

COPYRIGHT AND ELECTRONIC DOCUMENT DELIVERY SERVICES

Background document

Concertation meeting on

Copyright and Electronic Delivery Services

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Abbreviations

BC	Berne Convention
CAS	Current Awareness Service
DDS	Document Delivery Service
ECMS	Electronic Copyright Management System
IAS	Individual Article Supply
OCR	Optical Character Recognition
RRO	Reproduction Rights Organisation
STM	Scientific, technical and medical (publishers)

CHAPTER 1: INTRODUCTION

1.1 Definition

The rapid growth of electronic document delivery services has created a number of complex copyright related problems. These problems, both legal and practical in nature, are currently being experienced by many of the Research and Technical Development Projects in the Libraries Programme, funded by DG XIII-E/3 of the European Commission. For these projects to succeed it is considered essential to identify the copyright issues involved and, if possible, create a framework for solving them.

This paper serves as a background document for the Concertation meeting on Copyright and Electronic Delivery Services, organised by DG XIII-E/3 on November 29 in Luxembourg. This paper does not purport to present an in-depth analysis of all copyright issues involved. It is intended primarily to provide practitioners and policy makers with:

- an overview of copyright issues involved;
- an inventory of practical copyright problems, as experienced by participants in the Libraries Programme projects;
- a list of possible options and solutions, to be discussed during the meeting.

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1.2 Document delivery

Document delivery services (DDS) provide individual customers and users with

copies of documents (mainly articles published in scientific journals) on demand. Document delivery (or IAS: individual article supply) is offered by a wide variety of service providers: libraries (public, private, university), scientific institutions and laboratories, commercial document suppliers, host organisations, publishers, database publishers, subscription agents, etc. Some provide **internal** services only ("inhouse" document supply), others provide services to the general public. In practice, it is difficult to draw a line between "internal" and "external" document delivery. Increasingly, services set up originally to serve closed user groups are opened to the general public.

Documents delivered are, to a large extent, articles originally published in scientific or technical journals. In these cases documents carry alpha-numerical information, occasionally combined with photographs, graphics and other visual data. As demonstrated by some of the projects in the Libraries Programme, "documents" may also have the form of digital musical recordings or digitized photographic images. In the future, multimedia applications (combined use of digitally stored and transmitted text, sound and images) will become increasingly important, as storage capacities increase and wide-area networks are developed.

In many cases, document delivery services are offered in conjunction with current awareness services; hence the acronym CAS-IAS. Users of these services are periodically informed of recently published articles and other relevant literature, in the form of bibliographical data and abstracts.

Typically, document delivery services are provided through a wide variety of technical means and media. Even though the days of xeroxing and mailing on demand are far from over, electronic storage ("electro-copying") and transmission are undoubtedly the technical means of the future. Texts are stored and delivered electronically in either image or character encoded (OCR) form; the latter enabling service providers to deliver "customised" information products on demand.

Users may order documents by mail, by telecopier (fax), by electronic mail or in real-time from computer terminals. Documents are delivered by mail, by fax, by electronic mail and on-line. At present, a document delivery service typically involves a combination of paper, digital and electronic media; document delivery is a "hybrid" medium.

1.3 Present and future trends

The following is a brief description of trends and developments in the field of document delivery which may be relevant to the copyright issues discussed in this paper.

Technological developments

The ongoing revolution in information technology is clearly having an immense impact on DDS. Spectacular advances in optical storage and data compression have greatly increased electronic storage and retrieval facilities. In addition, increases in network capacity and line fidelity are resulting in much higher data transmission speeds. Adding to this, advances in optical character recognition and scanning have made full text storage, retrieval and delivery of printed documents a reality.

The increasing "digitisation" of DDS will dramatically shorten the average time of delivery. In addition, electronic processing of documents will give rise to all sorts of value added services. Service providers will be able to "customise" information to accommodate specific user demands, using "user profiles" drawn up from previous usage patterns. Thus, future DDS providers are able to provide both perfect copies and customised information products. Eventually, it will be difficult to distinguish between document delivery and database publishing.

The application of new information technology will also facilitate various

administrative tasks essential to DDS, such as registration of users and usage, payments for services, payments for rights, etc.

Economic developments

Economic factors are very influential in the development of document delivery services. Budgetary constraints are forcing publicly funded libraries and documentation centres to share resources. As a consequence, interlibrary loan systems are being transformed into co-operative document supply networks.

Combined with current awareness services and other added value features, document delivery services are gradually evolving into full-blown electronic publishing operations. Thus, service providers are finding themselves in direct competition with publishing houses and other commercial information vendors. It is expected other competitors will enter the arena from related areas of business: PTT's, hardware producers, audiovisual producers, etc.

Predicting the more distant future of document delivery isn't an easy task. Vertical and horizontal market integration, convergence of carrier media, media format and media content, will blur the traditional boundary lines between publisher and intermediary, between intermediary and user, between user and author, between author and publisher.

Changing user demands and behaviour

Many of the developments previously mentioned are user-driven. Increasingly specialised users and user groups demand better and quicker access to ever larger stockpiles of published documents. Time-pressed users want high speed delivery from service providers that can deliver **all** ("one-stop shopping").

The rapid expansion of user-friendly electronic networks (such as Internet) is profoundly altering the way in which users and authors communicate. In many

branches of science the distribution of hard-copy pre-prints is gradually being replaced by the electronic transmission (via e-mail) of unpublished articles, using Internet or other networks. In doing so, publishers and intermediaries are by-passed.

Libraries' changing paradigms

All combined the developments previously sketched will result in a remarkable shift of paradigms to which libraries of the future must adapt. This will require a rethinking of the public service role of publicly funded libraries. As will explained below, a clear picture of the libraries' public role is essential in solving many DDS-related copyright problems.

CHAPTER 2: COPYRIGHT ISSUES

2.1 General framework

Copyright subsists in original literary, artistic and scientific works. The copyright owner has the exclusive right to exploit the work in which he owns the copyright. In most national copyright laws these exploitation rights are defined as a number of restricted acts, such as the right of reproduction, publication, public performance, etc. The exclusive rights are limited by a set of statutory exemptions or privileges (see paragraph 2.3), some of which are highly relevant to document delivery.

In addition to (transferable) exploitation rights authors are also granted so-called moral rights, which are inalienable (see paragraph 2.4). Moral rights are intended to protect the integrity of the work and the moral bond between the author and his creation.

In most countries, the duration of copyright equals the life span of the author plus 50 years. Following the German example, the European Council has recently adopted a Council directive in order to extend the term of protection to life plus 70 years. The directive also provides for a special publisher's right in previously unpublished works which are no longer copyright protected. The duration of this new right is 25 years after first publication.

The Berne Convention serves as a worldwide framework of international copyright protection. Berne Convention countries guarantee protection to foreign nationals of a Berne Convention state according to the principle of national treatment. In addition, the Berne Convention sets certain minimum standards of copyright protection.

2.2 Protected information

Copyright laws protect a wide range of information products, many of which are

used in DDS: journal articles, brochures, newspaper stories, books, drawings, sheet music, maps, etc. Two categories of information deserve special consideration in this context: **abstracts** and **bibliographical data**.

With respect to abstracts a distinction must be made between abstracts made by the provider (editor) of the service and abstracts included in the original document. In the first case the abstract will not create any special copyright problems; no authorization is needed to abstract a document in a few concise sentences or key-words. Only in the (exceptional) case that the editor-prepared abstract would amount to an "adaptation" of the original document, authorization by the copyright owner of the original document might be necessary.

With respect to abstracts included in the original document, one may argue that no authorization is necessary. In many cases, the abstract as such will not qualify as an original work protected under copyright. But even if the abstract is "original", service providers may argue that no authorization is necessary in view of the abstract's inherent function: to be used in a bibliographical information system. In other words: the author or publisher of the original document has granted an (implied) license to use the abstract.

A similar argument can be made with respect to bibliographical data. Assuming such data are copyright protected (which is arguably the case in The Netherlands, the Nordic countries, Ireland and the United Kingdom) the use of these data in DDS may be authorized on an implied license theory. The same goes for **tables of contents** copied from the original documents.

To be sure, wholesale appropriation of collections or compilations of abstracts, bibliographical data and contents is prohibited without the express authorization of the copyright owners involved.

These observations are on a par with Article 5 of the amended proposal for a Council Directive on the legal protection of databases (COM (93) 464 final - SYN 393):

"The incorporation into a database of bibliographical references, abstracts (with the exception of substantial descriptions or summaries of the content or the form of existing works) or brief quotations, shall not require the authorisation of the owners of rights in those works, provided the name of the author and the source of the quotation are clearly indicated in accordance with Article 10(3) of the Berne Convention."

2.3 Restricted acts

Copyright owners enjoy a panoply of exclusive exploitation rights: rights of reproduction, adaptation, translation, publication, public performance, broadcasting, cable transmission, etc. In defining the restricted acts no two national copyrights laws are alike. Some legislators provide for highly detailed media-specific definitions, while others content themselves with broad notions of "reproduction" and "communication to the public".

National copyright regimes differ even more in defining the statutory limitations (exemptions) to the restricted acts. Some legislators provide for lengthy, hard-to-read and hard-to-apply, detailed sets of copyright privileges. Other legislators provide for only minimal exemptions, using general notions of "private use". Most European copyright acts contain the following privileges:

- * copying for personal use (scientific, educational or other private use)
- * archival copying
- * library privileges
- * educational exemptions
- * special rules for reprographic reproduction

- * freedom of quotation
- * freedom of news reporting and reporting of current events

In addition to these "dedicated" exemptions, Anglo-American copyright acts contain general "fair dealing" or "fair use" provisions.

All in all, the existing system of copyright limitations presents users of copyrighted works with a bewildering array of detailed rules and regulations, many of which were devised in a pre-electronic era. Moreover, the existing set of exemptions is mostly media-specific, making it difficult for distributors of multi-media products to fully benefit from an existing copyright exemption.

The Berne Convention expressly limits the scope of any statutory limitations of the reproduction right. According to Article 9 (2) BC

"[i]t shall be a matter for legislation in the countries of the Union to permit the reproduction of such [literary and artistic] works in certain special cases, provided that such reproduction does not conflict with a normal exploitation of the work and does not unreasonably prejudice the legitimate interests of the author".

Not surprisingly, Article 9 (2) of the Berne Convention is regularly invoked by publishers and other copyright owners in arguing against the extension of existing copyright limitations to (electronic) document delivery.

Document delivery: infringement or permitted use?

How then should we qualify (electronic) document delivery without the authorization of copyright owners? Is it copyright infringement or permitted use? In view of the existing differences in national copyright regimes, no general answer to this question is possible. In the context of this background document no attempt shall be made to discuss this question on a country-by-country basis. The

following general analysis of relevant acts, therefore, is of only limited value.

* **Archival copy**

The production of archival copies, either in paper or electronic form, is an act of reproduction. In many countries archival copying will be permitted either as "private use", as "fair dealing", as an act exempted under library privileges or as a specific exemption.

* **Hard-copy on demand**

The production of paper copies on demand clearly constitutes an act of reproduction. Copying at the order of individual users may be authorised under a variety of statutory exemptions: private use, library privileges, or reprography exemptions. In some cases unauthorised copying on demand may require some form of equitable remuneration (statutory license). Some copyright laws treat texts differently from other types of works, such as sound and images. Reproducing sound and images on demand may not qualify as (licensed) copying for private use.

* **Hard-copy not on demand**

Except for copying for strictly in-house purposes and for classroom education, the production or distribution of hard-copies not ordered by individual users will normally not be permitted.

* **Electronic storage to produce hard-copy or deliver electronically**

Even though copyright laws do not mention "electro-copying" as a separate restricted act, the electronic storage (scanning) of copyright-protected documents undoubtedly amounts to an act of reproduction. Perhaps it may be argued that the **temporary** storage of a work in a computer memory does not qualify as an act of reproduction. This view, however, is not shared by the Council of the European Communities. Both in the Software

Directive and the proposed Database Directive temporary storage is considered a restricted act.

Publishers and libraries take opposing views as to the applicability of reprography exemptions to "electro-copying". According to publishers, these exemptions must be narrowly construed and, therefore, limited to photo-copying. Libraries tend to take a broader view: the scope of these exemptions should not be decided by merely technical criteria.

The debate over the copyright status of "electro-copying" is complicated by (strategic) discussions concerning the legal mandate of Reproduction Rights Organisations (RRO's), collecting societies established by rightholders to collect photo-copying royalties and levies. Publishers are, at present, undecided as to whether RRO's should play a role in licensing electro-copying.

* **Electronic transmission of documents**

The transmission of electronically stored documents over networks may, in itself, qualify as a restricted act (communication to the public, public performance, broadcasting, cable transmission). In most countries no specific exemption will apply.

* **User-produced hard-copy**

Users may wish to print (on their own peripheral equipment) documents delivered electronically. Again, this constitutes an act of reproduction, which in many cases will be permitted applying private use or fair dealing exemptions.

* **Screen display**

Displaying an electronically delivered document on a user terminal will

normally not amount to a restricted act. Although the process may involve temporary storage in a computer memory, screen display as such is not a "reproduction". Neither is the act of viewing a restricted act. Only in exceptional cases will screen display be regarded as a "communication to the public", i.e. when a plurality of users look at a single screen. The novel "display right" which is introduced in the proposed Database Directive (Article 6 e of the amended proposal) applies only to "any communication, display or performance of the database **to the public**".

2.4 Moral rights

According to Article 6 bis (1) of the Berne Convention:

"Independently of the author's economic rights, and even after the transfer of these said rights, the author shall have the right to claim authorship of the work and to object to any distortion, mutilation or other modification of, or other derogatory action in relation to, the said work, which would be prejudicial to his honor or reputation."

Moral rights are granted expressly to the **author** of the work, not to the copyright owner (publisher or other third party). Moral rights may, therefore, not be exercised by publishers, except on behalf of authors represented by the publisher.

It goes without saying that the digitisation of copyrighted works bears the risk of infringing author's moral rights. This is especially true for delivery services using OCR technology, enabling full text processing of documents.

Moreover, publishers of scientific journals have (justified) fears of losing quality control over published articles. To protect themselves, publishers are calling for a moral right of their own: a "droit d'authenticité".

2.5 Ownership

As a rule the author (creator) of a copyrighted work becomes the owner of the copyrights. In some countries copyright ownership is attributed directly to the **employer** of the author. In the case of works produced by university or laboratory staff the copyright owner may therefore be the same legal person as the DDS provider.

Authors are free to transfer their exploitation rights to publishers or other parties. Especially in the field of STM publishing, copyright transfers are general practice. In other fields of science and literature authors prefer not to transfer their copyrights, but to **license** them.

2.6 European competition law

The free exercise of intellectual property rights is limited by various provisions of the EEC Treaty, notably Articles 30, 59 and 86. Of special relevance in this context are the judgments of the Court of First Instance in re Magill (of 10 July 1991), regarding works of information. The judgments were triggered by the Commission's decision to impose compulsory licenses on the copyright owners of the programme listings concerning BBC, ITP and RTE (Irish) television broadcasts.

According to the Court, the broadcasting corporations had exercised their copyrights with the aim of preventing the introduction on the market of a new product (i.e. a "comprehensive" TV guide). This conduct was considered inconsistent with the "essential function of copyright". Since the refusal to grant licenses to Magill clearly affected the consumer market, the conduct of BBC, ITP and RTE amounted to an abuse of a dominant position in the sense of article 86 of the Treaty. The decision of the European Commission was therefore upheld.

If upheld in second instance, the Magill judgments may have far-reaching

consequences for various segments of the information industry, possibly including DDS. Owners of copyrights in information which cannot be obtained from any second source may be subjected to non-voluntary licensing.

The Magill doctrine is reflected in Article 11 § 1 of the proposed Database Directive (amended proposal). According to this provision

"if the works or materials contained in a database which is made publicly available cannot be independently created, collected or obtained from any other source, the right to extract and re-utilise, in whole or substantial part, works or materials from that database for commercial purposes that are not for reasons such as economy of time, effort or financial investment, shall be licensed on fair and non-discriminatory terms."

CHAPTER 3: PRACTICAL LEGAL PROBLEMS PERCEIVED BY DDS PROVIDERS

3.1 Introduction

The following inventory of practical legal problems in delivery services is based on a number of interviews, both oral and written, carried out in October 1993, with service providers selected from the Libraries Projects in France, Germany, United Kingdom and the Netherlands. The service providers that were interviewed were selected to represent the three main fields of electronic information delivery, i.e. text, sound and images. They represented both the technical sciences and the arts. The selected projects include so-called facilitators as well as actual deliverers.

Interviews were held with:

- * Mr L. Costers, PICA, The Netherlands, participating in EDIL
- * Mr C. Jewitt, National Sound Archive, United Kingdom, participating in JUKEBOX
- * Mr R.J. Zwart, University of Technology Delft Library, The Netherlands, participating in EURILIA
- * Ms C. Lupovici, Jouve Systemes d'information, France, participating in ELSA
- * Mr J. van der Starre, RKD, The Netherlands, participating in VAN EYCK
- * Dr A. Post, Beilstein-Institut, Germany, participating in FASTDOC

Due to the fact that many delivery services are still in a preparatory or pilot phase, the interviews dealt with both the expected and possible consequences and problems of the projects, as foreseen by the people interviewed, and the practices and problems of the current, partly non-electronic, delivery services that have been in operation during the last few years.

3.2 Current practice

Materials used

In most cases examined texts and images used by delivery services are acquired in paper form. Sound is collected in a variety of ways, including off-air recording, vinyl LP, audio cassette and tape.

DDS providers usually have ordinary paid for single-copy subscriptions to the periodicals involved. Persons interviewed insist that the publishers concerned are fully aware of the use that will be made of their periodicals.

Bibliographical information used by DDS providers is usually compiled and digitized by the deliverers themselves. In some cases this is done by third parties, such as specialised subscription agents. Many of these companies produce digitized contents and summaries of the periodicals they distribute.

Storage

The original documents are usually stored in their original hard-copy form. Because user demand for the same article in a given period of time is limited, articles are normally not digitized prior to the actual request. In many cases digitized articles are not permanently stored in electronic form after delivery.

The contents and title information compiled by or for the service provider is usually stored digitally in databases.

Delivery

DDS providers interviewed use a variety of technical means in copying and delivering documents. Photocopies are sent by mail or fax, digitized copies are dispatched through networks or by electronic mail.

3.3 Practical legal problems

Awareness

There is a general awareness among information providers that their service may in some way be restricted or regulated by copyright. This awareness varies with the type of information delivered. Providers of sound, for instance, are very much aware of the grave restrictions most copyright laws put on any dissemination that may lead to copying. Providers of written information seem to be less aware of any imminent copyright restrictions.

Lack of knowledge

In most cases, however, service providers lack knowledge of the precise rules that may apply to their services. Different copyright rules that may affect the input, storage or output of information seem to be unknown to many deliverers.

Publishers hesitate

On the other hand, publishers are perceived to be quite hesitant towards DDS providers. Few publishers take actual steps against or make any practical offers towards deliverers. This hesitant behaviour, of course, does not help to increase awareness.

Lack of clarity of existing rules

Much of the ignorance and hesitation is explained by a perceived lack of clarity of national copyright rules. General fair dealing or private use provisions in copyright laws give no clear indication of their applicability to document delivery, let alone to electronic (document) delivery. The scope of many specific library exemptions is generally unknown.

Different rules for different categories of information

Another major obstacle seems to be a perceived inconsistency of relevant copyright rules. Statutory exemptions are sometimes different for different categories of information. In many countries, text-copying exemptions are broader than similar exemptions for the copying of sound. These differences are not always understood and sometimes perceived as outdated. They pose problems to many service providers, especially in the field of multi-media.

No control on further use

Whereas most copyright limitations that may apply to document delivery explicitly require "private use" of some kind, there seems to be virtually no control on actual further use by users. Many DDS providers do stipulate in general terms that the information delivered is only for private use. However, they all admit there is no way to monitor, let alone to enforce such a restriction.

Little actual re-exploitation

Even so, most service providers have reason to believe that most users are actually end users. Most information is delivered to individual researchers who lack the incentive to re-utilize or re-exploit the documents received. Few researchers need the same article twice. Moreover, DDS pricing is not considered prohibitive for ordering additional copies.

No contractual arrangements due to number of parties

DDS operations not initiated or controlled by publishers are generally not subjected to contractual arrangements regulating copyright related aspects. This can only partly be explained by a perceived lack of clarity of copyright regulations or by the hesitant behaviour on the part of the publishers. DDS providers argue that the large number of potential parties involved would make it impossible to contract with all parties individually. Service providers see little use in contracting with just a few rightholders.

The outsider problem

Even if it were possible for DDS providers to conclude agreements with a large collective of publishers, some persons interviewed would still advise against this. Because of the large number of parties involved there is always the problem of "outsiders": rightholders not covered by a collective agreement. Service providers want to be sure not to be confronted with surprise claims from outsiders after concluding a collective agreement. Moreover, providers are afraid contractual agreements may set an unwelcome precedent vis-à-vis publishers not included in the agreement.

Cumulation of rights

Apart from the large number of rightholders involved (authors, publishers, producers), service providers are worried about the increasing cumulation of rights in the information they deliver. This problem is especially acute in the area of sound and images. Here, a single information product may be protected simultaneously by copyright (in the original work) and by various neighbouring rights (e.g. rights of performing artists, phonogramme producers, broadcasting organisations, photographers, etc.). With respect to images, additional claims may be derived from property rights in the original "document". Cumulation of rights is most of all apparent - and problematic - in multi-media products.

Identifying rightholders

In addition, service providers experience difficulties in identifying rightholders. In many cases copyrights in scientific works are not owned by publishers, but by the authors themselves. This identification problem seems to be a further factor in discouraging service providers from initiating negotiations with rightholders.

International regulation

Whereas many DDS providers recognise the need for regulation, they do not have actual solutions, partly because they don't fully understand the problem. However,

all persons interviewed agree that copyright regulation of electronic delivery services on a country-by-country basis would be quite useless. Digitally transmitted information does not stop at national borders. Diverging national regimes might easily lead to the establishment of DDS operations from "copyright havens", where rightholders are not protected. Service providers, therefore, believe it is crucial to harmonize regulations, at least on a European level.

Registration

Many DDS providers see no obstacle in recording quite accurately what is delivered, to whom and in what quantity. Consequently, it would seem to be practically possible to restrict delivery to specific users and to limit usage to a certain volume of information in a certain period of time.

Hardware

Many persons interviewed are sceptical about the practicalities of (mandatory) anti-copying hardware, encryption devices or "tagging".

CHAPTER 4:POINTS FOR DISCUSSION

No attempt will be made in this paper to propose clear-cut solutions to the many-fold, highly complicated copyright and practical questions involved in DDS. Merely for discussion purposes the following inventory of possible options and solutions is presented. These options are divided into three different categories: legislative measures, contractual solutions and technical solutions.

4.1 Legislative measures

*** Harmonisation**

Differences in national copyright regulation clearly call for harmonisation on a European level. Harmonisation can provide legal security and prevent the establishment of "copyright havens". Ideally, a harmonizing directive should not be limited to defining copyright exemptions. The different levels of protection of bibliographical information equally call for harmonization.

*** Statutory licenses**

Electronic document delivery might be included by national or European legislators in existing or newly created statutory licenses. To achieve this, a concerted lobbying effort will be necessary. Such a lobby will be successful only if libraries and other DDS providers are able to credibly establish the public interest served by such exemptions. As stated in paragraph 1.3, a clear picture of the public service role of DDS providers must be presented. Attempts to carve out statutory exemptions for DDS providers offering (quasi-)commercial services in direct competition with publishers and other vendors, are not very likely to succeed.

*** Collective administration of rights**

Legislative measures aimed at creating a framework for the collective

administration of electronic rights may solve a number of legal and practical DDS-related problems. The recently adopted Council Directive on satellite broadcasting and cable transmission (Council Directive 93/83/EEC of 27 September 1993) provides an interesting example. According to this directive, individual right owners may no longer exercise their exclusive rights individually. According to Article 9 (1)

"Member States shall insure that the right of copyright owners and holders of related rights to grant or refuse authorization to a cable operator for a cable retransmission may be exercised only by a collecting society."

A legislative measure of this kind (possibly on an European level) might solve the "outsider problem", perceived by many DDS providers, and facilitate contractual solutions.

4.2 Contractual solutions

Contractual solutions are possible on different levels:

*** Direct licensing**

DDS providers may negotiate copyright licenses directly with individual publishers. For DDS providers direct licensing is a viable option only if a publisher represents a large number of journal titles. The transaction costs of a myriad of individual licenses with one-title publishers are probably prohibitive.

Experiments with direct licensing of electronic delivery services are, at present, conducted at different venues. Software licenses provide an interesting reference point. The success of so-called site-licenses or

campus-licenses merits serious consideration. However, from the service provider's perspective this type of licensing arrangement has the disadvantage that no unlimited delivery to third parties will be permitted. Licenses will probably be limited to well-defined closed user groups.

DDS providers must reckon with license provisions requiring service providers to provide publishers with detailed user feed back data. Such a requirement may be in conflict with existing data protection laws.

* **Collective licensing**

At present, blanket licensing by collecting societies representing copyright owners is problematic. As discussed above, RRO's are not authorised by STM publishers to represent electronic rights. If RRO's would eventually be mandated, a system of blanket licensing might be an attractive solution for DDS providers. Such a solution becomes especially attractive if the outsider problem would be eliminated by some sort of statutory back-up mechanism, as discussed above.

Alternatively, publishers or RRO's might set up collective "clearance centres", enabling DDS providers to easily obtain individual licenses from a plurality of right holders.

4.3 Technical solutions

"The answer to the machine is in the machine" (Charles Clark). STM publishers are promoting technical solutions to the copyright problems posed by "electro-copying". Electronic Copyright Management Systems (ECMS), as developed in the CITED project, combine "pay-as-you-go" facilities for users (equipped with "smart" debit cards) with encryption devices to prevent unauthorised use. Mandatory instalment of encryption devices in information

hardware could make ECMS a perfect system of information protection. Whether or not libraries and other publisher-independent DDS providers fit into this technical equation, remains to be seen.

4.4 Further study

Many of the copyright issues identified in this document merit further study. As a first step of any "concerted action" on the European level, a comparative study of national copyright rules relating to (electronic) document delivery might be undertaken. The results of such a study could provide important clues as to the scope, the content and the practicability of a "European" solution.

Amsterdam, 17 November 1993