

Linking without a Stand-Alone Link Resolver

Although link resolvers have certainly become more commonplace, they have not saturated the market. Many institutions have, for whatever reason, chosen not to implement a link-resolver product. Moreover, for those institutions that have chosen to implement a link resolver, there may be instances in which direct linking may be more appropriate. Furthermore, large aggregators may offer a multitude of databases containing a mixture of full-text and abstracting and indexing content; therefore, they must have some sort of linking mechanism in existence to handle their internal linking. Most content providers have begun to provide an increasing amount of local control for what links do and do not appear in their content, and libraries can choose to take advantage of this local control to configure the databases to perform a type of linking that addresses the appropriate copy issue.

Of course, the benefit of the link resolver is that librarians can enter holdings data in one place, thereby reducing the burden of entering this data in multiple places. Again, however, there may be instances in which direct linking is more efficient or preferred by a library, so it is useful to examine what vendor-specific linking solutions content providers offer in order for librarians to understand a more complete picture of what linking options are available.

Additionally, it is useful for librarians to have a basic understanding of linking possibilities in order to put pressure on content providers to provide better linking solutions. For example, if a library subscribes to a number of ProQuest databases, complete with millions of full-text articles, and has implemented a link-resolver product, then it simplifies the searching process for the user if ProQuest is able to suppress the link to the link resolver if the full text is available internally. Not all vendors offer this sort of suppression, but simply knowing the possibility exists

allows librarians to request this functionality and/or use this sort of criteria in collection-management decisions.

Vendor-Supplied Solutions

In this chapter, four content providers—EBSCO, ProQuest, Ovid, and Chemical Abstract Service—and their vendor-specific linking solutions are examined. By no means is this comprehensive; rather, it is meant to give a basic representation of what type of linking opportunities are available within a given content provider. In June 2004, the author published an article, “Linking in the Traditional Online World,” in *Searcher: The Magazine for Database Professionals*, which takes a closer look at some of the vendors mentioned above as well as Dialog, Cambridge Scientific Abstracts, and OCLC.¹

EBSCO

EBSCO has been an innovator in linking solutions since the availability of full-text content exploded in the early to mid-1990s. In addition to LinkSource, its stand-alone link-resolver product, EBSCO has developed a number of proprietary-linking solutions, including SmartLinks and CustomLinks. In essence, SmartLinks is context-sensitive linking for EBSCO materials. In an EBSCO product, before a link is created, “the SmartLinks system verifies the availability of the full text and the rights of the user to access that full text. The SmartLinks system checks on the availability of full text in whatever EBSCOhost database to which a user subscribes, if a user has access to full text through EBSCOhost Electronic Journals Service, or if a user has access from a publisher contributing to CrossRef. (EBSCO hosts an iteration of the CrossRef database).”²

According to Ebsco’s chief strategist of e-resources Oliver Pesch, the SmartLinks system takes the metadata

from an incoming request and attempts to match an article to the incoming request by checking a database of approximately twenty-five million articles. If the system finds a match, then the system applies a rights-checking step and offers a link to the user. In short, a SmartLink is actually a confirmed link to an article for which access rights have been checked. SmartLinks is prevalent throughout EBSCOhost, and it is also used by most major link resolvers for their EBSCO customers. Pesch noted that each month EBSCOhost attempts to insert a SmartLink into a result approximately three billion times.

ProQuest Information and Learning

ProQuest also has its own internal-linking solution, “CrossLinks.” According to Proquest’s senior linking and integration engineer Mike Hoover, the ProQuest-centric CrossLinks system was in use approximately two years before the OpenURL. Because ProQuest was using the same sort of metadata needed to populate OpenURLs to create the proprietary CrossLinks, it was relatively easy for ProQuest to become a source and begin sending OpenURLs. CrossLinks is only used to link out of ProQuest content into other vendor’s content; in other words, it is a method of defining a link to go out. According to ProQuest’s training-material documentation, “CrossLinks supports the use of a static URL to access resources, or it can dynamically create URLs based on article level information.” There are six types of links that libraries can define for CrossLinks: custom (OPAC, for example), A-to-Z list, link resolver, e-journal site (such as CrossRef, Ingenta), document delivery/Interlibrary Loan, and OCLC WorldCat.

As a direct result of the OpenURL, Hoover commented, direct-linking agreements have become far less common for ProQuest. Because the OpenURL has dramatically changed the linking environment, everyone has simply become more open and generally easier to link into—including large publishing giants such as Elsevier. Now, through CrossRef, it is relatively easy to link into Elsevier content. Hoover emphasized, however, that direct-linking functionality is still considered a priority at ProQuest. Although link resolvers have been implemented in large numbers in the United States and Canada, this is not necessarily the case elsewhere.

Ovid Technologies, Inc.

Ovid offers a stand-alone link resolver, LinkSolver, but it also continues to offer two Ovid-centric linking solutions: Links@Ovid and SilverLinker. Through Links@Ovid, “Ovid provides linking from Ovid [abstracting and indexing] databases to both internally and externally hosted full text, as well as to local holdings, ILL and document-delivery systems, and external link resolvers.”³ According to Diana Bittern, Ovid’s director of software product management, Links@Ovid is available free of charge to all Ovid platform customers; it uses the same technology architecture and

knowledgebase as LinkSolver to enable Ovid customers to link from Ovid hosted content to material hosted anywhere on intranet or Internet sites. Links@Ovid supports both static and dynamic linking, although most of the knowledgebase, regularly maintained by Ovid, is implemented as a static-linking database and updated several times per day.

The Ovid knowledgebase is largely based on static links, in which each article’s metadata and corresponding URL or DOI are represented by a single record; this results in a knowledgebase measured in terabytes. Bittern explained this model of the static-linking database, although more labor intensive, results in links of far higher quality, including fewer dead links and better fuzzy matching. Static linking, or preprocessed linking, at Ovid includes CrossRef links and others; Ovid hosts an iteration of the CrossRef database locally. The knowledgebase, though, is not completely based on static links; it also uses some dynamic-linking technology, wherein metadata is pulled from the bibliographic record to populate a URL query. Ovid also maintains a serials database that addresses the problem of missing or incorrect ISSN numbers. This serials database is updated continuously, fed from more than three hundred bibliographic databases, to provide up-to-date journal information to enable correct journal matching, regardless of the quality of the ISSN and journal name metadata in the linking request.

The other in-house linking alternative for Ovid is SilverLinker, and it allows SilverPlatter customers to link from SilverPlatter databases to any other form of electronic content. SilverLinker supports static linking for a relatively small number of targets and is predominantly based on dynamic linking, as it is designed to be both a locally hosted and an online solution. Like Links@Ovid, SilverLinker is provided free of charge to any online SilverPlatter platform customer.⁴

Chemical Abstracts Service

Chemical Abstracts Service (CAS) is a pioneer in the linking of scholarly materials. In 1997, CAS launched a linking service, ChemPort, which offered two possibilities: linking to the publisher’s site or ordering the document through its own document-delivery service, CAS Document Detective Service. This initial release did not take into account the appropriate copy problem, thus (as mentioned earlier), CAS worked with OhioLINK to create a system that linked instead through the local library, or rather, allowed the local library to configure the links that appeared to the user rather than predetermining the links go to the publisher’s site. ChemPort, the CAS linking solution, therefore, was amended to work as follows: “from a record in a CAS database (located through SciFinder or STN), a user clicks on a link to the ChemPort page (an intermediary page between the CAS database and the user’s destination) to view a set of locally configured links.”⁵

The description of ChemPort given above sounds remarkably similar to the OpenURL v. 0.1 framework: target, intermediary screen/menu of services, and source. In essence, ChemPort is a link resolver for CAS products.

From 1998 to date, ChemPort has become more and more sophisticated and has evolved to give librarians more control via its administration tool, MyCAS. Through MyCAS, the librarian can control what links the user sees on the intermediary ChemPort screen.

Links on the ChemPort screen are organized into three basic categories. First, in section one (“Your Organization’s Document Resources”), the librarian can configure links to local or internal options, such as to a library’s external link-resolver application. Currently, the links to a library’s external link-resolver application are OpenURL v. 0.1, but CAS Manager Harry Boyle (ChemPort Marketing) noted CAS writes to the OpenURL v. 0.1 standard and will adopt newer standards as customers migrate to them. Also in section one, a librarian can include one other local library link or simply a link to a librarian’s e-mail address; this link to a librarian’s e-mail address serves those libraries without a stand-alone link resolver. Section one also includes a librarian-defined link for patents.

Secondly, in section two (“Web-Based Options”), librarians can choose to turn on or off links to patents, such as Micropatent and U.S. Patent and Trademark Office, as well as links to a full-text article at the publisher (HTML or PDF) or via a subscription agent such as EBSCO.

Finally, in section three (“Fee-Based”), librarians can activate links to fee-based document services, such as the CAS Document Detective Service. The ChemPort page is customizable, meaning a library can choose what to title the ChemPort page; however, if the librarian chooses to change the title of the page to be more institution-specific, he or she must also include a URL for a help message that is also institution-specific.

In May 2005, CAS released direct-linking options that bypass the ChemPort intermediary screen; this is described in chapter VI (p. 35) as “invoking” or as “one-click.” In other words, if ChemPort can identify that a user can get direct access to a document or patent, and the library’s site administrator has chosen to turn on the direct-access option, then the article or patent will be immediately presented to the user, and the ChemPort options screen will not be shown. Direct linking is available via ChemPort for open-access content such as nonembargoed material found at Highwire Press or to patent information. ChemPort can also perform direct linking for some fee-based publisher content using the user’s IP address in the OpenURL PID field (i.e., private information field), thus performing a rights-checking step by the publisher before presenting the user with a direct link to the document. This sort of preauthentication allows

direct-to-document linking for subscribed resources; it also can facilitate direct-to-patent, although most patent information is free.

Publishers with whom CAS is working to provide direct linking options include the Royal Society of Chemistry, the American Chemical Society, Humana Press, CSRIO Publishing and the content aggregator EBSCO. CAS will continue to work with more publishers. Harry Boyle noted the direct linking options provide challenges for librarians because the user may or may not see any university or library branding before being taken to the full text, and thus not be aware if it is an open-access document or one for which the library has paid a subscription fee.

There is also a direct-to-library feature available, in which the OpenURL is created and sent directly to the library’s link resolver. The direct-to-library feature functions in two ways. First, if the one-click or direct-to-document/patent feature is activated, and ChemPort cannot, for example, preauthenticate a user and send him or her directly to the document, then the system moves to step two and sends the OpenURL directly to the library’s link resolver. Boyle commented that some libraries, because of the branding issue discussed above or for other reasons, have chosen not to activate the direct-to-document/patent feature but rather have chosen to activate only the direct to library feature.

Boyle considers CAS one of the key innovators in linking solutions and mused that, perhaps, fifteen years ago, CAS would have described itself as a major secondary STM database and the STN search system. Now CAS is a top STM database producer and provider of leading scientific search services (STN and SciFinder), but CAS also recognizes that the job of a secondary resource is not done until the researcher has the desired document in hand. This attitude has informed all of its linking efforts.⁶

Other Notable Vendor-Specific Solutions

Most vendors provide some sort of vendor-centric linking solution. Other notable vendor-specific solutions include H. W. Wilson’s WilsonLink: “Via SFX technology, WilsonLink allows customers to integrate their OpenURL-compliant resources without the expense of installing a link server or subscribing to a link-resolving service.”⁷ More information about WilsonLink is available at the H. W. Wilson Web site (www.hwwilson.com/documentation/WilsonWeb/WilsonLink/wilsonlink.htm).

In addition to vendor-specific linking alternatives, direct-linking agreements remain prevalent. As Proquest’s Mike Hoover noted, direct-linking agreements may not be as popular as they once were, but they still exist. For example, JSTOR announced on Oct. 12, 2005, that it has eight new linking partners (The American Anthropological Association, the American School of Classical Studies

at Athens, Elsevier's SCOPUS, the Hispanic American Periodicals Index, the International Index to Music Periodicals, the Music Index Online, and Thomson ISI's Web of Science) to provide article-level links into JSTOR. A complete list of linking partners is available at www.jstor.org/about/recent-issues.html.

One of the greatest benefits of direct linking is the reliability of the links, *if* the librarian has configured those links. OpenURLs do not always resolve, so a librarian

in certain products. At any rate, linking without a stand-alone link resolver remains a pertinent topic for those institutions that have implemented a link-resolver product as well as for those that have not, because linking users to the information objects they desire can encompass more than just purchasing, building, or adopting a link resolver. Understanding the other available options allows librarians to create comprehensive linking plans and policies to better serve their users.

WilsonLink

www.hwwilson.com/documentation/WilsonWeb/WilsonLink/wilsonlink.htm

Journal Storage: The Scholarly Journal Archive (JSTOR) Linking Partners

www.jstor.org

must make the decision whether or not to activate direct linking either in place of, or in tandem with, a link-resolver product. For example, direct links to JSTOR may be more reliable, so a librarian may choose to activate this option

Notes

1. Jill E. Grogg, "Linking in the Traditional Online World," *Searcher: The Magazine for Database Professionals* 12, no. 6 (June 2004): 34-40.
2. Grogg and Ferguson, "Places Linking Will Go!," 56 (see chap. 3, n. 22).
3. Grogg, "Linking in the Traditional Online World," 38.
4. Diana Bittern, e-mail correspondence with the author, Oct. 10, 2005.
5. Grogg, "Linking in the Traditional Online World," 37.
6. Harry Boyle, telephone interview with the author, Oct. 12, 2005.
7. Grogg and Ferguson, "Places Linking Will Go!," 55.