Trends in publishing, advances in technology and pressures on library budgets have combined to put libraries and publishers at odds with each other. Research libraries expect broad, easy access to electronic information, greater convenience and faster delivery but at reduced cost. Publishers are exploring new channels for distributing their content while seeking to maintain control of their intellectual property, minimise risk and increase income. Subscription agents have an important role in resolving these tensions. Substituting access to digital information for ownership of materials introduces new uncertainties concerning delivery systems, costs and collection stability. Electronic publishing asks both publishers and libraries to take on new roles which may be handled better by subscription agents. Business issues such as managing access are obstacles to wider use of electronic publishing. The demands of password maintenance and authorization are similar to the headaches of ordering, renewing and paying individual subscriptions. IP address authentication and user ID/password access control have predominated. A new approach, access consolidation by the subscription agent, allows libraries the ease of use they seek while giving publishers the control they need. Different levels of access consolidation the agent might provide include: password consolidation, publisher server full-text access consolidation, and agent's server full-text access. (Author/AEF)
Electronic publishing and collection development, a subscription agent's view

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Abstract: Trends in publishing, advances in technology and pressures on library budgets have combined to put libraries and publishers at odds with each other. Research libraries expect broad, easy access to electronic information, greater convenience and faster delivery but at reduced cost. Publishers are exploring new channels for distributing their content while seeking to maintain control of their intellectual property, minimise risk and increase income. Subscription agents have an important role in resolving these tensions.

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Business issues such as managing access are obstacles to wider use of electronic publishing. The demands of password maintenance and authorisation are similar to the headaches of ordering, renewing and paying individual subscriptions. IP address authentication and user ID/password access control have predominated; Access Consolidation is suggested as an integrated approach.

Keywords: electronic publishing, collection development, research libraries, subscription agents

1. Differing needs, different expectations

Trends in publishing, advances in technology and pressures on library budgets have combined to put libraries and publishers at odds. The number of titles published continues to grow. Delivery systems have increased the velocity of information flow. Researchers' expectations for information systems have been characterised by the aphorism 'the least they will accept is the best they have ever seen.' Libraries' expectations for electronic publishing include broader access, greater convenience, faster delivery and, it is hoped, reduced cost.

Publishers, while exploring new channels for distributing their content, seek to maintain control of their intellectual property, protect their subscription revenue and find new ways to raise income. Subscription agents have an important role in resolving the resulting tensions.

2. Questions to frame the discussion

In our market economies, aren't we used to getting what we pay for? That is to say, don't we expect to pay more for more functionality? From transportation to food to clothing to housing, we pay more for increased speed, quality, style, convenience and security.

Do librarians really expect to get more information electronically that is easier to search and distribute, and more timely, for less than they paid for print?

In recent years, aren't we used to getting more and more technology for our money, whether it is in handheld calculators, long distance calling, personal computers or television sets?

Do publishers really expect to charge more money for electronic versions of their content when their production and distribution costs are greatly reduced by the use of new technologies?

Another current trend word is disintermediation, the tendency for businesses and consumers to go directly to manufacturers for services and products instead of working through distributors and agents.

When everything is available for direct access on the World Wide Web, do subscription agents really think they have a future?

In the next few minutes, let me describe what one subscription agent overhears when librarians and publishers talk about what they hope electronic publishing will mean for them, as well as what they fear it may mean.
3. A research library perspective

Substituting access to digital information for ownership of materials offers libraries new opportunities for broad distribution and more comprehensive research, but at the same time introduces new uncertainties concerning delivery systems, costs, access control and collection stability.

Libraries seek electronic access agreements with generous terms to allow their user community flexibility in using information. Ideally, library users should have unhindered access to search, view, print and download information for their own use, for electronic reserve desks, for course packs and for inter-library loan. No obstacles such as passwords or the need to use particular computer systems should interfere with research. Material from many sources should be seamlessly available for review, collected by discipline and topic. The library staff should not have to administer access codes or install or upgrade special software. Researchers away from the library should be able to access the same information they can search when they are at the library. Walk-in users should be accommodated without difficulty. Electronic systems should provide detailed data on usage, enhancing the ability to make sound collection development decisions. Finally, costs should be lower than existing print subscriptions.

Today's reality is quite different from this ideal. Electronic access to any particular information may be ephemeral. You have all navigated the shifting currents of the Web, where information appears and disappears unpredictably, like a sandbar. With competing technology solutions in the market today it is difficult to decide which solutions to implement when there is no certainty which standards will prevail. Relying on electronic access begs a number of questions about collection stability and access control:

If you subscribe this year to an electronic title and then let your subscription lapse next year, will you have access to the year you 'bought' or will there be a new hole in your collection?

By subscribing this year, do you get access to earlier years of data or do you pay extra for them?

Who will set up and maintain the multiple accounts, passwords and software configurations that publisher-controlled access to multiple servers will require?

As a subscription agent, we have been approached by librarians who value our long-term relationship with them and who need these questions answered. Together we are exploring how our existing electronic publishing business might evolve to meet their needs.

4. A publisher perspective

For publishers, new technologies promise to shorten the time between submission of manuscripts and publication as well as to reduce distribution costs. By providing electronic access, publishers hope to reach new markets. On demand publishing, solely electronic journals, electronic document delivery and e-mail responses to articles offer new possibilities for enriching the information exchange and making it more interactive. Usage tracking and encryption technologies may make it possible to block unauthorised use of content and to capture additional revenue from legitimate copying.

Primary publisher goals include: building reputation for their titles, editors and contributors; maintaining control of content and preserving the predictable revenue flow provided by subscriptions. Electronic publishing might add revenue from delivery of individual articles or from royalties earned for author abstracts. Broader, faster access may increase visibility through wider coverage in indexing and abstracting services. By hosting information on their own servers, publishers can have direct relationships with their customers, collecting significant marketing and usage information which should aid planning for new titles.

Compared to this ideal picture, today's reality is a series of experiments in which publishers are learning just how far outside their traditional business electronic publishing activities are. In each experiment, one or a few publishers maintain a server and provide access to content under a variety of restrictions, using many competing delivery technologies, collecting small amounts of additional revenue while incurring significant costs to develop and maintain software. The more open the access, the more possible that it will cannibalise print subscriptions. The more restricted the access, the more burden is placed on researchers to remember passwords or administer authorisation, and on publishers to manage ordering, access and billing.

Making individual document delivery easier may lead to the atomisation of journals, a kind of entropy in which journals disintegrate into what has been called a 'soup' of articles. Tying electronic subscriptions to continuation of print subscriptions creates a whole layer of account management: print only, electronic only, both, none of the above. Finally, selling and supporting electronic access turns out to be a demanding business requiring a new set of skills. In effect publishers add printer, post office and 24 hours a day, 7 days a week technology consultant to their existing role.

As a subscription agent, we have been approached by publishers who value our long-term relationship with them and who do not want to take on the burden of these additional roles. Together we are exploring how our existing electronic publishing business might evolve to meet their needs.
5. An integrated electronic publishing environment: one agent's perspective

There are a number of established ways to deliver journal information electronically, including simple ASCII representation, bitmapped images and portable document types such as PDF files. A variety of search engines are available for finding desired data. While additional progress will certainly come in both search and display technology, business and legal issues — not technical problems — are now the major obstacle to wider use of electronic subscriptions.

In an environment where each publisher maintains a server for its content, the demands of password maintenance and authorisation are similar to the headaches of ordering, renewing and paying individual subscriptions. Providing seamless access to information and managing access control can be seen as extensions of the traditional role of the subscription agent. Four sometimes conflicting goals for managing access have been described by libraries:

- users should not have to remember user IDs and passwords for each service;
- all users at an institution should have access to some databases;
- some users at an institution should have access to databases not available to others;
- access should be available away from the library.

5.1. Two methods for access control

Two primary approaches are currently used to manage electronic access: user IDs with passwords and IP address authentication. User ID and password systems require the user to enter an ID and related password before access is allowed. Because this method identifies the user, not any particular location or computer, access can be available from many locations outside an institution: e.g. office, home, hotel room or dormitory. In addition, different passwords can have different levels of access, allowing for example staff and faculty to have access privileges not available to patrons or students. Balancing this broadly distributed access is the need to issue, maintain and have users remember IDs and passwords for each system they use.

IP authentication relies on the nature of the underlying Internet protocols which make it possible for a host system to know the Internet address of each user. With this method, the host system maintains a register of the Internet addresses authorised to access a particular database and only allows access from those addresses. No one has to assign or remember passwords. Because of the way IP addresses work, it is easy to authorise access for all the computers at an institution. But since this approach identifies a particular computer, not a person, it is not easy to allow different classes of access for different people. Dial-up and remote access are also difficult to authorise since the IP address to be used may not be known in advance, or it may change dynamically with each session, as with most dial-up Internet service providers. Finally, it is possible for hackers to 'spoof' or falsify IP addresses.

A hybrid of these two methods might allow IP authentication to a library community for a general collection of databases, but require a password for access to restricted databases, or for access away from the permitted IP domain.

6. A new approach: access consolidation

A new approach, access consolidation by the subscription agent, allows libraries the ease of use they seek while giving the publishers the control they need. With the agent’s system managing contact with the various publishers’ servers, administrative friction in retrieving information, handling billing and managing access is absorbed by the agent. At the library end, a cooperative authentication approach provides both flexibility and control.

In cooperative authentication, the institution adds a link from its Web server to the EBSCOhost online service. When this link is selected, the institution authorises access by asking for a user ID already known to the user (student ID, employee number or library card number). The institution’s system verifies the user, then makes the connection to EBSCOhost. By relying on an existing identification system for authorisation, this method allows remote access, dial-up access and different levels of access without requiring any additional user ID maintenance. At verification, different categories of users can be connected to different EBSCOhost user profiles, with different access privileges. For walk-up users without an institutional relationship, public terminals in the library could be set up to use IP authentication for access.

Let me outline some of the different levels of access consolidation the agent might provide:

- **Password consolidation**: publishers allow the agent to store the user’s passwords and perform access authentication for one or more journals on different publishers’ own servers;
- **Publisher server full-text access consolidation**: publishers allow an intelligent link from the agent’s online system to their own servers so citations located on the agent’s server can retrieve full text located on the publishers’ servers, with authentication and billing handled by the agent;
- **Agent’s server full-text access**: publisher allows complete journals to be stored on the agent’s server for search and retrieval, with authentication and billing handled by the agent’s server

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By listening to librarians and publishers, adopting new technologies and participating in standards organisations, agents have created time and money-saving efficiencies for libraries and publishers. With more than 50 years experience of consolidating ordering and billing of serial information, EBSCO is well positioned to play the newly expanded intermediary role of access consolidation. By combining traditional functions with access control, electronic search, and online and paper document delivery, the agent can bring the ideals of both libraries and publishers a bit closer to reality. We are encouraged by the way our customers and publisher partners are responding to our proposed role in electronic publishing.

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