



## DIPPER

### Digital Intellectual Property Practice Economic Report

Legal Report (Final)

by

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## ***COPYRIGHT ASPECTS OF CACHING***

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### 3 INTRODUCTION

Surprisingly, the well-established practice of 'caching' has become a controversial copyright issue in Europe only recently. The current discussion focuses on Article 5(1) of the proposed Copyright Directive (CD), as amended by the European Commission on 21 May 1999.<sup>1</sup> The provision exempts from the right owners' reproduction right "temporary acts of reproduction such as transient and incidental acts of reproduction which are an integral and essential part of a technological process, including those which facilitate effective functioning of transmission systems, whose sole purpose is to enable use to be made of a work or other subject matter, and which have no independent economic significance." As amended the provision would apparently allow (economically "insignificant") forms of caching without the right owners' consent. Earlier versions, notably the provision adopted by the European Parliament in first reading on 10 February 1999, suggested otherwise, thereby causing concern among Internet access providers and other intermediaries.<sup>2</sup>

The present study, part of the interdisciplinary DIPPER project, looks at the copyright aspects of caching. As the DIPPER Technical Report has clarified, caching may occur at two or more distinct levels of the networked communication process:

- Proxy (web) caching (also called 'system caching' or 'server caching'), i.e. the temporary storage of previously delivered web pages by or under control of an access provider or LAN operator. Typically, a document will remain in the proxy cache for several hours, a day or possibly even longer. Note that the definition of proxy caching used in this report includes 'LAN caching' which is treated as a separate category in the Technical Report. Since the copyright problems raised by

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<sup>1</sup> European Commission, Amended proposal for a European Parliament and Council Directive on the harmonisation of certain aspects of copyright and related rights in the Information Society, Brussels, 21 May 1999, COM (1999)250 final.

<sup>2</sup> See, e.g. 'Copyright Directive. Position of AOL Bertelsmann Online', memo, 10 November 1998; cf. statement by Don Heath, President and CEO, Internet Society, 1 March 1999: "The Internet does not need laws that slow its performance, clog its arteries, and reduce value received."

the latter are largely the same, for the purposes of the present study a broader notion of proxy caching is preferred.

- Client caching, i.e. the temporary storage of previously loaded or downloaded documents by or under control of the end-user, triggered by the user's browser software. Depending on the user's preferences and usage patterns, a document will remain cached for hours, days, weeks or even months.

Note that caching is not a clearly defined legal or technical notion. In some cases 'pure' caching functions will be combined with editorial, archiving or other (related) activities.<sup>3</sup> Unless otherwise indicated, in this study references to 'caching' will refer to proxy caching, the activity that is central to the DIPPER study.

Three somewhat related practices are not discussed:

- Store-and-forward transmission (sometimes called 'transmission caching'), i.e. the process of intermediate storage of digital packets sent over computer networks as the packets are being transmitted from node to node. Copies of the packets are very briefly stored (typically for a few milliseconds) until the destination node confirms reception of the packet. Store-and-forward transmission would have copyright implications only in exceptional cases, since copies are fleeting and copied digital packets are generally far too small to qualify even as partial reproductions.<sup>4</sup>
- Mirroring, i.e. the complete reproduction of an entire web site. Mirror sites are normally established to reduce congestion of popular sites. Unquestionably, this practice requires the authorisation of the owner of the 'mirrored' web site and possible other right holders; in practice, most mirror sites are indeed licensed.
- Archiving, i.e. the complete or partial reproduction of a web site for archival purposes. Archiving will be permitted without authorisation only if applicable national copyright law provides for an exemption for archival purposes or if a general 'fair use' type exemption would apply.

The copyright aspects of caching will be discussed primarily from the perspective of international and European copyright law. Thus, the present report will focus on the WIPO Copyright Treaty of 1996 and the European Copyright Directive, which is still in the making. Wherever relevant, the

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<sup>3</sup> I. Trotter Hardy, 'Computer RAM "Copies": a Hit or a Myth? Historical Perspectives on Caching as a Microcosm of Current Copyright Concerns', 22 *Dayton L.Rev.* 423 at 447 ff.

<sup>4</sup> Stefan Bechtold, 'Der Schutz des Anbieters von Information. Urheberrecht und Gewerblicher Rechtsschutz im Internet', [1997] *ZUM* 427-450.

copyright analysis will be supplemented with discussions of national law and precedent, both from Europe and the United States. Neighbouring rights (e.g. in performances, sound recordings or broadcast programs) are not separately discussed. Since the rights protected under neighbouring rights regimes are similar to copyright rights, the analysis and conclusions of this report may be applied *mutatis mutandis*.

The structure of this report is as follows. First, Chapter 2 will provide an analysis of the copyright aspects of caching under current and emerging law. The related question of Internet (access) provider liability in respect of proxy caching will subsequently be discussed in Chapter 3. Finally, a number of alternative legal solutions will be examined in Chapter 4.

This report was written by Bernt Hugenholtz, Professor of Copyright Law at the Institute for Information Law (IViR) of the University of Amsterdam, with the assistance of Kamiel Koelman, research fellow at IViR, who drafted most of Chapter 3. The author is grateful for comments and suggestions received from the participants to the DIPPER Conference which took place in Oslo on 27-28 August 1999.

## COPYRIGHT ANALYSIS

### 3.5 Introduction: the objectives of copyright

Even without engaging into an in-depth analysis of copyright it is clear that both proxy and client caching are ‘hard cases’ situated somewhere across the borderline of copyright protected and exempted uses. In order to facilitate the interpretative analysis which is the centrepiece of this study, it appears useful to first briefly describe the various rationales underlying the copyright regime.

*The raison-d'être of copyright is far less rational than observers from the technical or exact sciences might wish. Unlike the law of the United States, where utilitarian considerations of industry and information policy are directly reflected in the Constitution, continental-European 'author's rights' are based primarily on Lockean notions of natural justice. "Author's rights are not created by law but always existed in the legal consciousness of man".<sup>5</sup> In the pure droit d'auteur philosophy, copyright is an essentially unrestricted natural right reflecting the 'sacred' bond between the author and his personal creation.<sup>6</sup>*

Of course, even in continental Europe other, somewhat more rational rationales underlying the copyright equation are recognised as well.<sup>7</sup> Below three of these arguments are briefly introduced; needless to say, other arguments are sometimes advanced as well, both pro and contra. Note that most of the arguments presented here support, or take as a given, that copyright is not an unlimited right, but serves its goals best if both its subject matter and its scope are tailored to the specific needs of society.

#### **Market failure argument**

An argument frequently encountered in ‘law and economics’ literature is that copyright serves as a cure to market failure. Since the subject matter of copyright (the ‘work of authorship’) is information, which can be reproduced and distributed at near-zero cost, absent copyright protection all information would be a public good. Without some form of exclusivity which enables the trade (e.g. by granting licenses) in information goods, the incentive to produce these goods might be insufficient. The ‘market failure’ rationale favours the establishment of (exclusive, tradable) property rights in information much in the same way as property rights were once created in land or other tangible objects. Conversely, economic arguments might also justify curtailing the scope of the

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<sup>5</sup> Ploman/Clark Hamilton, p. 13; F.W. Grosheide, *Auteursrecht op maat*, Deventer: Kluwer 1986, p. 130.

<sup>6</sup> F.W. Grosheide, ‘Paradigms in Copyright Law’, in: B. Sherman and A. Strowel, *Of Authors and Origins. Essays on Copyright Law*, Oxford: Clarendon Press 1994, p. 207.

<sup>7</sup> Grosheide, *supra* (note 5), p. 129-143.

exclusive right, e.g. if the transaction costs incurred by acquiring a large number licenses in pre-existing works would unduly stifle the production of new works incorporating (parts of) old works.

### *Dissemination of ideas*

From a more idealistic perspective copyright serves as the vehicle of disseminating 'ideas' (in the broadest sense of the word) – as the 'engine of free expression'. Together, the 'market failure' argument and the idealistic rationale are reflected in the U.S. Constitution's oft-quoted Copyright Clause (Article 1 Section 8): "[t]o promote the progress of science and useful arts, by securing for limited times to authors and inventors the exclusive right to their respective writings and discoveries."

By focussing on the freedom of expression and information as copyright's principal goal, the idealistic rationale favours an exclusive right of limited breadth and scope. Again, the right would be counter-productive if over-breadth of protection would stifle (new) speech or unduly inhibit the free and unfettered distribution, imparting or reception of information (as protected, e.g., by Article 10 of the European Convention on Human Rights).

### Protection of culture

*The 'cultural' rationale is different from the preceding arguments in that it aims primarily at protecting and enhancing the cultural heritage of a nation or state. Here, protecting authors and their works is a function of protecting national culture at large. By granting exclusive rights, creators are – again – inspired to create and thereby contribute to the common heritage. Moral rights, moreover, serve an important function in protecting works of art against mutilation and other forms of degradation. Again, overprotection would run counter to the goal of protecting and promoting culture. Unlimited rights in existing works would prevent the creation of new works that, by necessity, would build upon pre-existing culture.*

### Industrial policy

*Increasingly, copyright is seen as an instrument of industrial policy - a political tool to stimulate the growth of a rapidly emerging information industry. Although the industrial policy argument is often advanced merely to promote the interests of right holders, it is in fact neutral in its orientation. Ideally, an industry policy aimed at fostering a prosperous information industry would duly take into account the interests of all 'players' that keep the industry alive: creators, distributors, vendors, intermediaries and consumers alike. Also, it is often overlooked that information producers are often information users at the very same time.*

### 3.6 International framework: Berne Convention and WIPO Copyright Treaty

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<sup>8</sup> 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, some of which may be relevant to caching.

The Berne Convention serves as the world-wide framework of international copyright protection. The Convention protects foreign nationals of a convention state according to the principle of national treatment. In addition, the Berne Convention sets certain minimum standards of copyright protection which may be invoked by foreign nationals directly before the courts. Formally, the Convention deals only with international situations; however, since countries party to the Convention will not wish to discriminate against national authors, national levels of copyright protection will inevitably comply with Berne Convention minimum standards.

At present, some 140 states have ratified the Berne Convention, an increase in membership of over 100% in the last 20 years. The Convention's spectacular success is due in large part to the TRIPs Treaty which was concluded in the framework of the General Agreement on Tariffs and Trade (GATT) in 1995. Pursuant to Article 9 of the Agreement, Member States must comply with the provisions of the Berne Convention (except for the moral rights clause of Article 6bis BC), on penalty of being subjected to the international trade sanctions which are a prominent and powerful feature of GATT.

During the WIPO Diplomatic Conference that was held in Geneva in December 1996, the Berne Convention was supplemented by a treaty that deals specifically with certain 'digital' issues, the *WIPO Copyright Treaty (WCT)*.<sup>9</sup> The Treaty will enter into force upon ratification by thirty states. It is expected all European Union Member States, as well as the European Community, will do so in the years to come, following the adoption and subsequent implementation of the Copyright Directive discussed below (§ 2.3 et seq.).

#### *Reproduction right*

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<sup>8</sup> In stead of the term 'exploitation rights' other, more or less identical terms are also in use: 'economic rights', 'pecuniary rights', etc.

<sup>9</sup> WIPO Copyright Treaty, adopted by the Diplomatic Conference on December 20, 1996. A similar treaty dealing with neighbouring rights, the WIPO Performances and Phonograms Treaty, was adopted on the same day. The official texts are available, in English, French and Spanish, on the WIPO web site on the Internet, <http://www.wipo.int>

The set of exploitation rights guaranteed under the Berne Convention is surprisingly limited. The most important right by far is the right of reproduction of Article 9 (1) BC:

“Authors of literary and artistic works protected by this Convention shall have the exclusive right of authorizing the reproduction of these works, in any manner or form.”

According to the WIPO Guide to the Berne Convention the words “in any manner or form” encompass all methods of reproduction: “design, engraving, lithography, offset and all other printing processes, typewriting, photocopying, xerox, mechanical or magnetic recording (discs, cassettes, magnetic tape, films, microfilms, etc.), and all other processes known or yet to be discovered.”<sup>10</sup>

There is general agreement that the storage of a protected work in a digital medium amounts to ‘reproduction’ within the meaning of article 9 (1) BC. The words “in any manner or form” are clearly meant to cover all methods of reproduction, including storage in electronic digital form. Clearly, there is reproduction whenever protected works stored in digital form are uploaded or downloaded to or from a host computer or server. Whether this is also true for acts of temporary copying inherent to the technique of caching will be discussed elsewhere in this report.

The reproduction right may be limited “in certain special cases” in accordance with Article 9 (2) BC:

“It shall be a matter for legislation in the countries of the Union to permit the reproduction of such 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.”

The interpretation of Article 9 (2) - the so-called *three-step test* - is important in determining the scope of the limitations of the reproduction right under national law. Even if Article 9 (2) was adopted unanimously at the Stockholm conference that led to its introduction, there is considerable dispute over its precise meaning. The wording “in certain special cases” seems to indicate that limitations may only be introduced in exceptional cases. However, Article 9 (2) in fact gives Union countries broad latitude; it is understood to permit all exemptions that existed at the time of the Stockholm Conference in 1967.

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<sup>10</sup> Guide to the Berne Convention for the Protection of Literary and Artistic Works (Paris Act, 1971), Geneva: WIPO 1978, p. 54.



The minutes of the conference give little guidance as to what constitutes the 'normal exploitation' of a work. According to Ricketson, author of the authoritative treatise on the Berne Convention<sup>11</sup> "common sense would indicate that the expression 'normal exploitation' of a work refers simply to the ways in which an author might reasonably be expected to exploit his work in the normal course of events. Accordingly, there will be certain kinds of use which do not form part of his normal mode of exploiting his work - that is, uses for which he would not ordinarily expect to receive a fee - even though they fall strictly within the scope of his reproduction right".

The third condition is that the reproduction "not unreasonably prejudice the legitimate interests of the author". This condition only comes into play if there is no conflict with 'normal exploitation'. 'Unreasonable prejudice' may be avoided by the payment of remuneration under a compulsory or statutory licence.

### ***Right of communication to the public***

Surprisingly, the Berne Convention does *not* provide for a general right of distribution or right of communication to the public. The right of public performance of Article 11 BC is applicable only to dramatic, dramatical-musical and musical works. The broadcasting right of Article 11bis BC concerns either primary over-the-air broadcasting or secondary wireless or cable distribution. Article 11ter BC refers to 'recitations'; Article 14 (1) (ii) BC to cinematographic adaptations. Arguably, none of these specific rights are directly relevant to the copyright problems of caching discussed in this report.

Only since the adoption of the World Copyright Treaty (WCT) in December 1996 has the right of communication to the public found recognition on a global scale. Pursuant to Article 8 WCT "authors of literary and artistic works shall enjoy the exclusive right of authorizing any communication to the public of their works, by wire or wireless means, including the making available to the public of their works in such a way that members of the public may access these works from a place and at a time individually chosen by them."

Article 10 (1) WCT allows the contracting parties to provide for limitations to the right of communication to the public, or the other rights granted under the Treaty, subject to the three-step test. Similarly, Article 10 (2) WCT extends the scope of Article 9 (2) BC to all rights granted under the Berne Convention.

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<sup>11</sup> S. Ricketson, *The Berne Convention for the protection of literary and artistic works: 1886-1986*, Deventer: Kluwer, 1987.

### *Moral rights*

In addition to the catalogue of economic rights, the Berne Convention provides for a set of moral rights that protect the personality interests of the author (not: the right holder) of the work.

Pursuant to Article 6bis BC the moral right includes:

- the right to claim authorship of the work (*droit de paternité*); and
- the right to object to any distortion or mutilation of the work that might affect the author's honour or reputation (*droit au respect*).

The catalogue of moral rights granted under national law may also include a right of first publication (*droit de divulgation*) and a right to amend or withdraw the work (*droit de repentir*). Neither of these moral rights are presently codified in the Berne Convention. The WIPO Copyright Treaty is silent on the protection of moral rights. However, Article 12 WCT does bear a relationship to the *droit de paternité* in that it prohibits the unauthorised removal or alteration of electronic rights management information.<sup>12</sup> Article 7 of the proposed Copyright Directive contains a similar provision.

### 3.5 European Copyright Law

Since the early 1990's the legislative bodies of the European Union have adopted a handful of directives on copyright and related (neighbouring) rights, some of which are particularly relevant to the copyright status of caching. The declared purpose of these directives is to harmonise the level of copyright (and neighbouring rights) protection for all the countries of the European Union – including, by implication, the non-EU countries within the European Economic Area (Norway, Iceland and Liechtenstein). Typically, all Directives adopted until this day provide for strong, broadly worded exclusive rights, reflecting the European Commission's apparent desire to achieve a high level of copyright protection for the entire Union.<sup>13</sup> The Directives are silent on the issue of moral rights.

#### *Software Directive*

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<sup>12</sup> See Institute for Information Law (A. de Kroon), 'Protection of Rights Management Information', December 1998, available at <http://www.imprimatur.net/legal.htm>.

<sup>13</sup> Directives are binding upon the Member States as to their ends, not their wording. States must comply by transforming the provisions of a directive into national law ('implementation'). Since all countries of the European Union have adhered to the Berne Convention, copyright directives will inevitably observe Berne minimum standards. Moreover, the European Communities have indicated their desire to accede to the 1996 WIPO Conventions, thereby underlining the willingness of the organs of the Union to respect Berne Convention standards.

The Software Directive<sup>14</sup> is particularly relevant in that it provides, for the first time on a European level, for a broad right of reproduction. According to Article 4(a) of the Directive, the protected acts include:

“the permanent or temporary reproduction of a computer program by any means and in any form, in part or in whole. In so far as the loading, displaying, running, transmission or storage of the computer program necessitates such reproduction, such acts shall be subject to authorization of the right owner.”

#### *Database Directive*

According to Article 6 of the Database Directive<sup>15</sup>, in respect of databases the following acts shall be exclusively protected:

- a) the temporary or permanent reproduction of the database by any means and in any form, in whole or in part;
- b) the translation, adaptation, arrangement and any other alteration of the database;
- c) the reproduction of the results of any of the acts listed in (a) or (b);
- d) any form of distribution to the public, including the rental, of the database or of copies thereof [...];
- e) any communication, display or performance of the database to the public.”

In keeping with the so-called *acquis communautaire* achieved by the Software and Database Directives, the proposed Copyright Directive provides for three independent, broadly formulated exclusive rights: right of reproduction, right of distribution and right of communication to the public. In addition, the proposal aims at harmonising copyright limitations (‘exceptions’) existing under national laws by drawing up an exhaustive list of permitted limitations, subject to the three-step test.

## 2.4 Caching and the Right of Reproduction

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<sup>14</sup> Council Directive 91/250 on the legal protection of computer programmes, Official Journal No. L 122 of 17 May 1991, 42.

<sup>15</sup> Directive 96/9/EC of the European Parliament and of the Council of 11 March 1996 on the legal protection of databases, Official Journal of 27 March 1996, No. L 77, 20.

### 2.4.1 Introduction

The right of reproduction (or reproduction right) is considered by many, including the European Commission<sup>16</sup>, to be the 'core of copyright'. However, this view is no longer shared by everyone. According to some, in the digital networked environment copies are no more than haphazard manifestations of works being transmitted in immaterial form over wired or wireless channels.<sup>17</sup> Indeed, equating copyright with the exclusive right to reproduce a work is oversimplifying matters. Copyright deals with (and protects) the *communication* of the work; reproducing it may or not be instrumental to that end.<sup>18</sup>

But even if considered 'the core of copyright', it is important to realise that 'reproduction' in copyright law is not a technical concept, but primarily a legal notion. As the Legal Advisory Board of the European Commission has stated in its Reply to the Green Paper on Copyright in the Information Society:

"The notions of 'reproduction' and 'communication to the public' are only fully understood if they are interpreted not as technical, but as normative (man-made) notions, i.e. they are not in a simple sense descriptive but purpose-oriented and used to define and delimit existing proprietary rights in a sensible and acceptable way. Thus, if the use of a protected work transmitted over a computer network causes (parts of the work) to be intermediately stored, this technical fact does not, in itself, justify the conclusion that an exclusive reproduction right is potentially infringed."<sup>19</sup>

Stated otherwise, in interpreting the reproduction right, or any of the other economic rights copyright owners may enjoy, the objectives of copyright (*supra*, § 2.1) must be taken into account. Even if the purpose of copyright would be merely to enable the copyright owner to benefit from the market potential of his work, then the reproduction right should be instrumental in achieving that goal – no more, no less. Thus, as Professor Lehmann has observed, the interpretation of the reproduction right should not be made dependent upon technical coincidence.<sup>20</sup>

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<sup>16</sup> Commission of the European Communities, *Green Paper. Copyright and Related Rights in the Information Society*, Brussels, 19 July 1995, COM (95) 382 final, p. 49.

<sup>17</sup> Egbert J. Dommering, 'Copyright being washed away through the electronic sieve', in: P. Bernt Hugenholtz (ed.), *The Future of Copyright in a Digital Environment*, The Hague: Kluwer Law International 1996, p. 7; D.J.G. Visser, *Auteursrecht op toegang*, The Hague: VUGA 1997, *passim*; *contra* Jaap H. Spoor, 'The copyright approach towards copying on the Internet: (over)stretching the reproduction right?', in: P. Bernt Hugenholtz (ed.), *The Future of Copyright in a Digital Environment*, The Hague: Kluwer Law International 1996, p. 79.

<sup>18</sup> J.H. Spoor, *Scripta manent*, Groningen: H.D. Tjeenk Willink 1976, p. 137-138.

<sup>19</sup> Legal Advisory Board, 'Reply to the Green Paper on Copyright in the Information Society', Brussels 1995, available at <http://www2.echo.lu/legal/en/labhome>.

<sup>20</sup> M. Lehmann, p. 12; Visser, p.71.

An even stronger argument for limiting the scope of the reproduction right presents itself if considerations of market efficiency are taken into account. As is discussed in the DIPPER Economic Report, a broad interpretation of the reproduction right to include each-and-every technical copy would probably raise transaction costs incurred in acquiring licenses to inefficiently high levels.

*A fortiori*, if we would take as the principal objective of copyright promoting the dissemination of ideas or access to cultural goods, a 'normatively' interpreted right of reproduction need not encompass all copies in a purely technical sense. Obviously, the dissemination-enabling rationale of copyright does not support a reproduction right that would effectively stifle digital, network-based communication. In sum, interpreting the right of reproduction is a more complex undertaking than simply identifying technical copies.

The normative nature of the reproduction right was recognised, at a very early stage, by Joseph Kohler, the 'godfather' of continental-European copyright law. According to Kohler, technical criteria should not determine the scope of the reproduction right. What is decisive, then, is whether or not a copy of a work *is intended to serve as a means of communicating [the work] to others*.<sup>21</sup> In other words, copyright protects against acts of unauthorised communication, not consumptive usage.<sup>22</sup>

Indeed, the mere reception or consumption of information by end-users has traditionally remained outside the scope of the copyright monopoly.<sup>23</sup> Arguably, the right of privacy and the freedom of reception guaranteed in Articles 8 and 10 of the European Convention on Human Rights would be unduly restricted if the economic right would encompass acts of reception or consumptive usage.<sup>24</sup>

In modern European doctrine and case law Kohler's interpretation of the right of reproduction has gradually been objectified, thereby admittedly becoming somewhat less purpose-oriented, and more geared towards the copy's technical potential. The right of reproduction, then, covers any copy *suitable* for communicative purposes.<sup>25</sup>

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<sup>21</sup> J. Kohler, *Das Autorrecht*, Jena 1880, p. 230, as quoted by J.H. Spoor, *supra* (note 18), p. 11.

<sup>22</sup> Cf. De Boor, [1955] *Juristenzeitung* 749, as quoted by Spoor, *supra* (note 18), p. 113: "Der Rezeptive Genuss ist frei und muss frei sein, wenn nicht das Urheberrecht zu einer unerträglichen Fessel des Geistigen Lebens werden soll."

<sup>23</sup> P.B. Hugenholtz, 'Convergence and Divergence in Intellectual Property Law: The Case of the Software Directive', in: Willem F. Korthals Altes, Egbert J. Dommering, P. Bernt Hugenholtz & Jan J.C. Kabel (eds.), *Information Law towards the 21st Century*, Deventer/Boston: Kluwer Law and Taxation 1992, at 323.

<sup>24</sup> LAB Reply, *supra* (note 19).

<sup>25</sup> Spoor, *supra* (note 18), p. 11 J.H. Spoor, W.R. Cornish and P.F. Nolan, *Copies in copyright*, Alphen aan den Rijn: Sijthoff & Noordhoff 1980, p. 53; cf. Austrian Supreme Court (Oberster Gerichtshof) 26 January 1999, 4 Ob 345/98h.

## 2.4.2 Temporary copies

The issue of temporary copying, which has caused so much confusion and controversy in the context of the WIPO Treaties and the present proposal for a Copyright Directive, is not entirely new to copyright. In the early days of broadcasting the so-called *ephemeral* recording of protected (musical) works for the purpose of broadcasting and subsequent temporary archival was an equally contested issue<sup>26</sup>, which eventually led to a compromise provision in the Brussels Revision (1948) of the Berne Convention (Article 11bis(3) ):

“[...] It shall [...] be a matter for legislation in the countries of the Union to determine the regulations for ephemeral recordings made by a broadcasting organization by means of its own facilities and used for its own broadcasts.”<sup>27</sup>

In accordance with Article 11bis(3) BC many member countries of the Berne Union have enacted statutory licenses or limitations permitting the well-established practice of ephemeral recording in the context of broadcasting. Article 5(2)(d) of the Copyright Directive (amended proposal) similarly allows exceptions permitting acts of reproduction “in respect of ephemeral fixations made by broadcasting organisations by means of their own facilities and for their own broadcasts.” In remarkable contrast to Article 5(1) CD, discussed below, the provision does not require for the reproduction to be “transient and incidental”, nor does the “economic significance” criterion apply.

As to the ‘temporariness’ of the ephemeral recordings allowed under Article 11bis(3), the countries party to the Brussels Revision could not find agreement; the matter was expressly left to be determined by national legislation.<sup>28</sup> According to Ricketson, “[i]n its ordinary meaning, ‘ephemeral’ means ‘transitory’ or ‘passing’, and is used in contrast to ‘durable’ or ‘permanent’. It seems clear from the discussions at the Brussels Conference that this was the distinction that the delegates had

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<sup>26</sup> According to S. Bergström, ‘Problèmes actuels en matière de Radiodiffusion dans le domaine international’, [1959] 25 *RIDA* 148, this provision “raised the most ardent discussion, and its interpretation has made more ink flow than any other rule formulated at the Brussels Conference.”

<sup>27</sup> Article 7 (2) of the Rome Convention contains a similar provision: “If broadcasting was consented to by the performers, it shall be a matter for the domestic law of the Contracting State where protection is claimed to regulate the protection against rebroadcasting, fixation for broadcasting purposes and the reproduction of such fixation for broadcasting purposes.”

<sup>28</sup> Bergström, *supra* (note 26) at 154.

in mind.”<sup>29</sup> Countries that have adopted limitations for ephemeral recordings allow for periods varying from a month to a year.<sup>30</sup>

The status of ‘digital’ temporary copies first became an issue in the early 1970’s, in anticipation of the revision of the United States Copyright Act (USCA). In the years preceding the new law, computer technology was already recognised as a potentially important medium of reproduction. The statutory definition of ‘fixation’ in Section 101 USCA reflects these early discussions:

“A work is ‘fixed’ in a tangible medium of expression when its embodiment in a copy [...] is sufficiently permanent or stable to permit it to be perceived, reproduced, or otherwise communicated for a period of more than transitory duration.”

The definition illustrates that not every incorporation of a work for a brief period of time implicates an act of reproduction the legal sense. The definition excludes such transient copies as the image projected on a television or movie screen.

In the early 1980’s the issue of temporary copying resurfaced, with increasing urgency, with regard to computer programs. Absent patent or copyright protection, software producers and distributors had developed a contractual business model involving the ‘licensing’ (in lieu of outright *sale*) of copies of computer software to end-users. Having become established trade practice, these so-called ‘user licenses’ - reminiscent more of patent than of copyright licenses - eventually became the model for a legislative solution under copyright. Since copyright traditionally leaves acts of end usage unprotected, the reproduction right had to be ‘stretched’ into an exclusive use right. Thus came into being the broad right of reproduction in respect of computer programs, codified *inter alia* in Article 4(a) of the Computer Programs Directive<sup>31</sup>. The right includes:

“the permanent or temporary reproduction of a computer program by any means and in any form, in part or in whole. Insofar as loading, displaying, running, transmission or storage of the computer program necessitates such reproduction, such acts shall be subject to authorization of the rightholder.”

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<sup>29</sup> Ricketson, p. 531.

<sup>30</sup> Ricketson, *ibidem*. Cf. Bolla, *Droit d’Auteur* 1949, p. 32: “L’éphémère est en réalité un insecte qui ne vit que peu de temps, de un à quelques jours. Devenu adjectif, éphémère a pris un sens dépassant celui que lui donne son étymologie grecque; éphémère n’est plus seulement ce qui ne dure qu’un jour, mais tout ce qui est de courte durée, et cette brièveté peut n’être que relative: la beauté d’une femme n’est qu’éphémère et notre vie n’est, hélas! qu’éphémère sur cette terre.” Cf. Hardy *supra* (note 3), p. 427: “like beauty ‘temporariness is in the eye of the beholder.’”

<sup>31</sup> Directive of the Council of the European Communities of 17 May 1991, O.J.EC L 122/42.

Whether or not the reproduction right defined in Article 4 (a) of the Directive indeed encompasses *all* uses of a computer program is uncertain. Taken literally, the right does not as such imply an exclusive right of loading, displaying or running the protected program. Pursuant to the provision's rather circular definition, these acts must "necessitate such reproduction" to be covered by the exclusive right. This leaves a certain latitude to national courts and legislators in determining the scope of the notion of 'reproduction' of computer programs.<sup>32</sup>

A broad reproduction right also appears in Articles 5(a) and 7(2)(a) of the European Database Directive, and more recently, in Article 2 of the proposed Copyright Directive. Pending the adoption of the Copyright Directive, in most European countries the copyright status of temporary copy storage in general remains unclear.<sup>33</sup> A notable exception is the United Kingdom; under Section 17 (6) of the Copyright, Designs and Patents Act (CDPA), "[c]opying in relation to any description of work includes the making of copies which are transient or are incidental to some other use of the work."

During the Diplomatic Conference that resulted in the WIPO Copyright Treaty concluded in December 1996, several proposals to include a provision on temporary reproduction were tabled, but all were eventually rejected. Instead, a compromise Agreed Statement accompanying Article 1(4) of the WIPO Copyright Treaty was adopted:

"The reproduction right, as set out in Article 9 of the Berne Convention, and the exceptions permitted thereunder, fully apply in the digital environment, in particular to the use of works in digital form. It is understood that the storage of a protected work in digital form in an electronic medium constitutes a reproduction within the meaning of Article 9 of the Berne Convention."

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<sup>32</sup> Cf. Bundesgerichtshof (German Federal Supreme Court), Decision of 20 January 1994 ('Holzhandelsprogramm'), [1994] *Computer und Recht* 275. The Court left expressly undecided the question of whether the act of running a computer program is restricted under the Software Directive. See for the United States *MAI Systems Corp. v. Peak Computer, Inc.*, F.2d 511, 519 (9th Cir. 1993), cert. denied, 114 S. Ct. 671 (1994), holding that booting a PC involves copying the operating system; *Religious Technology Center v. Netcom*, 907 F.Supp. 1361, considering that copies made by web site owner on host server are 'fixed'. See U.S. White Paper, at 65; (among many others) Mark A. Lemley, 'Dealing with Overlapping Copyrights on the Internet', 22 *Dayton L. Rev.* 547.

<sup>33</sup> See P.B. Hugenholtz and D.J.G. Visser, *Copyright problems of electronic document delivery: a comparative analysis*, Report to the Commission of the European Communities, Luxembourg, 1995.



Unlike the WIPO Copyright Treaty, the proposed Copyright Directive does contain specific language regarding the scope of the reproduction right in a digital environment. According to Article 2 of the amended proposal:

“Member States shall provide for the exclusive right to authorise or prohibit direct or indirect, temporary or permanent reproduction by any means and in any form, in whole or in part [...].”

The Explanatory Memorandum (p. 30) explains that “the second element (temporary/ permanent) is intended to clarify the fact that in the network environment very different types of reproduction might occur which all constitute acts of reproductions within the meaning of this provision. The result of a reproduction may be a tangible permanent copy, like a book, but it may just as well be a non-visible temporary copy of the work in the working memory of a computer. Both temporary and permanent copies are covered by the definition of an act of reproduction.” Recital 14 confirms that the European Commission envisages the harmonisation of the reproduction right along the lines of the *acquis communautaire*, i.e. the Software and Database Directives.

The broad reproduction right proposed in Article 2 is counterbalanced, to a certain degree, by the mandatory limitation proposed in Article 5 (1). As amended by the European Commission the proposed provision now reads:

“Temporary acts of reproduction such as transient and incidental acts of reproduction which are an integral and essential part of a technological process, including those which facilitate effective functioning of transmission systems, whose sole purpose is to enable use to be made of a work or other subject matter, and which have no independent economic significance, shall be exempted from the right set out in Article 2.”

According to the Explanatory Memorandum (p. 35), “[t]he purpose of Article 5 (1) is to exclude from the scope of the reproduction right certain acts of reproduction which are dictated by technology, but which have no separate economic significance of their own. [...] Such an obligatory exception at Community level is vital as such short lived reproductions ancillary to the final use of a work will take place in most acts of exploitation of protected subject matter, which will often be of a transnational nature. For instance, when transmitting a video on-demand from a database in Germany to a home computer in Portugal, this retrieval will imply a copy of the video, first of all, at the place of the database and afterwards, in average, up to at least a hundred often ephemeral acts of storage along the transmission to Portugal. A divergent situation in Member States with some requiring authorisation of such ancillary acts of storage would significantly risk impeding the free movement of works and services, and notably on-line services containing protected subject matter.”

The awkwardly futuristic example of the Explanatory Memorandum - on-line video on-demand services are still very much in an experimental stage - is less than helpful in determining the scope of the limitation. The example incorrectly suggests that acts of on-line digital transmission as such implicate the reproduction right. As discussed above (p. 2), this will normally not be the case since temporarily stored digital packets are usually far too small to qualify as 'reproductions' in a legal sense.

#### 2.4.3 Caching an (exempted) act of reproduction?

How then should we qualify acts of proxy or client caching under existing or pending copyright law? Let us first apply the standard commonly applied by courts in Europe. Are copies being generated that are intended or suitable for the further communication of the work? In answering this question we shall distinguish between client and proxy caching.

*Client caching* merely facilitates consumptive usage. The temporary reproductions made on the client's RAM or hard disk have no other purpose than to facilitate browsing or viewing the work. Client caching does not normally enable or facilitate the further communication of documents cached, nor is it otherwise instrumental in exploiting copyrighted works. Even if in theory copies in client caches have the potential of becoming 'second sources' of copyrighted documents, it is highly unlikely this will happen in practice. The presence of cached files is not visible to the ordinary user; cached web pages are usually stored in fragments with random file names, each fragment representing a single object of the web page. Moreover, RAM caches will be automatically emptied after shutdown of the computer; documents cached on hard disks will be regularly 'cleaned up' after disk space allotted to caching is exceeded or newer versions of objects cached are downloaded. In sum, copies in client caches are neither intended nor (for all practical purposes) suitable for further communication of the cached works. Thus, the right of reproduction is not implicated.

Moreover, even if the right would apply, end users would probably be exempted on the basis of existing private copying limitations found nearly everywhere in national copyright laws. However, this may be different if the amended proposal of the Copyright Directive were adopted in its present form. Except for reprographic reproduction (i.e. copying "on paper or similar medium" – Article 5(2)a CD), the proposal does not appear to leave room for a general private copying exemption. Limitations to the right of reproduction "for private and strictly personal use and for non-commercial ends" are permitted only "in respect of audio, visual or audio-visual" recording media; effective technical protection measures may not be circumvented (Article 5(2)(b) and (bis) CD). Thus, if client caching would not fall under the 'temporary copying' exemption of Article 5(1) CD, discussed below, client caching might become a restricted act following the implementation of the Copyright Directive. Arguably, this should be avoided.

Copies made in *proxy caches* clearly serve a communicative purpose. Indeed, copies in proxy caches are primarily intended for the further communication of the cached works to others (i.e. users served by the access provider). Unquestionably, under the common standard proxy caching amounts to reproduction, even if documents are preserved in proxy caches only temporarily.

However, a normative interpretation of the reproduction right might lead to a different result, depending on the copyright objectives one wishes to take as terms of reference. If the principal rationale of copyright is to secure remuneration for every act of ‘normal exploitation’ of a work, economic analysis of the practice of proxy caching becomes extremely relevant; see the DIPPER Economic Report. Assuming proxy caching does not amount to (independent) exploitation, but is merely ancillary to non-exploitative acts of network transmission, then, arguably, even proxy caching need not be qualified as reproduction in a legal sense. The same is true if other economic arguments, such as transaction costs, are taken into consideration.

The dissemination-enhancing rationale presents an even stronger argument against equating proxy caching with reproduction. If it is true that the Internet of the present and the foreseeable future would collapse if no caching were allowed<sup>34</sup>, qualifying caching as a restricted act would be wholly irrational.

Both client and proxy caching probably amount to acts of reproduction within the (technocratic) meaning of Article 2 CD, although even this provision, by using the word ‘reproduction’, still leaves some room for ‘normative’ manoeuvre. The more important question, however, remains: are client and proxy caching exempted uses within the meaning of Article 5(1) CD?

The amendments adopted by the European Parliament have raised some questions in this respect. As amended by the Parliament, the transient reproduction need be an “*integral and essential part*” of a technological process” to qualify for the limitation. Taken literally, this would exclude both client and proxy caching. Caching may be useful, and even essential to prevent the Internet from slowing down to snail-mail speeds, it is certainly not *essential* to the process of digital communications as such.

The Commission’s amended proposal has taken away many of the intermediaries’ concerns. By inserting the words “including those which facilitate effective functioning of transmission systems” it has now become clear that acts of reproduction as a result of proxy caching are, in principle, covered by the exemption. Presumably, the same is true for client caching, even if this form of caching is not inherent to a “transmission system” *stricto sensu*.

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<sup>34</sup> See DIPPER Technical Report, p. 2-3.

These conclusions are confirmed by the final part of Recital 23: “under these conditions [i.e. the conditions of the exemption] this exception covers also acts of caching or browsing”. The Recital, which has survived the first round in the European Parliament (albeit in amended form), strongly suggests that under normal circumstances both forms of caching are covered by the proposed (mandatory) exemption.<sup>35</sup>

Whether or not proxy caching is without “independent economic significance” is a question that inspires economic analysis; see the DIPPER Economic Report. According to the Explanatory Memorandum with the proposal, the exemption applies to reproductions “made for the sole purpose of executing another act of exploitation of a work” (p. 35). This language perhaps suggests that acts of temporary reproduction that are not performed as an “independent” economic activity would qualify for the exemption, whereas dedicated services (e.g., proxy caching performed by an independent service provider) would not.<sup>36</sup>

Finally, we should not overlook the three-step test that, according to Article 5(4) CD, must be applied to all limitations listed in Article 5 CD, including Article 5(1). Assuming caching is a ‘special case’, this raises once again the question of whether caching constitutes a ‘normal exploitation’ of the work. Paraphrasing Ricketson<sup>37</sup>, the question can be restated as follows: does the copyright owner ordinarily expect a fee? In view of current business practices probably not; to our knowledge no ‘caching licenses’ have ever been negotiated.

Admittedly, the application of the three-step test is somewhat circular. If right owners believe they do enjoy an exclusive right of caching, and would succeed in convincing providers to negotiate a fee, caching might eventually become ‘normal exploitation’. At present, even the European Commission firmly believes this is not the case. The Explanatory Memorandum to the proposed E-Commerce

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<sup>35</sup> Cf. District Court of The Hague, 9 June 1999 (*Scientology v. XS4ALL a.o.*), available in English translation at <http://www.xs4all.nl/~kspaink/cos/verd2eng.html>: “The court further believes that the activities of the Service Providers do not involve a copyright relevant reproduction. It concerns here reproductions dictated by technology that arise not so much as a result of the action of the Service Provider but from the holder of a home page or the consumer who consults this information at home. The court finds support for this position in that stipulated in art. 5 paragraph 1 of the amended proposal for a Directive of the European Parliament and Council on the harmonisation of certain aspects of copyright and related rights in the information society, submitted by the Commission of the European Communities on 21 May 1999” [unofficial translation].

<sup>36</sup> See J. Corbet, ‘De ontwerp-richtlijn van 10 december 1997 over het auteursrecht en de naburige rechten in de Informatiemaatschappij’, [1998] *Informatierecht/AMI* 93, at 95 (caching considered to have ‘economic significance’ because increased transmission speeds make service more attractive to customers); A.A. Quaedvlieg, [1998] *Computerrecht* 1998, 124, at 125 (*idem*).

<sup>37</sup> *Supra*, p. 10.

Directive, which will be discussed at length in Chapter 3, confirms that proxy caching “does not constitute as such a separate exploitation of the information transmitted”.<sup>38</sup>

Under ordinary circumstances, the third part of the three-step test (the reproduction must “not unreasonably prejudice the legitimate interests of the author”) will also be met, unless providers fail to comply with accepted standards or business practices to the detriment of right holders. In this context emerging industry standards, ‘codified’ *inter alia* in so-called RFC’s (Requests for Comment)<sup>39</sup> may come into play. An example of conduct possibly not meeting the three-step test would be the failure on the part of an access provider to respect so-called “Time To Live” (TTL) instructions set by web site owners with the purpose of restricting or even totally preventing proxy caching of certain objects; see § 2.7 below . Another example might be a provider’s failure to implement software or technology that enables ‘hit’ counts to be passed through to the owner of the originating web site.<sup>40</sup> To our knowledge, however, at present no such technology is in place.

In view of the above, in implementing Article 5(1) CD (if eventually adopted) Member States might consider to expressly refer to normal business practices, much in the same way as the US Digital Millennium Copyright Act and the proposed E-Commerce have done in respect of online liability; see § 3.3 below.

The preceding analysis of the proposed Directive is probably consistent with the law as it stands in the United States. The American fair use exemption similarly concentrates on the economic effects and possible damages caused by the (unauthorised) use involved. Even if the question is still open whether or not proxy caching is exempted<sup>41</sup>, the *Betamax* case<sup>42</sup> and its progeny strongly suggest that client caching, at least, is fair use. For example, in its *Rio* decision<sup>43</sup> involving the use of portable digital music recorders for downloading (possibly illegal) MP3 files from the Internet, the U.S. Court of Appeals for the Ninth Circuit observed: “The Rio merely makes copies in order to render portable, or ‘space-shift’, those files that already reside on a user’s hard drive. [...]. Such copying is paradigmatic non-commercial personal use entirely consistent with the purposes of the Act.”

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<sup>38</sup> Explanatory Memorandum with the proposed E-Commerce Directive (Article 13), p. 24.

<sup>39</sup> See <http://www.isoc.org/internet/standards>.

<sup>40</sup> Cf. Section 512(b)(2)(C) of the US Copyright Act, as revised by the Digital Millennium Copyright Act, and Article 13 (d) of the proposed E-Commerce Directive; see § 3.3 below.

<sup>41</sup> Hardy, *supra* (note 3).

<sup>42</sup> *Sony Corp. of America v. Universal City Studios*, 464 U.S. 417, 455 (1984) (holding that “time-shifting” of copyrighted television shows with VCR’s constitutes fair use under the Copyright Act, and thus is not an infringement).

<sup>43</sup> Court of Appeals (9th Cir.) 16 June 1999, *Recording Industry Association of America v. Diamond Multimedia Systems*, Case No. 98-56727, available at [http://www.eff.org/cafe/19990615\\_appeal\\_decision.html](http://www.eff.org/cafe/19990615_appeal_decision.html).

## 2.5 Right of communication to the public

### 2.5.1 Introduction

In recent years, the right of communication to the public, as it exists under many names and in many forms in national legislation, has found general recognition under international and European copyright law. It is the *making available of works to the public* that constitutes the essence of the right.<sup>44</sup> The relevant act of exploitation commences, and is completed, by providing public access to the protected work. Whether or not, in a given situation, copies of the work are actually downloaded, received or otherwise consumed, is quite irrelevant.

The right of communication to the public guaranteed by Article 8 of the WIPO Copyright Treaty is reflected in Article 3 of the proposed Copyright Directive:

“Member States shall provide authors with the exclusive right to authorise or prohibit any communication to the public of originals and copies of their works, by wire or wireless means, including the making available to the public of their works in such a way that members of the public may access them from a place and at a time individually chosen by them.”

Pending adoption and subsequent implementation on the national level of the Directive, the copyright status of providing on-line access over digital networks remains uncertain in a number of European countries.<sup>45</sup>

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<sup>44</sup> P. Bernt Hugenholtz, ‘Adapting copyright to the Information Superhighway’, in: P. Bernt Hugenholtz (ed.), *The Future of Copyright in a Digital Environment*, The Hague: Kluwer Law International 1996, p. 101; Visser, *supra* (note 17) *passim*.

<sup>45</sup> Hugenholtz, *supra* (note 44), p. 89.

## 2.5.2 On-line intermediaries

The Copyright Treaty and the proposed Copyright Directive leave little doubt that the act of making available copyrighted documents over the World Wide Web is a restricted act. Both the WCT and the proposed Directive, however, leave open the important question of whether the making available of protected works over the Internet is a unitary (restricted) act, or, conversely, a series of restricted acts performed independently by the owner of the web-site, the service provider (host) and the access provider.

The Agreed Statement accompanying Article 8 of the WCT strongly suggests that ‘passively’ acting on-line intermediaries do not themselves perform acts of communication to the public for which they might be held directly liable:

“It is understood that the mere provision of physical facilities for enabling or making a communication does not in itself amount to communication within the meaning of this Treaty of the Berne Convention.”

The Statement is echoed by Recital 17 to the proposed Copyright Directive, and Article 3(4) CD (amended proposal): “The mere provision of physical facilities for enabling or making a communication does not in itself amount to communication with the meaning of this Article”. The proposed provision is in keeping with case law presently developing in Europe. Online service providers do not themselves communicate to the public, and therefore can not be held directly liable for infringing content transmitted.<sup>46</sup> Both current and future law thus suggest that direct liability for acts of making works available on-line is to be allocated upstream, i.e. at the originator of the unlawful communication: the web site owner.

Needless to say, the question of the proper scope of the right of ‘making available’ in respect of Internet providers is directly related to the broader, and perhaps ‘horizontal’, issue of on-line *liability* in general. For this very reason, Recital 12 of the proposed Copyright Directive (amended proposal) considers that the Directive enter into force “within a time scale similar to” the proposed Directive

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<sup>46</sup> President District Court of the Hague, 12 March 1996, *Mediaforum* 1996/4, p. B59, note D.J.G. Visser at 61, *Informatierecht/AMI* 1996/5, p. 96 (Scientology v. XS4ALL a.o.); District Court of The Hague, 9 June 1999 (Scientology v. XS4ALL a.o.), English translation available at <http://www.xs4all.nl/~kspaink/cos/verd2eng.html> However, both Courts did consider that providers may, under certain special circumstances, be (indirectly) liable for *contributory* infringement; see Chapter 3 (below).

on Electronic Commerce, which contains a special section on the liability of on-line intermediaries. For a further discussion of the issue of intermediary liability see Chapter 3 of this study.

### 2.5.3 Proxy caching an act of 'communication to the public'?

The previous discussion still leaves unanswered the question of whether proxy caching would amount to an independent (secondary) act of communication to the public. The WCT Agreed Statement and its offspring in the proposed Copyright Directive probably imply that hosting and providing access to the World Wide Web as such is not a restricted act. Whether adding the activity of proxy caching changes the outcome of the equation, is a matter of speculation.

Proponents of a broadly interpreted right of communication to the public might argue that by proxy caching Internet providers become actively involved in the communication process. The proxy cache, the argument might be, becomes an independent, second source of (copyrighted) documents available for downloading to the provider's subscribers (i.e. 'the public'). Even if the web site from where the cached document originates would be shut down, the document would still be available from the proxy cache. From this perspective, the access provider by setting up a proxy cache might be seen as a secondary distributor of copyright materials, not unlike cable distributors in the analogue world.<sup>47</sup> Note, that cable retransmission of broadcast programs is generally considered an independent act of (secondary) communication to the public, both under the Berne Convention<sup>48</sup> and under the laws of the Member States of the European Union.<sup>49</sup> Only in the exceptional case that the cable retransmission is conducted by the same entity as the original broadcaster (the so-called *organisme d'origine*) no independent act of communication to the public will occur.

Conversely, one might argue that "[t]he mere provision of physical facilities for enabling or making a communication" (Article 3(4) CD) is language easily broad enough to encompass not only 'pure' hosting and conduit activities, but also ancillary activities such as proxy caching. In fact, from a right holders' perspective proxy caching is a relatively 'harmless' act as compared to the activities of hosting service providers that Article 3(4) CD directly addresses, and excludes from the right of communication to the public. Seen in this light, in our opinion it would be wholly irrational to conclude that proxy caching falls outside the ambit of Article 3(4).

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<sup>47</sup> T. Hardy, *supra* (note 3), p. 42.

<sup>48</sup> Article 11bis(1)(ii) of the Berne Convention provides: "Authors of literary and artistic works shall enjoy the exclusive right of authorizing [...] any communication to the public by wire or by rebroadcasting of the broadcast of the work, when this communication is made by an organization other than the original one."

<sup>49</sup> Gerard J.H.M. Mom, *Kabeltelevisie en auteursrecht*, Lelystad: Vermande 1990; Th. Dreier, *Kabelweiterleitung und Urheberrecht: eine vergleichende Darstellung*, München: Beck 1991.



The drafters of the Copyright Directive have clearly overlooked the possibility that proxy caching might, at least in theory, qualify as communication to the public. Debate has focussed solely on the scope of the right of reproduction, resulting in the text of Article 5(1) in its present form. Even so, the turbulent history of this provision and the accompanying language in the Explanatory Memorandum and recitals confirm our conclusion that under forthcoming European law proxy caching is not to be considered a restricted act.

### 3.5 Moral rights

As we have seen in the DIPPER Technical Report, certain ‘moral’ interests may be compromised by acts of proxy caching:

- Proxy caching may result in the supply of ‘stale’ documents, especially if proxy caches are not regularly refreshed.
- Proxy caching may hinder authors wishing to withdraw their works available online from circulation, or to adapt them.

In both situations moral rights risk being infringed, even if exemptions, such as Article 5 (1) of the proposed Copyright Directive, would apply in respect of the right of reproduction or other economic rights. Article 5(1) CD is silent on the question of moral rights.

Both the right of integrity of the work (*droit au respect*) and the right of withdrawal (*droit de repentir*) may be implicated, depending on the state of the law in a given country. Note that in most European countries only ‘true’ authors (i.e. the actual creators, not employers or publishers) will enjoy moral rights protection. In some countries the law expressly prohibits authors from assigning or waiving their moral rights. Thus, web site owners will be able to invoke moral rights only in special cases, i.e. if they have actually created web pages cached.<sup>50</sup>

However, web site owners may find comfort in remedies outside copyright law, such as unfair competition or general tort law, if unauthorised proxy caching would harm their business reputation, or otherwise cause damages.

### 3.6 Implied license?

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<sup>50</sup> WIPO Guide to the Berne Convention, Article 6bis.

If caching has become a fact of life, then web site owners and other content providers should accept it. This is the “implied license” argument frequently encountered in discussions regarding the scope of copyright in the digital environment. Similar arguments have been made previously in respect of web browsing and hyper-linking.<sup>51</sup> The argument is powerful, and attractive in its simplicity. Why search for angels on the heads of pins, if content owners have tacitly consented anyway? The problem is, again, the argument is circular. If right owners would object to (certain) acts of caching on a more than incidental scale, the implied license theory would fall apart, and become counterproductive. The theory implies that a license, if not implied, would be actually required. Moreover, for the argument to succeed it is essential that content providers actually have reason to know that web pages are routinely cached, and how caches are operated. As the DIPPER Technical Report has pointed out, at present this transparency does not exist, further weakening the implied license argument.

Indeed, there is an intriguing relationship between the transparency of the web, the technical state of the art and the validity of the implied license argument. The mark-up language most commonly used on the World Wide, HTML (Hyper Text Markup Language), allows a web page designer to set an expiry date, a so-called “Time To Live” (TTL), for each object posted on the site, which will normally be observed automatically by the proxy cache. The TTL meta-data thus enable a web site owner to severely limit or even prevent proxy caching if he so desires. Assuming that the TTL feature of HTML is common knowledge among web site owners and generally complied with by access providers, failure to set a TTL on the part of a web site owner might well be interpreted as an implied license to cache.<sup>52</sup>

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<sup>51</sup> David Nimmer, ‘Brains and Other Paraphernalia of the Digital Age’, *Harvard Journal of Law and Technology* (10) 1996, p. 20.

<sup>52</sup> Bradford L. Smith, ‘The Digital Agenda and Copyright: A Content Provider’s Perspective’, paper presented at 6th Annual Fordham International Copyright Conference, New York, 1998, p. 6.

### 3.1 Introduction

Surely, a discussion of the copyright aspects of caching would not be complete without examining the issue of online liability. Indeed, recent legislative developments in this area might make the copyright analysis performed in the previous chapter largely, if not completely, redundant. These legislative initiatives deal with liability issues head-on; the copyright status of proxy caching as such is not addressed.

In October 1998, the Digital Millennium Copyright Act (DMCA) was enacted in the United States.<sup>53</sup> The Act contains detailed provisions restricting the liability of Internet providers for direct and indirect copyright infringement, *inter alia* resulting from the act of proxy caching. In November 1998, the European Commission followed suit with its proposal for a directive on electronic commerce that includes similar, albeit less detailed provisions.<sup>54</sup> The proposed Directive is partially modelled upon the German Information and Communication Services Act, which was enacted as early as July 1997. Part of the German act is the Teleservices Act that contains specific provisions on online intermediary liability, including rules that may relate to (proxy) caching.<sup>55</sup> In this chapter all three instruments will briefly discussed, inasmuch as they pertain to acts of proxy caching or similar activities.

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<sup>53</sup> Public Law 105-308-OCT. 28, 1998.

<sup>54</sup> Amended proposal for a European Parliament and Council Directive on Certain Legal Aspects of Electronic Commerce in the Internal Market, Brussels, September 1999, COM(1999) 427 final. The liability provisions of the proposal (Articles 12-15) are nearly identical to the original proposal of November 1998.

<sup>55</sup> Art. 1 of the Information and Communication Services Act (*Informations- und Kommunikationsdienste-Gesetz*) contains the Teleservices Act (*Teledienstegesetz*) of which Art. 5 addresses intermediary liability. The Information and Communication Services Act is available in German and English at <http://www.iid.de/iukdg/>.

The German Teleservices Act deals with liability for third-party content in a 'horizontal' manner; its rules apply equally to all areas of civil and penal law, including copyright. Under the Act, service providers (hosts) will incur liability for third-party content only if they have actual knowledge thereof, and can be reasonably expected to prevent its further usage. Access providers are excluded from liability altogether. The German Act thus acts as a 'filter'; only if the conditions specified in the Act are met, will an intermediary incur liability under the relevant body of the law, e.g. copyright.<sup>56</sup>

Article 5(3) deals with temporary copies in connection with the access provider's activities:

"Providers shall not be responsible for any third-party content to which they only provide access. The automatic and temporary storage of third-party content due to user request shall be considered as providing access."

*Prima facie*, acts of proxy caching might fall within the ambit of this provision. From the Explanatory Memorandum with the Act, however, it appears that the provision primarily addresses 'transmission caching' rather than proxy caching.<sup>57</sup> The Memorandum does not distinguish between the function of the copy (enabling transmission or facilitating rapid access), but considers decisive the amount of time a temporary copy is maintained in cache. If the intermediate copy lasts longer than several hours, it will not be considered "temporary" for the purpose of Article 5(3).<sup>58</sup> Thus the provision would apply only to a relatively short-lived copy in a proxy cache. If the copy is maintained for more than several hours, the provider will have to resort to the more limited limitation on liability of Article 5(2):

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<sup>56</sup> S. Engel-Flehsig, F.A. Maennel & A. Tettenborn, 'Das neue Informations- und Kommunikationsdienste-Gesetz', [1997] *NJW* 2981.

<sup>57</sup> See R. Pichler, 'Haftung des Host Providers für Persönlichkeitsrechtsverletzungen vor und nach dem TDG', [1998] *Multimedia und Recht* 87.

<sup>58</sup> Deutscher Bundestag- 13. Wahlperiode, Drucksache 13/7385, p. 20 (Zu Absatz 3);

“Providers shall not be responsible for any third-party content which they make available for use unless they have knowledge of such content and are technically able and can reasonably be expected to block the use of such content.”

*Obviously, Article 5(2) deals primarily with hosting (service provider) liability. However, because a provider employing proxy caching can be said to “make available for use” third party content, he too is probably covered by this provision. The provider, then, can only be held liable for direct or indirect copyright infringement if he has actual knowledge of the cached material being unlawfully disseminated, and does nothing to block access to it, provided blocking can be reasonably expected and is technically feasible.*

### 3.3 E-Commerce Directive

*The proposed E-Commerce Directive (Articles 12-15) is modelled upon the German Act in that it deals with online intermediary liability in a ‘horizontal’ manner, and serves as a ‘filter’. Member States may not hold an intermediary liable under principles of general law, including copyright law, if one of the limitations on liability listed in the proposed Directive applies.<sup>59</sup>*

*Article 13 deals specifically with “system” (i.e. proxy) caching. The proposal distinguishes between three types of storage by an intermediary, or rather, three functions that such storage may have: (1) storage for the purpose of carrying out transmissions, (2) storage for the purpose of making more efficient the information’s onward transmission (proxy caching), and (3) storage of information provided by a subscriber (hosting).*

*As a consequence of this functional approach, proxy caching is not covered by the provision which exempts from liability ‘mere conduits’, such as access providers (Article 12). Under Article 12 an intermediary is exempted from liability if the storage “takes place for the sole purpose of carrying out the transmission in the communication network, and [...] the information is not stored for any period longer than is reasonably necessary for the transmission.”*

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<sup>59</sup> See Explanatory Memorandum to the E-Commerce Directive, Commentary on Individual Articles, Chapter 1, Section 4: “Limitations to liability are established in a horizontal manner, i.e. they affect liability for all types of illegal activities initiated by third parties on line (e.g. copyright piracy, unfair competition practices, misleading advertising, etc.). It should be clear, however, that the provisions of this section do not affect the underlying material law governing the different infringements that may be concerned. This section is restricted to the establishment of the limitations on the liability. If a service provider fails to qualify for such limitations, the nature and scope of his liability will be established on the basis of Member States legislation.”

*Proxy caching might also be covered by Article 14, which deals with hosting. The provision applies where a service is provided “that consists in the storage of information provided by a recipient of the service [...]”. Arguably, proxy caching fits this definition. The “recipient” in the proposed Directive is the information provider (web site owner).<sup>60</sup>*

*If Article 14 would, indeed, apply to proxy caching, the provider will incur liability only if has actual knowledge of infringing content stored in the proxy cache, or is aware of facts or circumstances from which such is apparent and, upon obtaining such knowledge or awareness, does not “expeditiously” disable access to the information.*

*Early drafts of the proposal did not contain specific language on caching. However, at a very late stage it was decided that caching should be regulated separately, so a special provision (Article 13) was inserted, possibly as a direct consequence of the enactment of the DMCA in the United States. Another reason could be that the dynamics of caching and hosting third party content are different. Storage by a hosting service provider occurs at the initiative of the web site owner, whereas proxy caching is initiated by the access provider – albeit that the decision to cache the material is made automatically.*

*Article 13 of the proposed E-commerce Directive provides:*

“Where an Information Society service is provided that consists in the transmission in a communication network of information provided by a recipient of the service, Member States shall provide in their legislation that the provider shall not be liable, otherwise than under a prohibitory injunction, for the automatic, intermediate and temporary storage of that information, performed for the sole purpose of making more efficient the information’s onward transmission to other recipients of the service upon their request, on condition that:

- (a) the provider does not modify the information;
- (b) the provider complies with conditions on access to the information;
- (c) the provider complies with rules regarding the updating of the information, specified in a manner consistent with industrial standards;
- (d) the provider does not interfere with the technology, consistent with industrial standards, used to obtain data on the use of the information; and

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<sup>60</sup> Art. 2(d) of the proposed E-Commerce Directive.

(e) the provider acts expeditiously to remove or to bar access to the information upon obtaining actual knowledge of one of the following:

- the information at the initial source of the transmission has been removed from the network;
- access to it has been barred;
- a competent authority has ordered such removal or barring.”

*In contrast with Article 12 (2), which applies to purely “transient” storage (‘transmission caching’), liability for proxy caching is not entirely ruled out. To benefit from the exemption of Article 13, a number of cumulative conditions (a-e) must be met. These requirements appear to be included primarily to protect the interests of information providers whose web pages are cached. This is somewhat surprising, since the other provisions of the Directive section on “Liability of intermediary service providers” (Section 4) treats the web site owners as potential culprits – sources of illegal content. As the Explanatory Memorandum clarifies, the liability rules of the proposed E-Commerce Directive come into play “as regards illegal acts initiated by others”<sup>61</sup>, i.e. the information providers. The liability rules of the proposed Directive are not aimed at condoning potentially illegal acts, such as proxy caching, initiated by the intermediaries themselves.*

*Even so, the wording of Article 13 suggests that providers complying with the conditions (a-e) cannot be held liable by the originators of the cached web pages. If this interpretation is correct, the scope of the provision exceeds the original purpose of the Directive’s liability regime, i.e. to insulate online providers from liability for infringing third-party content. Indeed, one might say that Article 13 is substantive (copyright) law ‘in disguise’. From a legal-systematic point of view, the proper place for dealing with the relationship between providers that cache and owners of ‘cached’ web pages would be Article 5(1) of the proposed Copyright Directive.*

*The liability limitations of the proposed Directive determine the level of fault and/or negligence necessary to hold an intermediary liable for providing monetary relief. Fault and breach of duty of care (i.e. a duty to block access) are completely ruled out with respect to access providers (“mere conduits”). The threshold level of fault required to trigger liability for hosting third part content is set rather high. Only if a provider has actual knowledge of the unlawful nature of the material posted by a subscriber, or is aware of facts or circumstances of which that nature is apparent, may he be held liable for the damages.<sup>62</sup>*

*Article 13(e) may serve a similar function. A proxy caching provider may become liable if he has actual knowledge of the material being removed, or ordered to be removed, at the originating site and upon obtaining such knowledge does not “expeditiously” bar access to the material.*

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<sup>61</sup> Explanatory Memorandum, Chapter 1, Section 4, p. 23.

<sup>62</sup> Institute for Information Law (K.J. Koelman), ‘Liability for Online Intermediaries’, Amsterdam: IViR 1997, available at <http://www.imprimatur.net/legal>.

Articles 12-14 determine whether and when a duty to block access arises. Additionally, Article 15 explicitly prohibits Member States to impose upon an intermediary a duty to monitor information transmitted or hosted, or to actively seek facts or circumstances indicating illegal activities. In the original proposal Article 15 did not expressly refer to caching; in the amended version this has been rectified.

Articles 12-15 limit liability only in respect of monetary relief. They explicitly allow prohibitory injunctions, i.e. court orders to desist from wrongful conduct, to be issued against intermediaries, even if a limitation on liability applies. However, a mandatory injunction, i.e. a court order to take positive action, may be ordered only if an intermediary does not qualify for one of the limitations.<sup>63</sup>

### 3.4 Digital Millennium Copyright Act

The liability regime of the DMCA is similar to the E-Commerce Directive. Below we will focus on the main differences between the two instruments. The DMCA adds a new Section 512 to Chapter 5 of the US Copyright Act, which deals with the enforcement of rights. Contrary to the proposed Directive, which treats the issue of liability 'horizontally', the DMCA deals exclusively with liability for copyright infringement. Even so, the Act is silent on the copyright status of proxy ('system') caching as such. Like the proposed E-Commerce Directive, it merely determines under which circumstances an intermediary may be held liable.<sup>64</sup> From the intermediaries' point of view, the advantage of this approach is that he is made immune for direct as well as contributory liability, whereas, if it were determined that proxy caching is not a restricted act for the purpose of copyright law, a provider might still incur liability for contributory infringement.

Unlike the proposed Directive, the DMCA does not totally rule out a duty to monitor. In the future, such a duty may arise if technologies become available that facilitate the monitoring of the

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<sup>63</sup> See on the difference between mandatory and prohibitory injunctions W.V.H. Rogers, *Winfield and Jolowicz on Torts*, London: Sweet & Maxwell 1989, p 636-640.

<sup>64</sup> Senate Report 1997, p. 19 and 55: "Section 512 is not intended to imply that a service provider is or is not liable as an infringer either for conduct that qualifies for a limitation of liability or for conduct that fails to so qualify. Rather, the limitations of liability apply if the provider is found to be liable under existing principles of [copyright] law. [...] New section 512 does not define what is actionable copyright infringement in the online environment, and does not create any new exceptions to the exclusive rights under copyright law. The rest of the Copyright Act sets those rules. [...] New section 512 simply defines the circumstances under which a service provider, as defined in this Section, may enjoy a limitation on liability for copyright infringement."



*transmitted, cached or hosted content, and if implementing these technologies imposes on the provider neither substantial costs nor substantial burdens on his systems.*<sup>65</sup>

*The DMCA goes a step further than the proposed Directive in that it provides for extensive “notice and take down” procedures. Under the Act a hosting service provider must take down or remove material if he receives a notification of infringement.<sup>66</sup> Similarly, a cached copy must be removed upon notification, but only if the material has been removed at the originating site, or if such removal is ordered by a court. The E-Commerce Directive does not stipulate a similar condition to escape liability. Even so, European courts might find, on the basis of general principles of law, that the provider has actual knowledge of the material being taken down at the originating source upon notification of such removal, and thus be held liable if access to the cached copy is not “expeditiously” blocked. Consequently, under the EU proposal notification may play an important role as well.*

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<sup>65</sup> Sections 512(m) and (i) of the US Copyright Act.

<sup>66</sup> Section 512(c)(3) of the US Copyright Act.

## CONCLUSIONS AND SOLUTIONS

### 3.5 Conclusions

Admittedly, the legal analysis of the copyright status of caching undertaken in the previous chapters remains somewhat inconclusive. Applying the common standards of copyright law discussed in Chapter 2, proxy caching is probably to be considered an act of 'reproduction', even if a 'normative' interpretation would not require such qualification. Arguably, client caching does not amount to reproduction under any standard. Moreover, this type of caching is probably exempted anyway under existing private copying exemptions.

Judging from the wording and legislative history of Article 5(1) of the proposed Copyright Directive, proxy caching will soon become an expressly exempted use as well, assuming that proxy caching (a) does not have "independent economic significance", and (b) does not constitute 'normal exploitation' or otherwise harm the interests of the owners of content cached. Condition (a) will perhaps not be met if proxy caching is carried out not as an integral part of an access provider's activities, but as a service in its own right. Condition (b) will probably not be fulfilled if "Time To Live" (TTL) instructions are not observed or current business practices are otherwise not complied with, to the detriment of right owners.

The analysis of the right of communication to the public also leaves a few loose ends. The obvious analogy with the law on cable retransmission suggests that proxy caching might qualify as a secondary act of communication to the public for which the Internet access provider could be held directly liable. The Agreed Statement to Article 7 of the WCT and its progeny in the proposed Directive (Article 3(4) of the amended proposal), however, suggest the exact opposite. Also, the absence in the proposed Directive of a limitation of the right of communication to the public analogous to Article 5(1) CD appears to indicate that, at least in the eyes of the European legislature, proxy caching does not constitute communication to the public.

Proxy caching may also implicate the author's moral rights, if caches are not regularly refreshed. Both the right of integrity of the work (*droit au respect*) and the right of withdrawal (*droit de repentir*) are at stake. Since only 'true' authors (creators) enjoy moral rights protection, most web site owners will have to resort to remedies outside copyright law, e.g. the law of unfair competition, if proxy caching would result in the delivery of stale documents or otherwise compromise the integrity of their information services.

Contract law may grant Internet providers an additional, albeit thin line of defence. Assuming both proxy and client caching are common practice in the digital networked environment, providers could argue that content providers have tacitly consented to forms of caching that conform to the (emerging) norms of the web. Admittedly, in practice this argument will not carry much weight if in a given situation a content owner would expressly deny or withdraw his (implied) permission to cache, e.g. by setting TTL instructions intended to automatically restrict or prevent proxy caching. Moreover, the implied license argument will eventually fall apart if content owners were to succeed in changing the norms, i.e. by claiming that proxy caching requires their authorisation as a matter of principle. Conversely, failure to set a TTL on the part of the web site owner might well be interpreted as an implied license to cache, assuming that the TTL feature of HTML is common knowledge among web site owners and generally complied with by access providers.

Internet providers will also derive a measure of comfort from recently established and emerging law on the liability of intermediaries. Both the DMCA and the proposed E-Commerce Directive exempt from liability Internet providers engaging in the act of 'system' (i.e. proxy) caching, provided a handful of conditions are met. European Internet providers, however, should beware; the proposed directive does not prevent content owners, or other interested parties, from applying for injunctive relief. Also, it remains to be seen whether Article 13 of the proposed Directive really deals with potential liabilities of proxy caching providers vis-à-vis the owners of web pages cached. In view of the Directive's clearly stated purpose, the proposed liability rules might apply only to illegal (i.e. infringing) acts performed by third parties – not by the providers themselves.

In sum, Internet providers cannot entirely rely on present or emerging law in expecting that proxy caching will remain without copyright implications. Providers still run potential risks under a variety of legal doctrines, e.g. infringement of economic or moral rights, unfair competition law and indirect liability for injunctive relief. Perhaps, then, additional or alternative legal measures should be considered to achieve greater legal certainty. In the remainder of this chapter two alternative solutions will be briefly examined.

### 3.6 Alternative Legal Solutions

#### a) Collective Licensing

Assuming, *arguendo*, that proxy caching of copyrighted works would constitute one or more restricted acts, access providers maintaining proxy caches would require prior authorisation from all

right owners of content cached. In view of the many millions of pages currently available on the web, and the exponential growth the Internet is still experiencing, this would imply a copyright management problem of dazzling proportions. Needless to say, absent extremely sophisticated electronic copyright management systems, the sheer volume of licenses required as well as the daunting problems of identifying and negotiating with a myriad of right holders would totally rule out a system of individual licensing.

Would collective licensing be a feasible alternative? Drawing from the 'cable analogy' one is, perhaps, tempted to consider it. Over the past two decades organisations of rights holders and cable operators have managed, quite successfully, to conclude collective licensing agreements allowing for the uninterrupted secondary transmission of broadcast programs. The European Satellite and Cable Directive adopted in 1993<sup>67</sup> in fact makes such collective licensing mandatory.

Moreover, rights organisations in Europe and elsewhere have amply proven that collective licensing is a viable solution even in cases of large, loosely organised user groups, such as café's and restaurants, concert halls, commercial radio stations, et cetera. Finally, rights organisations are currently busily experimenting with various types of 'multimedia' licensing, that would involve co-operation between different 'families' of rights holders (performing rights, reproduction rights, et cetera), which would enable the granting of a wide range of rights for electronic uses.

Still, collective licensing remains a highly unlikely solution to the problems of proxy caching. Even if all access providers that cache would be willing to succumb to collective licensing agreements, rights organisations would never be able to grant even a small portion of the rights required. Here, an essential difference between the World Wide Web and analogue cable suddenly becomes apparent. Whereas owners of secondary cable rights are mostly professionals (broadcasting organisations, film producers, journalists, collecting societies, etc.), and thus relatively easily brought together in a collective agreement, ownership of 'proxy caching rights' would be extremely diverse. Copyrights in content available on web sites is owned not only, or perhaps not even in the first place, by professional information providers, but by millions of unorganised, and sometimes even anonymous, individuals. For a rights organisation to acquire a mandate sufficient to grant proxy caching rights there lies a daunting task ahead: to represent *the entire population of the web*.

Similarly colossal would be the task of repartitioning caching royalties received from access providers among all owners of copyrights and related rights in content delivered over the net. In sum, the gigantic transaction costs involved both in licensing and repartitioning would rule out any practicable system of collective licensing of caching rights from the start.

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<sup>67</sup> Council Directive 93/83/EEC of 27 September 1993 on the co-ordination of certain rules concerning copyright and rights related to copyright applicable to satellite broadcasting and cable retransmission, OJEC No. L248.

The introduction of a 'caching levy' as part of a statutory or compulsory licensing scheme (in lieu of voluntary collective licensing) is not a viable alternative. A levy system would suffer from the same, monumental problems of rights representation and repartitioning. In theory, a levy system would be workable only if (a) collecting societies would receive a statutory mandate, and (b) the proceeds would not need repartitioning, i.e. they would flow directly into some sort of collective fund or trust. Needless to say, such a levy would look more like a tax on caching than a solution under copyright.

#### b) Codes of conduct

If the three DIPPER reports have proven anything it is that technical, legal and business practices are still very much in a state of flux – making specific regulation of caching wholly premature. Indeed, the dynamic development of the Internet at large presents a convincing argument for legislators to adopt a wait-and-see approach. Technology specific legislation at this point in time bears the risk of stifling innovation by 'freezing in' the status quo, and will inevitably be outdated soon. Instead, parties concerned (rights holders, access providers and consumers) would be well advised to jointly draft flexible codes of conduct that would codify acceptable business practices. In due course, if proven sufficiently stable and practicable, such codes of conduct might eventually serve as models for a legislative solution.

Admittedly, the relatively low level of organisation of the IT sector – the symptom of a dynamic industry – may make it difficult to find adequate representation from all sectors concerned. This may augment the risk always inherent in forms of 'self-regulation', that is that the interest of the public at large gets lost in the compromise. On the other hand, as recent experience has shown, even the legislature sometimes has difficulties in distinguishing between the interests of pressure groups and the common good.

If agreed on today, a code of conduct might provide, e.g., that proxy caching is permitted without authorisation from right owners if:

- content is not altered;
- no editorial value is added (e.g. indexing);
- caches are regularly refreshed;
- expiry times of documents (TTL) are respected;
- access providers implement technology that enables 'hits' on cached pages to be passed on to originating web sites, if such technology becomes available;

- content is not archived or otherwise permanently stored;
- et cetera.

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