Chapter 3

Serials Solutions Summon

Abstract

With a general release in mid-2009, Serials Solutions Summon is another early contender in the Web scale discovery space for libraries. Serials Solutions Summon was built from the ground up as a library Web scale discovery service. This chapter provides a brief history and overview of the Summon service, describes the local and remote content associated with the Summon index, and highlights some of the features, functionality, and flexibility associated with the Summon interface.

Overview

Serials Solution began dedicated development of its Web scale discovery solution, Summon, in 2008, building the product from scratch as a new platform. Public announcement occurred in January 2009, and after work with development partners, Summon entered general release in July 2009, making it one of the early entrants into the library Web scale discovery environment. At the time of this writing, Summon has over 120 committed customers in eighteen countries; 80 of these sites are currently live. Summon's development focus was academic customers, and such customers make up the lion's share of current sites. That said, the Summon discovery service is also in use at three public libraries, as well as at a statewide library system, of which hundreds of public libraries are members.

Summon is offered as a hosted software-as-a-service solution providing the Summon service and index. Annual subscription pricing relies primarily on the institution's FTE count, but also considers other factors, such as the degree-granting status for university customers. The pricing for Summon is not impacted by the number of items included from a library's local collections. Discounts are available for multiyear and consortial subscriptions. The annual subscription fee is inclusive and covers items such as ongoing support, inclusion of local content, access to developed APIs, and application enhancements. Serials Solutions provides updates and enhancements approximately every three to four weeks, and, because the service uses a hosted model, these updates are provided quickly to its customers. Serials Solutions support is available 24/7, and a variety of communication options are provided. Serials Solutions indicates that new customers can typically have their Summon instance live within six weeks from the start of implementation.

Content and Scope

Publisher Content

Summon currently has a very large centralized index, providing access to content sourced from a multitude of commercial databases and publishers. This material includes content from 94,000+ journals and 6,800 publishers. As of August 2010, the Summon index numbers over half a billion items. By item count, the two largest content types are newspaper articles and journal articles, though various other content types, such as books, theses and dissertations, conference proceedings, music scores, and audiovisual materials are also present. A regularly updated list of participating publishers and journal titles indexed can be accessed at the Serials Solutions website. Agreements have been made with many major content providers and aggregators; chief providers participating in Summon include ProQuest, LexisNexis Academic, and Gale (which include around 4,000 publishers).

Nearly 100 academic publishers are involved, including Springer, IEEE, Emerald, ingentaconnect, Sage, and Taylor and Francis. Additional key players include Thomson Reuters Web of Science and ABC-CLIO. In addition to licensed commercial content, the Summon service also indexes several open-access repositories, such as the DOAJ (Directory of Open Access Journals), Hindawi Publishing, arXiv.org e-Prints, and the HathiTrust materials. Serials Solutions notes that over 10 percent of members of the Association of Research Libraries use the Summon discovery service and that the Summon index covers between 85 and 95 percent of the breadth of their collections. At the time of this writing, Serials Solutions is working with Elsevier on a trial related to incorporating Elsevier's direct content into the index. As noted in chapter 1, there are often multiple avenues to particular content for discovery services; for example, regardless of the above-mentioned trial, Serials Solutions notes that a large amount of Elsevier content is already present within the Summon index, such as 100 percent of the ScienceDirect Freedom Collection and approximately 90 percent of Scopus.

Summon Content & Coverage page
www.serialssolutions.com/summon-content-and-coverage

Serials Solutions seeks rights to index the full text from the content providers it works with and indicates that it indexes the full text of the vast majority of content providers. In addition, the Summon service indexes and utilizes fielded metadata provided by publishers and aggregators. Serials Solutions utilizes automated processes that allow new content to be added and indexed quickly. Different content providers provide new content on a variable basis, and content is indexed and included in the Summon service on a schedule appropriate to the content, which, for example, may be daily for newspaper content and monthly for a monthly journal. As with other vendors, the central index continues to grow as additional content agreements are pursued and finalized; for example, between July and December 2009, the number of indexed journals doubled.

The Summon index is open to search and does not require initial user authentication. In a usual configuration, Summon works with library's link resolver to broker access to full-text content owned or licensed by the library, and works with the library's proxy server or alternate authentication method to enable access to licensed content by offsite users. For library customers that subscribe to other Serials Solutions products, such as 360 MARC Updates and 360 Core services, these products contain holdings information to help inform rights management.

Local Resources

The Summon service utilizes a single unified index composed of both publisher and aggregator content and content sourced from the local library's collections. Summon is able to harvest records from all major ILS platforms, digital collection management systems, and institutional repositories, based on typical schema such as MARC, Dublin Core, XML, and EAD. Summon can accommodate "home-grown" or nonstandard local databases as well, provided the library can export the records. Summon supports harvesting and delivery methods such as OAI-PMH and FTP. All Summon customers search across this unified index. Content is scoped and informed by local holdings information. By default, Summon displays only search results for content accessible by that library, whether it is content sourced from publishers and aggregators or content harvested from the local library. Should users click on the option Add Results Beyond Your Library's Collection (described below), they are able to expand their search to the full Summon index (with the exception of other libraries' catalog records harvested into the index). Libraries can selectively configure whether or not a search by their users will include other libraries' digital collections and institutional repository materials. If not, users choosing Add Results Beyond Your Library's Collection can search such content. Note that, should a library wish, it does have the option of keeping its own digital collections and institutional repository content private so that the content is not searchable by other Summon customers. At the time of this writing, content from over fifty digital collections and institutional repositories is included and discoverable in all Summon sites through the expanded Add Results Beyond Your Library's Collection choice.

For local harvested ILS records, data is updated nightly. Information from other local repositories, such as digital collections data, is updated on a schedule determined by the library working with Serials Solutions; such updates can be handled through an automatic update schedule and can happen as frequently as daily.

Relevancy

By default, a Summon search is a keyword search conducted across both metadata and full text, with items returned ranked by relevancy. Summon uses a proprietary relevancy algorithm, with different weights assigned to various metadata fields. Relevancy determination for indexed full text includes parameters such as term proximity and frequency. Different parameters may apply to different content types. For example, relevancy calculations for a journal article include whether or not it appears in a peer-reviewed journal and the number of times the article has been cited. Currency is a factor in relevancy determination for almost all content

Figure 13
Summon single search box

types included in the Summon index. As with other vendors, the relevancy algorithm is continuously tuned.

As content for a single unique item can be sourced from multiple content providers (e.g., metadata from database records, journal article content from publishers, etc.), Summon creates a merged record accommodating what it feels is the strongest metadata from each provider. Regardless of whether content for a particular item comes from one provider or multiple providers, Serials Solutions looks to correct errors and normalize the data. In addition, further enrichment information is provided, informed by Ulrich's peer-review information and Serials Solutions' journal authority information. Merged records help with the deduplication of unique items, and Serials Solutions indicates that it works to continually enhance and refine its deduplication routines.

Interface Features: Overview, Results, and Navigation

General

There is no universal description for the Summon interface, as it is quite flexible, giving customers much latitude with customization and design choices. Summon is built upon a Web-based open API, allowing broad flexibility. At one extreme, customers may use the basic out-of-the-box template; at the other, they may tap the open API, allowing library staff to design an interface from scratch while using the Summon service and central index behind the scenes. In this latter scenario, data can be pulled from the Summon service and presented in a custom-designed locally hosted interface or within a competing interface produced by another web scale discovery service or vendor. For the out-of-the-box interface, which will form the basis for the rest of this chapter, library customers have some latitude in customization. For example, libraries can add a hyperlinked library logo. A new enhancement, the Summon Customizer, provides additional flexibility, allowing libraries to integrate custom HTML (including library style sheets) into the header and footer sections of the interface. Local language support is provided for over a dozen languages, including English and a wealth of additional Western European languages, Japanese, and simplified and traditional Chinese.

By default, Summon offers a single search box (figure 13). Once a search is conducted, the full interface

Figure 14
Summon advanced search

is invoked, which includes an advanced search option (figure 14). Several of the advanced search options, many keyed to fielded data, are also offered via faceted navigation, described shortly. Users can choose to show only items with full text online and to exclude newspaper articles through both the advanced search interface and facets in the standard interface. Invoking the advanced search option pushes the rest of the interface toward the bottom of the screen, so initial results are still viewable with the advanced search box displayed at the top of the screen. The advanced search box includes free-text boxes for terms, author (Written/Created By), words in title, and publication title, and boxes for volume and issue. Users can input a From/To publication date range. Should a library wish, the advanced search link could be offered in concert with the single search box at the outset, prior to the user conducting the first search.

Returned Results—Brief View

Once a search is started, users will spend most of their time in the returned results interface for refinements and subsequent searches. Most of the screen real estate is dedicated to a user's returned results; a left-side refinement pane is described below. By default, results are sorted by relevancy; additional sort options can be chosen via pull-down menu and include relevance, date newest, and date oldest. Each item type, such as journal articles, newspapers, and so on, has a unique icon, along with a Full Text sunburst graphic for items whose full text is available online. For books (figure 15), typical information provided

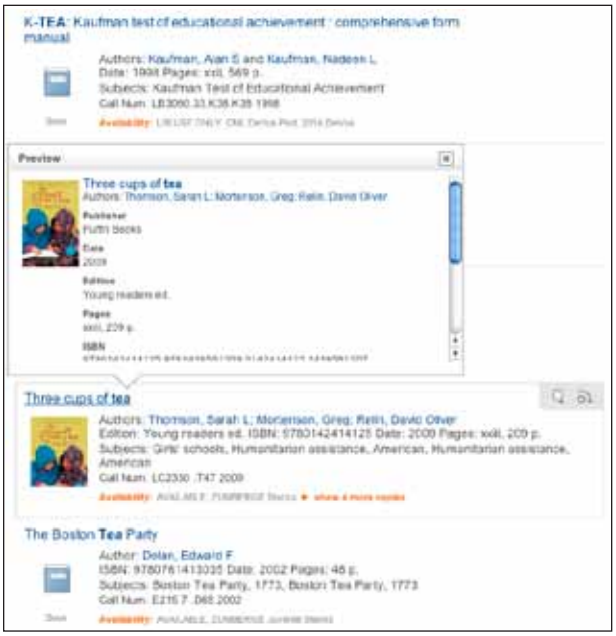

Figure 15
Summon brief result: book with callout

Figure 16
Summon brief view: article with callout

includes author, ISBN, publication date, length in pages, and subject terms. For books physically held at the library, call number information is provided, as is real-time status availability and library locations. Depending on image availability, book cover images are provided. Summon works with various enrichment services providing book covers, and as of mid-2010, the enriched content is based on whatever subscription the individual library customer has with a provider. If no subscription is present or if an image is otherwise not available, a book icon is presented for that material type.

For journal, trade publication, and newspaper articles (figure 16), typical brief record information includes author, publication title, ISSN, volume and issue information, and publication date. Records may also include subject terms, article start page, and a few lines of the full text. Results from various item types appear basically the same, as the underlying content from these sources is mapped to a universal Summon schema.

With all returned results regardless of format, users can place the cursor over the item title, invoking a Preview callout with more item information. Depending on resource type, more information could include an abstract, language, start page, and genre (e.g., interview, news).

Faceted Navigation and Search Refinement

A refinement pane occupying the left side of the interface allows a user to drill down to more specific results (figure 17). At the top of the refinement pane, options are presented for limiting to full text online only and to articles from scholarly publications (informed by information from Ulrich's). There's also an option to exclude newspaper articles and the option Add Results Beyond Your Library's Collection. As described above, clicking this check box will enable the user to search the entire Summon index and not just materials owned and licensed by the local library. This search doesn't include other libraries' bibliographic ILS records but can include their digital collections. As noted in chapter 1, the Summon index used by all Summon customers is completely open for search; that said, some resources require a local library subscription even to see the basic metadata—abstract and index information (such as MLA-sourced content).

Faceted navigation is provided through the refinement pane. Facet choices are organized under various categories; which categories may appear is dynamic to the search results. The Content Type facet category includes choices such as newspaper articles, journal articles, theses/dissertations, books, book reviews, trade publication articles, conference proceedings, and e-books. Other possible content type choices, depending on the search, include special collections, video recordings, and maps. Other usual facet categories include Subject Terms, Library Location, Author, Language, Genre, Region, and Time Period. The Publication Date facet includes a graphical slider with a bar chart, allowing the user to choose publication date boundaries; alternatively, users may type in start and end dates for publication ranges. Next to each facet choice, the number of items matching that facet choice for the particular search terms is shown in parentheses. The most popular facet choices are shown for each category; in each category, a More Options link invokes a menu callout with additional

Figure 17
Summon refinement pane

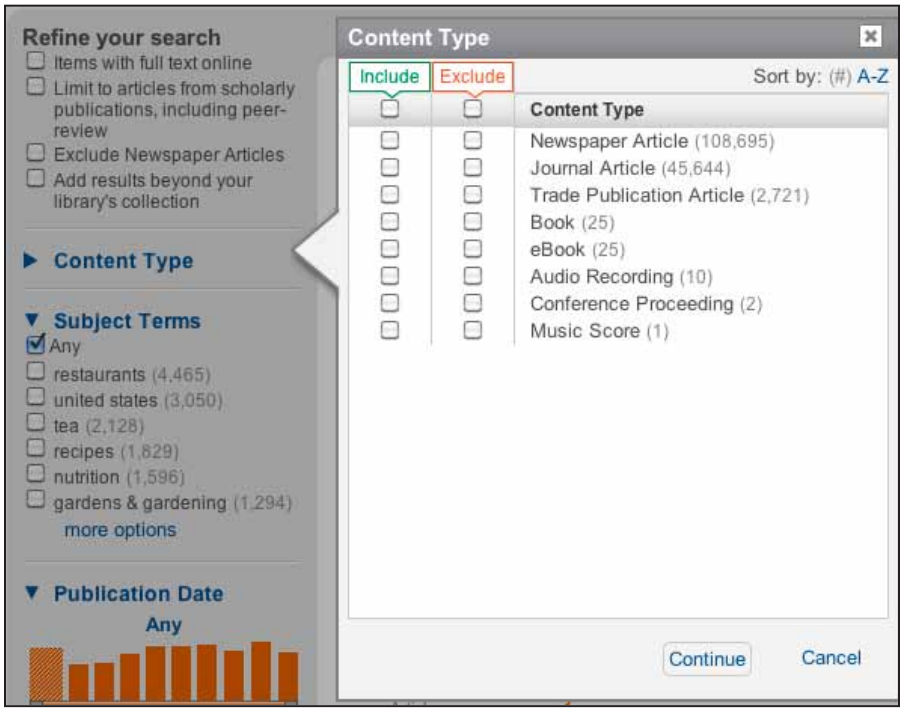

Figure 18
Summon Include/Exclude facet choices

facet choices, allowing a user to include or exclude particular choices within that category (figure 18). Facet choices are presented with check boxes, so users can include or exclude multiple refinement choices within the same category. Serials Solutions is investigating customer customization of facets as a potential future enhancement. Present under the search box are radio buttons for Keep Search Refinements and New Search, allowing the user to maintain the refinements already selected for subsequent searches or clear them.

Returned Results—Detail View

More details for a record in Summon can be retrieved, in part, by mousing over the item title, invoking a callout that provides more record information, as described above. Clicking (as opposed to mousing over) any returned item title opens a new tab or window, depending on how the user's browser is configured. Clicking on a physical item title, such as a hard-copy book, will open up a window or tab for the library's underlying traditional OPAC (or newer discovery layer) and provide full additional information on the item through the catalog's native interface. Clicking on an online electronic resource will invoke the institution's link resolver and, depending on the link resolver configuration, either carry the user straight to the full text or present a list of content providers from which to choose.

Exporting Options, Shopping Carts, RSS Feeds

Summon offers a variety of export options. Users can mark items of interest and see all consolidated items in a shopping cart list (figure 19). Export options include sending to a printer, sending as e-mail, or exporting into a citation management program. Supported citation manager programs include RefWorks, EndNote, and BibTeX. RSS feeds can be set up for the results of a

search. Individual user accounts are not associated with Summon, so users cannot log in, save a results list, and access it later; rather, export methods are session-based.

Additional Features

Did You Mean? Spelling Suggestions

Summon offers Did You Mean? functionality to address misspelled words; clicking on a suggestion automatically reruns the search. For searches where no results occur, a separate list of suggestions will appear in addition to the Did You Mean? suggestion. In addition to generic suggestions such as Try Different Keywords and Try Fewer Keywords, one suggestion includes a link that, when selected, will activate the option to include results beyond the library's collection and automatically rerun the search.

Embedding in Other Online Venues

Summon uses persistent URLs, so libraries wishing to provide a link for a "canned search" can do so and embed these links where they desire. The Summon search box can be embedded in external webpages, such as a course management system, a LibGuide, and so on; should the library choose, such search boxes can be prescoped to particular facets or limits appropriate to, for example, a particular LibGuide subject guide. A search-box-creation widget works in conjunction with the Summon administration module to help libraries create different Summon search boxes.

Searching of Additional Remote Resources

Serials Solutions offers a federated search product, known as the 360 Search service, which combines features of the earlier 360 Search and the WebFeat federated search products. While it would be technically possible to create a widget and use the associated 360 Search API to pass on a query entered into Summon to a 360 Search, no current Summon customers have looked to integrate traditional federated search components with the Summon service. Summon is strongly focused on providing all content through the preaggregated, unified single index. Traditional federated search products are not the focus of this issue of *Library Technology Reports.*

Vendor Perspective: Summon

Serials Solutions conducted a variety of in-depth studies into the research habits of today's researchers and students. Among the revelations was that the library is widely acknowledged to have superior content, but getting to what the researcher wants is daunting. In fact, we discovered the most confusing part of the research process was the lack of a clear starting point for searching library collections. Because of this, students and researchers were abandoning the library and its valuable resources. We envisioned leveraging technology to bring students and other researchers back to the library by creating a superior search and discovery experience . . . one that mimicked the simplicity and familiarity of open web searching. Meeting this audacious goal required building from the ground up rather than repurposing existing search structures, and Serials Solutions committed to this. During initial planning for Summon, we quickly realized that the only way to provide this superior search and discovery experience was to create a single unified index of the library content, and this is at the core of the Summon service. The Summon index unifies the full breadth of the library content including library catalog records, institutional repository items, subscribed electronic content such as journal articles, ebooks, newspapers, dissertations, and more. To date, the index has over 6,800 publishers participating that provide more than 94,000 journals. We built all of this into the single unified index because it is the only way to provide the search and discovery experience that researchers and students require—subsecond response time, relevancy ranked results, unbiased content (i.e., it does not matter who the content provider is—all content is treated the same). The result is that the Summon service does not rely upon federated search to augment the results.

We are continually developing and advancing the Summon service by adding content, by adding features to make it an even better search and discovery platform for library researchers, and by adding elements to make it even easier to use for librarians. For example, we recently added deep integration with Web of Science to include citation counts both as a part of relevancy calculations (articles with lots of citations get "bumped") and for display and navigation. We also added a metadata mapping tool so librarians can map their MARC and Dublin Core metadata to the Summon schema in a way that maximizes the way it is searched and displayed in the Summon service. And the results show us that the Summon service is filling a need: we recently passed our 100th customer mark in just over one year. This is truly a testament to how the Summon service is reaching the audacious goal that we set for ourselves and is helping libraries around the world stay relevant by providing a place for researchers to search and discover valuable library content.

Figure 19
Summon shopping cart

Figure 20
Summon Database Recommender

Database Recommender

A Database Recommender feature (figure 20) was unveiled in early 2010. Tuned to and depending on a user's particular search, this feature recommends databases subscribed to by the library. This feature works in conjunction with trigger words entered in a Summon search and also applies intelligent reading of the content provided in the results set. Serials Solutions notes that this feature "showcases sources that don't lend themselves to be indexed by any service—such as dynamic or statistical databases—but make the library so well fitted to its academic community."[1] Database recommendations are provided along with the other retrieved results; clicking on the database title will take users to the database, where they can conduct a search on their topic. Database recommendations are not returned for all searches; for example, a search on the broad topic *engineering* may return the IEEE Electronic Library Online database as a recommendation. A search on *aerodynamics* may not provide a database recommendation. This service holds potential to connect users to underutilized or underexposed resources. Particular local collections, such as a library's digital collection, can also be spotlighted to appear in an initial set of results for particular searches.

Statistics

Various statistics are available with Summon through its statistical reporter, known as Summon Analytics (an interface familiar to existing users of Google Analytics). Report examples include, but are not limited to, the number of session visits and searches conducted; average searches per session visit; queries (all queries, both popular ones and those returning fewer results); IP address and geolocation reports, providing insights into where usage originates from; and browsers and platforms used to access the service. In addition, facet reports are available, showing how often

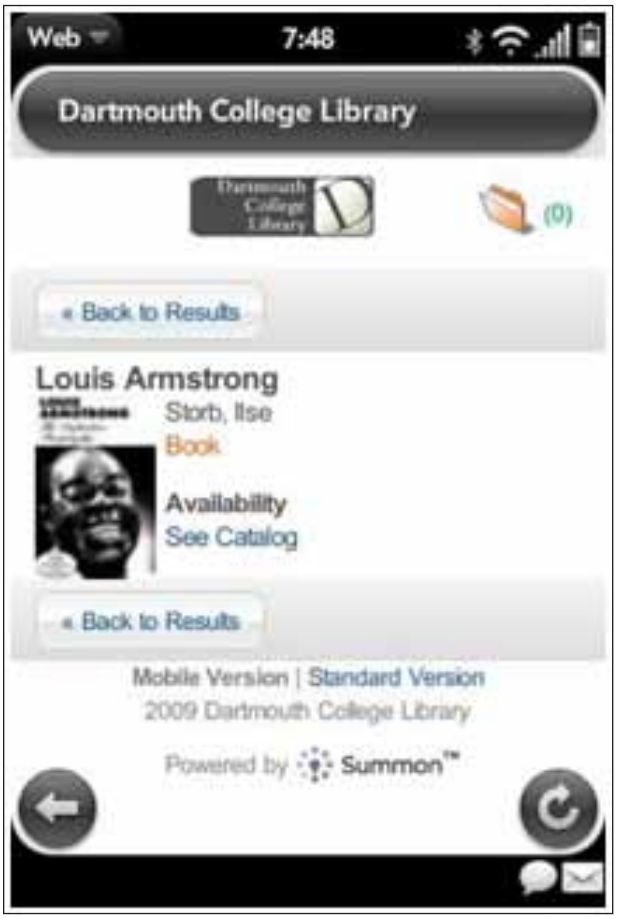

Figure 21
Summon mobile view

refinement limiters and facets (and choices within facet categories, e.g., content types) are being used. Reports are customizable by date range, and graphing options visually chart much of the data. Reports can be downloaded into various external programs (such as Excel) for additional analysis. Serials Solutions

offers an optional, additional product, 360 Counter, which provides additional information of a library's e-resource usage.

Mobile Interface

A mobile, Web-based interface (figure 21) exists for Summon and is compatible with browsers present on various smartphone platforms. Results are formatted to fit the device interface, and a link is present should the user wish to access the full regular Web interface. Users can refine results, mark items of interest, and access this list in a shopping cart fashion. Users can e-mail a list of records to their e-mail account. Initial real-time status checks do not occur in the mobile interface, though users can click on an Availability link to gather this information, at which point they leave the Summon interface and are taken to the underlying catalog.

Vendor Website

Serials Solutions Summon
www.serialssolutions.com/summon

Example Implementations

Dartmouth College
www.dartmouth.edu/~library/home/find/summon

Drexel University
www.library.drexel.edu

University of Calgary
http://library.ucalgary.ca

Western Michigan University
http://wmich.summon.serialssolutions.com

Upcoming Directions

As noted in the overview to this chapter, Serials Solutions provides updates and enhancements approximately every three to four weeks. When asked about upcoming directions, the vendor highlighted some recently released features. At the time of this writing, major enhancements since ALA Annual Meeting 2010 include new facets (contextual catalog-focused facets and discipline-specific facets) and a Summon Customizer (a Web-based administrative console). Through the Summon Customizer, libraries can integrate custom HTML (including library style sheets) into the header and footer sections of the interface and incorporate widgets. Any third-party widget can be integrated into the interface, and given the open API-based nature of the Summon platform, broad latitude exists with the integration of widgets into custom-designed interfaces. Serials Solutions recently introduced Web of Science citation counts integrated on the Summon screen (for libraries subscribing to Web of Science); citation counts also factor into relevancy, with a high citation count boosting relevance. A metadata mapping tool allowing direct MARC and Dublin Core record mapping was also released, helping libraries with custom mapping of local collections, allowing staff to make and preview changes while refining the mapping. Serials Solutions has investigated including LibraryThing content (such as tags and reviews) into appropriate content (primarily books) from the Summon index; such tags and reviews may be included in a future Summon release.

Note

1. Serials Solutions, "Summon Service Debuts Database Recommender." news release, March 17, 2010, www.serialssolutions.com/news-detail/summon-service-debuts-database-recommender.