there are some issues with

system responsiveness and slow experience for users."
- "Encore Synergy is very easy to set up and use. Library patrons like the interface and use it for their initial discovery. Librarians are not happy about the speed of development. We feel that other Discovery platforms are developing faster and introducing more powerful discovery tools. We are evaluating other discovery services at the moment."
- "It would be better if there was a subject browse. It would be helpful if it utilized the subject authorities to enable searching with different terminology."
- "Integration with third party e-resources has taken some while to develop into a resilient service for our patrons."
- "Customization is limited and spell check needs to be improved."

Enterprise

ORGANIZATIONAL BACKGROUND

SirsiDynix ranks as one of the largest companies developing software and services for libraries. Formed through a series of mergers and acquisitions, SirsiDynix includes many antecedent companies, including Sirsi Corporation, Dynix, Data Research Associates, Ameritech Library Systems, MultiLIS, INLEX, NOTIS Systems, and many others. The company has been under the ownership of Vista Equity Partners since December 2006.

Products offered by SirsiDynix include the Symphony and Horizon integrated library systems, the BlueCloud suite of web-based clients that operate with its ILS products, eResource Central for the

EBSCO Discovery Service / Category	Responses	Response Distribution										Statistics		
		0	1	2	3	4	5	6	7	8	9	Mode	Mean	Median
General satisfaction	10				2			1	5	1	1	7	6.40	7
Undergraduate effectiveness	3			1	1						1	2	4.67	3
Graduate student effectiveness	3		1			1					1	1	4.67	4
Faculty effectiveness	3		1			1					1	1	4.67	4
Effectiveness for general public	9			1	1				2	3	2	8	6.78	8
Comprehensiveness of scope	8			1			1	1	2	1	2	7	6.63	7
Effectiveness of end user interface	10			1	1			1	2	4	1	8	6.60	8
Effectiveness of relevancy ranking	10				2		1		4	1	2	7	6.50	7
Objective search performance	8			1			1		1	1	4	9	7.25	9

Category	Total	Yes	Percent
Considering new discovery product	10	1	10.00%

Table 2.6
Statistical summary of responses about Enterprise

management and patron access of e-books and other electronic resources, the BookMyne mobile catalog, and the SirsiDynix Social Library, a native Facebook catalog.

PRODUCT HISTORY

Since SirsiDynix announced its Enterprise Portal Solution in 2005, the product has gone through a number of transformations. EPS initially served primarily as an enhanced catalog for the Symphony ILS. The company at that time also offered a related product called Rooms, which served as a specialized content management environment that allowed the library to select and organize resources into functional or topical categories or "rooms." Enterprise 2.0 was released in January 2009, including support for the company's full slate of ILS and online catalog products with revamped technology based on the GlobalBrain technology from BrainWare for search and retrieval capabilities. Enterprise 3.0 was released in September 2009 as a hosted solution with more of the characteristics of a discovery interface, especially the ability to index materials managed by the ILS and multiple content repositories. Enterprise 4.1, introduced in June 2011, focused on increased usability and new social features, such as integration with Chili-Fresh, LibraryThing, Facebook, and Twitter.

The SirsiDynix Portfolio digital asset management system extends the Enterprise technology platform to include the access and management of digital resources. Enterprise currently uses Solr as its core search technology rather than BrainWare.

DISTINCTIVE FEATURES (VENDOR REPORTED)

The distinctive features of Enterprise were described by the vendor as follows:

Enterprise offers these distinguishing features:

- Use of HTML/JavaScript Widgets for seamless third-party integration
- Patron-selected displays in list, thumbnail, or "CoolIris" views
- Output of results to SMS text messaging, email, print, text, or citation formats
- Drag and drop management of My Lists; output in various formats
- Unlimited control of facets and navigators; libraries can select any field to appear as facet, and can further restrict certain items from appearing in a facet list
- Volume- or Issue-specific holds
- Family Group control from My Account
- Library "fine tuning" of relevance ranking

STATISTICAL SURVEY RESULTS

For a statistical summary of the responses offered by survey participants about their use of Enterprise, see table 2.6.

GENERAL SURVEY COMMENTS

The narrative comments on Enterprise included the following:

- "Overall good. We have continuing issues with Enterprise crashing after updates. We had a major Enterprise searching problem as well, but we believe that it has been fixed."
- "Easily adaptable with knowledge of web design but manager of site must have the skill. Must work within the product's CSS. Other CSS or JavaScript can clash with the product so you must know these in order to retool for your use."
- "Still in development and has some rough patches. But it integrates well with our ILS."
- "Staff and patrons prefer it over our last discovery product [AquaBrowser]."

Chamo Discovery

ORGANIZATIONAL BACKGROUND

VTLS develops technology products for libraries, with customers in many global regions. The company was founded in 1985 to commercialize the VTLS integrated library system that was originally developed for the Newman Library of Virginia Tech University beginning in 1974. Major products developed by VTLS include the Virtua ILS, the MozGo mobile app, VITAL digital asset management platform based on Drupal, and the Fastrac suite of RFID products. The company has announced a new-generation library services platform called Open Skies that brings together the functionality of its products into a unified application. The company also offers consulting services for web design and implementation based on Drupal. VTLS is privately owned by its founder and chief executive officer, Vinod Chachra.

PRODUCT HISTORY

VTLS announced Chamo in July 2009, characterizing it as VTLS's "new social OPAC" implemented to serve as a Drupal module, including features such as faceted navigation.

DISTINCTIVE FEATURES (VENDOR REPORTED)

The distinctive features of Chamo were described by the vendor as follows:

> Ability to configure any field for searching or faceting. Have multi-level facets as well as multi-select facets. Unlike most federated options, we return results in groups, and the user can choose to pause while additional results are being retrieved. This eliminates the historical downside of federated in having to always wait for the slowest source. Patrons can also save their favorite searches.

STATISTICAL SURVEY RESULTS

No libraries running Chamo Discovery responded to the survey.

AquaBrowser

ORGANIZATIONAL BACKGROUND

AquaBrowser Library was originally developed by Amsterdam-based Medialab Solutions B.V. The product originally emerged through a research project to produce a general search technology that could be applied in a variety of domains, including as a search engine for processing e-mail or other business information. AquaBrowser Library became the major product produced by Medialab Solutions, providing a modern interface and powerful search engine to replace traditional library catalogs. Medialab Solutions was led by Bastiaan Zwaan as its chief executive officer. Following the acquisition of AquaBrowser by ProQuest, Zwaan cofounded the social discovery site 20Blinks.com.

Medialab Solutions formed a partnership with the Library Corporation to distribute AquaBrowser Library in the United States, Canada, and Singapore. This exclusive arrangement led to a very wide adoption of AquaBrowser Library in these countries, primarily by libraries using one of TLC's automation systems, Library.Solution or CARL-X, but also by libraries using other ILS products.

PRODUCT HISTORY

ProQuest, through its R. R. Bowker business, acquired Medialab Solutions in June 2007. Shortly after this acquisition, the Library Corporation completed the development of its new LS2 PAC enhanced online catalog interface and discontinued its marketing efforts for AquaBrowser Library. Almost all the libraries using Library.Solution or CARL-X that previously implemented AquaBrowser Library have since migrated to LS2 PAC. Despite these defections, AquaBrowser continues to be used in many libraries in the United States and throughout the world. The Aargauer Kantonsbibliothek, in the Swiss canton of Aargau selected AquaBrowser in 2010; Stichting Bibliotheek.nl selected AquaBrowser as the end-user interface for its national catalog.

AquaBrowser Library was originally designed to operate on a local server in the library or consortium. Consistent with Serials Solutions' product strategies preferring software-as-service, a hosted version of the product was launched in March 2010.

Serials Solutions assumed responsibility for AquaBrowser Library within ProQuest in March 2008. See the profile on Summon above for more information on the corporate background of Serials Solutions and ProQuest.

MARKET PENETRATION

Serials Solutions reports that 750 libraries worldwide have implemented AquaBrowser.

DISTINCTIVE FEATURES (VENDOR REPORTED)

The distinctive features of AquaBrowser were described by the vendor as follows:

> Attractive visual user interface with full-record-enrichments from relevant external sources (webservices).

STATISTICAL SURVEY RESULTS

For a statistical summary of the responses offered by survey participants about their use of AquaBrowser, see table 2.7.

GENERAL SURVEY COMMENTS

The narrative comments on AquaBrowser included the following:

| EBSCO Discovery Service | | Response Distribution | | | | | | | | | | Statistics | | |
Category	Responses	0	1	2	3	4	5	6	7	8	9	Mode	Mean	Median
General satisfaction	10			1	1				5	2	1	7	6.50	7
Undergraduate effectiveness	8			1	1				2	4		8	6.38	8
Graduate student effectiveness	8		1		1				4	2		7	6.00	7
Faculty effectiveness	8		1		1			1	4	1		7	5.75	7
Effectiveness for general public	10				1			1	4	2	2	7	7.10	7
Comprehensiveness of scope	10	1		1	1			2	2	1	2	6	5.70	7
Effectiveness of end user interface	10					1	1	1	4	3		7	6.70	7
Effectiveness of relevancy ranking	10			1				1	4	2	2	7	7.00	7
Objective search performance	10				1				1	3	5	9	7.90	9

Category	Total	Yes	Percent
Considering new discovery product	10	3	30.00%

Table 2.7
Statistical summary of responses about AquaBrowser

- "It has been implemented in a consortia environment—we do not like the word cloud, but it must be a group decision to hide it."
- "We are not in a position to afford to move to another ILS and AquaBrowser has given the public a stable interface into the collection. It provides great flexibility in its display and refine features and offers more options to connect to other 3rd party services than we can afford to utilize. (wish we could!) We've just moved to SAAS as that is their current push and only way to obtain upgrade features. Patrons can now email, print and text message citations."
- "Not using AquaBrowser as a full discovery tool—only as a more aesthetically pleasing and easier to navigate and search skin for the underlying Aleph catalog."
- "Quite satisfied. Our current version is a bit outdated pending the implementation of the Liquid version of AquaBrowser (only consortium)."

BiblioCore

ORGANIZATIONAL BACKGROUND

BiblioCommons was founded in 2007 by Beth Jefferson and Patrick Kennedy to develop discovery services for public libraries. The project began through Jefferson's initial research beginning in 2004, with software development commencing in 2006. BiblioCommons received its initial funding from Canadian provincial library services in British Colombia, Ontario, and Alberta, and from other private investments.

PRODUCT HISTORY

The initial prototype of BiblioCore was implemented in July 2008 at the Oakville Public Library in Ontario, with another five libraries joining subsequently. Following this period of testing, the service was redesigned and launched in late 2009.

MARKET PENETRATION

BiblioCommons reports that 227 libraries are currently in production or are actively implementing BiblioCore.

DISTINCTIVE FEATURES (VENDOR REPORTED)

The distinctive features of BiblioCore were described by the vendor as follows:

> Optimized for the behavior of public library patrons and enhanced results for natural language searching: we analyze the search behavior of public library patrons and optimize the search results to ensure delivery of the results that best meet the dominant use case. For example, two of the top search terms from public library patrons (based on search logs from top public libraries) are for "movies" and "new music." But no other OPACs or discovery layers handle those requests effectively because if you are creating a discovery interface that needs to work for academic libraries as well as public libraries, you can't assume that the dominant use case is the request for format (movie formats) or newly acquired + format (new music). So all other OPACs and discovery layers serve up a mix of formats that have "movies" or "new and music" prominently in record. However, in the public library space, we know that the majority of patrons are in fact looking for movies or newly acquired music with those search terms so we pre-apply the facets to accommodate the public library search expectation.

STATISTICAL SURVEY RESULTS

For a statistical summary of the responses offered by

EBSCO Discovery Service		Response Distribution										Statistics		
Category	Responses	0	1	2	3	4	5	6	7	8	9	Mode	Mean	Median
General satisfaction	15					1	2	4	3	4	1	6	6.67	7
Undergraduate effectiveness	6					1	2		1	1	1	5	6.33	7
Graduate student effectiveness	6					1	2		1	1	1	5	6.33	7
Faculty effectiveness	6					1	2		1	1	1	5	6.33	7
Effectiveness for general public	15						2	2	4	4	3	7	7.27	7
Comprehensiveness of scope	14					3	1	1	6	3		7	6.36	7
Effectiveness of end user interface	15						3	1	4	6	1	8	7.07	7
Effectiveness of relevancy ranking	15					1	2	2	4	3	3	7	7.00	7
Objective search performance	13		1			1	2		4	2	3	7	6.69	7

Category	Total	Yes	Percent
Considering new discovery product	16	2	12.50%

Table 2.8
Statistical summary of responses about BiblioCore

survey participants about their use of BiblioCore, see table 2.8.

GENERAL SURVEY COMMENTS

The narrative comments on BiblioCore included the following:

- "Very happy with it."
- "Very happy in general. Would like faster (more often) synchronization between BiblioCommons and our catalogue."
- "Strengths: Effective proprietary relevance ranking; intuitive display of title, availability, and user comments; ability to search print and electronic content; widget supports display of title carousels in the library's website. Weaknesses. Rapid Application Development model often causes functionality to break without warning, and may takes months to remedy; requires a separate mobile app rather than relying on responsive web design; minimal flexibility in customization, particularly with messages and screen tips; does not allow library to specify which fields are indexed for searching."
- "Somewhat disappointing that BiblioCommons, a 'library' discovery layer ignores so much of the MARC when mapping for the public display. It's even more puzzling when doing so would make their displays so much easier and less confusing. Examples: series, media types, chronological display of magazines and MARC holdings are examples. Our library is part of a consortium; I do not administrate maintenance. We share costs across all members. I find it telling that before we went to BiblioCommons our public service staff rarely used the staff client to assist the public, or for their own work, even to verify item information and hold status. Since the introduction of BiblioCommons, 100% of public service staff use and prefer the staff client over BiblioCommons. This is not altogether a negative response to BiblioCommons, but does point to issues that the product does not address. I very much like the speed of updates and bug fixes, and problems associated w/them have been relatively few; molto bene, BiblioCommons! Responses on students & faculty are neutral; we are a public library."
- "It has issues, and we are looking at another product."
- "If items are not renewed in a timely manner by patrons, they disappear from the public interface."
- "Freshly implemented. Need for username & PIN a stumbling block for many users. Lack of call no. search, deep access to series and serials an issue. Poor ILS integration."
- "The search technology is great for relevancy. Privacy is a concern for some of our customers (and a lot of our staff)—they don't want to register with this third party and give them access to their account. They trust the library more than they trust BiblioCommons. Depending on library traffic, sometimes the search can be a little slow. Admin tools and reports are pretty limited."

VuFind

ORGANIZATIONAL BACKGROUND

VuFind was developed as an open-source discovery interface by the Falvey Memorial Library at Villanova University. Andrew Nagy, the library's Technology Development Specialist, was the original lead developer for the project, but in January 2009 became a Senior

EBSCO Discovery Service		Response Distribution										Statistics		
Category	Responses	0	1	2	3	4	5	6	7	8	9	Mode	Mean	Median
General satisfaction	18			1		1		1	8	6	1	7	6.94	7
Undergraduate effectiveness	14					2		1	5	6		8	6.93	7
Graduate student effectiveness	12					2	1	1	4	4		7	6.58	7
Faculty effectiveness	13					3	1	3	2	3	1	4	6.31	6
Effectiveness for general public	17			1				2	6	6	2	7	7.18	7
Comprehensiveness of scope	18						1	4	5	3	5	7	7.39	7
Effectiveness of end user interface	18			1				5	4	7	1	8	6.94	7
Effectiveness of relevancy ranking	18		1		1		3	1	4	5	3	8	6.67	7
Objective search performance	18			1	1	1	2	4	2		7	9	7.28	8

Category	Total	Yes	Percent
Considering new discovery product	18	2	11.11%

Table 2.9
Statistical summary of responses about VuFind

Discovery Services Engineer for Serials Solutions. Villanova University continues its involvement in the development of VuFind. Many other organizations and individuals have contributed to the development of VuFind, including some separate forks of the software.

PRODUCT HISTORY

A preliminary version of VuFind was released in July 2007. Following an extensive beta testing period, in which many libraries had used the software in their production environments, version 1.0 of VuFind was released by Villanova in July 2010. VuFind version 2.0 was released in June 2013, following a beta release made in October 2012.

The software has been implemented by a wide range of libraries and consortia.

DISTINCTIVE FEATURES (VENDOR REPORTED)

The distinctive features of VuFind were described by the vendor as follows:

> Ability to mix-and-match results from various providers (local index, Summon, WorldCat, etc.) in a multi-column interface.

STATISTICAL SURVEY RESULTS

For a statistical summary of the responses offered by survey participants about their use of VuFind, see table 2.9.

GENERAL SURVEY COMMENTS

The narrative comments on VuFind included the following:

- "With excellent in-house development resources, VuFind rocks. I would not recommend it for smaller organizations better served by vendor-supported products."
- "The filters do not always work properly. Many times the buttons take many clicks before they work."
- "VuFind is slow when patrons are accessing their accounts."
- "We are very happy with VuFind and will be looking at version 2 over the next few months. Our users seem happy with it as well."
- "The Product provides the ability for our users to search and find all resources—digital, print, local history, genealogy all from the same interface. It provides real-time item availability, reading suggestions/recommendations, faceted search, robust APIs, etc. that all make the system extensible and easy to use."
- "More popular with patrons than staff. Less successful for finding known items. Great for discovering extraneous titles."
- "Stable but could be updated."
- "We love it!"
- "Staff want to access fast specific items. VuFind is a discovery tool and harvests a lot of data that are not the specific item. Some staff feel frustrated. But the developer is really working hard at meeting EVERYONE's expectations."

Integrated Discovery and Portal Products

Arena

ORGANIZATIONAL BACKGROUND

Axiell provides technology products for libraries,

EBSCO Discovery Service		Response Distribution										Statistics		
Category	Responses	0	1	2	3	4	5	6	7	8	9	Mode	Mean	Median
General satisfaction	18			2	1		3	4	8			7	5.83	6
Undergraduate effectiveness	18			1	4		2	4	7			7	5.39	6
Graduate student effectiveness	18			1	1	1	3	6	6			6	5.67	6
Faculty effectiveness	18			1	2	1	2	6	6			6	5.56	6
Effectiveness for general public	19			2			4	3	8	2		7	6.00	7
Comprehensiveness of scope	19					1	1	6	8	3		7	6.58	7
Effectiveness of end user interface	19				3	2	4	2	8			7	5.53	6
Effectiveness of relevancy ranking	19	1	1		1	2	3	4	7			7	5.26	6
Objective search performance	19				1	1	2	1	9	3	2	7	6.74	7

Category	Total	Yes	Percent
Considering new discovery product	22	0	0.00%

Table 2.10
Statistical summary of responses about Arena

museums, and archives. The company offers a variety of integrated library systems, used primarily in the United Kingdom, Sweden, Denmark, and Finland. Its ILS products include BOOK-IT, Libra.se, LibraFI, DDElibra, Pallas Pro, Origo, and Aurora. Axiell has also developed an archives management system named CALM and recently acquired Adlib Information Systems, which had developed automation systems for archives, museums, and libraries used in many different international regions.

PRODUCT HISTORY

Axiell Arena was created through a partnership with the UK-based company DS, which it later acquired. DS had developed the OpenGalaxy library management system used by public libraries in the United Kingdom.

Arena functions as both a discovery environment and a library portal, providing the library's full web presence. It works with Axiell's various library management systems as well as its CALM archive management system. The company positions Arena as able to serve as a cultural portal for organizations with both archival and library functions.

Technical components include the open-source Liferay enterprise portal, Apache Solr and Lucene, and Apache Wicket web application framework.

STATISTICAL SURVEY RESULTS

For a statistical summary of the responses offered by survey participants about their use of Arena, see table 2.10.

GENERAL SURVEY COMMENTS

The narrative comments on Arena included the following:

- "The product is under active development, and it has its upsides and downsides. Arena hasn't been very stable and usability is not as good as it should be."
- "The first couple of years with the product were very difficult: problems with search results, reservations, slowness and even information security. Although improvements have been made the progression has been slow and the library has had a lot of bad PR."
- "While Arena usually gets the job done, the staff has grown very suspicious over anything related to it. Nobody is very surprised if we find out that Arena is down AGAIN for any reason."

Iguana

ORGANIZATIONAL BACKGROUND

Infor Library and Information Solutions operates as a business unit of Infor, a major IT services firm. Infor traces its corporate history to Geac, one of the pioneering companies in the library automation industry. In 2006, Geac was acquired by Golden Gate Capital and was eventually merged into its Infor portfolio company. Infor offers the V-smart web-based library management system, used primarily in the Benelux region of Europe, with a smaller number of library clients in Canada and the United States. Infor Library and Information Solutions develops its products primarily for public libraries.

PRODUCT HISTORY

Iguana provides a complete library portal environment, capable of standing in for the entire library website as well as standing as the discovery interface for the library's automation system. The development of

Iguana began around 2009; it saw its first production use at the Public Library of Breda in August 2010.

MARKET PENETRATION

Infor reports that a total of 51 libraries currently use Iguana.

DISTINCTIVE FEATURES (VENDOR REPORTED)

The distinctive features of Iguana were described by the vendor as follows:

> Iguana enables users to simultaneously search both the library's website and the collection, realizing a tight integration between both environments. Other features include:
>
> - predefined searches (library predefined searches)
> - automatically applied search preferences (user defined)
> - "Fuzzy Logic"
> - Associative Searching
> - library-defined indexes

STATISTICAL SURVEY RESULTS

No libraries using Iguana responded to the discovery survey.

Endeca

Several libraries have created discovery interfaces based on the Endeca ProFind technology. Endeca has not developed a complete library discovery product, but rather offers a technology platform that can be used by all types of organizations for the creation of customized web portals with discovery and e-commerce components. Some of the libraries that have built discovery environments based on Endeca technology include:

- North Carolina State University/Research Triangle Libraries.
- Florida Center for Library Automation, which has since moved its discovery service away from the Endeca technology platform to one based on Solr.
- McMaster University, which implemented a discovery interface based on Endeca ProFind in 2007 and migrated to VuFind in 2011.
- Phoenix Public Library, one of the first libraries to use Endeca technology, which provided the infrastructure for its website and catalog. This library is currently in the process of migrating its website to Microsoft SharePoint and its catalog to the Polaris PowerPAC.