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The Chemical Abstracts Service Document Delivery Service†

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The Chemical Abstracts Service Document Delivery Service received nearly 25 000 document copy requests from over 1300 organizations and individuals during the first 10 months of its operation. By combining photocopying with interlibrary lending, almost 80% of these requests were filled. User acceptance of this new service as indicated by its growth has justified its establishment.

On Sept 2, 1980, the Chemical Abstracts Service, acting with ACS Board of Directors and ACS legal counsel approval, established the CAS Document Delivery Service (CAS DDS). Planning for the CAS DDS began in early 1980 when the ACS Board created a special task force to study how the Chemical Abstracts Service could provide a document delivery service that would not be dependent upon exemptions to photocopying that had been incorporated into *United States Code Title 17—Copyrights, Section 107. Limitations on exclusive rights: Fair Use* and *Section 108. Limitations on exclusive rights: Reproduction by libraries and archives.*

In designing CAS DDS, specific design criteria were determined to be mandatory. The service was to be user friendly. Customers were to be provided a range of options for ordering, specifying delivery, and making payments. The service was not to infringe upon the rights of any copyright owners. It was to be as responsive as possible, providing customers with a high degree of assurance that their orders would be promptly processed and filled, if at all possible. The service was to be competitively priced and was to operate on a cost-recovery basis. A team of CAS staff members representing the Bibliographic Operations, Business Administration, and Marketing Divisions, following the design criteria, developed the new service. Customers would be able to order documents via mail, telephone, TWX or Telex, or electronically via the System Development Corporation's Electronic Mail Drop, Dialog Information Retrieval Service's Dialorder, OCLC's Interlibrary Loan Subsystem, CAS ONLINE, or the European Space Agency's PrimorDial. Delivery of filled orders would be by surface mail in North America and by air mail elsewhere. However, customers could specify delivery by United Parcel Service, Federal Express, or other air courier. Customers would be able to maintain deposit accounts for payments or could pay be credit card, check, outstanding prepaid CAS coupons, or be invoiced.

In order to have a service that was not dependent upon exemptions to the copyright law, and one that would recognize the rights of copyright owners, the CAS DDS was to combine photocopying with interlibrary lending. If a required document was copyrighted and CAS had neither royalty-free permission to copy nor a mechanism for paying copying fees, the request would be filled by lending the customer CAS's copy of the original. Requests for documents in the public domain, registered with the Copyright Clearance Center, Inc., or covered by agreements CAS has with copyright owners would be filled with photocopies.

The team reviewed other document delivery services' practices of providing different classes of service based on processing time, such as RUSH and REGULAR. They decided against having classes of services and instead set as a goal full CAS DDS processing within 24 h after receipt of the request. They helped to establish new rules governing the circulation and disposition of CAS library receipts in order to assure the rapid availability of requested documents.

Pricing policies of other document delivery services were obtained and analyzed. CAS DDS cost studies were made, and a pricing structure was established that would assure price competitiveness as well as full cost recovery.

Because of the need to be able to collect copy fee information, to identify publishers with which CAS might need to negotiate right-to-copy agreements, and to monitor the system's performance, a computer-based management information system, the Document Service Management System (DSMS) was designed and installed. DSMS consists of a data base containing records for each document request received. Each record consists of data relevant to the request (i.e., what was requested, when, and by whom), fulfillment information, copyright status, and characteristics of the requested document, such as type of publication, age, number of pages, and country of publication.

During the first 10 months of operation over 1300 customers used CAS DDS. Collectively they ordered 24 492 documents. Table I shows the disposition of these requests. Of the 19 520 filled requests, 11 594 (59.4%) were filled with photocopies, and 7925 (40.6%) with loans of CAS's originals. When the decision was made to lend originals, it was recognized that some losses were bound to occur. To minimize the impact of this, about 85% of the originals loaned are pages cut from issues of journals or conference proceedings, and in only about 15% of the cases of lending is an entire issue or a nonserial volume loaned. As of the end of June 1981, 23 sets of cut pages and 23 whole issues had been lost, less than 0.6% of the total items loaned.

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Table I. Disposition of CAS Document Delivery Service Requests Received during Sept 1980–June 1981

disposition	no.	%
filled	19 520	79.7
not filled	4 972	20.3
total	24 492	100.0

Table II. Analysis of CAS Document Delivery Service Requests Received During September 1980–June 1981 That Were Not Filled

reason for nonfulfillment	no.	%
document cited but not received	1127	4.6
CAS original on loan	857	3.5
document not covered by CAS	833	3.4
document no longer at CAS	808	3.3
loan not wanted	416	1.7
CAS copy lost	392	1.6
invalid citation	196	0.8
translation wanted	147	0.6
other	196	0.8
total	4972	20.3

Table III. CAS Document Delivery Service Customers by Category with Number of Requests by Customer Category, Sept 1980–June Sept 1980–June 1981

	customers		requests	
category	no.	%	no.	%
manufacturing	671	50.4	19324	78.9
academic library	155	11.6	784	3.2
government	137	10.3	1 714	7.0
research laboratory	102	7.7	1 151	4.7
individual	29	2.2	74	0.3
consultant	17	1.3	294	1.2
public library	16	1.2	220	0.9
information broker	11	0.8	318	1.3
hospital	7	0.5	25	0.1
other	186	14.0	588	2.4
total	1331	100.0	24 492	100.0

Table IV. CAS Document Delivery Service Method of Transmittal of Request Received Sept–Dec 1980 Compared to Jan–July 1981

	% of requests	
method of transmittal	Sept 1980–Dec 1980	Jan–July 1981
mail	89.8	82.2
telephone	7.9	5.8
TWX-Telex	2.3	0.9
electronic mail drop		0.8
dialorder		10.2
OCLC/ILL		0.1
total	100.0	100.0

While concerned about the possibility of losses, CAS is even more concerned about the 20.3% of the requests that have gone unfilled. Records for these were reviewed to identify the reasons for this nonfulfillment. The results of this review are given in Table II.

For each order received, the identification number of the customer and an organization-type code are included in the information entered into DSMS. An analysis of the CAS DDS customer records made after 10 months of operation is presented in Table III.

The CAS DDS customers are taking advantage of the ordering, delivery, and method of payment options offered by the Service. As shown in Table IV, the majority of the orders are being received by mail, although some shift to electronic delivery is beginning.

Table V. CAS Document Delivery Service Copyright Status of Documents Used To Fill Requists, Jan–June 1981

copyright status	% of filled requests	
copyrighted		61.4
registered with CCC	20.8	
CAS agreement with publisher	16.2	
no payment mechanism	24.4	
not copyrighted		38.6
total	61.4	100.0

Table VI. Country of Publication of Documents Requested from the Document Delivery Service, Jan–June 1981

country of publication	% of total filled requests
USA	26.2
USSR	15.6
UK	12.0
Germany (E. and W.)	9.9
Japan	9.3
Netherlands	6.0
France	4.1
all others	16.9
total	100.0

The Systems Development Corporations's Electronic Mail Drop and the Dialog Information Retrieval Service's Dialorder capabilities have been available since January 1981. Ordering documents via the OCLC Interlibrary Loan Subsystem was not available until late June 1981. Two other electronic ordering capabilities are in contract stages.

Of the copies and originals sent to customers, 69% was by first-class mail, 9.4% by air mail, 20.5% by United Parcel Service, and 0.6% by air courier, such as Federal Express.

CAS DDS customers are using the full range of payment options offered by the Service. Of the filled requests, 69% required invoicing while payments for 24% were debited against customers' deposit accounts. A much promoted method of payment, Mastercard and Visa, has not been popular, with less than one-tenth of 1% of the payments being received in that form. Almost 2% of the orders are received accompanied by check and slightly over 5% accompanied by Document Copy Service coupons sold by CAS prior to September 1980.

Prior to fulfillment of a request, the copyright status of the requested document is determined by examining the journal issue, conference proceedings, or other document. If the request is for an article from a journal bearing the Copyright Clearance Center (CCC) strip on each page, or some other evidence of CCC registration, the article will be photocopied. It is also photocopied if no evidence of copyright can be found. All other copyrighted publications are checked against an authority file of CCC registrations and CAS direct permissions to determine whether copying is permissible. Table V presents the copyright status of the documents used to fill the requests processed between January and June 1981.

Although most major publishers of journals cited by CAS have registered their journals with the CCC, many smaller publishers have not. Also, the CCC has not yet begun to register nonjournal publications. For those reasons, CAS has had to seek right-to-copy agreements with the publishers of these nonregistered materials. This program, only recently begun, has met with only modest success, with a single exception of the agreement CAS was able to reach and Vsesoyuznoe Agentstro po Avtorskim Pravam (VAAP), the Copyright Agency of the USSR. To date, 20% of the publishers contacted have signed agreements with CAS, 17.3% have denied CAS permission to copy their publications, and 62.7% have not responded. CAS is continuing to seek agreements with publishers in order to reduce the number of document

requests that must currently be filled by lending.

The DSMS also provides information about certain characteristics of the documents being requested. For example, 74.7% of the requests are for journal articles, 18.6% for conference papers, 4.5% for patents, and the remaining 2.2% for technical reports, dissertations, and books. Documents published during the past 3 years account for 63.7% of the requested documents, while those published during the past 5 years constitute 83.9% of the requests. Of the requests, 67% are for documents ranging from 1 to 10 pages in length, 25% for documents of 11–25 pages, and 6% for 26–50 pages. Only 2% of the requests are for documents of over 50 pages. An analysis of the filled requests by country of document publication revealed the findings shown in Table VI.

During the first four months of CAS DDS operation, requests were received at an average rate of 85 per day. By the third quarter of 1981, this rate had increased to 196 per day. Such rates are modest indeed when compared to those experienced by institutions such as the British Library Lending Division, the National Library of Medicine, and many academic libraries in the United States. However, processing nearly 200 document requests per day has helped some 1300 organizations and individuals satisfy, in part at least, their needs to gain physical access to the documents cited by CAS.

The CAS DDS has received a positive reception from the community it serves, and CAS staff are pleased with its operation. By closely monitoring its performance, areas in need of improvement have been observed, and changes have been introduced in an effort to increase the fill rate and to reduce the time required to process requests. It is CAS's intention to continue to provide a Document Delivery Service that is reliable, economical, and responsive to our customers' needs.

Our Stake in Data Base Protection†

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Data bases, whether scientific, technical, or personal, are definitely a part of the future for all who generate, distribute, and use information. The trends of technological development, coupled with growing user satisfaction, point clearly toward the ability to use data bases in a variety of new applications. These must be regarded as opportunities to vendors and users as a basis for working out use and pricing arrangements acceptable to both.

What have we learned these past 30 years in dealing with copyright problems that we can apply to the matter of data base protection? Certainly we have worked hard trying to solve the copyright problem:

We have sat through numerous mettings;
published equally numerous papers;
we have formed the Cosmos group, the Upstairs–Downstairs group, to name a few;
we conducted seemingly endless surveys on the basis of the premise if only we knew how many copies were being made we would be able to solve the problem—assuming, of course, that we could ever reach agreement on what the photocopying problem is;
we started the Copyright Clearance Center;
we spent some 15 years getting Congress to pass a bill to settle the problem;
now we are going to the Courts to resolve the matters we hoped were taken care of by the legislation.

Thus, I am concerned to see the matter of data base protection starting to heat up in much the same way the photocopy issue became a problem. Particularly I am concerned about the assumption that the problems of photocopying from printed products bear a direct relationship to the protection of data bases. The emotional issues may be similar but the practical aspects are different. From my experience to date, it appears that users and publishers have learned some lessons in the years of tilting at the windmills of copyright—lessons that are being applied in working out relationships that will enable both users and publishers to maximize their respective benefits from automated data bases.

We should note also that the cast of characters involved in data base protection is somewhat different from that which took adversary positions on the photocopying issue. On the data base producer/vendor side the lead in making data bases available for computer search and retrieval was taken by individuals and organizations knowledgeable about computer technology rather than the publishers of print materials. The latter have since recognized the role of data base publishing in their respective futures, and they have acquired the necessary technological skills related to the building and dissemination of data bases.

On the user side of the photocopying issue, libraries played, and continue to play, the leading role. Libraries do have a special set of interests and problems that make it possible for libraries to present a unified position on photocopying. In the case of data bases, the users are more heterogeneous and do not perceive, as clearly as the libraries do, a special set of interests and problems. Even those users coming from a library culture tend to approach data base access differently from access to print products. Therefore, there is less likelihood that a common adversary position on data base access will develop.

As a result of their somewhat narrow interests and concerns, publishers and libraries both failed initially to recognize the significance of developing new technology. Thus the introduction of the Xerox machine was seen as a low-cost information option for users and a threat to the survival of their business by publishers. Only a few recognized this technology and the developing computer technology as an early step toward a solution to more effective and efficient access to information. Needs that were already becoming apparent as

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