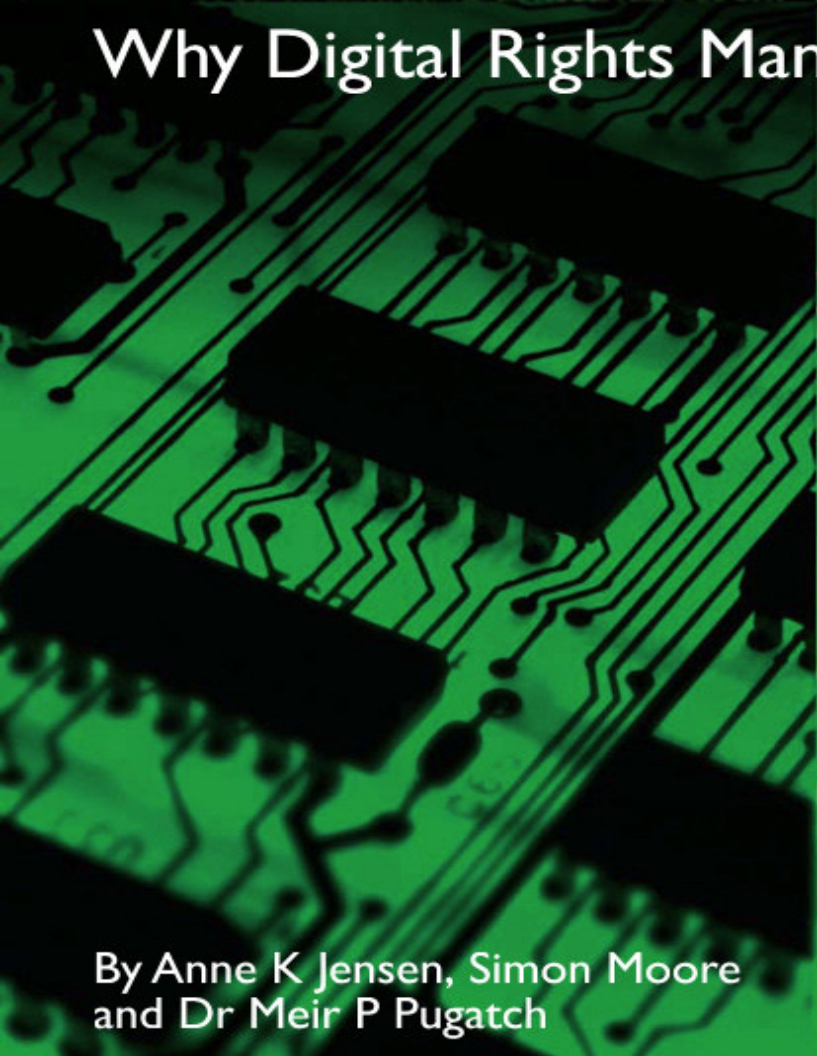




Intellectual Property and Competition Policy Papers

Why Digital Rights Management?



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STOCKHOLM NETWORK

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Why Digital Rights Management?

Once seen as a technical issue mostly debated within the circles of information technology geeks and the legal community, the topic of digital rights management (DRM) has now become a mainstream subject in policy and legal debates in Europe, both at the nation state and European Union (EU) levels. In the United Kingdom, for example, DRM was one of the issues addressed in the Gowers Review of Intellectual Property, which was completed in December 2006. The Review was initiated a year earlier when Chancellor of the Exchequer Gordon Brown asked former journalist Andrew Gowers to conduct “an independent review into the UK intellectual property framework”. In his report, Gowers wrote: “DRM has been partially successful at reinstating technical impediments to copying media”.¹

At the EU level as well, the issues concerning DRM have begun to take centre stage. As part of the EU's i2010 initiative, the aim of which is to create an open and competitive single market for online content, the Directorate General for Information Technology and Media launched, in September 2006, a public consultation aimed at “unlocking Europe's Digital Economy”.² Questions regarding both the current and future use of DRM were included in the call for replies, which will help shape a Commission Communication on Content Online. While the deadline for replies expired last year, Commissioner Viviane Reding is not expected to present the “Content Online in Europe's Single Market package” until the second half of 2007.

Although different forms of technically controlling the use and reproduction of software have been present since the 1970s, it is only in last decade that the content industry, and in particular the entertainment industry, have started incorporating sophisticated DRM technology into almost all its products. This increased dependence on DRM comes as a result of the ever-growing popularity of illegal downloading and file sharing among the industry's increasingly disloyal customers. While the entertainment industry is still a multi-billion dollar industry, The International Federation of the Phonographic Industry (IFPI) estimates that for each legally downloaded song, 40 songs are downloaded illegally.³ This is obviously a huge loss to the industry and a contributing factor in the embracement of DRM.

¹ www.hm-treasury.gov.uk/independent_reviews/gowers_review_intellectual_property/gowersreview_index.cfm

² europa.eu/comm/avpolicy/other_actions/content_online/index_en.htm

³ www.ifpi.org

The Technologies of Digital Rights Management

DRM concerns owner policies over the access of digital data, such as music, films, games and hardware. The term is usually defined as “any management of data concerning the description, layering, analysis, monitoring and enforcing restrictions imposed upon the data”.⁴ In other words, DRM is used to help rights owners control dissemination and copying of their data.

Unlike the analogue media, digital media files can be copied an unlimited amount of times without any loss of data quality. The media distributors have therefore had to move on from relying on copyright protection imposed on the physical copy of an artist’s work, to DRM, which allows for even further restrictions on reproduction.

The concept of DRM is often treated as synonymous with technological protection measures (TPMs), aimed primarily at preventing the unauthorised copying and downloading of digital content, or (though less frequently) to rights management information (RMI), which is aimed at identifying digital works and managing the provision of material to customers.⁵ In any discussion of DRM it is also important to keep in mind that different industries (for example the music, film and game industries) use different DRM systems to serve different purposes, depending on the characteristics of the content provided and the media used to provide the content.

Apple’s online music store for example, uses a DRM system called FairPlay to regulate dissemination of data. The FairPlay system restricts the music bought to being played on one type of hardware, the iPod, which is another Apple product. Due to Apple’s dominance in the online music market the company has been particularly criticised for this practice. It is worth noting that Apple is far from being the only online music provider using such mechanisms. Microsoft’s Plays-for-Sure DRM, for example, applies similar restrictions.⁶ While the use of DRM to control dissemination of online music is more a question of interoperability – the ability of two or more systems or components to exchange information and to use the information that is being exchanged – the film industry, for example, will use other measures to protect its content. A particularly popular DRM scheme in the film industry is the so-called Content Scramble System (CSS), which is licensed to manufacturers who then incorporate it into DVD players and DVD movies. The CSS involves different measures such as ‘authentication’, which is a process where a

⁴ en.wikipedia.org/wiki/Digital_Rights_Management

⁵ . For a discussion of these concepts see the report by the All Party Parliamentary Internet Group (UK. Digital Rights Management - Report of an Inquiry by the All Party Internet Group (June 2006)

⁶ Part of the reasons behind Apple bearing the brunt of criticism in this regard is that it has refused to license FairPlay to other hardware manufacturers, whereas Microsoft’s Plays-for-Sure has appeared on a number of different manufacturers’ platforms. Some have therefore argued that Apple’s hardware dominance may be ‘unfairly’ dragged into the software (iTunes) side of the business. The same accusation could not be leveled at any of the other companies in the industry. For more information on Plays-for-Sure see www.playsforsure.com

DVD drive and a CSS system have to recognise each other before the drive can read data from the DVD disk.⁷

The Legality and Economics of Digital Rights Management

Before starting any discussion on the uses and abuses of DRM it is essential to describe the legal framework within which it operates.

On an international level, DRM technology is legally recognised through the World Intellectual Property Organisation (WIPO) Copyright Treaty (WPT), which was implemented in 1996. Article 11 of the Treaty states that “Contracting Parties shall 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 under this Treaty or the Berne Convention and that restrict acts, in respect of their works, which are not authorised by the authors concerned or permitted by law”.⁸

Following the WPT, the Digital Millennium Copyright Act was passed by a unanimous vote in the US Senate and signed into law by President Clinton in 1998.⁹ In the European Union, the EU Copyright Directive, an implementation of the WIPO Copyright Treaty and in many ways very similar to the DMCA, was passed in 2001. The EU Member States were given 19 months to implement the Copyright Directive, but the controversies surrounding the issue led to only Denmark and Greece meeting the deadline. The Commission actually went as far as taking six Member States to court for failing to implement the Directive. Furthermore, the Directive opens up a variety of interpretations regarding implementation. France, most notably, was one of the last countries to bring its law into line with the EU CD, and its Assemblée Nationale even tried to add a provision requiring interoperability between DRM technologies. The aim of this was to empower consumers and to prevent allegedly monopolistic behaviour by dominant players in the market, but the proposal was later watered down by the Conseil Constitutionnel.¹⁰

From the point of view of economic theory, it is important to keep in mind that while most resources are subject to the problem of scarcity (the more people use a resource the less of it there is to use), knowledge, information and intellectual (KII) products such as music and films are not. On the contrary, the more people use a KII resource the more of it there is to use. This is what makes KII products so special, but it is also their downfall. KII products are easy to copy and compared with the cost of creating a KII product (think of the cost of producing a new record or a new movie, for example) the cost of copying this product is negligible.

⁷ For more information about CSS see www.dvdcca.org and www.mpaa.org

⁸ www.wipo.int/treaties/en/ip/wct/trtdocs_wo033.html#P87_12240

⁹ www.copyright.gov/legislation/dmca

¹⁰ For more information see DRM Watch <http://www.drmwatch.com/legal/article.php/3624376>

In the absence of any institutional provisions that establish property rights in KII products (i.e. patents, copyrights and other forms of IPRs) the tendency to free-ride such products will increase. Consequently, the incentive to create KII products will decrease.

IPRs define the commercial and legal relationship between the seller (owner) and the buyer (user) of a certain KII product. These relationships are established on (a) the price of the KII product and, (b) on the conditions attached to the use of this product. Here it is important to note that a commercial transaction between the owner and user of a KII product is based on the right to use the product: not on the transfer of ownership. When a consumer buys a music album this does not make him the owner of the artist's work. What he owns is the plastic CD but not the content. That is indeed the essence of KII products: they can be commercialised by the owners, but not by the users.¹¹

Consequently, right-owners of KII products have the right to restrict the unauthorised use of their products, for example through the use of DRM technology. While this is not necessarily a popular decision, the application of DRMs by rights owners is completely legitimate

There are, however, always exceptions to the rule. One prominent case relates to the legitimacy of a particular type of DRM used by Sony BMG in 2005. In an attempt to prevent copying, Sony installed the controversial Extended Copy Protection (XCP) and MediaMax CD-3 software on its CDs, without notifying its customers. The problem with this DRM technology is that it interferes with the computer's operating system when the CD is being played. Moreover, these particular pieces of software included 'rootkits',¹² which reduce security on computers. When computer scientists discovered this, it caused a public relations disaster for the music giant, including three separate class-action lawsuits. The case ended in Sony being forced to suspend the use of the software, to recall millions of CDs and last but not least, to issue a humiliating public apology.¹³

With this case in mind, when discussing the legality of DRM it is also relevant to address the concept of 'fair use', which is a doctrine in US copyright law that allows for the use of copyrighted material without requiring permission from the rights holder. The doctrine has developed through a number of court decisions over the years and has been codified in section 107 of the copyright law, which sets out 4 factors to be considered when determining whether or not a use is 'fair'.¹⁴

¹¹ This analysis is based on Pugatch, M. The Economics of DRMs in Capitalist Markets, Know-IP, Vol.3:2 (February 2007), www.stockholm-network.org/downloads/publications/d41d8cd9-Know%20IP%203.2%20February%2007.pdf

¹² en.wikipedia.org/wiki/Rootkit

¹³ To read more about the incident see the Electronics Frontiers Foundation www EFF.org

¹⁴ www.copyright.gov

- 1) the purpose and character of the use, including whether such use is of commercial nature or is for non-profit educational purposes;
- 2) the nature of the copyrighted work;
- 3) amount and substantiality of the portion used in relation to the copyrighted work as a whole; and
- 4) the effect of the use upon the potential market for or value of the copyrighted work.

While the term 'fair use' is unique to the United States, similar principles exist in other copyright legislations. The principles of the Berne three-step-test, for example, are included in many international copyright treaties, such as the WIPO Copyright Treaty, the EU Copyright Directive and also the WTO Agreement on Trade related Aspects of Intellectual Property Rights (TRIPS). The Berne three-step-test was originally an aspect of the Berne Convention for the Protection of Literary and Artistic Works from 1967. It imposes certain constraints on exclusive rights, similar to the fair use principles and is meant to operate as a 'safety valve' for free expression and to mediate the tension between copyright and new technology.¹⁵ With the application of DRM however, fair use is made more difficult and critics have argued that the use of DRM has closed off some fair uses in order to deal with digital infringement.

The Policy Implications of Digital Rights Management

Keeping in mind the legal and economic justifications for the use of DRM, one would think that there would be no controversy surrounding the issue. This is, however, not the case. DRM has, in fact, taken centre stage in the policy debates of many developed and developing countries, and it is not likely to go away anytime soon.

The increasingly mainstream appeal of discussions relating to digital rights management is a sign of the wide reach of the technology, not to mention its controversial nature. When Andrew Gowers published the results of the Gowers Review of Intellectual Property in the UK in December 2006, a significant number of pages were devoted to the topic of DRM. The degree of focus reflected not only the number of submissions addressing the issue, but also the disparity between the views expressed. While the entertainment industry in general has tended to see DRM as the solution to all its problems, many consumer organisations express strong scepticism about the use of DRM. The National Consumer Council in the UK, for example, writes in its submission to the Gowers Review that "appropriate use of DRM technologies may have a role to play in the digital market environment, but the way they are being used currently is causing a number of serious problems for consumers".¹⁶

¹⁵ For more information see the WIPO web site www.wipo.int/treaties/en/ip/berne

¹⁶ <http://www.ncc.org.uk/intellectualproperty/gowers.pdf>

Both the traditional and new media have played a huge role in putting the issue of DRM on the policy agenda. When computer scientists revealed in 2005 that Sony BMG had included rootkit software in its DRM, it was all over the news and led to a huge public relations scandal for the music giant. The case not only forced Sony to make a public apology, but more importantly, it increased already growing anti-entertainment industry sentiments. But Sony BMG is far from being the only company to feel the pressure from the media and consumers. Most notably, Apple has recently become the company everyone loves to hate. While Apple still dominates the online music market, its DRM technology has made the company very unpopular. In countries such as Norway and Finland, Apple has even been excluded from the market due to what the Consumer Ombudsman called “unreasonable technology”.¹⁷ Over the last few years grass root organisations and web forums dedicated to cracking DRM technology in general, and Apple’s DRM in particular, have sprung up like mushrooms.

In a response to this, Apple’s CEO Steve Jobs posted a speech entitled “Thoughts on Music” on the company’s web site in February this year. In his speech, Jobs expresses a range of somewhat surprising views on the successes, failures and future of DRM (note to web site). Most controversially, he argued that “DRMs haven’t worked, and may never work, to halt music piracy”.¹⁸ Coming from the CEO of a company that applies one of the strictest DRM technologies to its products, this comment might seem confusing. Should it be taken as a sign of surrender? Or is it simply a CEO trying to defend himself and his company’s controversial business model? A look at the conclusion of the speech suggests the latter: “Much of the concern over DRM systems has arisen in European countries. Perhaps those unhappy with the current situation should redirect their energies towards persuading the music companies to sell their music DRM-free. For Europeans, two and a half of the big four music companies are located right in their backyard. The largest, Universal, is 100% owned by Vivendi, a French company. EMI is a British company, and Sony BMG is 50% owned by Bertelsmann, a German company. Convincing them to license their music to Apple and others DRM-free will create a truly interoperable music marketplace. Apple will embrace this wholeheartedly”.¹⁹

The announcement, a few weeks later, that EMI would cease to apply DRM to its downloadable content (an innovation that will first take place on Apple’s iTunes) cannot be seen in this light as a complete surprise.²⁰

¹⁷ Norwegian Consumer Ombudsman forbrukerportalen.no/Artikler/2007/itunes_drm_ulovlig_en_seier_for_forbrukerne

¹⁸ Thoughts on Music; 6 February 2007; www.apple.com/hotnews/thoughtsonmusic/

¹⁹ *Ibid.*

²⁰ Also unsurprising is the PR coup Apple gained from the announcement. Even though EMI is the only company in its sector to be taking this bold step, while Apple becomes only one of a collection of online retailers to implement it, the bulk of media coverage hailed “Jobs’ announcement” as being the beginning of the end for DRM. See variously www.emigroup.com/Press/2007/press18.htm, www.apple.com/pr/library/2007/04/02itunes.html, and business.timesonline.co.uk/tol/business/industry_sectors/technology/article1602332.ece

The Future of DRM? – Some Policy Considerations

DRM is currently being debated both at the intellectual and at the technological levels.

The former relates to the social, economic and legal justification of DRM. Here one should note that as long as the system of IPRs is in place (and is considered to be, despite its limitations, the major driver of innovation) countries should treat DRM as a natural expression of these rights. Accordingly, countries and policy-makers should make sure that within their legal IP frameworks IP owners would have the right to prevent the circumventions of their works by third parties, inter alia by using DRM. To this end, the current attempts by some countries to bar the use of DRM seems self-contradictory and should be seriously questioned.

This, however, does not mean that the legal use of DRM should come with no strings attached. IPRs are an expression of a temporary monopoly in the market. This monopoly is not without limitations. It is expected that legislators would establish that the use of DRM be exposed to exceptions and restrictions. These are currently being debated, most notably with regard to the issue of fair-use, private copies and recently, the use of DRM to prevent parallel imports. While it is not in the scope of this paper to discuss in detail these issues, suffice it to say that policy-makers should be wary of promoting exceptions that would essentially nullify the ability to use DRM. This would be the equivalent of throwing the baby out with the bathwater.

In the 'real world', DRM currently faces different technological and commercial challenges, many of which are an expression of the business models adopted by the various segments of the content industry (films, music, games.). The recent experience of the music industry suggests that DRM may not be the best technological solution to be adopted by right owners in that particular medium (music). However, that some record labels have decided to relax their use of DRM does not mean that the entertainment industry is likely to abandon DRM.

Moreover, one needs to make a very clear distinction between a decision to use or not to use DRM on the basis of market operations – i.e. based on the signals that the market sends – and on the basis of decrees from policy-makers.

A market driven decision to use or not to use DRM is a legitimate one. In theory market conditions may change, so as to drive all companies to abandon their DRM mechanisms. Who knows this may happen in the future, especially if consumers become more aware of the harm caused by illegal copying and downloading and thus refrain from doing so. At present this is not the case.

But the tendency of policy-makers to instruct companies not to use DRM because of what their perception of the market needs in a particular time is not only morally wrong, it is also economically problematic.

One would therefore urge policy-makers to let IP owners have the right to use DRM and leave it to the market to decide the extent to which these DRM may be used or abandoned.