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The EUCD and the DMCA in 2003: How Legal Protection for Technological Measures is shaping Consumers' and Copyright Owners' Digital Rights

Gwen Hinze

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The European Copyright Directive requires European Union Member States to pass legislation to protect technological measures used by copyright owners to control access to copyrighted works. Many EU Member States are currently considering draft implementation legislation. This note reviews the United States' experience under the Digital Millennium Copyright Act and contends that Member States' implementation legislation should include exceptions permitting circumvention for lawful uses and socially valuable activities. It also analyses a new technological protection regime contemplated by the 2003 draft EU Directive on enforcement of Intellectual Property Rights.

Keywords: circumvention, copyright, DMCA, EUCD, technological protection measures.

1 Introduction

In the two years since the European Copyright Directive on Harmonisation of Certain Aspects of Copyright and Related Rights in the Information Society – Directive 2001/29/EC (the EUCD)¹ – was passed, only three European Union Member States have enacted legislation providing legal protection for technological measures that control access to copyrighted works. Legal protection for technological measures has therefore had a more limited impact on consumers and technologists in Europe, than in the United States under the Digital Millennium Copyright Act (the DMCA)².

However, that seems set to change in the next few months. First, several Member States are considering draft legislation to implement the EUCD's anti-circumvention regime. Second, the European Parliament has recently released a draft Directive on enforcement of Intellectual Property Rights, which, if passed, could further narrow consumers' and technologists' ability to make use of digital works. The U.S. experience with the DMCA demonstrates the dangers of an overbroad circumvention ban, and highlights the need for effective exceptions for lawful uses in EU Member States' EUCD implementation legislation.

2 Legal Protection for Technological Protection Measures – the EUCD

The European Parliament and the Council issued the EUCD in May 2001. Amongst other things, the EUCD establishes the

framework under which Member States must pass national legislation to provide legal protection for technological measures on copyright works.³ Article 6 of the EUCD incorporates the obligations of two 1996 World Intellectual Property Organization (WIPO) treaties: Article 11 of the WIPO Copyright Treaty⁴ and Article 18 of the WIPO Performances and Phonograms Treaty.⁵ Those provisions require signatory countries to “provide adequate legal protection and effective legal remedies against the circumvention of effective technological measures that are used by authors in connection with the exercise of their rights ..and that restrict acts, ... which are not authorized by the authors concerned or permitted by law.” These provisions were incorporated into the WIPO treaties at the behest of motion picture and music copyright holders, who argued that they required legal support for technological protection meas-

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1. Available at <http://europa.eu.int/eur-lex/en/consleg/pdf/2001/en_2001L0029_do_001.pdf>.

2. Available at <<http://www.loc.gov/copyright/legislation/dmca.pdf>>.

3. The EUCD does not apply to computer programs. However, Directive 91/250/EEC provides for a similar technological protection regime for computer programs.

4. Available at <<http://www.copyright.gov/wipo/treaty1.html>>.

5. Available at <<http://www.copyright.gov/wipo/treaty2.html>>.

ures to protect their content from unauthorized digital reproduction, before they would make content available to consumers in a digital form.

Article 6 of the EUCD has been criticized for tipping the copyright balance in favour of copyright owners at the expense of the public interest in several respects. First, Article 6 creates a framework that delivers a higher level of protection to rightsholders than that required by the two WIPO treaties or by Copyright law. Article 6 effectively gives rightsholders (meaning holders of copyright, related rights and sui generis database rights) the ability to control access to works, not just protection against copyright violation and acts not authorized by copyright owners. Second, its ban on circumvention tools seems to be broader than required. For instance, unlike the DMCA (the United States' response to the WIPO Treaties), Article 6(3) bans possession for commercial purposes, in addition to manufacture and distribution of circumvention tools.

Third, and most importantly, Article 6 does not guarantee exceptions to the circumvention ban for existing lawful uses under national copyright law (such as personal copying), and legitimate activities, such as systems security testing, encryption research and reverse engineering. Article 6(4) contemplates that certain exceptions and limitations on national copyright law (under Article 5) will be accommodated within the technological protection regime by voluntary agreements between rightsholders and the public. In the absence of voluntary agreements, Member States must require rightsholders to make available to beneficiaries the means of benefiting from an exception or limitation on copyright. However, what this requires is unclear, and is of limited practical use because copyright owners can contract out of the requirement for works distributed online and subject to contractual provisions.⁶

However, the real impact of a legal protection regime on consumers and technologists cannot be assessed by analysing the EUCD language. To a large extent, the EUCD determines what EU Member States can and cannot do in implementing legal protection for technological measures and the uncertain scope of the EUCD is partly due to the complex harmonization formula for copyright limitations that national legislatures can

decide to enact under Article 5 of the EUCD. But while the EUCD sets the boundaries for Member States' legislation in this area, the actual impact on consumers and technologists will depend on the language of Member States' national implementation legislation, and in particular, the scope of exceptions for permissible circumvention.

3 Current Status of EUCD Implementation

The deadline for EU Member States to implement the EUCD was 31 December 2002. By that time, only Greece and Denmark had done so. That has changed dramatically this year. Italy passed implementation legislation in March 2003. Draft German legislation passed through Germany's lower House of Parliament in April 11, and is expected to pass through the upper House in May 2003. A draft French text has been released unofficially. Draft Austrian legislation was tabled in April and is expected to come into force in July. Portugal, the Netherlands and the United Kingdom, are currently considering public comments on their respective draft legislation. Finland's draft legislation was rejected by its Parliament in January 2003, but may be re-drafted later this year.⁷

The rush to pass anti-circumvention legislation carries two related risks. First, there is a risk of creating an overbroad circumvention ban with no (or overly narrow) permissible exceptions for circumvention to exercise existing rights, such as private copying (permitted under some States' copyright law, such as Germany), and for lawful activities. Second, there is a risk of creating a repeater effect – where an overly broad ban on circumvention and circumvention tools, and limited exception language, are adopted as “template” language in multiple States' legislation.

4 Four Years under the DMCA – the U.S. Experience

The United States' experience with the DMCA clearly demonstrates the need for EU Member States to include exceptions that allow consumers and technologists to circumvent to exercise their existing rights and to accommodate socially valuable activities such as encryption research and security systems analysis, the promotion of technological innovation and the development of interoperable technology.

Like Article 6 of the EUCD, section 1201 of the U.S. Copyright statute includes two bans. First, a ban on the act of circumventing a technological protection measure controlling access to a copyrighted work, and second, a ban on certain “tools” (technology, devices, products, and services) which can be used to circumvent access and copy control measures. Although the DMCA includes exceptions from the circumvention ban for seven types of activities, in practice, these excep-

7. See <<http://wiki.ael.be/index.php/EUCD-Status>>.

6. See EUCD Preamble, paragraphs 51 and 54; Kamiel J. Koelman, The Protection of Technological Measures vs. the Copyright Limitations, (June 2001), available at the Institute for Information Law, University of Amsterdam, at <<http://www.ivir.nl/publications/koelman/alaiNY.html>>; Bernt Hugenholtz, Why the Copyright Directive is Unimportant, and Possibly Invalid, [2000] EIPR 11, pp.501–2, available at <<http://www.ivir.nl/publications/hughholtz/opinion-EIPR.html>>; and Alvise Maria Casellati, The Evolution of Article 6.4 of the European Information Society Copyright Directive, 24 Colum. VLA J. L. & Arts 369 (2001).

tions have proved to be too narrow to serve their intended purpose. As a result, the DMCA's overbroad anti-circumvention provisions have developed into a serious threat to at least three types of important non-copyright-infringing activities

4.1 Chilling Effect on Scientific Research and Free Expression

First, section 1201 has been used by copyright owners to cast a chill on free expression and legitimate scientific research. Two incidents which clearly illustrate this trend are the threat to sue Princeton University's Professor Felten, and the arrest of Russian programmer Dmitry Sklyarov.

Professor Edward Felten and a team of researchers from Princeton and Rice Universities and Xerox were threatened with legal liability under the DMCA when they successfully answered a public challenge issued by the music industry group, the Secure Digital Music Initiative, to remove digital watermarks on digital music and tried to publish a paper describing their methodology. Since the paper described vulnerabilities in the digital watermarking technology that the SDMI intended to protect digital music, the SDMI considered that publishing the paper would violate the DMCA's ban on distributing "circumvention tools".

The DMCA contains an exception for encryption research – section 1201(g) – but it did not allow for publication of this sort of work. First, it requires researchers to make efforts to obtain a copyright owner's authorization before doing research. Second, even if doing the work were permitted, it would not have allowed for the publication of the research results. After Professor Felten and his team filed a lawsuit, the threat was withdrawn and the researchers were eventually allowed to present a portion of the research at a later conference.⁸

Russian programmer Dmitry Sklyarov was detained in the United States for five months in 2001, after presenting a paper describing weaknesses in Adobe's e-book protection at a conference. While in Russia, Sklyarov had worked on a software program that allowed owners of Adobe e-books to convert them from Adobe's e-Book format to Adobe's portable document format, thereby removing embedded use restrictions. Sklyarov's Russian employer offered the program for sale over the Internet. Although the software could be used to make legitimate uses of purchased e-books, (such as printing a copy), it could also be used to copy an e-book without the publisher's permission and the United States Department of Justice charged Sklyarov with the crime of trafficking in a circumvention tool. Sklyarov was eventually allowed to return home, but the Government continued to prosecute ElcomSoft, his Russian employer. In December 2002, 18 months after Sklyarov's arrest, a jury acquitted the company of all charges.

The chilling effect of these cases on scientific research and publication of information about access control vulnerabilities has been profound. In 2001, prominent Dutch cryptographer

8. For further details of this and the other incidents described, see EFF's White Paper Unintended Consequences: Four Years under the DMCA, available at <http://www.eff.org/IP/DMCA/20030102_dmca_unintended_consequences.html>.

and security systems analyst Niels Ferguson declined to publish details of the security flaw he discovered in the High Bandwidth Digital Content Protection video encryption standard. Earlier this year, the U.S. publisher of Andrew "Bunnie" Huang's book describing security flaws in the Microsoft X-Box game console dropped the book, citing concerns about DMCA liability. And in October 2002, the former U.S. White House Cyber Security chief advisor, Richard Clarke, noted that the DMCA had been used to chill legitimate security research and called for DMCA reform.

There is growing concern with the United States about the impact of the overbroad circumvention ban on legitimate scientific research. The U.S. Congress is currently considering two different draft statutes that would amend the DMCA's anti-circumvention provisions to permit circumvention, and use of circumvention tools for scientific research.⁹

Although paragraph 48 of the EUCD preamble states that implementation of a legal protection regime is not intended to hinder cryptographic research, Member States' legislation will need to incorporate specific exceptions from civil and criminal liability to ensure this outcome.

4.2 Impact on Fair Use and Noninfringing Use

Second, the DMCA provisions have impaired consumers' ability to make fair and noninfringing uses of digital works. By employing technological protection measures to control access to and use of copyrighted works, and by making it illegal to circumvent those controls, copyright owners have effectively replaced copyright law with technology. Technological protection can block acts that do not involve any infringement of copyright. The DMCA's ban on manufacturing and distributing tools which could be used to permit circumvention for non-infringing uses, has already radically redefined consumers' rights in the United States.

For instance, several individuals and the magazine 2600 have been sued for posting, (or in some cases, merely linking to websites containing) the DeCSS program. That program can be used to decrypt CSS protection on DVDs for both legitimate and illegitimate purposes. A U.S. Court is currently considering the legality of similar software sold by 321 Studios, which could be used to make a personal back-up copy of a purchased DVD. And the U.S. Copyright Office has recently been asked to grant an exemption to the circumvention ban to allow consumers to fast-forward through mandatory "unskippable" commercials on DVDs they own.¹⁰

Threat to Competition, Reverse Engineering and Technological Innovation

Third, the DMCA has been used to hinder the efforts of legitimate competitors to create interoperable products. Although

9. Digital Media Consumer Rights Act (H.R. 107, 108th Cong.) introduced by Representatives Boucher and Doolittle; B.A.L.A.N.C.E. Act (H.R. 1066, 108th Cong.) introduced by Representative Lofgren.

10. See EFF's request for four consumer exemptions to the DMCA's circumvention ban, available at <http://www.eff.org/IP/DMCA/20021218_EFFPKcomments.pdf>.

the DMCA includes an exception for reverse engineering to create program to program interoperability (section 1201(f)), it has proven to be too narrow to assist anyone seeking to use it.

For instance, Lexmark, the second largest printer distributor in the United States, has used the DMCA to block the development of an aftermarket in recycled Lexmark printer cartridges. Certain Lexmark printer cartridges include a special chip which contains an authentication routine that interoperates with the Lexmark printer's driver, to prevent toner cartridges from being refilled. Static Control Components reverse engineered the Lexmark cartridge chip and sold its chip to printer cartridge remanufacturers, to enable refilled cartridges to operate with Lexmark printers. Lexmark has used the DMCA to obtain an injunction to stop Static Control selling its chip.

In a similar case, Chamberlain Group, the manufacturer of an electronic garage door opener has used the DMCA to sue Skylink, the manufacturer of a competing universal garage door opener that interoperates with Chamberlain's garage door mechanism. Chamberlain claims that Skylink's interoperable opener has violated the DMCA by bypassing an authentication regime which controls access to the garage door motor in Chamberlain's mounted unit.

It is clear that the U.S. Congress did not intend that the DMCA would be used to stymie the development of legitimate markets in interoperable non-copyrighted consumer goods. However, the overbroad language of the DMCA's circumvention ban, the narrow reverse engineering exception and the absence of an exception for circumvention for lawful purposes, leave open the possibility that the DMCA may be used in this unintended way.

The EUCD certainly limits how EU Member States can implement legal protection for technological measures, but the United States' experience underscores the importance of drafting an appropriately narrow circumvention ban and providing effective exceptions in Member States' legislation.

5 A New Broader Technological Protection Regime?

Possibly even more troubling than the uncertain scope of Article 6 of the EUCD is a provision in Article 21 of the new draft Directive on Measures and Procedures to Ensure the Enforcement of Intellectual Property Rights issued by the European Commission in January 2003 (the draft Directive),

which appears to create a new "super" technological protection regime.

Article 21 is expressly designed to supplement Article 6 of the EUCD and would provide protection for a far broader category of items than either Article 6, or section 1201 of the U.S. Copyright Act. If passed, Article 21 would do two things.

First, it would create legal protection for any type of work including or incorporating a "manifestly identifiable" mark or feature. By incorporating such a mark, anyone who wished to do so could potentially assert rights over uncopyrightable works (such as facts), databases, or public domain works.

Article 21 does not specify what types of features or marks would qualify for protection. Unlike "technological measures" in EUCD's Article 6, the authentication mark would not need to scramble, encrypt or otherwise technologically protect access to the work to give the marked work legal protection. A pure identification mark, such as a hologram, logo or possibly a digital watermark, would be sufficient.

Article 21 uses the phrase "*incorporation therein of elements which are manifestly identifiable by customers and consumers.*", "Manifestly identifiable" is not defined and it is not clear whether authentication marks would be limited to physical marks, or whether, for instance, a label on digital media which draws a consumer's attention to the existence of a non-physical mark, (such as an incorporated digital watermark), would be sufficient to trigger legal protection.

Second, Article 21 would potentially ban a broader category of circumvention devices than that prohibited under either Article 6 of the EUCD or the U.S. DMCA. It would ban "*any technical device which is designed to circumvent a technical device which permits the manufacture of goods infringing industrial property rights and incorporating the manifestly identifiable elements describe in point (a).*" If the definition of "technical device" is broad enough to include non-physical incorporated marks such as digital watermarks, then this provision might prohibit the use of any technology or device designed to remove them. Article 21 contains no provision for exceptions, so the ban would appear to apply even if a consumer's reason for circumvention was lawful.

Like Article 6 of the EUCD and section 1201 of the U.S. Copyright statute, the regime contemplated by Article 21 has the potential to significantly narrow existing rights of consumers and technologists in digital media.